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BNJ welcomes submissions of original research articles, review articles, concept analysis, perspectives, letter to editors, research methodology papers, study protocol, case studies, and guest editorials on various clinical and professional topics.

We also welcome "negative" results (i.e., studies which do not support a hypothesized difference or association) provided that the design was robust. Discussion papers that elaborate issues and challenges facing health care in one country are welcomed, provided the discussion is grounded in research-based evidence. The authors are addressing a global audience and a local one.

Nurses and midwives write most papers in BNJ, but there are no constraints on authorship as long as articles fit with the expressed aims and scope. BNJ's intended readership includes practicing nurses and midwives in all spheres and at all levels who are committed to advancing practice and professional development based on new knowledge and evidence; managers and senior members of the nursing and midwifery professions; nurse educators and nursing students; and researchers in other disciplines with interest in common issues and inter-disciplinary collaboration.

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Establishing appropriate sample size for developing and validating a questionnaire in nursing research

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Abstract

The number thirty is often used as the sample size in multiple questionnaires and identified as appropriate for validation of nursing research. However, this is not the best tool or strategy for sample size selection for development and validation, and this often causes immediate rejections of manuscripts. This editorial aims to provide an overview of the appropriate sample size for questionnaire development and validation. The article is the amalgamation of technical literature and lessons learned from our experiences in developing, validating, or adapting a number of questionnaires.

Keywords

questionnaire; validation; instrument development; sample size; nursing research

The significance of this editorial is the rejection rate (>85%) of the research articles submitted to the Belitung Nursing Journal (BNJ). The most common reasons for rejection are related to the sample size for instrument development and validation. Therefore, it is important to provide an explanation of the rationale for the appropriate sample size so it is clearly established.

The majority of the research articles submitted to BNJ use questionnaires. A questionnaire refers to the main instrument for collecting data in survey research. Basically, it is a set of standardized questions, often called items, which follow a fixed scheme in order to collect individual data about one or more specific topics (Lavrakas, 2008). In addition, the questionnaire is either developed by the researchers or modified from existing instruments.

Although BNJ's guideline clearly states that the author(s) should clearly describe the details of the questionnaires used for data collection, whether they develop, adopt, adapt, modify, or translate the instrument, many authors are confused about the terms and find it difficult to calculate or decide the appropriate sample size. Often, authors used a sample size of 30 as a golden rule number for all validation scenarios. Therefore, this editorial

aims to provide an overview of the appropriate sample size used to develop and validate a nursing research questionnaire. This editorial is not a systematic review, but rather it is a technical literature amalgamation of lessons learned from our experiences in questionnaire development, validation, and adaptation. For the sake of consistency, we use the term "questionnaire" instead of scale, instrument, or inventory. In this article, we describe sample size based on the stages of questionnaire development and adaptation.

Sample Size for Questionnaire Development

The questionnaire development refers to a process of developing reliable and valid measures of a construct in order to assess an attribute of interest. Typically, the instrument development has two phases (DeVellis, 1991): instrument construction and psychometric evaluation. Meanwhile, from the perspective of mixed-methods research designs, instrumentation consists of qualitative and quantitative strands. However, both perspectives are similar because in the instrument construction stage, an item pool is generated, which may involve expert interviews

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that are considered qualitative in nature. In comparison, psychometric testing is regarded as a quantitative stage consisting of a questionnaire survey with large samples. However, in this article, we do not discuss the philosophical underpinnings of the two perspectives, rather the editors describe the sample size needed in each stage of instrument development.

In the instrument construction phase, samples may be needed to generate an item pool in order to get input from experts. It is essential for a study to bring a specific context, culture, or a dearth of published articles for item generations. The number of samples for interviews varies, from one to 50, depending on the scope of the study, the nature of the topic (i.e., complexity, accessibility), the quality of data, and the study design (Morse, 2000). In addition, researchers can also utilize the Delphi technique with a series of rounds, typically three rounds, to reach a consensus among experts as they review, discuss, accept, or reject items. The number of samples for the Delphi technique also varies, from 10 to 100 or more (Akins et al., 2005). However, it is noteworthy that expert interviews or the Delphi technique are not a must in developing an item pool. The researchers can choose using literature review, expert interviews, or the Delphi technique alone, or researchers can use a combination of a literature review and interviews. There is no golden standard for this stage as long as an explicit rationale is provided.

The samples are also needed in step 4 (instrument validation) and step 5 (pretesting or piloting the instrument) for researchers to engage in the instrument construction phase (See **Figure 1**). Therefore, although the researchers do not conduct an interview for item generation, they still need to find experts for validating instruments, especially for measuring the Content Validity Index (CVI). The recommended number of experts to review a tool varies from two to 20 individuals (Armstrong et al., 2005). At least five people are suggested to check the instrument to have sufficient control over chance agreement (Zamanzadeh et al., 2015). It is important to note that in the pretesting, or the pilot testing of the questionnaire, 15-30 subjects are recommended (Burns & Grove, 2005). This pilot testing is necessary before further examination utilizing a bigger sample size or phase II evaluation, or the psychometric properties evaluation, to ensure the construct validity and reliability of the instrument. The instrument will not be considered valid without the psychometric properties stage, especially when developing a new questionnaire.

To ensure the psychometric properties, or validity and reliability, of the newly developed questionnaire, factor analysis is one common tool. Conducting an Exploratory Factor Analysis (EFA) only or both an EFA and a Confirmatory Factor Analysis (CFA) are two options for factor analysis, and either of the two options is acceptable and viable for questionnaire development. It is noted that EFA is used for instruments that have never been tested before (to explore items and factor structures). In contrast, CFA is used for tested instruments to confirm and validate the items and factor structures. In other words, EFA is used

to illustrate or to determine underlying latent variables or factors, and CFA is to check whether it fits reality (Knekta et al., 2019). Given these two different tools, the EFA and CFA must be conducted on different datasets; otherwise, overfitting is likely. If we try to verify the factor(s) we discovered with EFA using the same data, CFA results will most likely give good fit indices because the same data will tend to conform to the structure(s) of the scale, which is discovered with EFA.

It is also noted that the factor analysis literature for both EFA and CFA contains a variety of recommendations regarding the minimum or appropriate sample size. Although both methods have different purposes and criteria, there is no golden standard to differentiate the sample size between the two methods. Additionally, most of the recommendations are often overlapping with each other, and in some cases, the recommendations may seemingly be contradictory. We provide a summary of the recommendations in **Table 1**, which can be grouped into the recommended sample size, the recommended item-to-response ratios, and the recommended estimated parameter-to-sample ratios.

The recommended sample size for factor analyses varies from 50 to more than 1000 samples, while the recommended item-to-response ratio is from 1:3 to 1:20. Also, the estimated parameter-to-sample ratio is from 1:5 to 1:20. The parameter-to-sample ratio is mostly used for a study with Structural Equation Modelling (SEM), of which CFA is a part. However, all suggestions are based on different perspectives. For EFA, the sample size is according to replicable factor structures, stable item/factor loadings, or strong data. Strong data includes high communalities, no cross-loadings, strong primary loadings per factor, the nature of the data, number of factors, or number of items per factor (Boateng et al., 2018; Kyriazos, 2018). While for CFA, or SEM in general, sample size depends on study design, such as cross-sectional vs. longitudinal; number of factors; number of relationships among indicators; the magnitude of the item-factor correlations; indicator reliability; the data scaling or categorical versus continuous; estimator type; parameters per measured variable number; the ratio of cases to free parameters; standard errors; missing data levels and patterns; and model complexity (Brown, 2015; Boateng et al., 2018; Kyriazos, 2018).

From **Table 1**, the reader may see that no single recommended sample size or item-to-response ratio fits all. However, a smaller sample size when all other things are equal is not as desirable as a large sample size because a larger sample lends itself to lower measurement errors, accuracy of population estimates, stable factor loadings, generalizability results, and model fit.

However, the sample size is always constrained by resources available, and more often than not, instrument development can be challenging to fund. Therefore, the minimum number of appropriate sample size in each research article should be evaluated individually. It is noteworthy that 30 subjects are not described in any factor

analysis literature for psychometric properties, except in pilot testing. Even 50 subjects are less likely to be recommended, as it will usually result in very unstable estimates, especially with psychological, social science, or nursing science data. However, if it is used in very accurate chemical measurements, 50 subjects may be appropriate.

The researchers should provide clear rationale when they select the minimum criteria of the sample size. For example, if the questionnaire is specifically developed for patients with a specific disease, a bigger sample size is not applicable due to a limited number of patients.

Table 1 A variety of recommended sample sizes for factor analyses

A variety of recommended sample sizes for factor analyses	
Of sample size	
50	Barrett and Kline (1981)
100	Gorsuch (1983), Kline (1994)
≥150	Hutcheson and N. (1999)
≥150 - ≤180	Mundfrom et al. (2005)
200	Guilford (1954)
≥200	Hair et al. (2010)
250	Cattell (1978)
200 – 300	Guadagnoli and Velicer (1988), Comrey (1988)
300	Clark and Watson (2016)
400	Aleamoni (1976)
100 - >1000	Mundfrom et al. (2005)
50 = very poor, 100 = poor, 200 = fair, 300 = good, 500 = very good, ≥1,000 = excellent	Comrey and Lee (1992)
Of item to response ratio ($p: M$)	
1:3 to 1:6	Cattell (1978)
1:4	Rummel (1988)
1:5	Gorsuch (1983), Hatcher (1994)
1:10	Nunnally (1978), Everitt (1975), Watson and Thompson (2006)
1:3 to 1:20	Mundfrom et al. (2005)
Of estimated parameter to sample size ratio ($q: M$)	
1: 5 to 1:10	Bentler and Chou (1987)
1:10	Jackson (2003)
1: 5 to 1:20	Kline (2015)

Overall, there are many steps in the questionnaire development, which require samples, as illustrated in **Figure 1**. Option one is generating an item pool where samples for interviews range from one to 50 and samples for the Delphi technique range from 10 to 100. Option two

consists of testing content validity, where samples range between two and 20 experts. Option three is pretesting, and this ranges from 15-30 subjects. Option four is construct validity wherein factor analyses ranges from 50 to >1000.

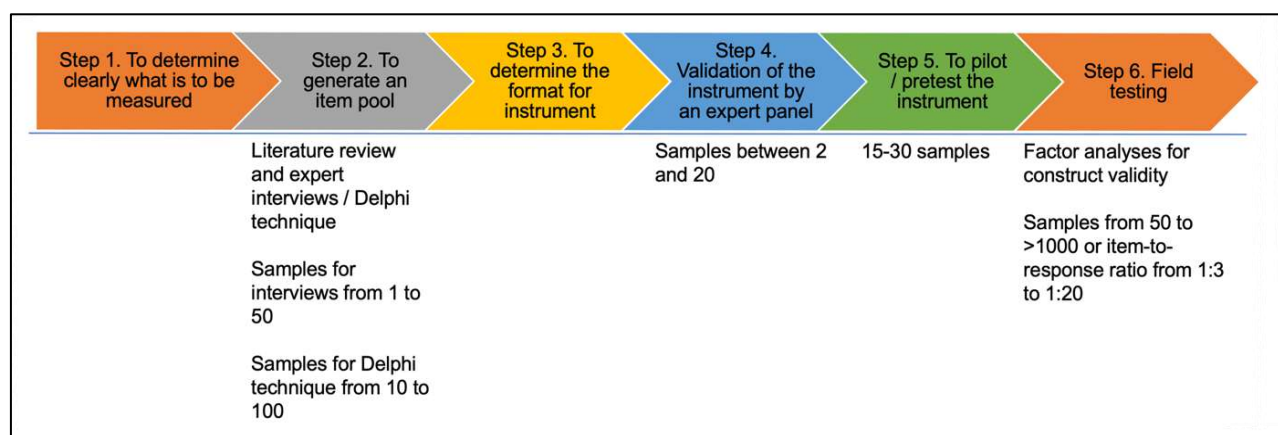


Figure 1 Instrument development steps requiring samples

Sample Size for Questionnaire Adaptation

Questionnaire adaptation is common in nursing research, but many studies lack information and transparency

regarding why and how they adapt the questionnaire (Sullivan, 2011; Sousa et al., 2017). This lack of transparency may compromise the validity and reliability of the adapted questionnaire.

Questionnaire adaptation can be described in multiple ways: questionnaire translation; questionnaire modification by adding or removing items; and questionnaire adaptation. However, little changes carry significant implications for the overall questionnaire. These three strategies may or may not be conducive to construct validity with EFA/CFA. If the EFA/CFA is needed, additional samples are required according to the recommended sample sizes mentioned in the questionnaire development section.

In the case of instrument translation, such as from English to the Indonesian language, construct validity with factor analyses may, or may not, be needed if the researchers can ensure an accurate translation process to prevent meaning shifts and appropriate cultural adaptations. Each step of the translation, such as the use of the forward backward translation process and translation from experts, should be explained clearly. Otherwise, construct validity is needed if the translation is questionable. Mostly, the translation process occurs with content validity testing.

Questionnaire modification occurs when the researchers remove and/or add items, and in this case, construct validity is necessary. Adding and removing just one or two items may change the whole construct, and therefore, the meaning of the questionnaire, the factor structures, or latent variables may be shifted. Researchers should be meticulous in modifying the existing questionnaire, and a clear description should be made to provide a rationale.

Questionnaire adaptation, such as changing the setting, location, subject, or paraphrasing, may or may not require EFA or CFA. For example, if researchers only change the word of the location from "hospital" to "healthcare center" in the questionnaire, meaning shift may not occur. This is similar to paraphrasing, such as from "I feel anxious in this hospital" to "This hospital makes me feel anxious," and there is no meaning shift identified. Because there is no meaning shift, there is no need for construct validity, however, content validity may be needed. When researchers change "anxious" to "worry/fear," or change the subject from "I" to "they," the meaning, while similar, is changed and construct validity testing is necessary. Thus, every detail in the questionnaire items that have been changed should be described clearly.

Conclusion

The appropriate sample size for questionnaire development and validation should be evaluated on an individual basis. Although general rules, item-to-response ratios, and parameter-to-sample ratios for factor analyses are expressed in sample size community norms, critical thinking is needed to consider the factors or variables that may influence sample size sufficiency, especially related to strong data, saturation, and other parameters pertaining to the specifics of the particular project.

It is also suggested that researchers not necessarily use 30 subjects for all validation scenarios, and it is

recommended that the number in the instrument be carefully considered. Fifty responses are also not recommended for nursing research for a questionnaire, but it may be appropriate for obscure or difficult samples or chemical measurement. In any sample, it is paramount for researchers to provide a transparent presentation and explanation of such evidence-based judgment and rationale to ensure the appropriate sample size is established.

Declaration of Conflicting Interests

All authors declared that there is no conflict of interest.

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All authors contributed equally to this study.

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References

- Akins, R. B., Tolson, H., & Cole, B. R. (2005). Stability of response characteristics of a Delphi panel: Application of bootstrap data expansion. *BMC Medical Research Methodology*, 5(1), 1-12. <https://doi.org/10.1186/1471-2288-5-37>
- Aleamoni, L. M. (1976). The relation of sample size to the number of variables in using factor analysis techniques. *Educational and Psychological Measurement*, 36(4), 879-883. <https://doi.org/10.1177%2F001316447603600410>
- Armstrong, T. S., Cohen, M. Z., Eriksen, L., & Cleeland, C. (2005). Content validity of self-report measurement instruments: An illustration from the development of the Brain Tumor Module of the MD Anderson Symptom Inventory. *Oncology Nursing Forum*, 32, 669-676.
- Barrett, P. T., & Kline, P. (1981). The observation to variable ratio in factor analysis. *Personality Study and Group Behavior*, 1(1), 23-33.
- Bentler, P. M., & Chou, C.-P. (1987). Practical issues in structural modeling. *Sociological Methods & Research*, 16(1), 78-117. <https://doi.org/10.1177%2F0049124187016001004>
- Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quiñonez, H. R., & Young, S. L. (2018). Best practices for developing and validating scales for health, social, and behavioral research: A primer. *Frontiers in Public Health*, 6, 149. <https://doi.org/10.3389/fpubh.2018.00149>
- Brown, T. A. (2015). *Confirmatory factor analysis for applied research* (2nd ed.). New York: The Guilford Press.
- Burns, N., & Grove, S. K. (2005). The practice of nursing research: Conduct, critique and utilization. United States: Elsevier/Saunders.

- Cattell, R. (1978). *The scientific use of factor analysis*. New York: Plenum.
- Clark, L. A., & Watson, D. (2016). Constructing validity: Basic issues in objective scale development. In A. E. Kazdin (Ed.), *Methodological issues and strategies in clinical research* (pp. 187-203). Washington, D.C: American Psychological Association.
- Comrey, A. L. (1988). Factor-analytic methods of scale development in personality and clinical psychology. *Journal of Consulting and Clinical Psychology*, 56(5), 754-761.
- Comrey, A. L., & Lee, H. B. (1992). *A first course in factor analysis*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- DeVellis, R. F. (1991). *Scale development: theory and applications*. California: Sage publications.
- Everitt, B. S. (1975). Multivariate analysis: The need for data, and other problems. *The British Journal of Psychiatry*, 126(3), 237-240. <https://doi.org/10.1192/bjp.126.3.237>
- Gorsuch, R. L. (1983). *Factor analysis* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Guadagnoli, E., & Velicer, W. F. (1988). Relation of sample size to the stability of component patterns. *Psychological Bulletin*, 103(2), 265-275. <https://psycnet.apa.org/doi/10.1037/0033-2909.103.2.265>
- Guilford, J. P. (1954). *Psychometric methods* (2nd ed.). New York: McGraw-Hill.
- Hair, J. F., Black, B., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). London: Pearson.
- Hatcher, L. (1994). *A step-by-step approach to using the SAS® system for factor analysis and structural equation modeling*. Cary, N.C: SAS Institute, Inc.
- Hutcheson, G., & N., S. (1999). *The multivariate social scientist: Introductory statistics using generalized linear models*. London: Sage Publication.
- Jackson, D. L. (2003). Revisiting sample size and number of parameter estimates: Some support for the N: q hypothesis. *Structural Equation Modeling*, 10(1), 128-141. https://doi.org/10.1207/S15328007SEM1001_6
- Kline, P. (1994). *An easy guide to factor analysis*. New York: Routledge.
- Kline, R. B. (2015). *Principles and practice of structural equation modeling*. New York: Guilford publications.
- Knekta, E., Runyon, C., & Eddy, S. (2019). One size doesn't fit all: Using factor analysis to gather validity evidence when using surveys in your research. *CBE life sciences education*, 18(1), rm1-rm1. <https://dx.doi.org/10.1187%2Fcbe.18-04-0064>
- Kyriazos, T. A. (2018). Applied psychometrics: Sample size and sample power considerations in factor analysis (EFA, CFA) and SEM in general. *Psychology*, 9(08), 2207. <https://doi.org/10.4236/psych.2018.98126>
- Lavrakas, P. J. (2008). Questionnaire *Encyclopedia of Survey Research Methods* (Vol. 1-10). Thousand Oaks, California: Sage Publications, Inc.
- Morse, J. M. (2000). Determining sample size. *Qualitative Health Research*, 10(1), 3-5. <https://doi.org/10.1177%2F104973200129118183>
- Mundfrom, D. J., Shaw, D. G., & Ke, T. L. (2005). Minimum sample size recommendations for conducting factor analyses. *International Journal of Testing*, 5(2), 159-168. https://doi.org/10.1207/s15327574ijt0502_4
- Nunnally, J. C. (1978). *Psychometric theory*. New York: McGraw-Hill.
- Rummel, R. J. (1988). *Applied factor analysis*. United States: Northwestern University Press.
- Sousa, V. E. C., Matson, J., & Dunn Lopez, K. (2017). Questionnaire adapting: Little changes mean a lot. *Western Journal of Nursing Research*, 39(9), 1289-1300. <https://doi.org/10.1177%2F0193945916678212>
- Sullivan, G. M. (2011). A primer on the validity of assessment instruments. *Journal of Graduate Medical Education*, 3, 119-120. <https://doi.org/10.4300/JGME-D-11-00075.1>
- Watson, R., & Thompson, D. R. (2006). Use of factor analysis in Journal of Advanced Nursing: Literature review. *Journal of Advanced Nursing*, 55(3), 330-341. <https://doi.org/10.1111/j.1365-2648.2006.03915.x>
- Zamanzadeh, V., Ghahramanian, A., Rassouli, M., Abbaszadeh, A., Alavi-Majd, H., & Nikanfar, A.-R. (2015). Design and implementation content validity study: Development of an instrument for measuring patient-centered communication. *Journal of Caring Sciences*, 4(2), 165-178. <https://dx.doi.org/10.15171%2Fjcs.2015.017>

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Job satisfaction of foreign-educated nurses in Malaysia: A cross-sectional study

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Abstract

Background: The transition process of migration to work abroad can be challenging and, depending on how it is handled, can impact the job satisfaction level of these foreign-educated nurses. A clear understanding of migrant nurses' job satisfaction is critical for effective translation of nursing practice across the health systems and cultures.

Objective: This study examined the job satisfaction of the foreign-educated nurses in Malaysia, which includes the job satisfaction dimensions and the significant difference between sociodemographic status and job satisfaction.

Methods: A cross-sectional survey of 102 foreign-educated nurses working in private hospitals, clinics, hemodialysis centers, nursing homes, and private homes in Malaysia was conducted from September 2017 to March 2018. Data were collected using a structured questionnaire. Descriptive statistics, Mann-Whitney U, and Kruskal Wallis tests were used to analyze the data.

Results: The study revealed that the participants had a median satisfaction score of 22 (*IQR* = 19 to 24). Serving the sick and needy and participants' self-respect were the highest satisfaction dimensions among the participants (*Median* = 3, *IQR* = 3 to 3). Moreover, the job satisfaction was significantly higher for registered foreign-educated nurses (mean rank = 62.5) than for unregistered foreign-educated nurses (mean rank = 48.65) when working in other countries ($p = 0.02$). Indian nurses (mean rank = 60.36) also expressed higher satisfaction in terms of working in other countries than Filipino nurses (mean rank = 46.88; $p = 0.02$). In addition, positive relationships with colleagues and superiors led to higher satisfaction among Indian nurses (mean rank = 61.02) than among Filipino nurses (mean rank = 47.24; $p = 0.04$). The job satisfaction of male foreign-educated nurses was significantly higher than their female counterparts in terms of self-respect, relationship with fellow nurses and superiors, working in other countries, career development, and ease of finding employment ($p < 0.05$).

Conclusion: The overall job satisfaction among the foreign-educated nurses in Malaysia is high, mainly when serving the sick and needy, and their degree of self-respect. Understanding job satisfaction among foreign-educated nurses in Malaysia enables the management team to develop effective strategies for addressing nursing shortages and improving the quality of patient care.

Keywords

job satisfaction; transients and migrants; nurses, international; nurse administrators; Malaysia

Nursing shortages are a common problem in many countries worldwide (Chan et al., 2013). World Health Organization (2016) projects a shortage of 14 million in the

global healthcare workforce by 2030. Many countries have developed strategies to combat the "crisis in the nursing workforce," including recruiting foreign-educated nurses.

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Consequently, global migration and international recruitment have become a trend in the nursing profession. Migration is defined as “the movement of persons away from their place of usual residence, either across an international border or within a state” ([International Organization for Migration, 2021](#)). This drastic change in lifestyle to work abroad can be challenging for everyone, including foreign-educated nurses. The trauma of leaving home and loved ones, adapting to a new country and culture, building relationships with colleagues, and dealing with patients with different backgrounds can be taxing for them ([Li et al., 2014](#)). These factors can profoundly affect their job satisfaction level ([Li et al., 2014](#)).

Job satisfaction refers to “the degree to which an individual feels positive or negative about a job” ([Schermerhorn et al., 2010](#)). Job satisfaction of foreign-educated nurses is a key indicator of hospital success in managing diversity in a multicultural workforce ([Xiao et al., 2014](#)). [Ahmad and Oranye \(2010\)](#) reported that higher job satisfaction would lead to better organizational commitment among the nurses. It helps ensure the nurses’ dedication to their job and provide the best services to the patients. Likewise, frustration and job dissatisfaction among foreign-educated nurses may lead to many problems such as absenteeism, tardiness, and turnover ([Cheng & Liou, 2011](#)).

The job satisfaction of migrant nurses can be measured in various dimensions. Self-esteem and self-respect are two dimensions associated with job satisfaction ([An et al., 2016](#)). A previous study reported that migrant nurses believed they could contribute to their professional work by caring for patients and family members, which gives them a sense of accomplishment ([An et al., 2016](#)). Furthermore, studies found that nurses who were able to provide person-centered, high-quality care reported higher levels of job satisfaction ([Schwendimann et al., 2016](#); [Wongboonsin et al., 2018](#)). Job satisfaction is also strongly influenced by the working conditions such as working hours, working environment, and relationships with colleagues ([Itzhaki et al., 2013](#); [Goh & Lopez, 2016](#); [Almansour et al., 2020](#)). [Chan et al. \(2013\)](#) stated that work overtime and lack of communication with and support from doctors and colleagues contribute to dissatisfaction among the nurses.

[Staempfli and Lamarche \(2020\)](#) created a model to serve as a guideline for managers to assess the needs of their nurses and plan interventions to increase their nurses’ job satisfaction. The model describes that the removal of physiological needs (salary), safety (job security and physical safety), and a sense of belonging (social support and communication) causes high job dissatisfaction among nurses ([Staempfli & Lamarche, 2020](#)). Similarly, fulfillment of self-esteem needs such as supervisor and organizational support and self-actualization needs such as career advancement opportunities and personal growth improve nurses’ job satisfaction ([Staempfli & Lamarche, 2020](#)).

Career development and management support had a significant effect on the job satisfaction of foreign-educated nurses ([Timilsina Bhandari et al., 2015](#); [Goh & Lopez,](#)

[2016](#)). It was reported that foreign-educated nurses’ job satisfaction decreased the longer they served in their host country, which may be contributed by the poor career development and lack of recognition of their knowledge and skills ([Timilsina Bhandari et al., 2015](#)). In addition, flexible employment systems that allow nurses to work part-time have a strong relationship with organizational commitment and satisfaction level among foreign-educated nurses ([Ahmad & Oranye, 2010](#)).

Additionally, language affected job satisfaction for foreign-educated nurses ([Timilsina Bhandari et al., 2015](#)). Non-English speaking migrant nurses encountered language barriers at work, making it difficult to interact with patients and colleagues ([Timilsina Bhandari et al., 2015](#)). [Newton et al. \(2012\)](#) also reported that communication and language barriers, feeling like an outsider, and disparities in nursing practice play a role in causing cultural displacement. As a result, it is challenging for nurses to manage and fulfill the high expectations of their patients ([Newton et al., 2012](#)).

Several studies on job satisfaction of foreign-educated nurses in countries such as Australia, Canada, and the United States reported a moderate-to-high degree of overall job satisfaction ([Takeno, 2010](#); [Itzhaki et al., 2013](#); [An et al., 2016](#); [Primeau et al., 2021](#)). However, job satisfaction varies depending on geographic location, sociodemographic characteristics, and organizational setting ([Itzhaki et al., 2013](#); [Timilsina Bhandari et al., 2015](#); [Primeau et al., 2021](#)). For instance, [Primeau et al. \(2021\)](#) observed that male internally educated nurses showed a lower satisfaction than female nurses, while full-time nurses were more satisfied than part-time nurses. Furthermore, Chinese migrant nurses were reported to have the lowest work satisfaction rate in comparison to Filipino, Indian, and Malaysian migrant nurses ([Goh & Lopez, 2016](#)). These discrepancies may be related to language and cultural issues that the Chinese nurses face at work in the host country ([Goh & Lopez, 2016](#)). Moreover, Indian and Filipino nurses were reported to have higher job satisfaction, attributed to the extensive social network among foreign-educated nurses in the host country ([Goh & Lopez, 2016](#)).

Another study reported that most Filipino nurses in Thailand were satisfied with their current position and job scope, although they did not participate directly in clinical nursing care ([Wongboonsin et al., 2018](#)). Their job scope entailed answering inquiries and appointment takers, preparing medical reports, completing documents that needed to be submitted to embassies and insurance companies, and some were hired as educators in schools, colleges, and universities in Thailand ([Wongboonsin et al., 2018](#)). A total of 75% of the respondents rated “satisfied” or “very satisfied” in the job satisfaction dimensions of “working in other countries,” “relationship with superiors and co-workers,” “degree of self-worth,” and “being able to serve the sick and needy” ([Wongboonsin et al., 2018](#)). By contrast, it was found that the Philippine-educated nurses in Singapore have higher satisfaction levels than those in Thailand, particularly in “social status,” “working in other

countries", "salaries and benefits", "ease of employment", and "career development" (Carlos, 2018).

A clear understanding of job satisfaction among these migrant nurses is vital in facilitating the effective translation of nursing practice across the health system and cultures. It will help promote the nurses' dedication to their job, providing optimum quality services to the patients in hospitals, clinics, nursing, or private homes. Many types of research on foreign-educated nurses' job satisfaction and migration issues have been conducted, particularly in the United States, Canada, Australia, and Thailand, but this topic is rarely explored in Malaysia (Timilsina Bhandari et al., 2015; Carlos, 2018; Jurado & Saria, 2018; Primeau et al., 2021). Understanding the situation of foreign-educated nurses working in Malaysia and addressing their concerns will help employers and managers improve their working conditions, thus improving the country's human resource development and health sector management. Therefore, this study aimed to examine the job satisfaction of the foreign-educated nurses in Malaysia, which includes the job satisfaction dimensions and the significant difference between sociodemographic status and job satisfaction.

Methods

Study Design

This research adopted a cross-sectional study design and included foreign-educated nurses who were registered and unregistered with the Malaysian Nursing Board.

Participants

The focus group of the present study is migrant nurses based in private health care sectors in Malaysia because foreign-educated nurses are mainly employed by private institutions, including private hospitals, clinics, nursing homes, private homes, and hemodialysis centers. Participants selected for the study include those who (1) had completed nursing education in their home country, (2) had worked full time or part-time in clinical or patient-related areas, and (3) with or without a Malaysian nursing license. The exclusion criteria include (1) individuals who retired from the nursing profession, (2) individuals who worked in nursing education.

According to the list of foreign-educated nurses provided by the Malaysian Nursing Board, the total number of foreign-educated nurses registered with them is 52. The sample size required for the study was determined using Slovin's formula $n = N/(1+Ne^2)$ (Ryan, 2013) – to be 46, with a confidence level of 95%. However, because the researchers included unregistered foreign-educated nurses who were not listed in the list provided by the Malaysian Nursing Board, the sample size is estimated to be greater than the number calculated for this study. As there is no complete list of foreign-educated nurses, purposive sampling and snowball sampling methods were employed to include as many foreign-educated nurses as possible. In total, 106 individuals consented to participate in the study, and 104 questionnaires were returned, indicating a

response rate of 98%. Moreover, two respondents had to be excluded because they were retired; thus, the total number of respondents in this study was 102.

Instrument

The structured questionnaire used to collect data was adapted from a study by Oda et al. (2016) entitled "Migration of nurses: the case of Kerala, India". The questionnaire was developed and widely used to evaluate various aspects of nurse migration, including career advancement and job satisfaction (Oda et al., 2016; Rajan et al., 2017; Tsujita, 2017, 2018). The questionnaire was written in English; no translation was necessary because all foreign-educated nurses were literate in the language. The internal consistency of the questionnaire was shown to be high (Cronbach's $\alpha = 0.83$). A validity test was done using Pearson's correlation coefficient. All items obtained a critical value > 0.19 with a degree of freedom of 100 and a 95% confidence interval (Field, 2015).

The questionnaire comprises three sections: the respondent profile, working abroad, and job satisfaction. Respondents were asked about their job satisfaction using eight-item satisfaction dimensions using a Likert scale ranging from 1 (dissatisfied) to 3 (satisfied). The eight job satisfaction dimensions were as follows: "serving the sick and needy," "degree of self-respect," relationship with fellow nurses & superior," "working in other countries," "career development," "ease to finding employment," "working conditions" and "salary and benefits."

Data Collection

The survey was conducted between September 2017 to March 2018. The foreign-educated nurses on the Malaysian Nursing Board list were contacted and informed about the purpose of the study. Additional details were obtained from nurses who agreed to participate via phone call or email. Some of the unregistered nurses were introduced by registered nurses, and thus snowball sampling began with the sharing of contact from one person to another.

Data Analysis

IBM SPSS version 25 was used to analyze the data collected in this study. Descriptive statistics, Mann-Whitney U test, and Kruskal-Wallis test were employed for quantitative analysis. The Shapiro-Wilk test revealed that the data were not normally distributed ($p < 0.05$).

Ethical Considerations

Before the study was conducted, our study protocol for the research project was approved by the Institute of Developing Economies, Japan External Trade Organization (IDE-JETRO). All participants were voluntary, and consent was obtained before the participants answered the questionnaire. Furthermore, participants and hospitals were anonymized for the study. Codes (I001, P002, K003) were assigned for all questionnaires to identify the participants and their country of origin.

Results

Participants' Characteristics

In this study, 79.4% ($n = 81$) of participants were not registered with the Malaysian Nursing Board, and most (75.5%, $n = 77$) worked in nursing or private homes. Female

foreign-educated nurses comprised 68.6% ($n = 70$) of the participants, while the remaining respondents were male. The majority of the participants were Christians (73.5%, $n = 75$), and most (67.7%, $n = 69$) were Filipinos. **Table 1** indicates the demographic characteristics of the participants.

Table 1 Characteristics of the participants ($N = 102$)

Variable	<i>n</i>	%
Status of registration with Malaysian Nursing Board		
Unregistered	81	79.4
Registered	21	20.6
Current occupation		
Nurse	88	86.3
Caregiver	12	11.8
Nursing administrator	2	1.9
Current workplace		
Hospital	22	21.6
Clinic	3	2.9
Nursing / Private home	77	75.5
Gender		
Male	32	31.4
Female	70	68.6
Religion		
Hindu	14	13.7
Christian	75	73.5
Muslim	7	6.9
Sikh	6	5.9
Country of origin		
India	29	28.4
Philippines	69	67.7
Pakistan	4	3.9

Job Satisfaction of Participants

The overall job satisfaction analysis revealed that the participants had a median satisfaction score of 22 ($IQR = 19$ to 24). The study further analyzed the dimensions affecting satisfaction among the participants. It was found that the highest median satisfaction score ($Median = 3$, $IQR = 3$ to 3) was associated with serving the sick and needy and participants' self-respect. In contrast, the median satisfaction scores for working conditions, salary and benefits were 2 ($IQR = 1$ to 3), the lowest of all dimensions. **Table 2** presents the job satisfaction of the participants.

Table 2 Job satisfaction of the participants

Variable	Median (IQR)
Overall job satisfaction	22 (19 – 24)
Serving the sick and needy	3 (3 – 3)
Degree of self-respect	3 (3 – 3)
Relationship with fellow nurses and superiors	3 (2 – 3)
Working in other countries	3 (2 – 3)
Career development	3 (2 – 3)
Ease to finding work/employability	3 (2 – 3)
Working conditions	2 (1 – 3)
Salary and benefits	2 (1 – 3)

Differences Between Sociodemographic Status and Job Satisfaction of the Participants

Table 3 shows the difference between the sociodemographic status and job satisfaction of the participants. Mann-Whitney U test and Kruskal-Wallis test were used to analyze the differences between sociodemographic status and job satisfaction, including the eight job satisfaction dimensions of the foreign-educated nurses in this study. Job satisfaction score distribution was not uniform for all groups, as assessed by visual inspection. Overall job satisfaction scores for males (mean rank = 63.28) were statistically significantly higher than for females (mean rank = 46.11), $U = 743$, $z = -2.80$, $p = 0.01$.

In terms of job satisfaction dimensions, a statistically significant difference between registered (mean rank = 62.5) and unregistered nurses (mean rank = 48.65), $U = 1081.5$, $z = 2.30$, $p = 0.02$ was observed only for working in other countries. Male participants showed a significantly higher satisfaction scores than female participants in terms of degree of self-respect (Mean rank 58.75 vs. 48.19; $U = 888$, $z = -2.134$, $p = 0.03$), relationship with fellow nurses and superiors (mean rank = 80.69 vs. 47.38; $U = 826$, $z = -2.59$, $p = 0.01$), working in other countries compared (mean rank = 60.88 vs. 47.21; $U = 820$, $z = -2.61$, $p = 0.01$), career development (mean rank = 60.98 vs. 47.16; $U = 816$, $z = -2.61$, $p = 0.01$), and ease of finding employment (mean rank = 62.84 vs. 48.91; $U = 757$, $z = -3.09$, $p = 0.01$).

Table 3 Sociodemographic status and job satisfaction of the participants

Variables	Overall job satisfaction		Dimension 1		Dimension 2		Dimension 3		Dimension 4		Dimension 5		Dimension 6		Dimension 7		Dimension 8	
	Mean rank	<i>p</i>	Mean rank	<i>p</i>	Mean rank	<i>p</i>	Mean rank	<i>p</i>	Mean rank	<i>p</i>	Mean rank	<i>p</i>	Mean rank	<i>p</i>	Mean rank	<i>p</i>	Mean rank	<i>p</i>
Registration status																		
Registered	51.91	0.78 ^a	51.43	0.98 ^a	56.57	0.26 ^a	60.55	0.06 ^a	62.50	0.02 ^{a*}	47.40	0.40 ^a	55.6	0.40 ^a	50.95	0.91 ^a	56.79	0.29 ^a
Unregistered	49.93		51.52		50.19		49.15		48.65		52.56		50.44		51.64		50.13	
Current occupation																		
Registered nurse	48.65	0.07	50.31	0.25	49.35	0.06	49.93	0.24	50.15	0.34	50.06	0.31	50.15	0.27	50.03	0.29	49.80	0.20
Caregiver	68.92		59.00		65.00		60.17		58.83		59.42		62.33		59.00		60.50	
Nursing administrators	72.50		59.00		65.00		68.50		67.00		67.50		46.00		71.00		72.50	
Current workplace																		
Hospital	48.84	0.77	51.77	0.67	56.95	0.46	58.64	0.29	60.48	0.15	48.32	0.79	54.05	0.10	49.68	0.91	55.32	0.67
Clinic	43.50		42.17		48.33		51.83		50.67		51.33		21.50		55.00		56.50	
Nursing/private home	52.57		51.79		50.06		49.45		48.97		52.42		51.94		51.88		50.21	
Gender																		
Male	63.28	0.01 ^{a*}	54.27	0.30 ^a	58.75	0.03 ^{a*}	80.69	0.01 ^{a*}	60.88	0.01 ^{a*}	60.98	0.01 ^{a*}	62.84	0.01 ^{a*}	53.25	0.64 ^a	58.84	0.16 ^a
Female	46.11		58.24		48.19		47.38		47.21		47.16		48.91		50.70		49.88	
Religion																		
Hindu	54.75	0.25	51.79	0.45	52.36	0.37	64.93	0.07	62.46	0.07	47.75	0.80	58.64	0.30	50.43	0.34	57.29	0.66
Christian	48.57		50.15		49.67		48.05		48.07		51.37		48.83		49.60		49.98	
Muslim	68.86		59.00		65.00		61.36		67.00		53.64		63.50		64.14		58.79	
Sikh	60.33		59.00		56.67		51.83		50.67		59.42		54.71		63.00		48.50	
Country of origin																		
India	53.88	0.25	51.78	0.69	55.45	0.23	61.02	0.04 [*]	60.36	0.02 [*]	49.60	0.40	58.02	0.05	51.52	0.29	56.16	0.35
Philippines	49.28		50.95		49.06		47.24		46.88		51.37		47.66		50.36		49.02	
Pakistan	72.50		59.00		65.00		56.00		67.00		67.50		70.50		71.00		60.50	

Notes: Kruskal Wallis test unless otherwise indicated.

^aMann Whitney test.

Dimension 1, Serving the sick and needy; Dimension 2, Degree of self-respect; Dimension 3, Relationship with fellow nurses and superiors; Dimension 4, Working in other countries, Dimension 5, Career development; Dimension 6, Ease of finding employment; Dimension 7, Working conditions; Dimension 8, Salary and benefits.

^{*}*p*-value is significant at 0.05

Moreover, there was a statistically significant difference in job satisfaction scores between nurses from different countries of origin, in terms of working in other countries, $\chi^2(2) = 7.82$, $p = 0.02$, and relationships with fellow nurses and superiors, $\chi^2(2) = 6.72$, $p = 0.04$. Subsequently, pairwise comparisons were performed; adjusted p -values were presented. This posthoc analysis showed statistically significant differences in job satisfaction scores between Indian and Filipino participants in terms of working in other countries (mean rank = 60.36 vs. 46.88; $p = 0.02$), and relationship with fellow nurses and superiors (mean rank = 61.02 vs. 47.24; $p = 0.04$).

Discussion

The present study assessed the job satisfaction of foreign-educated nurses, including the differences between sociodemographic status and job satisfaction (total score and its every dimension). The findings of this study indicated that most foreign-educated nurses in Malaysia were satisfied with their current position. Most foreign-educated nurses in Malaysia included in this study worked in nursing or private home, whereas a few worked in hospitals and clinics; nevertheless, their response regarding job satisfaction was positive. Similarly, Wongboonsin et al. (2018) found that foreign-educated nurses in Thailand were “satisfied” or “very satisfied” with their jobs even when they were not fully practicing in their profession.

Male foreign-educated nurses reported higher overall satisfaction scores than female foreign-educated nurses. This observation corroborates findings from a study conducted in Saudi Arabia (Al-Haroon & Al-Qahtani, 2020). The result of this study could be explained by the effect of the emotional status shield, which means that men can manage their emotions at work, are protected from the adverse impacts of covering emotion, and thus have a higher level of job satisfaction (Cottingham et al., 2015). However, Primeau et al. (2021) reported an opposite finding, indicating that male international educated nurses showed a lower job satisfaction than female nurses, possibly because male and female nurses use different constructs when evaluating career success.

The overall analysis of the job satisfaction dimensions suggested that serving the sick and needy and degree of self-respect were found to be the top two dimensions among the foreign-educated nurses. This finding demonstrates that foreign-educated nurses value recognition and appreciation from patients, colleagues, and employers. In addition, the foreign-educated nurses were empowered to make a decision while caring for the sick and needy, which significantly improved job satisfaction (Staempfli & Lamarche, 2020). Being respected and recognized by superiors and the community also fulfilled the self-esteem needs of foreign-educated nurses, motivating job satisfaction (Staempfli & Lamarche, 2020).

Moreover, it was discovered that male foreign-educated nurses valued self-respect than female foreign-educated nurses. When male foreign-educated nurses felt appreciated by their patients, it increased their self-esteem and self-worth regarding their career (An et al., 2016).

Relationship with fellow nurses and superiors was also identified as an essential satisfaction dimension among the foreign-educated nurses. Most foreign-educated nurses enjoyed working with local nurses because they were friendly and supportive. This finding proves the importance of group cohesion in influencing job satisfaction (Staempfli & Lamarche, 2020). Furthermore, all foreign-educated nurses working in Malaysia were fluent in English, allowing them to communicate effectively with colleagues and other healthcare personnel and, most importantly, with their patients and their families. This finding is supported by Timilsina Bhandari et al. (2015), who reported that non-English-speaking nurses experienced lower job satisfaction than English-speaking nurses. They encountered language barriers in the workplace, which disrupted their interactions with patients and colleagues (Timilsina Bhandari et al., 2015). In addition to English proficiency, religion and cultural beliefs were critical contributors to the satisfaction among the foreign-educated nurses towards a relationship with fellow nurses and superiors, particularly among foreign-educated Indian nurses compared to foreign-educated Filipino nurses. Most Indian nurses were Christian and Hindu, with a strong support system among the Indian migration nurses (Goh & Lopez, 2016). Historically, Indians in Malaysia was originated from India and their migration to Malaya (before the formation of Malaysia) in the 1800s (Rajendra, 2007). Furthermore, Indians are currently the third-largest population in Malaysia (Department of Statistic Malaysia, 2015). Therefore, it is easier for Indian foreign-educated nurses to adapt and communicate with their Malaysian colleagues and superiors.

Foreign-educated nurses in this study also expressed their satisfaction regarding working in other countries, including Malaysia, and working abroad is a means of developing their careers. The advantages of working abroad included the opportunity to travel and explore different countries, meet new challenges, and gaining experiences (Palese et al., 2010). Troy et al. (2007) described the nursing profession as “a passport to the world” that allows nurses to work freely in any country they desire. In addition, they are provided numerous opportunities to develop their career by practicing and learning a high standard of nursing skills, which increases their job satisfaction and fulfills their self-actualization needs (Kline, 2003; Staempfli & Lamarche, 2020). Registered foreign-educated nurses demonstrated higher job satisfaction than unregistered foreign-educated nurses in this regard. Foreign-educated nurses registered with the Malaysian Nursing Board worked as full-time employees in private institutions (hospital and hemodialysis centers). Their employers made all the arrangements for them,

ranging from paying the registration fee to managing the migration from their home country to Malaysia. These nurses were entitled to the institution's employee benefits and career advancement opportunities. Two of the registered foreign-educated nurses included in this study were promoted to the nursing administrator position in renowned private hospitals in Malaysia.

In contrast, unregistered foreign-educated nurses were mostly part-timers in nursing or private homes, and they were introduced to the job through friends and family (Rajan et al., 2017). They were not entitled to the same benefits and career opportunities as registered foreign-educated nurses and had less job security than their registered colleagues. Staempfli and Lamarche (2020) explained that threats to job security and lack of career advancement would cause negative job satisfaction. This finding is consistent with the results of (Primeau et al., 2021), who reported that full-time foreign-educated nurses showed higher satisfaction than part-time foreign-educated nurses.

Working conditions and salary and benefits were perceived to offer less satisfaction than other job satisfaction dimensions, indicating that although economic and social rewards were essential, the compassionate attitude towards the sick and needy was far more rewarding to the foreign-educated nurses. These findings are supported by Tsujita (2018), who stated that nurses are motivated by the service-oriented nature of the job in addition to economic and social rewards. Nevertheless, a supportive work environment, high salaries, and benefits remain the key contributors to job satisfaction among foreign-educated nurses (Timilsina Bhandari et al., 2015).

The present study provides an overall picture of job satisfaction among the foreign-educated nurses in Malaysia. It emphasizes the important role of employers and managers in ensuring the satisfaction of foreign-educated nurses in their workplace. The management team should continue supporting these nurses and maintaining a positive working relationship with them. However, employers and managers should be more aware of the gaps that affect the job satisfaction of foreign-educated nurses. For instance, female foreign-educated nurses reported lower job satisfaction in the degree of self-respect, relationships with colleagues, and career development. The finding implies that the management team should prioritize this group of nurses, create a healthier working environment free of gender bias, and provide more career development opportunities. In addition, many countries, including Malaysia, are grappling with an aging population and a nurse shortage (Walani, 2015). More nurses are needed to serve the elderly, particularly in nursing homes and private homes. As a result, foreign-educated nurses should be recognized and appreciated by providing them with better job security to fulfill their basic needs.

Limitations

The cross-sectional research design of this study provided information about the job satisfaction of foreign-educated nurses in Malaysia only at a particular point in time.

Therefore, this design may have problems inferring changes and trends over time concerning the job satisfaction of foreign-educated nurses (Polit & Beck, 2018). Additionally, this study employed purposive and snowball sampling methods; thus, the findings may not be generalizable. In future studies, the data should be collected using a random sampling technique representing the total population of foreign-educated nurses in Malaysia. Furthermore, because a survey questionnaire was used, self-report bias such as dishonest answers and differences in understanding and interpretation of the questions is likely (Polit & Beck, 2018).

Conclusion

The findings of this study shed light on the job satisfaction levels in different dimensions as experienced by foreign-educated nurses in Malaysia. There was a significant difference between the nurses' sociodemographic status and job satisfaction levels (overall satisfaction scores and scores across the eight dimensions). These findings serve as a guide to the management team in developing effective strategies, including fostering a healthier work environment, expanding career opportunities, and enhancing job security. As a result, issues such as nursing shortages will be addressed, and the quality of patient care will improve.

Declaration of Conflicting Interest

The authors have no conflict of interest to disclose.

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Authors' Contributions

Study design: LSY, SKL, SKG, SJ, YT. Data collection: LSY, SKL, SJ, YT, SKG. Data analysis: LSY, SKL, SJ, YT. Manuscript writing: LSY, SKL, OSL, SKG. Critical revisions for important intellectual content: LSY, SKL, OSL, SJ. All authors agreed with the final version of the article to be published.

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Data Availability Statement

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

References

- Ahmad, N., & Oranye, N. O. (2010). Empowerment, job satisfaction and organizational commitment: A comparative analysis of nurses working in Malaysia and England. *Journal of Nursing Management*, 18(5), 582-591. <https://doi.org/10.1111/j.1365-2834.2010.01093.x>
- Al-Haroon, H. I., & Al-Qahtani, M. F. (2020). The demographic predictors of job satisfaction among the nurses of a major public hospital in KSA. *Journal of Taibah University Medical Sciences*, 15(1), 32-38. <https://doi.org/10.1016/j.jtumed.2019.11.003>
- Almansour, H., Gobbi, M., Prichard, J., & Ewings, S. (2020). The association between nationality and nurse job satisfaction in Saudi Arabian hospitals. *International Nursing Review*, 67(3), 420-426. <https://doi.org/10.1111/inr.12613>
- An, J.-Y., Cha, S., Moon, H., Ruggiero, J. S., & Jang, H. (2016). Factors affecting job satisfaction of immigrant Korean nurses. *Journal of Transcultural Nursing*, 27(2), 126-135. <https://doi.org/10.1177%2F1043659614539175>
- Carlos, M. R. D. (2018). Philippine-educated nurses in Southeast Asian destinations: The case of Singapore and Thailand. In Y. Tsujita (Ed.), *Human Resource Development, Employment and Mobility of Healthcare Professionals in South East Asia: The Case of Nurses* (pp. 40-63). Bangkok, Thailand: IDE-JETRO. Retrieved from https://www.ide.go.jp/library/English/Publish/Download/Brc/pdf/22_00.pdf.
- Chan, Z. C. Y., Tam, W. S., Lung, M. K. Y., Wong, W. Y., & Chau, C. W. (2013). A systematic literature review of nurse shortage and the intention to leave. *Journal of Nursing Management*, 21(4), 605-613. <https://doi.org/10.1111/j.1365-2834.2012.01437.x>
- Cheng, C. Y., & Liou, S. R. (2011). Intention to leave of Asian nurses in US hospitals: Does cultural orientation matter? *Journal of Clinical Nursing*, 20(13-14), 2033-2042. <https://doi.org/10.1111/j.1365-2702.2010.03594.x>
- Cottingham, M. D., Erickson, R. J., & Diefendorff, J. M. (2015). Examining men's status shield and status bonus: How gender frames the emotional labor and job satisfaction of nurses. *Sex Roles*, 72(7), 377-389. <https://doi.org/10.1007/s11199-014-0419-z>
- Department of Statistic Malaysia. (2015). Population distribution and basic demographic characteristic report. Retrieved from https://www.dosm.gov.my/v1/index.php?r=column/cthem&menu_id=L0pheU43NWJwRVWSZklWdzQ4TlhUUT09&bul_id=MDMxdHZjWTK1SjFzTzNkRXYzcVZjdz09
- Field, A. (2015). *Discovering statistics using IBM SPSS statistics* (4th ed.). SAGE Publications: Los Angeles.
- Goh, Y. S., & Lopez, V. (2016). Job satisfaction, work environment and intention to leave among migrant nurses working in a publicly funded tertiary hospital. *Journal of Nursing Management*, 24(7), 893-901. <https://doi.org/10.1111/jonm.12395>
- International Organization for Migration. (2021). Key migration terms. Retrieved from <https://www.iom.int/key-migration-terms#Migration>
- Itzhaki, M., Ea, E., Ehrenfeld, M., & Fitzpatrick, J. J. (2013). Job satisfaction among immigrant nurses in Israel and the United States of America. *International Nursing Review*, 60(1), 122-128. <https://doi.org/10.1111/j.1466-7657.2012.01035.x>
- Jurado, L.-F. M., & Saria, M. G. (2018). Filipino nurses in the United States. *Nursing Management*, 49(3), 36-41. <https://doi.org/10.1097/01.NUMA.0000530423.71453.58>
- Kline, D. S. (2003). Push and pull factors in international nurse migration. *Journal of Nursing Scholarship*, 35(2), 107-111. <https://doi.org/10.1111/j.1547-5069.2003.00107.x>
- Li, H., Nie, W., & Li, J. (2014). The benefits and caveats of international nurse migration. *International Journal of Nursing Sciences*, 1(3), 314-317. <https://doi.org/10.1016/j.ijnss.2014.07.006>
- Newton, S., Pillay, J., & Higginbottom, G. (2012). The migration and transitioning experiences of internationally educated nurses: A global perspective. *Journal of Nursing Management*, 20(4), 534-550. <https://doi.org/10.1111/j.1365-2834.2011.01222.x>
- Oda, H., Rajan, I. S., & Tsujita, Y. (2016). *A preliminary working draft on migration of nurses: The case of Kerala, India*. Retrieved from https://www.ide.go.jp/English/Publish/Download/Report/2015/2015_B111.html
- Palese, A., Cristea, E., Mesaglio, M., & Stempovskaia, E. (2010). Italian-Moldovan international nurse migration: Rendering visible the loss of human capital. *International Nursing Review*, 57(1), 64-69. <https://doi.org/10.1111/j.1466-7657.2009.00785.x>
- Polit, D. F., & Beck, C. T. (2018). *Essentials of nursing research: Appraising evidence for nursing practice* (9th ed.). Philadelphia, US: Lippincott Williams & Wilkins.
- Primeau, M.-D., St-Pierre, I., Ortmann, J., Kilpatrick, K., & Covell, C. L. (2021). Correlates of career satisfaction in internationally educated nurses: A cross-sectional survey-based study. *International Journal of Nursing Studies*, 117, 103899. <https://doi.org/10.1016/j.ijnurstu.2021.103899>
- Rajan, I. S., Oda, H., & Tsujita, Y. (2017). Education and migration of nurses: The case of India. In Y. Tsujita (Ed.), *Human Resource Development and the Mobility of Skilled Labour in Southeast Asia: The Case for Nurses* (pp. 97-139). Retrieved from <http://www.ide.go.jp/library/English/Publish/Download/Brc/pdf/19.pdf>.
- Rajendra, E. (2007). History of Malaysian Indian migrants in the 1800s to be published soon. *The Star Online*. Retrieved from <https://www.thestar.com.my/news/community/2007/07/20/history-of-malaysian-indian-migrants-in-the-1800s-to-be-published-soon>
- Ryan, T. P. (2013). *Sample size determination and power*. New Jersey, US: John Wiley & Sons, Inc.
- Schermerhorn, J. R., Hunt, J. G., Osborn, R. N., & Uhl-Bien, M. (2010). *Organizational behaviour* (11th ed.). New York: Wiley.
- Schwendimann, R., Dhaini, S., Ausserhofer, D., Engberg, S., & Zúñiga, F. (2016). Factors associated with high job satisfaction among care workers in Swiss nursing homes—a cross sectional survey study. *BMC Nursing*, 15(1), 1-10. <https://doi.org/10.1186/s12912-016-0160-8>
- Staempfli, S., & Lamarche, K. (2020). Top ten: A model of dominating factors influencing job satisfaction of emergency

- nurses. *International Emergency Nursing*, 49, 100814. <https://doi.org/10.1016/j.ienj.2019.100814>
- Takeno, Y. (2010). Facilitating the transition of Asian nurses to work in Australia. *Journal of Nursing Management*, 18(2), 215-224. <https://doi.org/10.1111/j.1365-2834.2009.01041.x>
- Timilsina Bhandari, K. K., Xiao, L. D., & Belan, I. (2015). Job satisfaction of overseas-qualified nurses working in Australian hospitals. *International Nursing Review*, 62(1), 64-74. <https://doi.org/10.1111/inr.12146>
- Troy, P. H., Wyness, L. A., & McAuliffe, E. (2007). Nurses' experiences of recruitment and migration from developing countries: A phenomenological approach. *Human Resources for Health*, 5(1), 1-7. <https://doi.org/10.1186/1478-4491-5-15>
- Tsujita, Y. (2017). *Human resource development and the mobility of skilled labour in Southeast Asia: The case for nurses*. Retrieved from <https://www.ide.go.jp/English/Publish/Download/Brc/19.html>
- Tsujita, Y. (2018). *Human resource development, employment and the mobility of healthcare professionals in South East Asia: The case of nurses*. Retrieved from <https://www.ide.go.jp/English/Publish/Download/Brc/22.html>
- Walani, S. R. (2015). Global migration of internationally educated nurses: Experiences of employment discrimination. *International Journal of Africa Nursing Sciences*, 3, 65-70. <https://doi.org/10.1016/j.ijans.2015.08.004>
- Wongboonsin, P., Carlos, M. R. D., & Hatsukano, N. (2018). Filipino nurses' employment opportunities in the non-nursing sector in Thailand. In Y. Tsujita (Ed.), *Human Resource Development, Employment and Mobility of Healthcare Professionals in South East Asia: The Case of Nurses*. Bangkok IDE-JETRO. Retrieved from <https://www.ide.go.jp/English/Publish/Download/Brc/22.html>
- World Health Organization. (2016). *Global strategy on human resources for health: Workforce 2030*. Retrieved from Geneva: https://www.who.int/hrh/resources/global_strategy_workforce_2030_14_print.pdf?ua=1
- Xiao, L. D., Willis, E., & Jeffers, L. (2014). Factors affecting the integration of immigrant nurses into the nursing workforce: A double hermeneutic study. *International Journal of Nursing Studies*, 51(4), 640-653. <https://doi.org/10.1016/j.ijnurstu.2013.08.005>

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Risk factors associated with uncontrolled blood pressure among patients with non-dialysis chronic kidney disease in Vietnam

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Abstract

Background: Uncontrolled blood pressure rates are high in patients with non-dialysis chronic kidney disease, worsening the disease progression and leading to end-stage renal disease. However, studies on uncontrolled blood pressure in patients with non-dialysis chronic kidney disease and its associated factors in Vietnam are scarce.

Objectives: This study aimed at identifying uncontrolled blood pressure rates and risk factors associated with uncontrolled blood pressure among Vietnamese patients with non-dialysis chronic kidney disease.

Methods: A cross-sectional, correlational study design was employed among 182 participants coming to follow up at two tertiary hospitals in Vietnam. The participants were selected by a convenience sampling technique. Data were collected using Participant Demographic Information Form, Clinical Characteristics Form, Alcohol Use Disorders Identification Test, Pittsburgh Sleep Quality Index, Charlson Comorbidity Index, and an automated office oscillometric upper arm device. Descriptive statistics, Chi-square, Fisher's Exact Test, and binary logistic regression were used to analyze the data.

Results: 63.2% of the participants could not control their BP less than 130/80 mmHg. Poor sleep quality ($OR\ 2.076$, $95\%CI\ 1.059-4.073$, $p=.034$) and severe comorbidities ($OR\ 2.926$, $95\%CI\ 1.248-6.858$, $p=.013$) were risk factors associated with uncontrolled blood pressure among Vietnamese patients with non-dialysis chronic kidney disease. Interestingly, the study found a high rate of awareness toward the importance of blood pressure control but a low rate of known blood pressure targets.

Conclusion: Uncontrolled blood pressure rates among Vietnamese patients with non-dialysis chronic kidney disease were high. Sleep quality and comorbidity severity were significantly associated with uncontrolled blood pressure in this population. To achieve blood pressure targets, nurses and other healthcare providers should pay more attention to the patients with poor sleep quality and severe comorbidities.

Keywords

blood pressure; comorbidity; renal insufficient, chronic; sleep; nursing; Vietnam

Chronic kidney disease (CKD) prevalence has become large and is on the rise due to significant growth in the number of non-communicable diseases (NCDs) and other risk factors (Haileamlak, 2018). It is estimated that 11%-13% of worldwide people suffer from CKD (Hill et al., 2016). Additionally, within a two-year period from 2015 to 2017, the Global Burden of Disease (GBD) study reported a

double elevation in the global prevalence of CKD (GBD 2015 disease and injury incidence and prevalence collaborators, 2016; GBD 2017 disease and injury incidence and prevalence collaborators, 2018). Similarly, Vietnam has also reached a relatively high CKD prevalence (Tran et al., 2017). Consequently, CKD now contributes to 1.2 million deaths over the world and has

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become the sixteenth leading cause of global years lost of life (GBD 2017 disease and injury incidence and prevalence collaborators, 2018).

In parallel with the high prevalence of CKD, blood pressure (BP) often elevates in patients with CKD, occupying 60%-90% (Ku et al., 2019). Moreover, previous studies illustrated the high rate of patients with Non-Dialysis CKD (NDCKD) who could not control their BP less than 130/80 mmHg as recommended (Whelton et al., 2018), ranging from 64%-88% (Zheng et al., 2013; Unni et al., 2015; Dharmapatni et al., 2020). Poor BP control increased 1.84-1.93 times of renal progression in patients in the early stages of CKD, leading to end-stage renal disease (ESRD) and the development of cardiovascular diseases (CVDs) (KDIGO, 2012; Chang et al., 2016). Patients at ESRD need renal replacement therapy (RRT) to maintain their life (CDC, 2020). This puts a financial burden on society and the healthcare system because of the tremendous cost of dialysis treatment (Liyanaage et al., 2015). Additionally, dialysis also worsens the patients' health-related quality of life regarding physical and mental health (Mollaoglu & Deveci, 2017). Thus, effective BP control should be considered as a cornerstone of the care of patients with NDCKD.

BP is multifactorial which is influenced by lifestyle, response to the environment, physiology, and genetic factors. These factors are presented as four domains in Hypertension Development and Assessment model (HDA) (Frazier, 2000). This model is useful in guiding clinicians and researchers to systematically address risk factors of hypertension (HT) (Frazier, 2000). Therefore, the model was employed as a conceptual framework in this study.

Lifestyles are changeable factors, including alcohol consumption and smoking status (Frazier, 2000; Farhud, 2015). There is the fact that alcohol consumption and smoking status are problematic in Vietnam. Specifically, 43.8% and 22.5% of Vietnamese people are current drinkers and current smokers, respectively (Ministry of Health of Vietnam, 2016; Van Minh et al., 2017). These factors were demonstrated to be positively associated with uncontrolled BP among general and hypertensive populations (Wang et al., 2018; Cherfan et al., 2020). By contrast, no association between these factors and uncontrolled BP was reported among patients with NDCKD (Schneider et al., 2018; Zhang et al., 2019). However, no study has been found to assess associations between these two factors and uncontrolled BP among patients with NDCKD in the Vietnam context.

Similar to lifestyle factors, sleep quality belonging to response to the environmental factors should be concerned as the majority of patients with CKD have poor sleep quality with approximately 80% (Teixeira dos Santos & Moraes de Almondes, 2015). Prior studies illustrated a significant association between sleep quality and uncontrolled BP in general and hypertensive populations (Bruno et al., 2013; Liu et al., 2016). Nevertheless, it is not well established whether this association is significant among NDCKD patients. Regarding physiology factors,

previous studies found inconsistent findings between age, diabetes mellitus (DM), and uncontrolled BP. Some studies have proved a significant association between age, DM, and uncontrolled BP (Lee et al., 2017; Yan et al., 2018), but another study proposed an opposite finding (Dharmapatni et al., 2020). For comorbidity, it has been widely known that CKD mostly accompanied with comorbidity. There was one-quarter of CKD populations having three or more comorbidities (Tonelli et al., 2015). The result of a study demonstrated that hypertensive patients with serious comorbidities increased the risk of uncontrolled BP (Paulsen et al., 2012). However, no study was conducted among patients with NDCKD. In terms of genetic factors, mixed results were demonstrated regarding the association between gender and uncontrolled BP in prior studies conducted in different settings (Lee et al., 2017; Dharmapatni et al., 2020). It can be seen that inconsistent findings were found between alcohol consumption, smoking status, age, DM, gender, and uncontrolled BP in previous studies. Additionally, the association between sleep quality, comorbidity severity, and uncontrolled BP among patients with NDCKD has not been explored.

Although there are a number of studies on uncontrolled BP and its associated factors among NDCKD patients, little is known about the Vietnamese population. The difference in terms of culture, habit, lifestyle, and the healthcare system can generate different results. Therefore, understanding uncontrolled BP and its associated factors are important for nurses and other healthcare providers to develop efficient interventions to achieve adequate BP control in this population. Therefore, this study aimed to identify uncontrolled blood pressure rates and risk factors associated with uncontrolled blood pressure among Vietnamese patients with NDCKD.

Methods

Study Design

A cross-sectional, correlational study design was employed among NDCKD patients coming to follow up at Nephro-Urology Department and General Outpatients Department in two tertiary hospitals in Vietnam.

Participants

The convenience sampling technique was used to select participants according to the inclusion and exclusion criteria. Vietnamese male or female patients, ages 18 and above, diagnosed with CKD for three months or over were eligible for inclusion in the study. Participants were required to have an estimated glomerular filtration rate (eGFR) less than 60 ml/min/1.73m² and had never undergone RRT. Participants aged 60 or over or/and had eGFR less than 15 ml/min/1.73m² were screened for the cognitive impairment by the General of Practitioner assessment of Cognition (GPCOG). Patients who had cognitive impairment, those who were diagnosed with severe diseases/conditions, psychiatric disorders, had been taking medications influencing BP such as cold medicines comprising

pseudoephedrine, phenylephrine; analgesics containing NSAIDs; steroid/ immunosuppressive agents comprising cyclosporine, tacrolimus, antacids; and/or oral contraceptives within seven days prior to data collection, and those who had changed hypertensive regimen within three months were excluded.

The sample size was calculated by using G-power software 3.1.9.4 (Faul et al., 2009). A previous similar study found excessive alcohol intake as a predictor of uncontrolled BP (OR 2.9, 95%CI 1.3-6.2) (Adeniyi et al., 2016). Based on this study, the sample size was calculated by using logistic regression with two tails, binominal distribution, probability $H_1 = .87$, probability $H_0 = .69$, $X_{\text{parm}} \pi = .4$, power = .8, and $\alpha = .05$. As a result, 182 participants were recruited into the study.

Instruments

Participant Demographic Information Form, Alcohol Use Disorders Identification Test (AUDIT), Pittsburgh Sleep Quality Index (PSQI), Clinical Characteristics Form, Charlson Comorbidity Index (CCI), and an automated office oscillometric upper arm device (OMRON Hem 717) were used to collect data.

Participant Demographic Information Form developed by the researchers was used to collect data of age, gender, marital status, educational level, occupation, and smoking status. Smoking status was classified into two groups: non-smokers and smokers. Non-smokers include adults who have never used cigarettes or have used cigarettes less than 100 in the duration of their life. Smokers include past and current smokers. Past smokers are those adults smoking 100 cigarettes or more in their lifetime but who have quit smoking on interview day. Current smokers are those adults smoking 100 cigarettes or more in their lifetime and currently smoking cigarettes (CDC, 2017).

AUDIT was employed to measure alcohol consumption. This questionnaire was developed by Saunders et al. (1993). It was translated into the Vietnamese language by following back translation procedures by Giang et al. (2005). AUDIT is a self-report questionnaire that has ten items. The first eight questions have scores in the range of 0-4. Questions 9 and 10 have scores of 0, 2, or 4. The total score ranges from 0 to 40 (Babor et al., 2001). In this study, alcohol consumption was categorized into two groups: non-drinker/ low level of alcohol problems with a score of less than 8, and hazardous, harmful alcohol use and alcohol dependence with a score greater or equal to 8.

AUDIT has a high sensitivity (92%) and specificity (94%) in early detecting people with drinking problems (Saunders et al., 1993). AUDIT Vietnamese version has a sensitivity of 81.8%, 100%, and 93.8% for detecting risky drinking, harmful use, and alcohol dependence, respectively. In terms of specificity, AUDIT was able to identify 76.1%, 69.9%, and 87.4% of participants with risky drinking, harmful use, and alcohol dependence, respectively (Giang et al., 2005). The Cronbach's alpha coefficient of AUDIT was .75 in this study.

PSQI was applied to measure sleep quality. The questionnaire was developed by Buysse et al. (1989). It was translated into the Vietnamese language using forward and backward translation by To and Nguyen (2015). PSQI is a self-report questionnaire that consists of ten items classified into seven components (subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication, and daytime dysfunction). However, only the first nine items were used to calculate the total score. The total score ranges from 0 to 21. A score equal to or less than 5 indicates good sleep quality, and conversely, a score greater than 5 demonstrates poor sleep quality (Buysse et al., 1989).

PSQI has high reliability with Cronbach's alpha coefficient of .83 and stability in global and component scores. In terms of validity, PSQI was able to identify accurately 88.5% of all patients with 89.6% of sensitivity and 86.5% of specificity, which are similar to clinical and laboratory measures (Buysse et al., 1989). The PSQI Vietnamese version has a Cronbach's alpha coefficient of .789, showing good internal consistency. The test-retest reliability coefficient was .79 (To & Nguyen, 2015). In this study, PSQI was tested for its reliability. The Cronbach's alpha coefficient of PSQI was .81.

Clinical Characteristics Form, which was developed by the researchers, was used to record clinical characteristics, including CKD stage, comorbidity severity, comorbidities, perceived importance of BP control, and known target BP. Comorbidities were obtained from participants' medical records. eGFR was calculated using the CKD-EPI equation (Levey et al., 2009) and used to classify the CKD stage.

CCI was used to assess comorbidity severity (Charlson et al., 1987). CCI consists of 19 diseases. Scores 1, 2, 3, or 6 were given to each disease depending on its severity. Furthermore, each decade of age over 40 would add 1 point to risk. The sum of comorbidity score and age score was a total score of CCI (Charlson et al., 1987). The severity of comorbidity in this current study included mild comorbidities (0-2 scores), moderate comorbidities (3-4 scores), and severe comorbidities (5-6 scores).

An automated office oscillometric upper arm device (OMRON Hem 717) was used to measure BP according to the standard protocol (Whelton et al., 2018). Participants were instructed to avoid consuming alcohol, caffeine, smoking, or doing exercise for at least 30 minutes, concurrently sit and relax in a chair with back supported and feet flat on the floor for around 3-5 minutes without talking and moving prior to measurement. Two times measurements were performed in both arms. The third measurement was implemented when systolic blood pressure (SBP) or diastolic blood pressure (DBP) was different by greater or equal to 10 mmHg between both arms. The average of two or three measurements was the final BP value. As SBP increases as one age and can strongly predict heart diseases, physicians mostly place emphasis on controlling SBP (LeWine, 2018). Therefore, in this study, SBP was used to categorize uncontrolled and controlled BP groups. Uncontrolled BP was defined when

SBP was greater or equal to 130 mmHg. By contrast, controlled BP was when SBP was less than 130 mmHg.

Data Collection

Data were collected from January 2020 to May 2020. CKD patients coming to follow up at Nephro-Urology Department and General Outpatients Department were first screened for inclusion criteria by staff nurses. Then, all potential participants were informed about the research protocol, benefits, risks, privacy, and confidentiality by the principal investigator (PI). When the potential participants agreed to participate in the study, the PI asked their permission to review medical records to identify exclusion criteria. The potential participants who met the study criteria were recruited and guided to sign an informed consent. Then, the participants aged greater or equal to 60 or eGFR less than 15 ml/min/1.73m² were screened for cognitive impairment. The participants having a GPCOG score of less than nine were excluded from the study. After that, BP was measured in all participants, and they were guided to complete questionnaires before meeting with physicians. During data collection, the participants had the right to withdraw from the study at any time without any effect on their treatment. The estimated time for data collection for each respondent was approximately 25-30 minutes.

Data Analysis

Statistical Package for the Social Science version 18.0 licensed by Mahidol University was used to analyze quantitative data. A p-value less than .05 was considered as statistical significance. Descriptive statistics were used to describe participants' characteristics. Frequency and percentage were used to describe categorical data. Continuous data were analyzed using frequency,

percentage, mean, and standard deviation (SD). Chi-square test and Fisher's Exact test were performed to test for the association of each independent variable with uncontrolled BP. Then, binary logistic regression analysis by the forward stepwise method was done to identify dominant risk factors associated with uncontrolled BP. Each statistical test was checked for its assumptions.

Ethical Consideration

The study was approved by the Institutional Review Board (IRB), Faculty of Nursing, Mahidol University (COA No.IRB-NS2019/525.0912). Informed consent was obtained before collecting data. The PI informed the potential participants regarding the study's objectives, data collection procedure, risks and benefits of the study, participants' privacy, and confidentiality. Then, the participants voluntarily signed in the informed consent when they did not have any doubt about the research and were willing to participate in the study.

Results

Demographic Characteristics of the Participants

A total of 188 potential participants were approached. However, four patients had cognitive impairment (GPCOG < 9), and two patients refused to participate in the study due to their time limit. As a result, 182 participants were recruited into this study. As shown in **Table 1**, over half of the participants were male (55.5%) and aged 60 or over (53.8%) with a mean age of 58.7 ± 15.33 years. The percentage of the participants finishing secondary school was the highest with 43.4%, followed by high school level, occupying 22.0%.

Table 1 Participants' demographic characteristics

Characteristics	N(182)	%
Age (years)		
18-39	28	15.4
40-59	56	30.8
≥ 60	98	53.8
(Mean=58.7, SD=15.33, range=18-88)		
Gender		
Male	101	55.5
Female	81	44.5
Marital status		
Single	6	3.3
Separated/divorced	4	2.2
Widow	18	9.9
Married	154	84.6
Educational level		
Illiterate	1	.6
Primary school	19	10.4
Secondary school	79	43.4
High school	40	22.0
Diploma	11	6.0
College/University	31	17.0
Higher education	1	.6

Table 1 (Cont.)

Characteristics	N(182)	%
Occupation		
Unemployed	33	18.1
Government officer	10	5.6
Private officer	3	1.6
Own business	12	6.6
Worker	13	7.1
Farmer	39	21.4
Retired	72	39.6

Table 2 Participants' clinical characteristics and blood pressure level

Characteristics	N(182)	%
CKD stage		
Stage 3 (30-59 ml/min/1.73m ²)	102	56.0
Stage 4 (15-29 ml/min/1.73m ²)	52	28.6
Stage 5 (<15 ml/min/1.73m ²)	28	15.4
Diabetes		
No	120	65.9
Yes	62	34.1
Diabetes with CKD		
No diabetes with CKD	120	65.9
Diabetes with CKD stage 3	49	26.9
Diabetes with CKD stage 4	8	4.4
Diabetes with CKD stage 5	5	2.8
Comorbidity severity		
Mild	78	42.9
Moderate	48	26.3
Severe	56	30.8
Comorbidities[†]		
Diabetes with end-organ damage	60	33.0
Ischemic heart disease	16	8.8
Heart failure	14	7.7
Others [‡]	5	2.7
Perceived the importance of blood pressure control		
Yes	151	83.0
No	2	1.1
Unknown	29	15.9
Known target blood pressure		
Yes	60	33.0
No	122	67.0
Overall systolic blood pressure		
Mean=138.3, SD=19.46, range=62-176		
Controlled systolic blood pressure (<130 mmHg)	67	36.8
<120	25	37.3
120-129	42	62.7
(Mean=118.3, SD=12.07, range=62-129)		
Uncontrolled systolic blood pressure (≥130 mmHg)	115	63.2
130-139	28	24.3
≥140	87	75.7
(Mean=149.9, SD=12.19, range=131-176)		

[†]Comorbidities listed in Charlson Comorbidity Index; [‡]Chronic obstructive pulmonary disease, Diabetes, Peptic ulcer, Peripheral vascular disease, Cerebrovascular disease, Connective tissue disease, Mild liver disease, Hemiplegia, Any tumor, Leukemia, Lymphoma, Moderate or severe liver disease, AIDS.

Clinical Characteristics and Blood Pressure

As presented in **Table 2**, CKD stage 3 was the most common, occupying 56.0%, followed by 15.4% of the participants having kidney failure. The majority of the participants did not have DM (65.9%). Among the participants having DM, many of them were in CKD stage 3, occupying 26.9%. Many participants had mild comorbidity (42.9%), and DM with end-organ damage was

the most common comorbidity, taking up 33.0%. Interestingly, although most participants were aware of the importance of BP control (83.0%), only a few knew about their BP target, which needed to be maintained (33.0%). The mean SBP was 138.3 mmHg ± 19.46, indicating poor BP control. The majority of the participants (63.2%) were not able to control SBP based on their BP target. Additionally, 75.7% of them had SBP of 140 mmHg or over.

Association Between the Study Variables and Uncontrolled BP

As presented in **Table 3**, smoking status, DM, DM with CKD, comorbidity severity, and sleep quality were

significantly associated with uncontrolled BP. In contrast, age, gender, and alcohol consumption were not significantly associated with uncontrolled BP.

Table 3 Association between the study variables and uncontrolled blood pressure

Study Variables	Controlled Group N= 67 n (%)	Uncontrolled Group N= 115 n (%)	χ^2 /Fisher's Exact Test	p-value
Age (years)			4.786	.091
18-39	13 (46.4)	15 (53.6)		
40-59	25 (44.6)	31 (55.4)		
≥ 60	29 (29.6)	69 (70.4)		
Gender			3.654	.056
Male	31 (30.7)	70 (69.3)		
Female	36 (44.4)	45 (55.6)		
Smoking status			3.897	.048
Non-smokers	45 (42.9)	60 (57.1)		
Smokers	22 (28.6)	55 (71.4)		
Alcohol consumption^f				.748
Non-drinker/low level	64 (37.2)	108 (62.8)		
Hazardous, harmful/alcohol dependence	3 (30.0)	7 (70.0)		
Diabetes			8.189	.004
No	53 (44.2)	67 (55.8)		
Yes	14 (22.6)	48 (77.4)		
Diabetes with CKD^f			8.957	.024
No diabetes with CKD	53 (44.2)	67 (55.8)		
Diabetes with CKD stage 3	12 (24.5)	37 (75.5)		
Diabetes with CKD stage 4	2 (25.0)	6 (75.0)		
Diabetes with CKD stage 5	0 (0.0)	5 (100.0)		
Comorbidity severity			12.507	.002
Mild	35 (44.9)	43 (55.1)		
Moderate	22 (45.8)	26 (54.2)		
Severe	10 (17.9)	46 (82.1)		
Sleep quality			8.854	.003
Good	32 (51.6)	30 (48.4)		
Poor	35 (29.2)	85 (70.8)		

^fFisher's Exact Test

Risk Factors Associated with Uncontrolled Blood Pressure

In binary logistic regression analysis, the participants with severe comorbidities were more likely to have uncontrolled

BP (OR 2.926, 95%CI 1.248-6.858, $p=.013$). Similarly, the participants having poor sleep quality had increased approximately two times the risk of uncontrolled BP (OR 2.076, 95%CI 1.059-4.073, $p=.034$), as shown in **Table 4**.

Table 4 Binary logistic regression analysis of uncontrolled blood pressure

Variables	B	S.E.	Wald	df	p-value	OR	95% CI for OR	
							Lower	Upper
Comorbidity severity								
Mild (reference)	-							
Moderate	-.181	.381	.225	1	.635	.835	.396	1.760
Severe	1.074	.435	6.104	1	.013	2.926	1.248	6.858
Sleep quality								
Good (reference)	-							
Poor	.731	.344	4.517	1	.034	2.076	1.059	4.073
Method = Forward LR								
Hosmer and Lemeshow test $\chi^2 = .905$, df = 4, p = .924								
Cox & Snell $R^2 = .094$, Nagelkerke $R^2 = .128$								
Classification Accuracy = 66.5%								

B: coefficient; S.E.: standard errors of coefficient; df: degree of freedom; OR: odds ratio; CI: confidence interval

Discussion

The study finding provides an overview of uncontrolled BP rates among patients with NDCKD in Vietnam, which has not been explored before. The study found that 63.2% of the participants were incapable of controlling their BP less than 130/80 mmHg. This finding was consistent with previous studies that demonstrated the uncontrolled BP rates among NDCKD patients were in the range of 63.7%-64.8% (Zhang et al., 2019; Dharmapatni et al., 2020).

This finding could be explained by several possible reasons. Firstly, worse renal function can affect BP control. In this study, up to 44.0% of NDCKD participants were in stages 4 and 5. It was demonstrated that the more severe the CKD stage is, the more difficult BP control is (Zheng et al., 2013; Yan et al., 2018). Another possible reason is older age. This study found over half of the participants (53.8%) were aged 60 or over. Aging causes alteration in the structure and function of the arterial vasculature. Both SBP and DBP increase with age, although at the age of over 60, SBP keeps increasing while DBP decreases afterward because the central arterial stiffness dominates (Oliveros et al., 2020). The third reason probably relates to participants' medication adherence. Due to several reasons such as financial problems, living far from the hospital, and feeling better health conditions, many participants did not regularly follow up. Therefore, they either bought similar medications by themselves or temporarily stopped taking medications. Another possible cause of poor BP control in this study is participants' knowledge relating to BP value that needs to be maintained. Previous studies illustrated a high rate of awareness of BP control among NDCKD patients (Schneider et al., 2018; Yan et al., 2018). However, the percentage of uncontrolled BP in this population is still poor.

Similarly, this study demonstrated a high rate of the participants perceiving the importance of BP control, but noticeably, the majority of the participants did not know or gave an incorrect answer about the BP target that they needed to maintain. The finding highlights that most participants lack knowledge about their disease, such as optimal BP level that needs to be preserved. This probably contributes to poor BP control among NDCKD participants in the current study.

Apart from identifying the rate of uncontrolled BP among patients with NDCKD, this study illustrated that sleep quality and comorbidity severity were two risk factors strongly associated with uncontrolled BP. According to the HDA model, response to the environment is a person's perception and reaction toward the environment, which would lead to increase BP (Frazier, 2000). Consistently, this study found that poor sleepers had a positive association with uncontrolled BP among NDCKD populations. This finding was consistent with previous studies conducted in general and hypertensive populations (Bruno et al., 2013; Liu et al., 2016). It could be explained by an activation of the sympathetic nervous system due to

poor sleep quality, which induces high BP (Chouchou et al., 2013). Moreover, poor sleep quality causes an elevation of stress hormones such as cortisol, resulting in a rise in BP (Song et al., 2015; Chrousos et al., 2016). Additionally, inadequate sleep quality acts as a psychological stressor that leads to sodium retaining, pro-inflammatory responses, and endothelial dysfunction, resulting in an increase in BP (Lu et al., 2015).

Similar to sleep quality, comorbidity severity was found to be a significant factor associated with uncontrolled BP among patients with NDCKD. The finding was in line with the HDA model. Elevated BP could possibly relate to older age and more complex health problems in patients with severe comorbidities. CCI is calculated by the sum of the score of age and the score of comorbidities. The older age and the higher score of comorbidities are, the more severe comorbidities are. Therefore, the participants with severe comorbidities would have older age which often accompanies by vascular system change. This leads to an increase in BP, particularly SBP (National Institute on Aging, 2018). Thus, the participants with severe comorbidities were less likely to control BP. Furthermore, the participants with severe comorbidities had complex health problems such as DM with end-organ damage, ischemic heart disease, and heart failure, leading to worse health conditions. Therefore, they were more likely to experience uncontrolled BP.

Contrastingly, the other physiology factors in this study, including age, DM, and DM with CKD, were not risk factors associated with uncontrolled BP, as also described in a previous study of CKD patients (Dharmapatni et al., 2020). Nonetheless, prior studies demonstrated a significant association between these factors and uncontrolled BP (Lee et al., 2017; Yan et al., 2018). In this study, among participants with uncontrolled BP, the number of participants with older age was higher than those of the other age groups. However, no significant association was found. Regarding DM and DM with CKD, having DM leads to macrovascular complications such as atherosclerosis and sympathetic activation, resulting in high BP (Chawla et al., 2016; Climie et al., 2019).

Additionally, advanced stage CKD leads to volume overload and a rise of vascular resistance, which are common causes of BP elevation in patients with CKD (Lee et al., 2017). In this current study, there were significant relationships among DM as well as DM with CKD and uncontrolled BP. However, the percentage of the participants having DM with CKD stages 4 and 5 in the current study were too low, with 4.4% and 2.8%, respectively. This may be a possible reason why DM and DM with CKD were not strong risk factors of uncontrolled BP in this study.

Regarding lifestyle factors, including smoking status and alcohol consumption, a small number of respondents with heavy drinkers participated in this study. It can be explained that the sample had been diagnosed with CKD and other comorbidities. They might adjust their lifestyle by reducing or stopping to consume alcohol. Therefore, the

majority of the participants were non-drinker or light alcohol consumption. Consequently, no association was found in this study between alcohol consumption and uncontrolled BP. Likewise, smoking status, as another lifestyle factor in the HDA model, was not a significant risk factor associated with uncontrolled BP in this study. These findings were consistent with previous studies conducted in China (Yan et al., 2018; Zhang et al., 2019). According to genetic factors, gender had no association with uncontrolled BP in the current study. The study finding was congruent with previous research, which revealed no significant relationship between gender disparity and BP control in Chinese patients with NDCKD (Wang et al., 2013). In this study, males tended to have a higher uncontrolled BP rate than females; however, the proportion of uncontrolled BP was not considerably different between males and females.

There were some limitations in this study. Firstly, this study was a cross-sectional, correlational study design, and a convenience sampling technique was employed to collect data. Therefore, the cause-and-effect relationships could not be explored. Secondly, there are differences in lifestyle across areas in Vietnam. In detail, the study found a very low rate of hazardous/harmful alcohol use/alcohol dependence and current smoking among the participants. Thus, the study findings could apply to only populations with similar characteristics to the participants in the current study. Thirdly, other factors that may associate with BP control, such as medication adherence, diet, and physical activities, were not explored in this study. Therefore, longitudinal studies should be conducted in the future to explore the cause-and-effect relationships. Further studies should also be conducted in other settings located in other parts of Vietnam to increase generalizability. Some variables such as medication adherence, diet, and physical activities should be included in future studies. In addition, this study can be considered a foundation for the development of intervention studies that can help optimize blood pressure control.

Optimal BP control is a major goal in providing care to patients with NDCKD all over the world. However, the high rate of uncontrolled BP in this study highlights that controlling BP to target levels remains a challenge. Therefore, to achieve the goal, nurses and other healthcare professionals should closely monitor BP among patients with NDCKD. Furthermore, sleep quality and comorbidity severity were risk factors associated with uncontrolled BP in patients with NDCKD. Therefore, nurses should collaborate with other healthcare personnel to provide efficient interventions to improve sleep quality and control comorbidities in patients with NDCKD. In addition, health education regarding the importance of regular home BP measurement and BP target that needs to be maintained should be emphasized.

Conclusion

The present study demonstrated that the majority of the participants were not able to control BP as recommended

with 63.2%. Sleep quality and comorbidity severity were associated with uncontrolled BP among NDCKD patients. The study findings provide more comprehensive risk profiles for improving continuity care to respond to gaps in CKD care in Vietnam. It is recommended that nurses and other healthcare personnel should pay more attention to NDCKD patients having poor sleep quality and severe comorbidities to improve BP control.

Declaration of Conflicting Interest

The authors certify that there is no actual or potential conflict of interest in relation to this article.

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Authors' Contributions

VTHN developed the research proposal, performed data collection, data analysis, and data interpretation, drafted the manuscript, and critically revised it for important intellectual content. AS and WP supervised the proposal development, ethical approval process, data collection, data analysis, data interpretation and gave essential suggestions and recommendations on the manuscript. All authors have read and approved the final manuscript.

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Data Availability Statement

The datasets generated and analyzed during the current study are not publicly available due to confidentiality and ethical restrictions but are available from the authors on reasonable request.

References

- Adeniyi, O. V., Yogeswaran, P., Longo-Mbenza, B., & Goon, D. T. (2016). Uncontrolled hypertension and its determinants in patients with concomitant type 2 diabetes mellitus (T2DM) in rural South Africa. *PloS One*, 11(3), e0150033. <https://doi.org/10.1371/journal.pone.0150033>
- Babor, T. F., Higgins-Biddle, J. C., Saunders, J. B., & Monteiro, M. G. (2001). The alcohol use disorders identification test: Guidelines for use in primary care. 2nd. Retrieved from https://apps.who.int/iris/bitstream/handle/10665/67205/WHO_MSD_MSB_01.6a.pdf?sequence=1
- Bruno, R. M., Palagini, L., Gemignani, A., Virdis, A., Di Giulio, A., Ghiadoni, L., . . . Taddei, S. (2013). Poor sleep quality and resistant hypertension. *Sleep Medicine*, 14(11), 1157-1163. <https://doi.org/10.1016/j.sleep.2013.04.020>

- Buyse, D. J., Reynolds III, C. F., Monk, T. H., Berman, S. R., & Kupfer, D. J. (1989). The Pittsburgh Sleep Quality Index: A new instrument for psychiatric practice and research. *Psychiatry Research*, 28(2), 193-213. [https://doi.org/10.1016/0165-1781\(89\)90047-4](https://doi.org/10.1016/0165-1781(89)90047-4)
- CDC. (2017). Adult tobacco use information. Retrieved from https://www.cdc.gov/nchs/nhis/tobacco/tobacco_glossary.htm
- CDC. (2020). Chronic kidney disease basics. Retrieved from <https://www.cdc.gov/kidneydisease/basics.html>
- Chang, P.-Y., Chien, L.-N., Lin, Y.-F., Wu, M.-S., Chiu, W.-T., & Chiou, H.-Y. (2016). Risk factors of gender for renal progression in patients with early chronic kidney disease. *Medicine (Baltimore)*, 95(30), e4203-e4203. <https://doi.org/10.1097/MD.00000000000004203>
- Charlson, M. E., Pompei, P., Ales, K. L., & MacKenzie, C. R. (1987). A new method of classifying prognostic comorbidity in longitudinal studies: Development and validation. *Journal of Chronic Diseases*, 40(5), 373-383. [https://doi.org/10.1016/0021-9681\(87\)90171-8](https://doi.org/10.1016/0021-9681(87)90171-8)
- Chawla, A., Chawla, R., & Jaggi, S. (2016). Microvascular and macrovascular complications in diabetes mellitus: Distinct or continuum? *Indian Journal of Endocrinology and Metabolism*, 20(4), 546. <https://dx.doi.org/10.4103%2F2230-8210.183480>
- Cherfan, M., Vallée, A., Kab, S., Salameh, P., Goldberg, M., Zins, M., & Blacher, J. (2020). Unhealthy behaviors and risk of uncontrolled hypertension among treated individuals-The CONSTANCES population-based study. *Scientific Reports*, 10(1), 1925. <https://doi.org/10.1038/s41598-020-58685-1>
- Chouchou, F., Pichot, V., Pepin, J. L., Tamisier, R., Celle, S., Maudoux, D., . . . Roche, F. (2013). Sympathetic overactivity due to sleep fragmentation is associated with elevated diurnal systolic blood pressure in healthy elderly subjects: The PROOF-SYNAPSE study. *European Heart Journal*, 34(28), 2122-2131a. <http://doi.org/10.1093/eurheartj/ehd208>
- Chrousos, G., Vgontzas, A. N., & Kritikou, I. (2016). HPA axis and sleep. In K. R. Feingold., B. Anawalt., A. Boyce., G. Chrousos., K. Dungan., A. Grossman ., . . . P. D. Wilson (Eds.), *Endotext*. Retrieved from <https://www.ncbi.nlm.nih.gov/books/NBK279071/>
- Climie, R. E., van Sloten, T. T., Bruno, R.-M., Taddei, S., Empana, J.-P., Stehouwer, C. D. A., . . . Laurent, S. (2019). Macrovasculature and microvasculature at the crossroads between type 2 diabetes mellitus and hypertension. *Hypertension*, 73(6), 1138-1149. <https://doi.org/10.1161/HYPERTENSIONAHA.118.11769>
- Dharmapathi, N. W. K., Sriyuktasuth, A., & Pongthavornkamol, K. (2020). Rate of uncontrolled blood pressure and its associated factors in patients with predialysis chronic kidney disease in Bali, Indonesia. *Journal of Health Research*. <https://doi.org/10.1108/JHR-09-2019-0203>
- Farhud, D. D. (2015). Impact of lifestyle on health. *Iranian Journal of Public Health*, 44(11), 1442-1444.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149-1160. <https://doi.org/10.3758/BRM.41.4.1149>
- Frazier, L. (2000). Factors influencing blood pressure: Development of a risk model. *Journal of Cardiovascular Nursing*, 15(1), 62-79.
- GBD 2015 disease and injury incidence and prevalence collaborators. (2016). Global, regional, and national incidence, prevalence, and years lived with disability for 310 diseases and injuries, 1990–2015: A systematic analysis for the Global Burden of Disease Study 2015. *Lancet*, 388(10053), 1545-1602. [https://doi.org/10.1016/S0140-6736\(16\)31678-6](https://doi.org/10.1016/S0140-6736(16)31678-6)
- GBD 2017 disease and injury incidence and prevalence collaborators. (2018). Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990–2017: A systematic analysis for the global burden of disease study 2017. *Lancet*, 392(10159), 1789-1858. [https://doi.org/10.1016/S0140-6736\(18\)32279-7](https://doi.org/10.1016/S0140-6736(18)32279-7)
- Giang, K. B., Spak, F., Dzung, T. V., & Allebeck, P. (2005). The use of AUDIT to assess level of alcohol problems in rural Vietnam. *Alcohol and Alcoholism*, 40(6), 578-583. <https://doi.org/10.1093/alcalc/agh198>
- Haileamlak, A. (2018). Chronic kidney disease is on the rise. *Ethiopian Journal of Health Sciences*, 28(6), 681-682. <https://doi.org/10.4314/ejhs.v28i6.1>
- Hill, N. R., Fatoba, S. T., Oke, J. L., Hirst, J. A., O'Callaghan, C. A., Lasserson, D. S., & Hobbs, F. D. R. (2016). Global prevalence of chronic kidney disease - a systematic review and meta-analysis. *PLoS One*, 11(7), e0158765-e0158765. <https://doi.org/10.1371/journal.pone.0158765>
- KDIGO. (2012). KDIGO clinical practice guideline for the management of blood pressure in chronic kidney disease. *Kidney International Supplements*, 2(5), 337. <https://doi.org/10.1038/kisup.2012.46>
- Ku, E., Lee, B. J., Wei, J., & Weir, M. R. (2019). Hypertension in CKD: Core curriculum 2019. *American Journal of Kidney Diseases*, 74(1), 120-131. <https://doi.org/10.1053/j.ajkd.2018.12.044>
- Lee, S., Oh, H. J., Lee, E.-K., Lee, O., Ha, E., Kim, S.-J., . . . Ryu, D.-R. (2017). Blood pressure control during chronic kidney disease progression. *American Journal of Hypertension*, 30(6), 610-616. <https://doi.org/10.1093/ajh/hpx017>
- Levey, A. S., Stevens, L. A., Schmid, C. H., Zhang, Y. L., Castro, A. F., 3rd, Feldman, H. I., . . . Ckd, E. P. I. (2009). A new equation to estimate glomerular filtration rate. *Annals of Internal Medicine*, 150(9), 604-612. <https://doi.org/10.7326/0003-4819-150-9-200905050-00006>
- LeWine, H. (2018). Which blood pressure number is important? Retrieved from <https://www.health.harvard.edu/staying-healthy/which-blood-pressure-number-is-important>
- Liu, R. Q., Qian, Z., Trevathan, E., Chang, J. J., Zelicoff, A., Hao, Y. T., . . . Dong, G. H. (2016). Poor sleep quality associated with high risk of hypertension and elevated blood pressure in China: Results from a large population-based study. *Hypertension Research*, 39(1), 54-59. <https://doi.org/10.1038/hr.2015.98>
- Liyanage, T., Ninomiya, T., Jha, V., Neal, B., Patrice, H. M., Okpechi, I., . . . Perkovic, V. (2015). Worldwide access to treatment for end-stage kidney disease: A systematic review. *The Lancet*, 385(9981), 1975-1982. [https://doi.org/10.1016/S0140-6736\(14\)61601-9](https://doi.org/10.1016/S0140-6736(14)61601-9)
- Lu, K., Chen, J., Wu, S., Chen, J., & Hu, D. (2015). Interaction of sleep duration and sleep quality on hypertension: Prevalence in adult Chinese males. *Journal of Epidemiology*, 25(6), 415-422. <https://doi.org/10.2188/jea.JE20140139>
- Ministry of Health of Vietnam. (2016). National survey on the risk factors of non-communicable disease (STEPS) Viet Nam 2015. Retrieved from https://www.who.int/ncds/surveillance/steps/VietNam_2015_STEPS_Report.pdf
- Mollaoglu, M., & Deveci, G. (2017). Quality of life in patients with chronic renal failure and some affecting factors. *Archives of Renal Diseases and Management*, 3(1), 12-19. <http://dx.doi.org/10.17352/2455-5495.000020>

- National Institute on Aging. (2018). High blood pressure. Retrieved from <https://www.nia.nih.gov/health/high-blood-pressure>
- Oliveros, E., Patel, H., Kyung, S., Fugar, S., Goldberg, A., Madan, N., & Williams, K. A. (2020). Hypertension in older adults: Assessment, management, and challenges. *Clinical Cardiology*, 43(2), 99-107. <https://doi.org/10.1002/clc.23303>
- Paulsen, M. S., Andersen, M., Thomsen, J. L., Schroll, H., Larsen, P. V., Lykkegaard, J., . . . Sondergaard, J. (2012). Multimorbidity and blood pressure control in 37 651 hypertensive patients from Danish general practice. *Journal of the American Heart Association*, 2(1), e004531. <https://doi.org/10.1161/JAHA.112.004531>
- Saunders, J. B., Aasland, O. G., Babor, T. F., De la Fuente, J. R., & Grant, M. (1993). Development of the alcohol use disorders identification test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption-II. *Addiction*, 88(6), 791-804. <https://doi.org/10.1111/j.1360-0443.1993.tb02093.x>
- Schneider, M. P., Hilgers, K. F., Schmid, M., Hübner, S., Nadal, J., Seitz, D., . . . Kronenberg, F. (2018). Blood pressure control in chronic kidney disease: A cross-sectional analysis from the German Chronic Kidney Disease (GCKD) study. *PloS One*, 13(8), e0202604. <https://doi.org/10.1371/journal.pone.0202604>
- Song, H. T., Sun, X. Y., Yang, T. S., Zhang, L. Y., Yang, J. L., & Bai, J. (2015). Effects of sleep deprivation on serum cortisol level and mental health in servicemen. *International Journal of Psychophysiology*, 96(3), 169-175. <https://doi.org/10.1016/j.ijpsycho.2015.04.008>
- Teixeira dos Santos, T., & Moraes de Almondes, K. (2015). Sleep quality in chronic kidney patients: A systematic review. *Biological Rhythm Research*, 46(6), 833-845. <https://doi.org/10.1080/09291016.2015.1056436>
- To, N., & Nguyen, N. (2015). Validity of the Vietnamese version of the Pittsburgh sleep quality index. *Sleep Medicine*, 16, S52. <https://doi.org/10.1016/j.sleep.2015.02.128>
- Tonelli, M., Wiebe, N., Guthrie, B., James, M. T., Quan, H., Fortin, M., . . . Lewanczuk, R. (2015). Comorbidity as a driver of adverse outcomes in people with chronic kidney disease. *Kidney International*, 88(4), 859-866. <https://doi.org/10.1038/ki.2015.228>
- Tran, H. T. B., Du, T. T. N., Phung, N. D., Le, N. H., Nguyen, T. B., Phan, H. T., . . . Tran, S. N. (2017). A simple questionnaire to detect chronic kidney disease patients from Long An province screening data in Vietnam. *BioMed Central Research Notes*, 10(1), 523. <https://doi.org/10.1186/s13104-017-2847-7>
- Unni, S., White, K., Goodman, M., Ye, X., Mavros, P., Bash, L. D., & Brixner, D. (2015). Hypertension control and antihypertensive therapy in patients with chronic kidney disease. *American Journal of Hypertension*, 28(6), 814-822. <https://doi.org/10.1093/ajh/hpu215>
- Van Minh, H., Giang, K. B., Ngoc, N. B., Hai, P. T., Huyen, D. T. T., Khue, L. N., . . . Xuyen, N. T. (2017). Prevalence of tobacco smoking in Vietnam: Findings from the global adult tobacco survey 2015. *International Journal of Public Health*, 62(1), 121-129. <https://doi.org/10.1007/s00038-017-0955-8>
- Wang, J., Sun, W., Wells, G. A., Li, Z., Li, T., Wu, J., . . . Liu, B. (2018). Differences in prevalence of hypertension and associated risk factors in urban and rural residents of the northeastern region of the people's Republic of China: A cross-sectional study. *PloS One*, 13(4), e0195340-e0195340. <https://doi.org/10.1371/journal.pone.0195340>
- Wang, L.-Y., Yin, D.-X., Zhang, D.-L., Xu, R., Cui, W.-Y., & Liu, W.-H. (2013). Improvement and influencing factors of blood pressure control by nephrologist referral in chronic kidney disease patients in China: A cohort study. *International Urology and Nephrology*, 45(5), 1345-1353. <https://doi.org/10.1007/s11255-012-0332-8>
- Whelton, P. K., Carey, R. M., Aronow, W. S., Casey, D. E., Jr., Collins, K. J., Dennison Himmelfarb, C., . . . Wright, J. T., Jr. (2018). 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA guideline for the prevention, detection, evaluation, and management of high blood pressure in adults: A report of the American College of Cardiology/American Heart Association Task Force on clinical practice guidelines. *Journal of the American College of Cardiology*, 71(19), e127-e248. <https://doi.org/10.1016/j.jacc.2017.11.006>
- Yan, Z., Wang, Y., Li, S., Wang, J., Zhang, L., Tan, H., . . . Fu, S. (2018). Hypertension control in adults with CKD in China: Baseline results from the Chinese cohort study of chronic kidney disease (C-STRIDE). *American Journal of Hypertension*, 31(4), 486-494. <https://doi.org/10.1093/ajh/hpx222>
- Zhang, J., Healy, H. G., Venuthurupalli, S. K., Tan, K.-S., Wang, Z., Cameron, A., & Hoy, W. E. (2019). Blood pressure management in hypertensive people with non-dialysis chronic kidney disease in Queensland, Australia. *BioMed Central Nephrology*, 20(1), 348. <https://doi.org/10.1186/s12882-019-1532-6>
- Zheng, Y., Cai, G. Y., Chen, X. M., Fu, P., Chen, J. H., Ding, X. Q., . . . Zhong, L. B. (2013). Prevalence, awareness, treatment, and control of hypertension in the non-dialysis chronic kidney disease patients. *Chinese Medical Journal*, 126(12), 2276-2280.

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Experiences of front-line nurses caring for patients with COVID-19 in Bangladesh: A qualitative study

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Abstract

Background: As the incidence of COVID-19 is increasing, the Bangladesh government has announced a countrywide shutdown instead of a lockdown. Consequently, front-line healthcare workers, particularly nurses, are confronting more challenging situations at work.

Objective: This study aimed to explore front-line nurses' experiences caring for patients with COVID-19 in Dhaka, Bangladesh.

Methods: A qualitative descriptive study was conducted among front-line nurses caring for patients with COVID-19. Twenty nurses were purposively chosen from January to March 2021 to participate in semi-structured online interviews. Interviews on audio and video were collected, analyzed, interpreted, transcribed verbatim, and verified by experts. Thematic analysis was used.

Results: Nine themes emerged and were grouped into negative and positive experiences. The themes of negative experiences include lack of necessary medical equipment, use of non-standard personal protective equipment, work overload, long working hours, poor working environment, and lack of quality of nursing care. The positive experiences include feeling self in a patient position, nurses' coping strategy in COVID-19 patient care, and establishing emotional control.

Conclusion: The study results encourage national and international health care professionals to cope with adverse working environments. Also, the findings provide nurses with techniques for dealing with any critical situation, controlling patients' emotions, and how empathy increases self-confidence and patient care. The research should also be used to enhance government policy, nursing council policy, ministry of health policy, and other healthcare agencies.

Keywords

COVID-19; nurses; workplace; patient care; health personnel; experience; healthcare; Bangladesh

The third wave of COVID-19 is currently underway in Bangladesh (Huq, 2021). In March 2020, the virus was discovered to have transmitted to Bangladesh. The country's epidemiology institute identified the first three

confirmed cases on 8 March 2020 (Reuters., 2020). Since then, the outbreak has spread throughout the entire country, with the number of individuals infected steadily increasing. There have been 954,881 reported cases of

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COVID-19 in Bangladesh, with 15,229 deaths, from 3 January 2020 to 5 July 2021 ([Worldometer, 2021](#)). Common symptoms of COVID-19 are shortness of breath, fever, dry cough, fatigue, headache, body aches, sore throat, etc. ([Mamun et al., 2021](#)). To safeguard the public, the government proclaimed a “shutdown” rather than a lockdown across the country from 1 July to 14 July 2021 and planned some required procedures to raise awareness and prevent this syndrome from affecting them ([Aljazeera, 2021](#)).

COVID-19 outbreak highlights the inept healthcare systems of many developing countries, including Bangladesh, covered by incompetence and negligence. Bangladesh has recently struggled to cope with coronavirus (COVID-19) patients due to a lack of oxygen deficit and difficulties in providing equipment to government and private healthcare facilities across the country ([Jamuna TV, 2021](#)). With a shortage of roughly 50,000 physicians, nurses, medical technicians, ward boys, and health workers in the country ([Dhaka Tribune, 2020](#)), Bangladesh is combating the devastating coronavirus.

Nursing is an independent profession. Nurses play a vital role in ensuring patient safety ([Marzilli, 2021](#)). As the need for health care in hospitals, society, and communities grows, the nurse's function evolves. All across the healthcare sector, nurses perform critical services. During the COVID-19 epidemic, nurses have significant roles and responsibilities ([Abuhammad et al., 2021](#)). Infectious illness prevention procedures are implemented by nurses to keep the coronavirus from spreading ([Lu et al., 2020](#)). The quality of service depends on the healthcare facilities and the opportunities available to nurses ([Dawson et al., 2014](#)). Because the satisfaction of nurses and the quality of healthcare are interlinked ([Aunguroch et al., 2020](#)). There is no research in Bangladesh on the experience of nurses during this epidemic. This study will shed light on the direct experience of nurses and their perceptions in managing COVID-19 situations.

Methods

Study Design

From January to March 2021, a qualitative descriptive study was conducted to explore the experiences of front-line nurses caring for patients with COVID-19.

Participants

Twenty nurses were purposively selected from various private and government hospitals in Dhaka city to explore the actual experience and perceptions of the nurses in managing the COVID-19 situation. Criteria for the inclusion of respondents were bedside nurses directly involved in the care of patients with COVID-19.

Data Collection

The hospital authorities provided respondents' email addresses and phone numbers. The participants were sent an invitation email. If they accepted, every participant in this

study took part in an online semi-structured audio-video interview scheduled for 30 to 40 minutes. The interviews were conducted entirely in Bengali. A single interview session was held for each participant, and all interviewees were interviewed via the Google Meet platform. Before data collection, questionnaire guidelines were developed.

Data Analysis

Data were translated from Bengali to English. Thematic analysis was utilized to analyze the data in this study. Thematic analysis is a process by which emerging themes are drawn from data to describe a specific aspect of the experience. Thematic analysis is a simple, adaptable, and effective tool for determining qualitative data ([Brooks et al., 2015](#)).

Ethical Consideration

This study received ethical approval from Bangladesh Public Health Research Association. (Approval number: GOV-PHRCB-098621-2021). Before doing the interview, online consent was obtained from the participants, and the information obtained was kept confidential.

Trustworthiness

Data were recorded by an electronic device to achieve the study's credibility. All researchers repeatedly checked the data for validation. A qualitative research expert conducted an audit trail to ensure confirmation and transferability of the study. Finally, member checking was done to ensure the original results and dependability of the study.

Results

Characteristics of the Participants

A total of twenty respondents participated in this study. Participants ranged in age from 25 to 45 years (Mean= 30.95 years; *SD*= 5.87). Majority of the participants were females (*n*=13; 65%), married (*n*=14; 70%), working in government hospitals (*n*=11; 55%), having more than six years of working experience (*n*=9; 45%), and working in more than 300 bedded hospitals (*n*=12; 60%). Most of the nurses have a master's degree in public health (*n*=15; 75%), followed by a Bachelor of Science in Nursing (*n*=4; 20%) and a Diploma in Nursing Science and Midwifery (*n*=1; 15%) (**Table 1**).

Thematic Findings

The study revealed nine themes categorized into two groups: negative and positive experiences (**Figure 1**).

Negative experiences

Lack of necessary medical equipment

The majority of the respondents claimed that there is a lack of necessary medical equipment in the hospital. Such as a BP machine, pulse oximeter, thermometer, syringe pump, etc. Also, a shortage of stainless-steel premium instruments. participants described the following statements:

- A thermometer for more than forty COVID-19 patients. Sometimes we only feel by hand whether the patient has a high temperature or not. (P7)
- The nurses take one serial after another to get the BP machine and pulse oximeter to check the patient's vital signs. (P2)
- Delay in some patient's morning care due to lack of kidney tray, artery forces, and other equipment. (P10)
- We have no enough ventilator support to save the COVID-19 patient as per patient quantity. (P1)

Non-standard personal protective equipment

Most participants agreed that their hospital had Non-standard personal protective equipment (PPE). Respondents also expressed concern about becoming sick since they lack proper PPE. Such as masks, gloves, and gowns. Sometimes infected patients could come into the hospital at any moment. Respondents narrated the following statement:

- My hospital gave me a pair of Personal Protective Equipment (PPE) that were of low quality, so my husband got me two pairs that were of good quality. (P8)
- Our Surgical mask belts sometimes break within hours of use. And some mask belts break while wearing the mask. (P17)
- Surgical glove tears while working. (P20)
- Surgical gowns are thick and uncomfortable, and nurses always sweat. (P14)

- Hospitals do not provide face shields but sometimes provide surgical caps. (P6)
- A large number of nurses are affected. Despite receiving the first dose, I was affected twice. My father and husband are now positive. (P12)

Work overload

Most of the respondents described that the work overload of nurses is common in every hospital. Nurses are working longer hours than ever before due to a shortage of nursing staff, an increase in the number of patients, and an increase in working hours. Workload results in nursing burnout, and nurses are more likely to quit their jobs. Participants narrated the following statement:

- Like dying while working. The verbatim was in Bangla -"kam korte korte mori" (P3)
- A nurse is responsible for more than 40 patients per shift. (P19)
- We forget to check the vitals of the patients because of my busy schedule. Duty time is utilized only to execute nursing procedures and administer medications to patients. Because a nurse in a government hospital typically deals with more than 70 patients. (P15)
- We can't take a break during my workday, and we don't always have the opportunity to use the washroom due to a heavy workload. (P11)
- One of our physicians misbehaved with us last month. This is why I arrived five minutes late on his visit. However, I was late because I was dealing with another patient. (P6)

Table 1 Characteristics of the participants (N=20)

Participants	Age (year)	Marital status	Gender	Educational qualification	Experience (year)	Job type
P1	25	No	F	BSN, RN	1.5	Private
P2	30	yes	M	BSN, MPH, RN	7	Government
P3	27	No	F	BSN, RN	3.5	Private
P4	28	No	M	BSN, MPH, RN	3	Government
P5	32	yes	F	BSN, MPH, RN	8.5	Government
P6	28	yes	M	BSN, MPH, RN	4	Government
P7	27	No	M	BSN, MPH, RN	2.5	Private
P8	40	yes	F	BSN, MPH, RN	15.5	Government
P9	25.5	No	M	Diploma, RN	1.6	Private
P10	36	yes	F	BSN, MPH, RN	12	Government
P11	30	yes	F	BSN, MPH, RN	6.5	Government
P12	27	yes	F	BSN, MPH, RN	2.6	Private
P13	26	No	F	BSN, RN	1.5	Private
P14	45	yes	M	BSN, MPH, RN	20.5	Government
P15	42	yes	F	BSN, MPH, RN	18	Government
P16	37	yes	F	BSN, MPH, RN	13.5	Government
P17	33	yes	M	BSN, MPH, RN	7.5	Government
P18	26	yes	F	BSN, RN	1.5	Private
P19	28	yes	F	BSN, MPH, RN	3.5	Private
P20	26.5	yes	F	BSN, MPH, RN	1.8	Private

Long working hours

The majority of participants stated that nurses work long shifts. As a response to institutional demands, nurses have to work extra hard to satisfy particular standards. The following information was reported by the respondents:

- Our working hours are 48 hours per week. However, we have to devote an additional two hours each day. (P9)
- In a month, we get four days off in phases, and two days of night duty leave are deducted from the overall four-day leave. (P17)
- Even though I'm pregnant, I work the night shift once a month for more than seven days. (P12)

Poor working environment

The majority of interviewees stated that the working environment in Bangladeshi hospitals is very unfavorable. The biggest hurdles to ensuring a healthy and patient-friendly atmosphere in practically all public and private hospitals in the country are inadequate department design, a lack of space, a defective waste management system, and irregularities by the authorities concerned. The following statement was narrated by the participants:

- Due to a limited area in the ward, we take up space that bothers other patients during nursing procedures. (P18)
- There is no extra dirty room, and the waste bin is adjacent to the patient's bed. (P2)
- At any time, patient attendants are allowed to visit the ward, and multiple attendants crowded the patient's bedside. (P10)
- Physicians utilize the nurses' restroom. (P19)
- The working environment is excessively noisy, and the patients are displeased. (P5)

Lack of quality of nursing care

The participants in the study believed that the quality of nursing care in Bangladesh isn't up to standard. The following comments have been given by the participants about healthcare organizations:

- You'd imagine, "What will the quality of care be if I have to deal with more than 40 patients?" (P14)
- Due to a shortage of time, we are unable to provide enough mental support to the patient. (P8)
- The patient must wait for nursing intervention because of a lack of hospital resources and nursing staff. (P11)
- We utilize the same gloves for different patients due to a lack of gloves and excessive work pressure. (P3)

Positive experiences

Feeling self in a patient position

Nurses are not just caregivers, but they also have empathy for their patients to deliver the best possible care. Nurses imagine themselves in the position of their patients to determine whatever kind of care they want. The participants recounted the following responses:

- I imagine myself in the position of a patient. If I were a patient, what kind of care would I like to receive? (P4)
- Whenever I look after a patient, I wonder what kind of care I would provide if the patient was my brother or sister. (P16)
- As a nurse, we never have the impression that our patient is a stranger. (P13)

Nurses' coping strategy in COVID-19 patient care

It was challenging for nurses to cope with COVID-19 patient care during the start of the pandemic. However, after a year of COVID-19 patient care, nurses have adapted to the pandemic situation and are adopting the following coping strategies.

- I battled with work-life balance when I first started working with patients with COVID-19. But after starting to pray regularly, I am now more confident in performing my responsibilities as a nurse. (P9)
- I occasionally meditate, which helps me stay mentally strong so that I can balance my work life and personal life. (P5)
- I'm no longer worried about caring for patients with COVID-19. In this epidemic, I understood that nurses are always on the front lines of patient care, whether patients are life-threatening or not. (P15)
- We interact with patients in a playful manner, and they are really satisfied with us. (P4)
- Patients' reliance on us makes me more confident. (P1)

Establishing emotional control over the patients

Nurses foster positive relationships with patients in order to understand their feelings and provide adequate interventions. Among the responses of participants, we found the following comments:

- I try to understand my patients' emotions, which aids in both controlling and caring for them. (P16)
- In order to better understand patients and manage their attendants, I make an effort to form strong bonds with patients. It aids me in providing adequate professional care. (P13)
- To overcome the fear of COVID-19, I strive to comprehend the variables that contribute to my patients' stress to control my patient's worry. (P7)

Negative Experiences

- Lack of necessary medical equipment
- Non-standard personal protective equipment
- Work overload
- Long working hours
- Poor working environment
- Lack of quality of nursing care

Positive Experiences

- Feeling self in a patient position
- Nurses' coping strategy in COVID-19 patient care
- Establishing emotional control over the patients

Figure 1 Thematic findings

Discussion

This study aimed to explore front-line nurses' experiences in caring for patients with COVID-19 in Dhaka, Bangladesh. We discovered the negative and positive experiences, which are discussed in the following:

Front-line nurses' negative experiences

Firstly, nurses said that their clinical setting lacked the appropriate medical equipment, making it impossible to provide adequate nursing care. It is in line with [The Daily Star \(2019\)](#) that seven out of ten healthcare facilities in Bangladesh lack all necessary equipment. [Al-Zaman](#)

(2020) also mentioned that most hospitals in Bangladesh have a medical equipment scarcity that harms patients and attendants and is a life-threatening condition.

Secondly, participants stated that the highest number of hospitals offered substandard personal protective equipment to nurses causing them to suffer. To protect nurses first, it is necessary to provide high-quality personal protective equipment (Bala et al., 2021). How can a patient be treated when nurses fail to protect themselves from virus transmission (Gunawan et al., 2021)?

Thirdly, nurses face challenges due to an obscure job and the burden of excessive and inappropriate nursing. The lack of equitable work pressure among nurses reduces the quality of patient care and the nurse's motivation. Nursing is high-work stress, according to Umansky and Rantanen (2016). And it has been proven that too much work harms patient care (Myny et al., 2011). Moreover, the risk of infection in the healthcare sector due to increased workload is considerable.

Fourthly, the majority of the responders worked with patients with COVID-19 for extended periods. Vacations were particularly infrequent in this pandemic circumstance, which caused nurses to be depressed. Hospital nurses who work long shifts are more likely to experience burnout and patient dissatisfaction (Stimpfel et al., 2012). In addition, long-shift nurses face physical and psychological strain and the risk of injury and illness (Zhan et al., 2020).

Fifthly, the patients have very inadequate access to healthcare. The majority of healthcare facilities are unsuitable for treating patients with COVID-19 (Anwar et al., 2020). When care for patients, the quality of the hospital environment is crucial (Morawska et al., 2020). Controlling viral infections and diseases must be ensured. Adequate ward space, a proper waste management system (Lai et al., 2020), nurse and physician isolation rooms, and a separate nursing station are all necessary concerns for dealing with patients with COVID-19 (Phan et al., 2019).

Sixthly, most healthcare organizations do not deliver high-quality nursing care. Patients want to get high-quality nursing care (Rony, 2021). As a result, thousands of Bangladeshi patients move to other nations for better nursing care. Quality of nursing care has a significant impact on patient outcomes and safety.

As a result of the healthcare organization's shortcomings and limited opportunities for nurses, we noticed some nurses' burnout during the pandemic, and some nurses had a work-life imbalance. But, no one quit their job as front-line fighters, and nurses made the ultimate sacrifice in the fight against COVID-19.

Front-line nurses' positive experiences

Because COVID is a relatively new disease, many patients are depressed, and their complete reliance on nursing makes nurses more accountable. Even though COVID-19 patient care is challenging, nurses were able to cope with direct care circumstances by imagining themselves in the patients' position. This finding is supported by Barello and Graffigna (2020) that one of the most important aspects of

dealing with patients with COVID-19 is empathy. Also, Hofmeyer and Taylor (2021) revealed that nurses should lead with empathy and caution to recognize and resolve sources of anxiety among nurses practicing in the COVID19 era.

In the theme "nurses' coping strategy in COVID-19 patient care", we found that front-line nurses use different techniques to deal with challenging situations while caring for patients with COVID-19. For example, we discovered that prayer and meditation help nurses refresh and adapt to the COVID-19 caring situation. Tosepu et al. (2021) said that praying for nurses to cope with COVID-19 situations is effective. On the other hand, Sun et al. (2020) noted that meditation is also a useful coping technique for adjusting to COVID-19 caregiving environments. Furthermore, nurses understood and adapted to the reality that, as a nurse, they must constantly be on the front lines to supervise patient care when dealing with an emergency, right from the beginning of the COVID-19 situation. Supporting our research, Al Thobaity and Alshammari (2020) said that nurses are first-line fighters who always provide direct patient care.

In addition, the theme "establish emotional control over the patient" indicated that nurses in the third wave of the pandemic were well prepared emotionally and confidently to handle the situation. Even today's nurses have acquired their ability to manage patients' emotions, allowing them to achieve better patient outcomes. Teng et al. (2009) described that understanding patients' emotional responses substantially impact patient safety because it encourages good communication between nurses and patients, resulting in high-quality nursing care in the healthcare setting. This study is also supported by Moreno-Poyato et al. (2021) revealed that nurses should understand patients' behavior to develop effective therapeutic communications.

The implication of this study

The findings of this study show that nursing competence is crucial in dealing with COVID-19 cases. We found that nurses were able to deal with emergencies by avoiding negative experiences. In addition, nurses were able to control their own emotions and understand the feelings of their patients. This assists the nurse in improving patient outcomes. We also found that nurses were using various coping mechanisms (meditation, prayer) to manage any stressful situation. Furthermore, we revealed how nurses feel about patients who are completely reliant on them.

For the safety of nurses and patients, our findings provide encouragement to healthcare organizations about the necessity of enough hospital resources, adequate medical equipment, and quality personal safety equipment. In addition, nurses must have a consistent work schedule and a healthy work environment in order to provide high-quality nursing care.

Our findings also provide encouragement to national and international nurses on how to cope with any critical situation, control patients' emotions, and how empathy

improves one's self-assurance and patient care. Also, the results of this study reveal nurses' experience and perception with patients with COVID-19. As a result, the results may not replicate across all Bangladeshi healthcare organizations. To acquire more about nurses' coping strategies, more research is needed in diverse medical settings in Bangladesh.

Limitation of the study

With the qualitative design, the results of this study might not represent the whole context of Bangladesh. Quantitative research to confirm the findings is recommended for generalization.

Conclusion

Nurses are well-versed with the needs of patients, as well as organizational problems and actual working conditions. Nurses have strategies for dealing with crises and must be involved in policy and decision-making to provide high-quality health care. However, nurses' demands should be fulfilled to motivate them in maintaining high performance and quality of nursing care.

Declaration of Conflicting Interest

The authors have no competing interests in this study.

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Authors' Contribution

MKKR, SDB, MMR, AJD, MTI, IJT, IK, EHS, SR, MRP are involved in substantial contributions to the conception and design or acquisition of data, or analysis and interpretation of data for the work. MKKR, SDB, MMR, AJD, MTI, IJT, IK, EHS, SR are involved in drafting the manuscript or revising it critically for important intellectual content. MKKR, SDB, MMR, AJD, MTI, IJT, IK, EHS, SR, MRP are involved in the final approval of the version to be published, and each author participated sufficiently in the work to take public responsibility for appropriate portions of the content. MKKR, SDB, MMR, AJD, MTI, IJT, IK, EHS, SR are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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Data Availability Statement

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

References

- Abuhammad, S., AlAzzam, M., & Mukattash, T. (2021). The perception of nurses towards their roles during the COVID-19 pandemic. *International Journal of Clinical Practice*, 75(4), e13919. <https://doi.org/10.1111/ijcp.13919>
- Al Thobaity, A., & Alshammari, F. (2020). Nurses on the front-line against the COVID-19 pandemic: An integrative review. *Dubai Medical Journal*, 3(3), 87-92. <https://doi.org/10.1159/000509361>
- Al-Zaman, M. S. (2020). Healthcare crisis in Bangladesh during the COVID-19 pandemic. *The American Journal of Tropical Medicine and Hygiene*, 103(4), 1357-1359. <https://dx.doi.org/10.4269%2Fajtmh.20-0826>
- Aljazeera. (2021). Migrant workers flee Dhaka ahead of Bangladesh COVID lockdown. Retrieved from <https://www.aljazeera.com/news/2021/6/27/migrant-workers-flee-capital-as-bangladesh-tightens-lockdown>
- Anwar, S., Nasrullah, M., & Hosen, M. J. (2020). COVID-19 and Bangladesh: Challenges and how to address them. *Frontiers in Public Health*, 8, 154. <https://doi.org/10.3389/fpubh.2020.0154>
- Aungsuroch, Y., Juanamasta, I. G., & Gunawan, J. (2020). Experiences of patients with coronavirus in the COVID-19 pandemic era in Indonesia. *Asian Journal for Public Opinion Research*, 8(3), 377-392. <https://doi.org/10.15206/ajpor.2020.8.3.377>

- Bala, S. D., Rony, M. K. K., Sharmi, P. D., Rahman, I., Parvin, M. R., & Akther, T. (2021). How inadequacies in the nursing field deteriorate the quality of health care in a developing nation. *Annals of the Romanian Society for Cell Biology*, 25(6), 3467-3475.
- Barello, S., & Graffigna, G. (2020). Caring for health professionals in the COVID-19 pandemic emergency: Toward an "epidemic of empathy" in healthcare. *Frontiers in Psychology*, 11, 1431. <https://doi.org/10.3389/fpsyg.2020.01431>
- Brooks, J., McCluskey, S., Turley, E., & King, N. (2015). The utility of template analysis in qualitative psychology research. *Qualitative Research in Psychology*, 12(2), 202-222. <https://doi.org/10.1080/14780887.2014.955224>
- Dawson, A. J., Stasa, H., Roche, M. A., Homer, C. S. E., & Duffield, C. (2014). Nursing churn and turnover in Australian hospitals: Nurses perceptions and suggestions for supportive strategies. *BMC Nursing*, 13(1), 1-10. <https://doi.org/10.1186/1472-6955-13-11>
- Dhaka Tribune. (2020). COVID-19: Health professional shortage remains a challenge in Bangladesh. Retrieved from <https://www.dhakatribune.com/health/coronavirus/2020/11/18/bangladesh-fighting-COVID-19-with-a-shortage-of-50-000-doctors-nurses-employees>
- Gunawan, J., Aunguroch, Y., Marzilli, C., Fisher, M. L., & Sukarna, A. (2021). A phenomenological study of the lived experience of nurses in the battle of COVID-19. *Nursing Outlook*, 69(4), 652-659. <https://doi.org/10.1016/j.outlook.2021.01.020>
- Hofmeyer, A., & Taylor, R. (2021). Strategies and resources for nurse leaders to use to lead with empathy and prudence so they understand and address sources of anxiety among nurses practising in the era of COVID-19. *Journal of Clinical Nursing*, 30(1-2), 298-305. <https://doi.org/10.1111/jocn.15520>
- Huq, Z. K. (2021). Factors determining the 3rd wave of COVID-19 in Bangladesh. *The Daily Star*. Retrieved from <https://www.thedailystar.net/health/news/factors-determining-the-3rd-wave-COVID-19-bangladesh-2118741>
- Jamuna TV. (2021). Manpower crisis [Video]. YouTube. Retrieved from <https://youtu.be/bdjalPh4sC8>
- Lai, X., Wang, M., Qin, C., Tan, L., Ran, L., Chen, D., . . . Wang, S. (2020). Coronavirus disease 2019 (COVID-2019) infection among health care workers and implications for prevention measures in a tertiary hospital in Wuhan, China. *JAMA Network Open*, 3(5), e209666-e209666. <https://doi.org/10.1001/jamanetworkopen.2020.9666>
- Lu, D., Wang, H., Yu, R., Yang, H., & Zhao, Y. (2020). Integrated infection control strategy to minimize nosocomial infection of coronavirus disease 2019 among ENT healthcare workers. *The Journal of Hospital Infection*, 104(4), 454-455. <https://doi.org/10.1016/j.jhin.2020.02.018>
- Mamun, M. A., Sakib, N., Gozal, D., Bhuiyan, A. K. M. I., Hossain, S., Bodrud-Doza, M., . . . Abdullah, A. H. (2021). The COVID-19 pandemic and serious psychological consequences in Bangladesh: A population-based nationwide study. *Journal of Affective Disorders*, 279, 462-472. <https://doi.org/10.1016/j.jad.2020.10.036>
- Marzilli, C. (2021). A year later: Life after the Year of the Nurse. *Belitung Nursing Journal*, 7(2), 59-61. <https://doi.org/10.33546/bnj.1509>
- Morawska, L., Tang, J. W., Bahnfleth, W., Bluysen, P. M., Boerstra, A., Buonanno, G., . . . Franchimon, F. (2020). How can airborne transmission of COVID-19 indoors be minimised? *Environment International*, 142, 105832. <https://doi.org/10.1016/j.envint.2020.105832>
- Myny, D., Van Goubergen, D., Gobert, M., Vanderwee, K., Van Hecke, A., & Defloor, T. (2011). Non-direct patient care factors influencing nursing workload: A review of the literature. *Journal of Advanced Nursing*, 67(10), 2109-2129. <https://doi.org/10.1111/j.1365-2648.2011.05689.x>
- Phan, L. T., Maita, D., Mortiz, D. C., Weber, R., Fritzen-Pedicini, C., Bleasdale, S. C., . . . Program, C. D. C. P. E. (2019). Personal protective equipment doffing practices of healthcare workers. *Journal of Occupational and Environmental Hygiene*, 16(8), 575-581. <https://doi.org/10.1080/15459624.2019.1628350>
- Reuters. (2020). Bangladesh confirms its first three cases of coronavirus. Retrieved from <https://www.reuters.com/article/us-health-coronavirus-bangladesh-idUSKBN20V0FS>
- Rony, M. K. K. (2021). Diploma in Nursing or Bachelor of Science in Nursing: Contradictory issues among nurses in Bangladesh. *Belitung Nursing Journal*, 7(1), 57-58. <https://doi.org/10.33546/bnj.1250>
- Stimpfel, A. W., Sloane, D. M., & Aiken, L. H. (2012). The longer the shifts for hospital nurses, the higher the levels of burnout and patient dissatisfaction. *Health Affairs*, 31(11), 2501-2509. <https://doi.org/10.1377/hlthaff.2011.1377>
- Sun, N., Wei, L., Shi, S., Jiao, D., Song, R., Ma, L., . . . You, Y. (2020). A qualitative study on the psychological experience of caregivers of COVID-19 patients. *American Journal of Infection Control*, 48(6), 592-598. <https://doi.org/10.1016/j.ajic.2020.03.018>
- Teng, C. I., Chang, S. S., & Hsu, K. H. (2009). Emotional stability of nurses: Impact on patient safety. *Journal of Advanced Nursing*, 65(10), 2088-2096. <https://doi.org/10.1111/j.1365-2648.2009.05072.x>
- The Daily Star. (2019). Govt Hospital: Most lacking even basic equipment. Retrieved from <https://www.thedailystar.net/front-page/news/govt-hospital-most-lacking-even-basic-equipment-1764328>
- Tosepu, R., Gunawan, J., Effendy, D. S., Hn, M. R., Muchtar, F., Sakka, A., & Indriastuti, D. (2021). Experience of healthcare workers in combatting COVID-19 in Indonesia: A descriptive qualitative study. *Belitung Nursing Journal*, 7(1), 37-42. <https://doi.org/10.33546/bnj.1251>
- Umansky, J., & Rantanen, E. (2016). Workload in nursing. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 60(1), 551-555. <https://doi.org/10.1177/1541931213601127>
- Worldometer. (2021). Coronavirus cases. Retrieved from <https://www.worldometers.info/coronavirus/>
- Zhan, Y.-x., Zhao, S.-y., Yuan, J., Liu, H., Liu, Y.-f., Gui, L.-l., . . . Chen, J.-h. (2020). Prevalence and influencing factors on fatigue of first-line nurses combating with COVID-19 in China: A descriptive cross-sectional study. *Current Medical Science*, 40(4), 625-635. <https://doi.org/10.1007/s11596-020-2226-9>

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The relationship between knowledge and self-efficacy of nurses regarding early initiation of cardiopulmonary resuscitation and automated defibrillation in Saudi Arabia

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Abstract

Background: Cardiopulmonary resuscitation (CPR) and early defibrillation are the most common procedures performed by nurses as the first responders to cardiac arrest patients in the hospital setting. Therefore, nurses are demanded to have high skills for effective performance. Self-efficacy and knowledge are considered significant factors affecting early initiation of CPR and automated defibrillation. However, previous studies mostly focused on nursing students instead of frontline nurses.

Objective: This research aimed to assess the relationship between nurses' knowledge and self-efficacy regarding the early initiation of CPR and automated defibrillation of cardiac arrest patients.

Methods: The study employed a cross-sectional, descriptive, correlational survey. Using convenience sampling, two hundred eighty-seven nurses working in critical areas and inpatient and outpatient departments, King Abdulaziz University Hospital (KAUH), Saudi Arabia, were selected. Resuscitation Knowledge and Self-Efficacy Scales were used for data collection (using Google Form) from November 2020 to January 2021. Descriptive statistics and Pearson correlation were used for data analysis.

Results: Overall, 61.3% of participants had moderate knowledge (13.659 ± 2.175), and 63.8% had high self-efficacy (44.627 ± 58.397). The highest domain of self-efficacy was responding and rescuing, while the lowest domain was debriefing and recording. There was a significant positive relationship between knowledge and self-efficacy ($p < 0.001$; $r = 0.207$).

Conclusion: The positive relationship explained a high level of self-efficacy if there was a high level of knowledge. Thus, it is recommended that nursing programs apply CPR and automated defibrillation curricula during nurses' internships, clear policies and procedures about CPR and automated defibrillation, continual updates about CPR and automated defibrillation, and knowledge and continuance training (on-job-training) about CPR and automated defibrillation, which can enhance and improve knowledge and self-efficacy among health care workers, especially for nurses.

Keywords

cardiac arrest; cardiopulmonary resuscitation (CPR); defibrillation; knowledge; nurses; self-efficacy; Saudi Arabia

Sudden cardiac arrest (SCA) is the leading cause of death worldwide, affecting individuals' health and increasing their mortality risk (Bray et al., 2017). About 70% of out-of-hospital cardiac arrests (OHCAs) occur at home, with

approximately 50% unwitnessed. OHCA prognosis is poor, with a relatively low survival-to-discharge rate. Only 11% of adult cases of non-traumatic cardiac arrest are resuscitated by emergency medical services (EMS) (Kleinman et al.,

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2015; CARES, 2017). In-hospital cardiac arrest (IHCA) prognosis is better, with a survival-to-discharge rate of 22.3%–25.5% in adults (Mozaffarian et al., 2015).

CPR and early defibrillation (CPR-D) are commonly performed by nurses, often first responders in the hospital setting (Jamieson et al., 2002). In addition, early CPR-D is associated with a considerably enhanced survival-to-discharge rate for out-of-hospital cardiac arrest (Bray et al., 2017). Pauses before and after the shock delivered by defibrillators are called preshock pauses. A study by Kleinman et al. (2015) found that the survival-to-discharge rate was higher for those who received preshock pauses of less than ten seconds with total preshock pauses of less than 20 seconds during CPR-D.

Time is one of the factors affecting CPR-D efficacy. The time between cardiac arrest onset to CPR and defibrillator use is associated with increased survival; therefore, even a few minutes of delay are potentially deadly (Koster et al., 2010). In addition, a study by Cartledge et al. (2020) found that most respondents were unsure about how to use the defibrillator. Those with less experience using defibrillators may therefore have a sense of decreased knowledge and self-efficacy.

It is important for nurses not only to have knowledge (know-how) and the right attitude (preparation) but also to believe in their ability (self-efficacy) to handle cardiac cases effectively (Turner et al., 2009). Self-efficacy and knowledge are considered significant factors affecting CPR-D delivery and can predict a nurse's CPR-D ability; therefore, nurses must be prepared in terms of knowledge and self-efficacy when performing CPR.

Potential damage to the tissues can be minimized by early use of CPR-D and basic life support (BLS) skills, significantly increasing the survival rate in cardiac arrest patients. Specialization in CPR-D is a must, especially for nurses, who are usually the first responders to cardiac arrest patients in the hospital. Increasing nurses' knowledge is basic to CPR-D performance. Previous studies found a relation between knowledge and self-efficacy. Moon and Hyun (2019) examined the effects of a "blended training program" relying on e-learning materials produced by leading Korean public health establishments with knowledge on CPR-D, attitude, and self-efficacy. They found that the intervention group who received the blended training program had shown significant enhancements in their knowledge, emotional attitude, behavior and attitude, cognitive attitude, and self-efficacy scores after completing the e-learning program.

Partiprajak and Thongpo (2016) measured the participants' knowledge and self-efficacy in relation to CPR-D three months after training. Although the participants displayed positive chest-compression performance compared to the first results, their knowledge and self-efficacy decreased. Moreover, Kim et al. (2017) found that the participants' satisfaction showed a significant association between BLS education and CPR self-efficacy.

Previous studies focused on nursing students and other targeted groups instead of on frontline nurses. Little is

known about the relationship between nurses' knowledge and self-efficacy regarding early initiation of CPR and automated defibrillation of cardiac arrest patients in Saudi Arabia. This study resolves a gap in the literature by focusing on nurses' knowledge base, which might be connected to nurses' self-efficacy when performing CPR-D. Sharp et al. (2016) stated that one's sense of efficacy is a powerful human characteristic that affects choices and task effort. It is not based on the ability to do a task but rather on the perceived ability to complete those tasks. Self-efficacy influences the choices individuals make and their time and effort expended on a job. When nurses have a healthy sense of self-efficacy, they will tend toward attitudes and behaviors that support the assistance of cardiac arrest patients.

Methods

Study Design

This study used a cross-sectional, descriptive, and correlational design to describe the relationship between nurses' knowledge and self-efficacy regarding early initiation of CPR and automated defibrillation of cardiac arrest patients at King Abdulaziz University Hospital (KAUH).

Participants

The study population included nurses working in outpatient clinics, critical care units, emergency departments, medical departments, obstetrics and gynecologic departments, pediatric departments, and surgical departments at KAUH, Jeddah, Saudi Arabia. Convenience sampling was used to assure surveillance of all staff nurses. KUAH has a population of 1123 staff nurses (719 inpatients and 404 outpatient). We calculated the sample size using the online Raosoft calculating program with a confidence level of 95% and a margin of error of 5%; therefore, a minimum sample of 287 respondents was required (Raosoft, 2004). Our inclusion criteria were staff nurses working in inpatient or outpatient wards or critical areas; registered and certified nurses; and nurses who could read, speak, and write English. Our exclusion criterion was nurses who were not working with patients, such as those in administration.

Measures

Three questionnaires were used. First, a general questionnaire was used to measure demographic and individual characteristics: the working department, age, gender, length of experience, and frequency of witnessing or performing CPR-D. Second, the Resuscitation Knowledge Scale of Byun (2014) was used to measure participants' knowledge about CPR-D. The scale consisted of 20 items: two for checking for breathing, two for checking for consciousness, seven for chest compressions, five for applying the defibrillator, and four for maintaining airway and delivering rescue breaths. The total score ranges from 0 to 20. The score distribution is low (0–9), moderate (10–14), and high (15–20).

Third, the Resuscitation Self-Efficacy Scale (RSES) of Desiani et al. (2017) was used to assess nurses' self-efficacy. The validity of the RSES was 0.56–0.84 based on Roh et al. (2012) as cited in Desiani et al. (2017). The scale consisted of 17 questions to assess four domains: recognition, debriefing and recording, responding and rescuing, reporting. The participants answer these questions by confirming whether they feel least confident, natural, or very confident. However, self-efficacy is low if the total score is lower than the mean, and self-efficacy is high if the total score is greater than or equal to the mean. Both instruments were administered in the English language. No Arabic translation was necessary since English is one of the inclusion criteria.

We have obtained permission to use the second and third instruments from the original authors.

Data Collection

Data were collected electronically from the target group of nurses through a Google form link and shared data with the head nurses in KAUH. We sent a reminder to the head nurses after two weeks to increase the response rate. The challenge we faced was that participants' responses were initially weak, necessitating frequent visits to the hospital to motivate participants to answer the survey and extend the survey times so that more nurses could respond (two months). The link to the questionnaires was accessible until enough samples were reached.

Data Analysis

Descriptive statistics (means, SD, frequencies, percentages, and ranges) and Pearson correlation were used for data analysis. The alpha level of significance was set at 0.05. The assumptions of normality were met, with Kolmogorov–Smirnov ($p > 0.05$).

Ethical Consideration

Official approval was obtained from the Research Ethical Committee of the Faculty of Nursing at King Abdulaziz University (Ref NO 1M.19) and the Unit of Biomedical Ethics Research Committee at KAUH No (HA-02-J-008) (Reference NO 517-20). To meet the ethical consideration of the research process, the participants' names were encoded for anonymity. There was no potential risk to participants, and it was clear that they had the right to decline to participate. To avoid bias during data gathering, it was ensured that we knew none of the participants.

Results

The total sample was 287 nurses who worked in inpatient and outpatient departments at KAUH. **Table 1** shows the demographic characteristics of the nurses, most of whom were female (91.3%). Most were middle-aged (31 to 39) 36.428 ± 7.598 . The most represented specialty was pediatrics (30.7%). The participants' experience was varied.

Table 1 Demographic characteristics of the participants ($N= 287$)

Variables	N	%
Age		
20-30	65	22.6
31-39	116	40.4
40 or above	106	36.9
Mean \pm SD	36.428 \pm 7.598	
Gender		
Female	262	91.3
Male	25	8.7
Working departments		
Outpatients	42	14.6
Critical care units	30	10.5
Emergency department	36	12.5
Medical department	44	15.3
Obstetrics and gynecology	16	5.6
Pediatric department	88	30.7
Surgical department	31	10.8
Clinical experiences		
Less than one year	9	3.1
1-less than five years	52	18.1
5-10 years	64	22.3
More than ten years	162	56.4
Mean \pm SD	9.196 \pm 4.166	
Frequency of CPR witnessed or performed		
0	15	5.2
1-5	93	32.4
More than 5	179	62.4

Impressively, most participants had more than ten years of experience (56.4%), with a mean of 9.196 ± 4.166 . The frequency of CPR being performed or witnessed differed

among participants: the percentage of participants who saw or performed CPR more than five times was 62.4%.

Significantly, as shown in **Table 2** and **Figure 1**, 61.3% of study participants had a moderate knowledge score.

Table 2 Knowledge level of participants regarding cardiopulmonary resuscitation and automated defibrillation

Scale Items	Knowledge Scale Score							
	Low		Moderate		High		Score	
	N	%	N	%	N	%	Range	Mean±SD
Confirm the reaction	56	19.5%	0	0.0%	231	80.5%	0-1	0.805±0.397
Request help	152	53.0%	0	0.0%	135	47.0%	0-1	0.470±0.500
Circular request	7	2.4%	82	28.6%	198	69.0%	0-2	1.666±0.522
Chest compression	24	8.4%	122	42.5%	141	49.1%	0-7	5.247±1.228
Airway maintenance and artificial respiration	50	17.4%	152	53.0%	85	29.6%	0-4	2.143±0.774
Defibrillation	54	18.8%	107	37.3%	126	43.9%	0-5	3.328±0.952
Total Knowledge	10	3.5%	176	61.3%	101	35.2%	5-18.	13.659±2.175

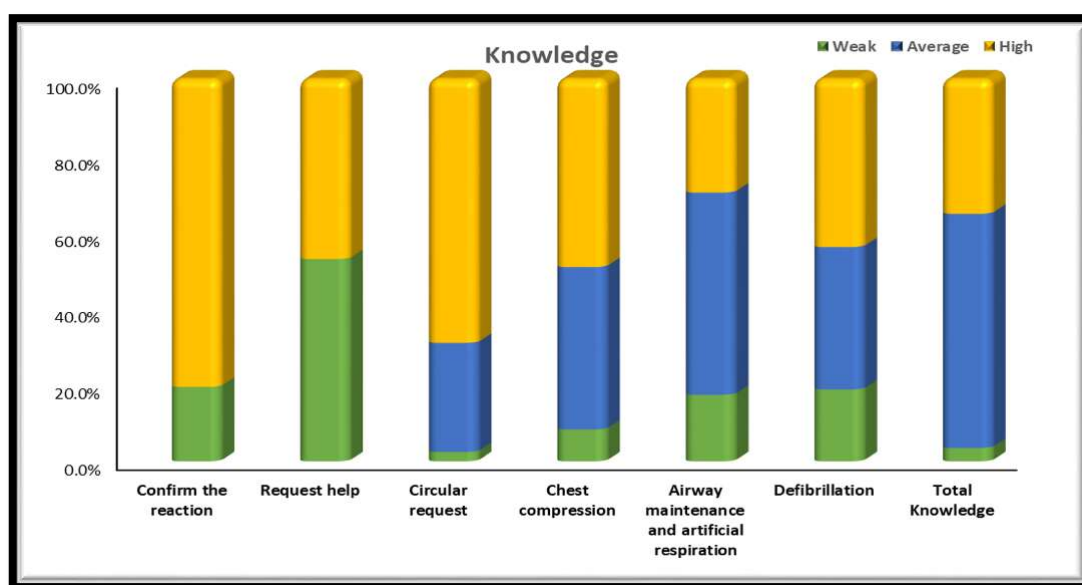


Figure 1 Knowledge level of participants regarding cardiopulmonary resuscitation and automated defibrillation

As shown in **Table 3** and **Figure 2**, 63.8% of participants had a high score on self-efficacy, and the highest domain was the responding and rescuing domain ($13.139 \pm$

61.397). In contrast, the lowest domains of self-efficacy were debriefing and recording (10.244 ± 66.397).

Table 3 Self-Efficacy level of Participants Regarding Cardiopulmonary Resuscitation and Automated Defibrillation

	Self-Efficacy					
	Low		High		Score	
	N	%	N	%	Range	Mean±SD
Recognition	85	29.6%	202	70.4%	4-12.	10.868±1.755
Debriefing and recording	128	44.6%	159	55.4%	4-12.	10.244±66.397
Responding and rescuing	119	41.5%	168	58.5%	5-15.	13.139±61.397
Reporting	120	41.8%	167	58.2%	4-12.	10.376±1.953
Total Self-Efficacy	104	36.2%	183	63.8%	17-51	44.627±58.397

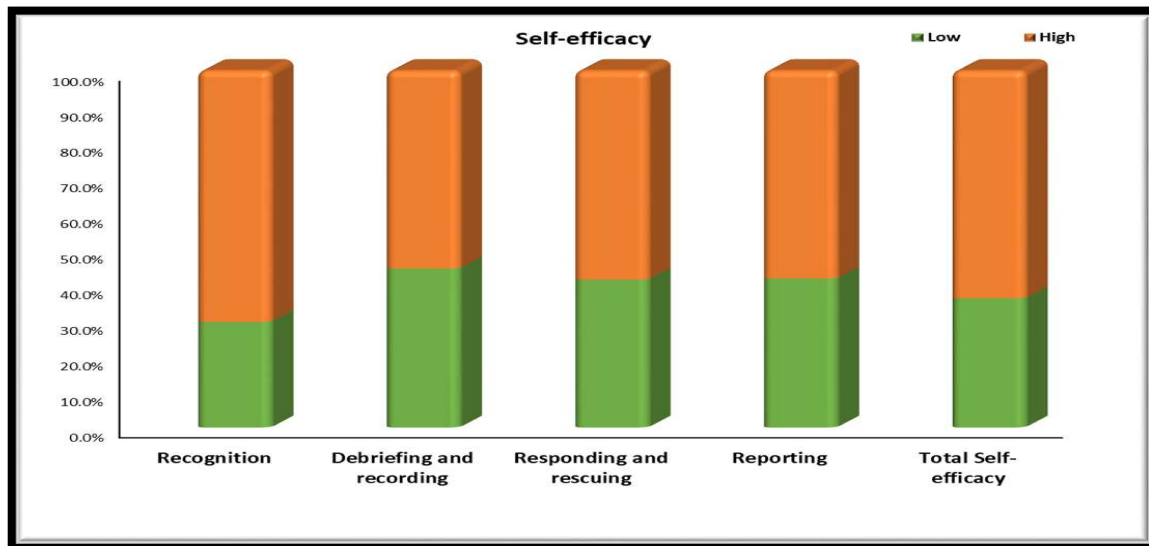


Figure 2 Self-efficacy score of the studied participants regarding cardiopulmonary resuscitation and automated defibrillation

The scattered design was used to describe the correlation between knowledge and self-efficacy, as shown in **Figure 3**, with a p -value of $<0.001^*$ and a r -value of 0.207. Ultimately, the correlation was weak and significantly

positive between knowledge and self-efficacy. The positive relationship indicated that there was a high-level self-efficacy if there was a high level of knowledge.

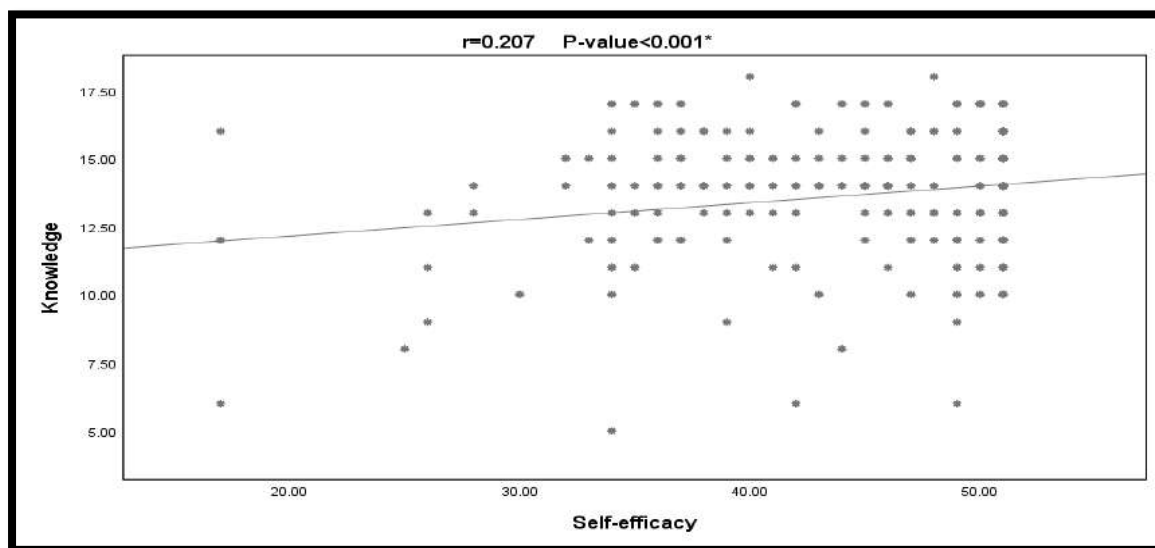


Figure 3 Correlation between nurses' knowledge score and nurses' self-efficacy of cardiopulmonary resuscitation and automated defibrillation

Discussion

This study aimed to assess the relationship between nurses' knowledge and self-efficacy regarding the early initiation of CPR-D of cardiac arrest patients. Our study found that the mean score for resuscitation knowledge was moderate, a finding that parallels that of [Sachdeva \(2020\)](#) in a tertiary care hospital in India that aimed to assess knowledge and practice of CPR-D among nurses. The similarity in both studies may indicate the need to work on nurses' CPR-D knowledge. These findings have often been

associated with inadequate continuing education programs regarding CPR-D, and most of the participants were working in the pediatrics department and might have answered the questions considering that the patients are children instead of adult patients. In another study, nurses enrolled at Umm Al-Qura University were found to have moderate levels of CPR-D knowledge and practical skills ([Shammah et al., 2018](#)).

In addition, our study found that the participants had high overall self-efficacy scores, indicating that they were confident in their CPR-D skills, could stay calm while

applying CPR-D, and had little or no problem focusing on the task. The study also observed that the respondents tended to control their anxiety and sense of distress and perform according to their skill levels. Thus, self-efficacy was considered adequate in this regard, and this verified that confidence could encourage nurses to decide to perform CPR-D in instances of cardiac arrest.

Waloyo (2016) reported a self-efficacy rate of 75%, which was higher than the findings of this study. Besides the overall scale scores, the nurses in this research were very confident in terms of scales of self-efficacy subscale scores we have obtained in the present study were 55.4% for debriefing, 65.9% for documentation on quality improvement, 59.6% for remaining calm and focused, 65.9% for performing re-evaluation, 63.4% for reporting, 56.8% for using existing resources and external experts, 65.5% for using appropriate means of communication, and 70% for understanding when to request help.

In comparison to the findings of this study, Desiani et al. (2017) reported lower rates of confidence in terms of the subscales of self-efficacy. According to their data, the rates of nurses who were confident about their skills were 35.5% for debriefing, 46.1% for the correct management of a defibrillator, 38.1% for explaining clinical laboratory findings and critical values and 30.2% for using existing resources and external experts.

Besides, various methods could be used for debriefing to improve CPR-D knowledge and quality: oral debriefing, oral debriefing with voice recording, self-debriefing, debriefing with an instructor, and oral debriefing with video recording (Verkuyl et al., 2018). However, some training facilities or universities may not have easy access to the devices needed for the education of their learners. For instance, when evaluating training for defibrillators' use, the lack of exposure to a defibrillator during training could significantly dampen training outcomes, which is another matter that should be considered. This leaves many nurses uncertain about using these devices, leading to less experience and lower levels of knowledge and self-efficacy. In addition, the lack of availability of a defibrillator during training courses will often result in a lack of theoretical and practical knowledge in carrying out defibrillation with an Automated External Defibrillation (AED) (Aranzabal-Alegria et al., 2017). Besides the obvious problems associated with having lower levels of practical skills, the gap in theoretical knowledge could also lead to lower self-efficacy, which tends to be more evident in some self-efficacy subscales explaining clinical laboratory findings and critical values and using existing resources external experts.

According to the relationship between knowledge and self-efficacy regarding CPR-D, knowledge and self-efficacy had a weak and positive correlation. The positive relationship explains how there would be a high level of self-efficacy if there were a high level of knowledge. Partiprajak and Thongpo (2016) highlighted the importance of having high levels of knowledge and self-efficacy for obtaining a better standard of care and higher effectiveness of CPR-D performance. Dayapoglu and Tan (2016)

emphasized the significance of awareness, which was correlated with CPR-D self-efficacy. In managing cardiac arrest cases, Turner et al. (2009) suggested that healthcare professionals' self-efficacy is as essential as the other main factors: knowledge, skill, and attitude. Gusnia and Saragih (2013) have strengthened this idea by considering self-efficacy as the dominant factor for adapting novice nurses to the profession.

Considering all these findings, the effect of self-efficacy on CPR-D performance was strong. Still, having higher levels of self-efficacy in terms of CPR-D has other benefits for healthcare workers' performance in terms of their attitudes and behaviors.

The major strength of this study was that no data were missing due to the use of an online survey, which required answering all the questions. On the other hand, this study has some limitations. The sample in this study represented participants only from KAUH in Jeddah, which might affect the generalizability of the findings to all hospitals in Saudi Arabia. Additionally, the format was ideal for measuring the nurses' CPR-D performance by the observation method. However, because of the COVID-19 pandemic, we preferred to use the former method.

In addition, this study has several implications for improving knowledge about CPR-D among nurses. First, applying the CPR-D curricula during internships for healthcare providers is recommended to increase the likelihood of witnessing CPR-D and improving nurses' practices. Second, the results indicated that continually updating CPR-D knowledge and skills can be helpful for healthcare workers, particularly for nurses, who are usually the first to encounter cardiac arrest patients in the hospital. Moreover, we recommend further research to explore the factors affecting nurses' knowledge and self-efficacy to improve CPR-D's early initiation. Finally, future study is required to identify the effect (whether positive or negative) on self-efficacy of witnessing and practicing CPR-D.

Conclusion

Knowledge and self-efficacy are key elements that affect the early initiation of CPR-D by nurses in patients with cardiac arrest. In addition, considering their influence on various factors, they are also good indicators of CPR-D performance. Thus, increasing the levels of knowledge of nursing staff and supporting their self-efficacy for potential clinical scenarios is critical.

Declaration of Conflicting Interest

The authors declare no conflicting interest in this study.

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Authors' Contributions

ZA conceptualized, analyzed, and drafted the manuscript. AA, ME critically reviewed and revised the manuscript. All authors agreed on the final version of the article to be published.

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Data Availability Statement

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

References

- Aranzábal-Alegría, G., Verastegui-Díaz, A., Quiñones-Laveriano, D. M., Quintana-Mendoza, L. Y., Vilchez-Cornejo, J., Espejo, C. B., . . . Mejia, C. R. (2017). Factors associated to the level of knowledge in cardiopulmonary rejection in hospitals of Peru. *Revista Colombiana de Anestesiología*, 45(2), 114-121. <https://doi.org/10.1016/j.rca.2016.12.004>
- Bray, J. E., Smith, K., Case, R., Cartledge, S., Straney, L., & Finn, J. (2017). Public cardiopulmonary resuscitation training rates and awareness of hands-only cardiopulmonary resuscitation: A cross-sectional survey of Victorians. *Emergency Medicine Australasia*, 29(2), 158-164. <https://doi.org/10.1111/1742-6723.12720>
- Byun, G. J. (2014). *The effect of the practice while watching cardiopulmonary cerebral resuscitation education on the competence of cardiopulmonary cerebral resuscitation of the nurses*. (Doctoral dissertation), University of Kyungpook National, Daegu. Retrieved from http://dcollection.knu.ac.kr/public_resource
- CARES. (2017). *CARES summary report: Demographics and survival characteristics of OHCA. CARES reports user guide*. Retrieved from <https://mycares.net>
- Cartledge, S., Saxton, D., Finn, J., & Bray, J. E. (2020). Australia's awareness of cardiac arrest and rates of CPR training: Results from the Heart Foundation's HeartWatch survey. *BMJ Open*, 10(1), e033722. <http://dx.doi.org/10.1136/bmjopen-2019-033722>
- Dayapoglu, N., & Tan, M. (2016). Clinical nurses' knowledge and attitudes toward patients with epilepsy. *Epilepsy & Behavior*, 61, 206-209. <https://doi.org/10.1016/j.yebeh.2016.05.009>
- Desiani, S., Nuraeni, A., & Priambodo, A. P. (2017). How do knowledge and self-efficacy of internship nursing students in performing cardiopulmonary resuscitation? *Belitung Nursing Journal*, 3(5), 612-620. <https://doi.org/10.33546/bnj.147>
- Gusnia, S. S., & Saragih, N. (2013). Hubungan karakteristik perawat pada program preceptorship terhadap proses adaptasi perawat baru [Relationship of nurses' characteristics, preceptorship program, and adaptation process of new nurses]. *Jurnal Keperawatan Padjadjaran*, 1(1), 10-17. <https://doi.org/10.24198/jkp.v1i1.47>
- Jamieson, L., Williams, L. M., & Dwyer, T. (2002). The need for a new advanced nursing practice role for Australian adult critical care settings. *Australian Critical Care*, 15(4), 139-145. [https://doi.org/10.1016/S1036-7314\(02\)80028-5](https://doi.org/10.1016/S1036-7314(02)80028-5)
- Kim, S., Kim, S. K., Kim, J.-I., Chang, O. J., Choi, J. Y., & Nam, M. R. (2017). Acquisition of CPR-related self-efficacy through BLS program among undergraduate nursing students in Korea. *Research Journal of Pharmacy and Technology*, 10(7), 2265-2270. <http://dx.doi.org/10.5958/0974-360X.2017.00401.2>
- Kleinman, M. E., Brennan, E. E., Goldberger, Z. D., Swor, R. A., Terry, M., Bobrow, B. J., . . . Rea, T. (2015). Part 5: adult basic life support and cardiopulmonary resuscitation quality: 2015 American Heart Association guidelines update for cardiopulmonary resuscitation and emergency cardiovascular care. *Circulation*, 132(18_suppl_2), S414-S435. <https://doi.org/10.1161/CIR.0000000000000259>
- Koster, R. W., Baubin, M. A., Bossaert, L. L., Caballero, A., Cassan, P., Castrén, M., . . . Perkins, G. D. (2010). European Resuscitation Council guidelines for resuscitation 2010 section 2. Adult basic life support and use of automated external defibrillators. *Resuscitation*, 81(10), 1277-1292. <https://doi.org/10.1016/j.resuscitation.2010.08.009>
- Moon, H., & Hyun, H. S. (2019). Nursing students' knowledge, attitude, self-efficacy in blended learning of cardiopulmonary resuscitation: A randomized controlled trial. *BMC Medical Education*, 19(1), 1-8. <https://doi.org/10.1186/s12909-019-1848-8>
- Mozaffarian, D., Benjamin, E. J., Go, A. S., Arnett, D. K., Blaha, M. J., Cushman, M., . . . Howard, V. J. (2015). Executive summary: heart disease and stroke statistics—2015 update: A report from the American Heart Association. *Circulation*, 131, 434-441. <https://doi.org/10.1161/CIR.0000000000000157>
- Partiprajak, S., & Thongpo, P. (2016). Retention of basic life support knowledge, self-efficacy and chest compression performance in Thai undergraduate nursing students. *Nurse Education in Practice*, 16(1), 235-241. <https://doi.org/10.1016/j.nepr.2015.08.012>
- Raosoft. (2004). Sample size calculator. Retrieved from <http://www.raosoft.com/samplesize.html>
- Roh, Y. S., Issenberg, S. B., Chung, H. S., & Kim, S. S. (2012). Development and psychometric evaluation of the Resuscitation Self-efficacy Scale for nurses. *Journal of Korean Academy of Nursing*, 42(7), 1079-1086. <https://doi.org/10.4040/jkan.2012.42.7.1079>
- Sachdeva, S. (2020). A study to assess knowledge and practice of basic life support among nurses working in tertiary care hospital, New Delhi, India. *Nursing & Care Open Access Journal*, 7(2), 48-52. <https://doi.org/10.15406/ncoaj.2020.07.0217>
- Shammah, A. A., Elbakh, A., Jamal, M. M., Dakhiel, A., Althubayni, A., & Mohammed, Z. (2018). Attitudes and awareness towards cardiopulmonary resuscitation among preparatory year students of Umm Al-Qura University. *International Journal of Community & Family Medicine*, 3, 136. <https://doi.org/10.15344/2456-3498/2018/136>
- Sharp, A. C., Brandt, L., Tuft, E. A., & Jay, S. (2016). Relationship of self-efficacy and teacher knowledge for prospective elementary education teachers. *Universal Journal of Educational Research*, 4(10), 2432-2439. <https://doi.org/10.13189/ujer.2016.041022>
- Turner, N. M., Lukkassen, I., Bakker, N., Draaisma, J., & ten Cate, O. T. J. (2009). The effect of the APLS-course on self-efficacy and its relationship to behavioural decisions in paediatric resuscitation. *Resuscitation*, 80(8), 913-918. <https://doi.org/10.1016/j.resuscitation.2009.03.028>
- Verkuy, M., Attack, L., McCulloch, T., Liu, L., Betts, L., Lapum, J. L., . . . Romaniuk, D. (2018). Comparison of debriefing methods after a virtual simulation: An experiment. *Clinical*

Simulation in Nursing, 19, 1-7. <https://doi.org/10.1016/j.ecns.2018.03.002>

Waloyo, E. (2016). *Hubungan pengetahuan resusitasi jantung paru dengan self-efficacy perawat di RSUD Wonogiri [Relationship of knowledge of cardiopulmonary resuscitation and nurses self efficacy in Wonogiri General Hospital]*. Surakarta, Indonesia: Stikes Kusuma Husada.

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Self-management: A comprehensive approach to improve quality of life among people living with HIV in Indonesia

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Abstract

Background: People living with HIV (PLWH) today have to deal with a chronic condition that requires efficient self-management due to increased longevity. Self-management interventions have been shown to improve physical and psychological symptoms as well as clinical results in chronic diseases. However, few studies have investigated the effect of self-management on quality of life (QOL) among PLWH in Indonesia.

Objective: To examine the effect of a self-management program on QOL among PLWH in Indonesia.

Methods: This was a quasi-experimental study with a comparison group in a general hospital in Jakarta, Indonesia. Of the 114 recruited PLWH, 57 were assigned to the intervention group and 57 to the comparison group. The self-management group attended a four-week program workshop. The intervention consisted of five sessions: need assessment and goal setting, maintaining a healthy lifestyle, educational participation to increase communication and self-esteem, and evaluation. The comparison group received standard educational material throughout the leaflet regarding HIV prevention. The post-test assessment was conducted immediately after intervention (T1) and two months (T2) after the intervention in both groups. QOL was measured using the World Health Organization Quality of Life (WHOQOL)-HIV brief Bahasa version. The estimations were obtained using fixed-effect regressions. The differences between T0, T1, and T2 for the intervention and comparison groups were evaluated and compared using the DI Differences method (DID).

Results: The self-management program improved outcomes relative to the comparison group at T1: 1) overall QOL score increased 8.7% (95% CI 0.021–0.149), 2) physical domain saw a modest increased 8.8% (95% CI 0.017–0.125), 3) psychological domain increased 23.5 % (95% CI 0.085–0.689), and 4) environmental domain showed a modest increase of 18.7% (95% CI 0.053–0.371). At T2, the total QOL score and the physical, psychological, and environmental dimensions were significantly improved compared to the comparison group.

Conclusion: The self-management program appears to improve the QOL of the life of PLWH. Nurses are advised to provide PLWH with self-management training. Future research on self-management intervention would need to be refined further to ensure that each community achieves consistent intervention outcomes.

Keywords

self-management; quality of life; health-related quality of life; HIV/AIDS; nursing; Indonesia

The human immunodeficiency virus (HIV) is a major global health problem that directly impacts social growth. In Indonesia, the first case of AIDS was registered in 1987, and as of 30 March 2020, 511.955 people were living with

HIV (PLWH) and 17.210 HIV-related deaths ([Ministry of Health of Indonesia, 2020](#)). As of March 2020, HIV is a primary concern in Indonesia, notably among heterosexuals, the male who has sex with male (MSM), and

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female sex workers. In 2020, HIV transmission was primarily transmitted via sexual intercourse; 66.6% among heterosexuals and 28.2% among MSM (Ministry of Health of Indonesia, 2020).

Although the use of highly active antiretroviral therapy (HAART) in the treatment of HIV has resulted in a substantial decrease in morbidity and mortality (Nakagawa et al., 2012), psychological and social problems remain to have a devastating effect on people living with HIV (Bravo et al., 2010). PLWH are similarly vulnerable in Indonesia, as they are a sexual minority and therefore have a more severe risk of developing issues such as depression, anxiety, and stress disorder (Ghiasvand et al., 2020; Mahathir et al., 2021). Moreover, HIV is now considered a controlled infectious chronic disease (Lindayani et al., 2020). The longstanding nature of HIV infections and social discrimination are known to cause poor social adaptations to PLWH (Engelhard et al., 2018). The major problem in Indonesia is the rapid growth in the number of people living with HIV, compounded by steady growth in demand for medical services. HIV is a worldwide issue, and therefore, the management system based on HIV comprehensive care is no longer adequate to meet the needs for prevention and treatment. New management models must be developed to find better and fulfill the service needs of PLWH needs.

Quality of life (QOL) is being used increasingly to evaluate the effectiveness of medical interventions. Due to the new healthcare paradigm, medical practitioners are no longer solely focused on life expectancy as a metric (O'Brien et al., 2021). On treatment-related QOL assessments, the physiological, social, environmental, and psychological aspects can all be considered (Cooper et al., 2017). QOL is a multifaceted concept that refers to the effect of health on a person's assessment of their wellness and degree of generally functioning in essential areas of their lives (Cooper et al., 2017). Previous studies reported that the HIV population has a lower quality of life than the non-HIV group (Ghiasvand et al., 2020; Lindayani et al., 2020). HIV is a chronic and degenerative infectious disease leading to lowered QOL, not only in overall score but also in all QOL domains (Ghiasvand et al., 2020; Lindayani et al., 2020; Lindayani et al., 2018a; Handayani et al., 2019). QOL of people with HIV/AIDs depends on a variety of complex variables, including mood, social support, problem-solving abilities, and ways of dealing with problems (Engelhard et al., 2018; Lindayani et al., 2018b). In addition, the study reported that lower QOL was associated with a higher mortality rate (Portilla-Tamarit et al., 2021).

Self-management is characterized as a person's capability to handle illness and promote health in collaboration with family, society, and healthcare providers (Richard & Shea, 2011). In particular, patients are educated in self-management via a series of training programs on health education to provide relevant knowledge, management skills, and communication skills. It is particularly well-suited to the day-to-day treatment of chronic conditions that necessitate the lifelong

management of a broad range of biological, psychological, and social issues. Generally, patients are expected to rely on themselves to take care of their various medical and psychological conditions that may develop due to their illness (Nolte & Osborne, 2013). Self-management strategies thrive in various chronic conditions, including diabetes, kidney disease, chronic obstructive pulmonary disease, and chronic pain (Franek, 2013; Richardson et al., 2014; Schulman Green et al., 2016; Zhang et al., 2019).

Self-management is an essential part of HIV prevention or treatment as HIV has become chronic with successful therapy (Elzarrad et al., 2013). Both HIV infection and aging require enhanced self-management skills to live and age healthily. Individuals can improve self-management in various ways, including healthy eating behavior or regular to moderate activities (Areri et al., 2020). Evidence has been found that self-management interventions conducted in PLWH could improve adherence to HAART and reduce symptoms burden (Nkhoma et al., 2018; Webel et al., 2018), stress and anxiety (Khumsaen & Stephenson, 2019), and mood and coping strategies (Khumsaen & Stephenson, 2019; Iribarren et al., 2018). However, few studies have been conducted to investigate the impact of self-management on the quality of life of PLWH in Indonesia (Webel et al., 2018; Cutrono et al., 2016; Jaggars et al., 2016). Those prior studies did not focus on the implementation structure of self-management intervention but instead on the influence of various lifestyle behaviors combined with exercise. Educating and caring for patients with chronic illnesses about disease self-management is a critical function of nurses. In order to inform nurses and policymakers about the self-management program, it is necessary to design appropriate self-management for PLWH in Indonesia. Thus, the current study aimed to examine the effect of a self-management intervention on QOL among PLWH in Indonesia.

Methods

Study Design

This study was conducted using a quasi-experimental design with a comparison group to evaluate the effect of self-management on QOL among PLWH in Indonesia.

Participants and Setting

The participants were recruited from the two HIV clinics at general hospitals in Jakarta from January 2020 and ended in May 2020. The inclusion criteria were aged over 18 years old, diagnosed with HIV minimum of six months, and willing to voluntarily participate in the project with written informed consent. The exclusion criteria were those with major mental disorders or depression. A convenience sampling strategy was used to select potential participants.

The power estimate using G power analysis (Faul et al., 2009) was based on the results of a previous study in which the primary outcome indicator was self-efficacy for managing HIV symptoms (Khumsaen & Stephenson, 2019). Based on these results, it was calculated that the

sample size was 52 for each group, assuming a moderate to large effect size ($d = 0.5-0.8$) with 80% power and a 5% significance level. The sample size was added 10% to prevent from high attrition rate during the intervention. Thus, this study recruited 114 PLWH (57 in the intervention group and 57 in the comparison group). Baseline homogeneity was ensured by taking into account factors such as age, level of education, and length of HIV infection.

Instrument

The questionnaires included demographic information, including birth date, gender, education level, marital status, and monthly income. Clinical data included CD4 cell counts, receiving HAART, and length of HIV infection.

The WHOQOL-HIV short Bahasa version (The WHOQOL-HIV BREF) was used to assess QOL, which contains physical, psychological, social, and environmental domains. In addition, two additional generic items assess overall QOL and general health. The WHOQOL-HIV BREF items are all assessed on a 5-point Likert scale, 1 being low perception and 5 being high perception. Cronbach's alpha was ranged from 0.71 to 0.85 (Lindayani et al., 2018a).

Intervention

People in the self-management group participated in a workshop for four weeks. Each session had between 18 and 17 PLWH. In summary, the curriculum was based on

Banduras' social learning theory's self-efficacy theory. The self-management model developed by Nolte et al. (2007) was adopted to enhance skills, motivation, and abilities to deal with physical-psychosocial burdens. Self-management emphasizes the importance of the person/patient in managing their condition(s) and improving their quality of life. Participants were motivated to take responsibility for their physical, social, and emotional wellness and behavioral changes to control their health better. **Table 1** provides an overview of the content self-management program for PLWH.

To monitor participant's compliance, we provided a diary book, biweekly phone calls, and monthly home visits. Every two-week nurse made a phone call during the intervention program to ensure that the participant was doing the intervention program. Then, every month nurse conducted a home visit to do data collection (diary book) and follow up related to their g program (e.g., assessment of their problems and how they encounter the problems during the process) and encourage them to continue doing an intervention.

The comparison group received standard educational material throughout the leaflet regarding HIV prevention developed by the research team. The content of educational materials was HIV basic information, treatment, and prevention.

Table 1 Content of self-management program for PLWH

Session	Aims	Content	Strategies
First session (Step 1: need assessment and goal setting)	<ul style="list-style-type: none"> - Introducing the importance of self-management for PLWH. - Importance of information self-management, benefits, and barriers. - Health goal setting 	<ul style="list-style-type: none"> - Understanding and awareness: role self-management program for PLWH 	<ul style="list-style-type: none"> - Lecture, questions, and answers - Sharing experiences - PowerPoint presentations
Second session (Step 2: Maintaining a healthy lifestyle)	<ul style="list-style-type: none"> - Improve ability and skill to manage their symptoms - Improve skill to maintain emotional well being 	<ul style="list-style-type: none"> - Symptom management - HIV-related emotion management (stress management & depression) 	<ul style="list-style-type: none"> - Group discussion and sharing experiences - Educational booklet - Counseling and online follow-up at home.
Third session (Step 3: Maintaining a healthy lifestyle)	<ul style="list-style-type: none"> - Improve their knowledge about appropriate medication - Maintaining a healthy lifestyle 	<ul style="list-style-type: none"> - Prompt use of appropriate medications - Physical exercises and workouts - Nutrition instructions 	<ul style="list-style-type: none"> - Lecture, questions, and answers - Sharing experiences - Educational booklet
Fourth session (Step 4: educational participation to increase communication and self-esteem)	<ul style="list-style-type: none"> - Be confident about how to resolve problems and communicate with others 	<ul style="list-style-type: none"> - Assertive communication skills 	<ul style="list-style-type: none"> - Sharing experiences - Group discussion
Fifth session (Step 5: evaluation)	<ul style="list-style-type: none"> - To assess both the method and the final result of the program 	<ul style="list-style-type: none"> - Wrapping up 	<ul style="list-style-type: none"> - Sharing experiences - Group discussion

Data Collection

Ethical permission was obtained from the institutional research board from the affiliated university. We presented our study objectives, benefits, inclusion and exclusion

criteria, and commitment to protecting the subjects to the head nurse and HIV case managers. Managers had previously informed participants before data collection began. Participants who meet the inclusion criteria were

scheduled for an in-person appointment to complete a consent form. They then completed the QOL assessments described below. After completing baseline (T0) assessments, participants were assigned to two groups: intervention or comparison. The research team has carried out the intervention. The intervention condition was a five-session, group intervention online teaching behavioral changes strategies and positive lifestyle education. Post-test assessments were given to both groups immediately after intervention (T1) and two months later (T2).

Data Analysis

The demographic data and QOL scores were summarized using descriptive statistics. We compared the baseline characteristics of the two groups using independent t-tests to control the bias due to non-random sampling. Participants in the intervention and comparison groups were compared using regression models that accounted for baseline data of the dependent variable. The general linear

with a fixed-effect model was used to obtain the estimates. A significant variable resulting from comparing the two groups' baseline characteristics was put as a covariate. The differences between T0, T1, and T2 for intervention versus the comparison group were estimated calculated in the comparison of DI Differences (DID). All statistical studies were carried out using SPSS Statistics 23.0, with a significance level of 0.05 chosen to determine statistical significance.

Results

The characteristics of the participants in the intervention group were compared to the comparison group are listed in Table 2. In terms of demographic and clinical data, there were no significant differences between the intervention and comparison groups.

Table 2 Comparison of selected baseline characteristics of intervention and comparison participants ($n = 114$)

Variables	Experiment, (<i>n</i> = 57) %	Comparison, (<i>n</i> = 57) %	<i>p</i> -value
Demographic characteristics			
Age in year (Mean ± SD)	31.56 ± 5.37	32.08 ± 4.82	0.166 ^a
Gender			
Male	30 (52.6)	31 (54.4)	0.377 ^b
Female	27 (47.3)	25 (43.8)	
Marital status			
Married	13 (22.8)	20 (35.1)	0.417 ^b
Single/Widow/Divorce	44 (77.2)	37 (64.9)	
Education level			
Below senior high school	35 (61.4)	40 (70.2)	0.071 ^b
Above senior high school	22 (38.6)	17 (29.8)	
Household income			
Below regional minimum salary	41 (71.9)	38 (66.7)	0.113 ^b
Above regional minimum salary	16 (28.1)	19 (33.3)	
Clinical information			
CD4 cell counts, cell/mm ³ (Mean ± SD)	385.7 ± 15.81	401.21 ± 17.39	0.103 ^a
Duration of living with HIV in year (Mean ± SD)	6.18 ± 2.27	6.73 ± 2.11	0.166 ^a
Receiving HAART			
Yes	52 (91.2)	51 (89.5)	0.127 ^b
No	3 (5.3)	5 (8.8)	
Drop out	2 (3.5)	1(1.7)	

Note: ^a p-value from independent t-test; ^b p-value from Chi-square test

Table 3 provides the baseline, T1, and T2 on quality of life, including total score and QOL domains by group and data collection time. In the overall QOL score, respondents showed the lower quality of life at baseline, with an average score of 2.35 ($SD = 0.77$). Overall QOL scores increased over time as respondents in the intervention groups scored 4.29 ($SD = 1.43$), and the comparison group scored 3.02 ($SD = 1.78$) at T2. Physical domain increased at T2 in the intervention groups scored 3.1 ($SD = 90.62$), and respondents in the comparison group scored 2.7 ($SD = 0.15$). The psychological domain increased over time as respondents in the intervention groups scored 3.5 ($SD = 0.92$), and respondents in the comparison group scored 2.1

($SD = 0.36$) at T2. Social domain increased at T2 as respondents in the intervention groups scored 3.0 ($SD = 1.19$), while the comparison group scored 2.1 ($SD = 0.36$) at T2. Environmental domain increased as respondents in the intervention groups scored 3.19 ($SD = 0.65$), and respondents in the comparison group scored 2.3 ($SD = 0.85$) at T2. There was a significant difference between baseline and T2 measures in the intervention group on overall quality of life, physical, psychological, and environmental domain. While, in the comparison group, no significant difference between baseline and T2 measures was founded.

Table 3 Studied outcomes by groups and data collection time

Variables	Experiment, (<i>n</i> = 57) Mean ± <i>SD</i>	<i>t</i> (baseline to T2)	<i>p</i> -value ^a	Comparison, (<i>n</i> = 57) Mean ± <i>SD</i>	<i>t</i> (baseline to T2)	<i>p</i> -value ^a
Overall QOL score		8.32	0.001		2.678	0.034
Baseline	2.35 ± 0.77			2.27 ± 1.04		
T1	3.12 ± 1.36			2.98 ± 1.33		
T2	4.29 ± 1.43			3.02 ± 1.78		
Domain score						
Physical		4.78	0.021		0.452	0.116
Baseline	2.1 ± 0.33			2.4 ± 0.32		
T1	3.6 ± 0.57			2.5 ± 0.43		
T2	3.1 ± 0.62			2.7 ± 0.15		
Psychological		5.11	0.010		-0.032	0.512
Baseline	2.1 ± 0.93			2.2 ± 0.13		
T1	2.7 ± 0.12			2.6 ± 0.45		
T2	3.5 ± 0.92			2.1 ± 0.36		
Social		1.25	0.076		-0.062	0.347
Baseline	2.7 ± 0.82			2.3 ± 0.11		
T1	2.4 ± 0.37			2.6 ± 0.84		
T2	3.0 ± 1.19			2.1 ± 1.92		
Environmental		4.66	0.030		1.564	0.067
Baseline	2.18 ± 0.53			1.73 ± 0.68		
T1	2.33 ± 0.28			1.9 ± 0.71		
T2	3.19 ± 0.65			2.3 ± 0.85		

Note: ^a *p*-value from Paired *t*-test

The change of QOL scores is shown in Table 4. The self-management program improved outcomes relative to the control at T1 across four outcomes: 1) overall QOL score increased 8.7% (95% CI 0.021–0.149), 2) physical domain saw a modest increased 8.8% (95% CI 0.017–0.125), 3) psychological domain increased 23.5% (95% CI 0.085–

0.689), environmental domain saw a modest increase of 18.7% (95% CI 0.053–0.371). At T2, improved outcomes relative to the control are still observed in the overall QOL score and physical, psychological, and environmental domains.

Table 4 Estimated difference-in-differences (DID) with fixed effects model

Variables	T1 DID coefficient (95% CI)	T2 DID coefficient (95% CI)
Overall QOL score	0.087* (0.021–0.149)	0.418* (0.024–0.592)
Physical domain	0.088** (0.05–0.125)	0.139** (0.025–0.235)
Psychological domain	0.235** (0.085–0.689)	0.344* (0.058–0.463)
Social domain	0.051 (–0.042–0.164)	0.153 (–0.017–0.085)
Environmental domain	0.187** (0.053–0.371)	0.215** (0.052–0.485)

All models adjust for age, education level, CD4 counts, and duration of living with HIV

*** *p* < 0.001, ** *p* < 0.01, * *p* < 0.05

Discussion

This study aimed to examine the effect of our self-management intervention on PLWH in all dimensions of quality of life. Overall QOL score increased by 8.7%, and the physical domain increased by 8.8% after the intervention. Similar to a study conducted in China among HIV-infected MSM, self-management has shown a significant increase in quality of life and a significant reduction in the number of anxiety symptoms (Zhang et al., 2019). Self-management could strengthen PLWH's trust in their illness, increase understanding about their health and social adaptation, assist them in building healthy habits, and teaching them to survive (Elzarrad et al., 2013). The study also reports that self-management enhances

adherence to treatment and symptoms management of PLWH (Skinner et al., 2020). A recent comprehensive review indicated that an experimental group receiving symptom management guidance skills and telephone counseling enhanced their QOL (Areri et al., 2020). Therefore, providing an education program on self-management for PLWH is needed to improve their adherence and symptoms, thus enhance their QOL.

Self-management could improve the domain of psychological well-being and environmental. A recent systematic review of a specific self-management educational intervention revealed that treatments focusing on coping and symptom control increased participants' involvement in self-management programs (Areri et al., 2020). Strategies to enhance self-management practices that emphasized symptoms of psychological management

guidelines or coping skills were more successful than standard care (Millard et al., 2016). In our study, the intervention group was encouraged to participate actively in communication, which included discussing their health problems, analyzing their causes, and determining the best course of action. Self-management has helped to encourage PLWH to speak out, thus avoiding further marginalization and self-containment (Zhang et al., 2019). In addition, the self-management approach was designed as a cooperation model between the patients and the healthcare providers. During specified courses and activities, PLWH, who had received the self-management intervention, were encouraged by patients and healthcare practitioners to build healthy behaviors and enhance patients' quality of life. These findings have implications for developing interventional studies, which could benefit from an integrated evaluation to evaluate better who benefits and under what conditions.

Our study, however, had several limitations. First, the effects of the self-management program may have been affected by the team personality attributes. It is not easy to maintain consistency among the various teams regarding the organization, planning, and mobilization capacity. Second, selection bias could not be ruled out in this study since the nature of non-randomized selection—no significant difference in terms of demographic and clinical characteristics between intervention and comparison groups. Then, in baseline analysis, the score of QOL between the intervention and comparison group was not significantly different. The third problem was that standardizing the intervention program was a challenge. Future research requires further improvement in the self-management procedure to ensure that each group has a consistent response impact.

The implications for nursing practice include that self-management interventions should be implemented concerning the person, community, and healthcare settings. Peer-to-peer or lay healthcare worker-led programs might be more practical and sustained in low-resource countries with a high HIV prevalence, such as Indonesia. In addition, nurses are encouraged to provide self-management education and training to those living with HIV by providing material such as a symptom management booklet and suggesting utilizing technologies such as telehealth and online applications to access the information quickly. More importantly, the program promoted patients' communicative skills to obtain adequate support from a nurse and also helped them raise their sense of responsibility for their health.

Conclusion

These results indicate that the self-management program might enable PLWH to gain self-specific QOL and support healthy habits while helping to establish specific capabilities. This project contributed significantly to adapting self-management of chronic conditions to

transmissible conditions, and it should be built upon and verified for further promotion.

Declaration of Conflicting Interest

All authors declare no conflict of interest.

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Authors' Contributions

All authors contributed equally in every step of the study and agreed with the final version to be published.

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Data Availability Statement

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

References

- Areri, H. A., Marshall, A., & Harvey, G. (2020). Interventions to improve self-management of adults living with HIV on antiretroviral therapy: A systematic review. *PloS One*, 15(5), e0232709. <https://doi.org/10.1371/journal.pone.0232709>
- Bravo, P., Edwards, A., Rollnick, S., & Elwyn, G. (2010). Tough decisions faced by people living with HIV: A literature review of psychosocial problems. *Aids Review*, 12(2), 76-88.
- Cooper, V., Clatworthy, J., Harding, R., & Whetham, J. (2017). Measuring quality of life among people living with HIV: A systematic review of reviews. *Health and Quality of Life Outcomes*, 15(1), 1-20. <https://doi.org/10.1186/s12955-017-0778-6>
- Cutrono, S. E., Lewis, J. E., Perry, A., Signorile, J., Tiozzo, E., & Jacobs, K. A. (2016). The effect of a community-based exercise program on inflammation, metabolic risk, and fitness levels among persons living with HIV/AIDS. *AIDS and Behavior*, 20(5), 1123-1131. <https://doi.org/10.1007/s10461-015-1245-1>
- ElZarrad, M. K., Eckstein, E. T., & Glasgow, R. E. (2013). Applying chronic illness care, implementation science, and self-management support to HIV. *American Journal of Preventive Medicine*, 44(1), S99-S107. <https://doi.org/10.1016/j.amepre.2012.09.046>
- Engelhard, E. A. N., Smit, C., Van Dijk, P. R., Kuijper, T. M., Wermeling, P. R., Weel, A. E., . . . Nieuwkerk, P. T. (2018). Health-related quality of life of people with HIV: An assessment of patient related factors and comparison with other chronic diseases. *Aids*, 32(1), 103-112. <https://doi.org/10.1097/QAD.0000000000001672>
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149-1160. <https://doi.org/10.3758/BRM.41.4.1149>

- Franek, J. (2013). Self-management support interventions for persons with chronic disease: An evidence-based analysis. *Ontario Health Technology Assessment Series*, 13(9), 1.
- Ghiasvand, H., Higgs, P., Noroozi, M., Ghaedamini Harouni, G., Hemmat, M., Ahounbar, E., . . . Armoon, B. (2020). Social and demographical determinants of quality of life in people who live with HIV/AIDS infection: Evidence from a meta-analysis. *Biodemography and Social Biology*, 65(1), 57-72. <https://doi.org/10.1080/19485565.2019.1587287>
- Handayani, S., Ratnasari, N. Y., Husna, P. H., & Susanto, T. (2019). Quality of life people living with HIV/AIDS and its characteristic from a VCT centre in Indonesia. *Ethiopian Journal of Health Sciences*, 29(6), 759-766. <https://doi.org/10.4314/ejhs.v29i6.13>
- Iribarren, S., Siegel, K., Hirshfield, S., Olender, S., Voss, J., Krongold, J., . . . Schnall, R. (2018). Self-management strategies for coping with adverse symptoms in persons living with HIV with HIV associated non-AIDS conditions. *AIDS and Behavior*, 22(1), 297-307. <https://doi.org/10.1007/s10461-017-1786-6>
- Jaggers, J. R., Snead, J. M., Lobelo, F., Hand, G. A., Dudgeon, W. D., Prasad, V. K., . . . Blair, S. N. (2016). Results of a nine month home-based physical activity intervention for people living with HIV. *International Journal of Clinical Trials*, 3(3), 106-119. <http://dx.doi.org/10.18203/2349-3259.ijct20162793>
- Khumsaen, N., & Stephenson, R. (2019). Feasibility and acceptability of an HIV/AIDS self-management education program for HIV-positive men who have sex with men in Thailand. *AIDS Education and Prevention*, 31(6), 553-566. <https://doi.org/10.1521/aeap.2019.31.6.553>
- Lindayani, L., Chen, Y.-C., Wang, J.-D., & Ko, N.-Y. (2018a). Complex problems, care demands, and quality of life among people living with HIV in the antiretroviral era in Indonesia. *Journal of the Association of Nurses in AIDS Care*, 29(2), 300-309. <https://doi.org/10.1016/j.jana.2017.10.002>
- Lindayani, L., Darmawati, I., Purnama, H., & Permana, B. (2020). Integrating comprehensive geriatric assessment into HIV care systems in Indonesia: A synthesis of recent evidence. *Creative Nursing*, 26(1), 9-16. <https://doi.org/10.1891/1078-4535.26.1.9>
- Lindayani, L., Ibrahim, K., Wang, J.-D., & Ko, N.-Y. (2018b). Independent and synergistic effects of self-and public stigmas on quality of life of HIV-infected persons. *AIDS Care*, 30(6), 706-713. <https://doi.org/10.1080/09540121.2017.1396282>
- Mahathir, M., Wiarsih, W., & Permatasari, H. (2021). "Accessibility": A new narrative of healthcare services for people living with HIV in the capital city of Indonesia. *Belitung Nursing Journal*, 7(3), 227-234. <https://doi.org/10.33546/bnj.1409>
- Millard, T., Agius, P. A., McDonald, K., Slavin, S., Girdler, S., & Elliott, J. H. (2016). The positive outlook study: A randomised controlled trial evaluating online self-management for HIV positive gay men. *AIDS and Behavior*, 20(9), 1907-1918. <https://doi.org/10.1007/s10461-016-1301-5>
- Ministry of Health of Indonesia. (2020). Infodatin HIV AIDS. Retrieved from <https://pusdatin.kemkes.go.id/article/view/2011200002/infodatin-hiv.html>
- Nakagawa, F., Lodwick, R. K., Smith, C. J., Smith, R., Cambiano, V., Lundgren, J. D., . . . Phillips, A. N. (2012). Projected life expectancy of people with HIV according to timing of diagnosis. *Aids*, 26(3), 335-343. <https://doi.org/10.1097/QAD.0b013e32834dcec9>
- Nkhoma, K., Norton, C., Sabin, C., Winston, A., Merlin, J., & Harding, R. (2018). Self-management interventions for pain and physical symptoms among people living with HIV: A systematic review of the evidence. *JAIDS Journal of Acquired Immune Deficiency Syndromes*, 79(2), 206-225. <https://doi.org/10.1097/QAI.0000000000001785>
- Nolte, S., Elsworth, G. R., Sinclair, A. J., & Osborne, R. H. (2007). The extent and breadth of benefits from participating in chronic disease self-management courses: A national patient-reported outcomes survey. *Patient Education and Counseling*, 65(3), 351-360. <https://doi.org/10.1016/j.pec.2006.08.016>
- Nolte, S., & Osborne, R. H. (2013). A systematic review of outcomes of chronic disease self-management interventions. *Quality of Life Research*, 22(7), 1805-1816. <https://doi.org/10.1007/s11136-012-0302-8>
- OBrien, N., Chi, Y. L., & Krause, K. R. (2021). Measuring health outcomes in HIV: Time to bring in the patient experience. *Annals of Global Health*, 87(1), 2. <https://dx.doi.org/10.5334/2Faogh.2958>
- Portilla-Tamarit, J., Reus, S., Portilla, I., Ruiz-de-Apodaca, M. J. F., & Portilla, J. (2021). Impact of advanced HIV disease on quality of life and mortality in the era of combined antiretroviral treatment. *Journal of Clinical Medicine*, 10(4), 716. <https://doi.org/10.3390/jcm10040716>
- Richard, A. A., & Shea, K. (2011). Delineation of self-care and associated concepts. *Journal of Nursing Scholarship*, 43(3), 255-264. <https://doi.org/10.1111/j.1547-5069.2011.01404.x>
- Richardson, J., Loyola-Sanchez, A., Sinclair, S., Harris, J., Letts, L., MacIntyre, N. J., . . . McBay, C. (2014). Self-management interventions for chronic disease: A systematic scoping review. *Clinical Rehabilitation*, 28(11), 1067-1077. <https://doi.org/10.1177/0269215514532478>
- Schulman Green, D., Jaser, S. S., Park, C., & Whitemore, R. (2016). A metasynthesis of factors affecting self-management of chronic illness. *Journal of Advanced Nursing*, 72(7), 1469-1489. <https://doi.org/10.1111/jan.12902>
- Skinner, D., Crowley, T., Van der Merwe, A., & Kidd, M. (2020). Adolescent human immunodeficiency virus self-management: Associations with treatment adherence, viral suppression, sexual risk behaviours and health-related quality of life. *Southern African Journal of HIV Medicine*, 21(1), 1-11. <https://doi.org/10.4102/sajhivmed.v21i1.1054>
- Webel, A. R., Moore, S. M., Longenecker, C. T., Currie, J., Davey, C. H., Perazzo, J., . . . Josephson, R. A. (2018). A randomized controlled trial of the SystemCHANGE intervention on behaviors related to cardiovascular risk in HIV+ adults. *Journal of Acquired Immune Deficiency Syndromes*, 78(1), 23-33. <https://dx.doi.org/10.1097%2FQAI.0000000000001635>
- Zhang, P., Gao, J., Wang, Y., Sun, Q., & Sun, X. (2019). Effect of chronic disease self-management program on the quality of life of HIV-infected men who have sex with men: An empirical study in Shanghai, China. *The International Journal of Health Planning and Management*, 34(3), 1055-1064. <https://doi.org/10.1002/hpm.2874>

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Mental health nurses' views of ward readmission: A focus group study in Brunei Darussalam

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Abstract

Background: Readmission becomes inevitable with the vast development of mental health services worldwide and the challenges faced by mental health services. This readmission is often caused by a relapse from an illness whereby the psychiatric patient needs nursing care.

Objective: This study aimed to explore psychiatric nurses' perceptions of reasons for readmission and nurses' further role in reducing readmission.

Methods: In this descriptive qualitative study, thematic analysis of five focus group discussions ($n=24$ nurses) in one psychiatric department in Brunei Darussalam was identified through purposive sampling.

Results: The nurses perceived the role of family and non-adherence to medication as a significant reason for psychiatric readmission. Simultaneously, nurses viewed that it was necessary to implement systematic psychoeducation to strengthen the role of family and community service support to curb readmission rates.

Conclusion: The phenomenon of mental health readmission impacts psychiatric nurses due to many stressful challenges with nurses wishing to respond personally, humanely and professionally. These challenges require suitable interventions, such as debriefing to ensure that nurses continuously strive to deliver quality care to psychiatric readmission patients.

Keywords

patient readmission; mental health; Brunei; qualitative; recurrence; nursing

The considerable increase in the number of patients living with mental illness is becoming increasingly difficult to ignore. In 2017, the United States highlighted mental illness and cited 46.6 million people or nearly one in five adults who have a mental illness ([Substance Abuse and Mental Health Services Administration, 2018](#)). Meanwhile, the World Health Organization estimates that 11,000 persons registered for mental health services in Brunei in 2012, with 137 readmissions in 2017, 160 readmissions in 2018, and 141 readmissions in 2019 ([WHO, n.d.](#)). This prevalence of mental illness has resulted in the development of mental health services providing care, treatment and the preservation of human rights of people with a mental disorder. However, readmission is inevitable as a

consequence of the expansion of psychiatric services and has become substantial, causing mental health services to face significant challenges. Previous studies indicate high readmission rates in the psychiatric setting and indicate relapse symptoms ([Vasudeva et al., 2009](#); [Vigod et al., 2015](#); [Chi et al., 2016](#)).

From the literature review, the patient and healthcare professional differ in their understanding of reasons for readmission. Patient views of their readmission were more focused on the non-compliance of medication as the main factors for readmission ([Mgutshini, 2010](#)). However, according to [Glette et al. \(2019\)](#), healthcare professionals perceived readmission due to patients being prematurely discharged from the hospital. In addition, one study found

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that patient readmission was avoidable, as long as the patient is included in the procedure, such as better symptom management or greater clarity in the discharge instruction (Howard Anderson et al., 2016). Despite patient views of healthcare from the literature, readmission from the nurse perspective is under-researched.

Prior studies have also identified numerous factors that have contributed to readmission for psychiatric patients. The most notable reason mentioned was lack of insight into the illness (Nxasana & Thupayagale-Tshweneagae, 2014), negative attitudes of the patient towards medication and a lack of support from the family (Dlamini & Shongwe, 2019). In a qualitative study by Cleary et al. (2013), nurses considered that recovery involved maintaining well-being through a concept of holism, which includes relationships, psychological problems, psychosocial and life skills. The failure to maintain recovery thus causes a recurring health problem. Readmission from the nursing perspective was typically attributed to a family belief system, a lack of social support, patients' negative attitudes, and organisational health factors. Glette et al. (2019) strongly agree that healthcare administration factors caused patient readmission.

Meanwhile, Nxasana and Thupayagale-Tshweneagae (2014) highlighted no studies of nurses' perceptions regarding psychiatric patient readmission. Therefore, readmission from the perspective of the nurse is an emerging yet unexplored area. Cleary et al. (2013) stated that nurses have a central role in patient recovery and supporting, hoping, learning, and providing positive nursing experiences that constitute humanistic interpersonal nursing. This understanding of roles can lead to initiatives that reflect the quality of patient care and reduce readmission.

Methods

Study Design

A qualitative descriptive study design was undertaken as it was the most appropriate in addressing the research questions. It allows the voices of nurses in Brunei to be heard, thereby creating a real opportunity to explore perceived reasons for psychiatric readmission in Brunei Darussalam.

Research Participants

The study was conducted in a primary psychiatric department in Brunei Darussalam. The participants were selected using a purposive sampling technique from nurses caring for patients in Brunei's leading psychiatric service. The participants were approached by a department nurse manager who acted as a gatekeeper. Thirty nurses attended the briefings, and twenty-four nurses agreed to participate. They are between 28 and 52 years of age, with work experience in the psychiatric department varying from 3 to 20 years. The participant inclusion criteria include more than one year of working experience in the psychiatric

department; thus, nurses with less than a year of working experience will be excluded.

Data Collection

This study was conducted in Brunei Darussalam between October 2020 and November 2020. The research team conducted a semi-structured interview using Focus Group Discussion (FGD). The following open-ended questions were presented in Malay and English: *What is your perspective on factors causing patient readmission? What approaches can you suggest to overcome these factors? In what way will the patients have an impact on their experience of readmission? What is the effect of patient readmission on the nurse? Furthermore, how can the nurse support in helping to minimise patient readmission?* All five FGD took place in a private meeting room within the department itself. The interviews, which lasted between 57 and 88 minutes, were audio recorded.

Data Analysis

All interviews were transcribed verbatim and analysed using six phases of the thematic process described by (Braun & Clarke, 2021). The first phase involved the research team reading and re-reading to become familiar with its content. In contrast, the second phase entailed coding the transcripts and collating all relevant data extracts for further stages of analysis. The third phase prompted the research team to examine the codes and collected data to establish meaningful broader patterns of potential themes. Phase four involved comparing the themes to the transcripts to ensure they presented a credible story about the data and answered the research question. The fifth phase involved doing a detailed analysis of each theme and defining its scope and focus. Finally, in phase six, the research team combined the analytic narrative and data extracts and contextualised the results in light of existing literature. It is critical to highlight that all phases were followed recursively, whereby we moved back and forth between phases. These phases were viewed as a roadmap for analysis, facilitating a complete and in-depth engagement with the data analysis. English words or phrases were used when translating from Malay to English since the source words have an English translation. However, there were no complicated words or phrases to translate or interpret.

Ethical Consideration

Since the study involves human participants, ethical clearance was obtained from both Faculty and Ministry of Health Research Ethics Committee (Reference: UBD/PAP RSBIHSREC/2020/62). Participants did not receive any monetary or other direct benefits for participating in the study.

Trustworthiness

Trustworthiness was described for the main qualitative content analysis phases, from data collection to reporting results (Elo et al., 2014). The four aspects of qualitative

research's trustworthiness are credibility, dependability, conformability, and transferability (Polit & Beck, 2018). All of these aspects have been established in this study. All interviews started with warm-up questions about their perception of factors causing readmission of the patient. This set of questions ensured that the participants shared a common understanding of the major causes of readmission. In addition, all the audio recordings were transcribed verbatim to retain the study's conclusion's quality of data analysis and objectivity.

Meanwhile, quotes from the participants were presented in the findings for conformability. For credibility, the analysis process was finalised in collaboration with all the researchers. This action is to verify coherency between themes and data (Graneheim & Lundman, 2004). The data was saturated during the fourth FGD, but to ensure that no more information emerged, one more FGD was carried out. The participants' age range and level of experience were broad, contributing to the findings' transferability.

Results

The analysis revealed three main themes and several subthemes which arose from the nurses' reflections and working experiences in the psychiatric department.

Theme 1: The significant role of family

Nurses perceived that the reasons for psychiatric patient readmission were the family's role as the patient's primary carer. The nurses portrayed the patients' families as the key personnel responsible for monitoring medication adherence to prevent readmission. The interrelationship between family as carers and managing patient medication was the primary finding cited by most nurses during the interviews:

I consider that family support is significant. If we think about it, the patient is unwell. If there is no such support, this can potentially lead to readmission. There are no people to monitor patient compliance. Almost all admitted patients will rely on the medication to get better? So medication compliance is critical. If we solely trust the patient to monitor their medication, I honestly think it will not be good enough. Hence, family support is essential. (Nurse 4, FGD4)

The family was perceived as the primary carer with at least one family member needed to focus on patient care. Nurses felt that due to the patient's mental and physical capabilities being affected by psychiatric illness and the possible side-effects of medication, it was vital for the family to "step up" to patient care. Without family support, a patient can become fragile and vulnerable leading to further deterioration in their condition:

Mental health illness affects the patient thoughts process—both cognition and memory capabilities. The medication affects their memory of their thoughts, so their daily routine is somewhat affected. (Nurse 2, FGD1)

Most nurses, when interviewed, reflected on the impact of the current COVID-19 pandemic, whereby healthcare services and delivery faced challenges and interruptions worldwide. Brunei Darussalam's healthcare system is no exception. Psychiatric services were restricted, and nurses identified families as having an essential role in updating the patient's condition to the relevant services to prevent patient relapse. Nurses expected the family to have a significant role and duty in preventing the readmission of a patient. Furthermore, the family's responsibility should not just focus on the patient's medication; rather, it should encompass the multiple functions needed to ensure that patients do not relapse, which would necessitate readmission:

During the COVID pandemic, we are facing problems. We have to reschedule patients' appointments for three months. Whenever we make the phone call to patients, trying to get updates and progress, the family would tell us that the patient is stable and experiencing 'no problems'. We would then repeat the medication prescription for another three months. However, in reality, patients are not stable. Hence, the feedback from the family was not the same as the patient's condition. This is why there were many relapses and recurrent admissions. (Nurse 4, FGD2)

However, from the interviews conducted, nurses perceived that responsibility for readmission rested with family members. The nurses verbalised that patient wellness was in the family's hands to ensure patients did not relapse from their illness despite delivering the care and treatment prescribed. The possible family burden was discussed. Nurses foresee that the family have to do most of the physical and mental caring for the patient. As a consequence of being mentally unstable, patients were unable to look after themselves. Thus the family were expected to step in:

It is a double-edged sword; you know what I mean. If you are a family member, you have to think about it. Do I prefer to have this kind of caregiver burden? In addition, if the patient relapses, you have to weigh which approach you prefer? I think the family would like it if the patient did not fall ill, right? (Nurse 2, FGD1)

Furthermore, several nurses put forward another reason for the patient being readmitted, namely, medication non-compliance. Medication regime is vital for patients since the medicine is prescribed daily. Therefore, medication should not be missed or stopped without consultation with the doctor. Several nurses reflected on the causes of medication non-compliance leading to patient readmission:

Because of the stigma attached to mental health issues, some patients may start contemplating following the strict medicine regime. This is particularly true if the patient is furthering studies or seeking a new job. They may not want others to know that they are on mental health medication. In the end, they do not take medicine. (Nurse 2, FGD1 and Nurse 2, FGD3)

Theme 2: The value of psychoeducation

When asked about the support role of nurses to minimise psychiatric readmission, the majority of the nurses highlighted the importance of psychoeducation for the patient and their family to prevent readmission. Psychoeducation helps to increase patient insight and cultivates patient knowledge about their illness and treatment. It also enables a person with the knowledge needed to improve or maintain a patient's condition:

I guess it is not always easy for the patient family to understand what mental health is. We must educate them on what is happening in the brain of a person having a mental illness. If a person understands the nature of the mental illness, what actually happened, why people get this illness and the causes of mental illness, this can make them more aware and improve family support (Nurse 4, FGD4)

The provision of psychoeducation for patients and families is vital to empower them through increased knowledge and understanding of the mental health condition:

I want to strengthen the nurse's psychoeducation. We usually give psychoeducation to the family, particularly on the importance of medication. Unfortunately, some of them are still in denial. They may not feel that the patient needed any more medicine. Hence, they stop the medication. This patient will be soon readmitted. Therefore psychoeducation is essential for them. (Nurse 3, FGD5)

Psychoeducation, however, has its limitations; mental illness is often considered taboo and is linked to cultural beliefs. For example, some families believe that mentally ill patients are possessed in Brunei Darussalam because of black magic or similar phenomena. Such cultural beliefs make it difficult for some to believe that mental disorders do exist. Thus, psychoeducation in the context of such beliefs may have a low impact and may therefore be ineffective:

It is part of our culture to believe things like black magic or being possessed. For some, such a factor is difficult to accept. Some parents, for example, believed that mental health issues were related to being disturbed by black magic after entering the jungle. It is most likely that the parents may have a more challenging time accepting that their child is sick. (Nurse 2, FGD1)

Despite these cultural beliefs, nurses still have a role to support the patient's recovery and help them understand their mental illness. The challenge to provide optimal treatment is, therefore, a very real one. To prevent readmission, nurses endeavour to understand this dynamic and the various treatments, such as cultural, spiritual and psychiatric treatments. Some of the nurses perceived a need to strike a balance between different forms of treatment:

When it comes to caring for patients with mental health issues, we also need to consider the dimension of religious and spiritual caring. We try to relate what spiritual care is. At least our patient is not misled from the fundamental objective.

Sometimes, they did not know that spiritual care could help them. (Nurse 4, FGD2)

The importance of psychiatric community services in minimising patient readmission was mentioned several times during the study. The role of community nurses was seen as significant in delivering health care and aiding patient recovery. Psychiatric community services played an essential role in maintaining patient recovery. The psychiatric community's involvement and directness were the leading factors preventing the patient from being re-hospitalised. Participant opinions reflected this:

I think community services are vital in the prevention of readmission. They can provide treatment services or injections at home for patients and their families who have a problem going to the hospital. Furthermore, community services can deliver medication to the patient. (Nurse 4, FGD5)

As the Psychiatric community is vital, improvement in services is necessary to ensure its effectiveness. Strengthening existing community services and expanding the workforce to deliver better services was suggested as a means of reducing readmission:

The community services need to strengthen their workforce: more community nurses should work in the service as limited staff can negatively impact the quality of healthcare services. Community nurses have limited time giving psychoeducation to patients and families as the nurses have other roles in delivering in the community healthcare services, such as providing depot injection. (Nurse 4, FGD4)

Theme 3: Addressing the needs of patients

In addressing the needs of patients, the participants reflected on the impact of readmission, which could be a positive or negative experience. The nurses reported that the patient could have a difficult experience while being readmitted to the ward, as the ward's rules and regulations need to be followed:

This would be stressful for the patient for a more extended hospitalisation as they may feel constrained or 'trapped'. For example, patients who smoke cigarettes may find it stressful since the hospital is a no-smoking zone. This stress can make them angry, which can further disturb staff working. (Nurse 5, FGD4)

Another participant reflected on how the hospital rules and regulations may limit the daily activities of patients:

There is scheduled meals time, watching TV, bedtime and many others. However, because of the rules, they may not be able to follow such rules and regulations. This can be upsetting for some patients. (Nurse 2, FGD4 and Nurse 2, FGD5)

Secondly, the impact of readmission on the nurse was considered. Various responses related to the participant's emotional response in caring for a readmitted mentally ill patient. One participant shared their potential fear but fully

understood the nature of their work and the patient's condition:

It could be quite concerning if we learned about patient history, especially one with a history of aggression. This is particularly true for staff that have previously been assaulted, punched, slapped or traumatised by the patient. (Nurse 1, FGD4)

This was emphasised by another participant who believed that peer support was central in preventing traumatic incidents:

Usually, after a traumatic incident, staff will have a debriefing session where they shared and expressed their feelings. In a readmitted patient with a history of assaulting staff, we will ensure that the same staff will not treat the patient. (Nurse 1, FGD4)

The participants were able to develop the right mindset to ensure they acted professionally. However, looking after the patient who had repeatedly been admitted was deemed to be stressful:

We are doing the job as professional nurses. We have to accept that, for any readmission, we have a job to do. It can be stressful nevertheless, mainly if the patient is reluctant to improve their health. (Nurse 3, FGD5)

Discussion

This study's primary concern was highlighting participant nurses' views on the reasons for patients' readmission in a mental health setting. Patients with mental health problems were impacted in many ways during their daily lives. The consensus was that there should be a pivotal person to help maintain the health of the patient. The nurses acknowledged that the family should play a central role in the supervision of patient medication. It was evident that the family's ability to attend to their "claimed" roles significantly impacted the patient to prevent them from being readmitted. According to [Tilhowe et al. \(2017\)](#), the lack of patient family support can lead to a relapse. When the family did not carry out their perceived care role, the patient was susceptible to readmission. However, the carer burden can become detrimental to the carer's quality of life due to the workload and stressors that arise from caring for a patient with mental health illness. A study in Iran by [Akbari et al. \(2018\)](#) mentioned that the carer's physical and psychological health could be compromised while caring for an individual with psychiatric problems, which further exacerbates the patient's disorder due to poor care by family. [Javed and Herrman \(2017\)](#) added that caring for the patient often brought physical, psychological, social and financial problems to the carer. The burden of caring for relatives with mental illness was reflected in several studies. From the literature, the concept of carer burden was defined in the 1980s. However, according to [Shamsaei et al. \(2015\)](#), only recently, interest in the carer role for the psychiatrically ill patient has increased.

Such awareness has led to a focus on the caregiver and the patient, as caregiving has an important influence on the overall quality of the caregiver's life. In Brunei Darussalam's context, research into family roles could shed new light on patient treatment and would be beneficial. Life in Brunei Darussalam incorporates the extended family as part of the family system within the National Philosophy of the Malay Islamic Monarchy. Another reason for patient readmission indicated by the participants was the patient not adhering to medication. [Nxasana and Thupayagale-Tshweneagae \(2014\)](#) indicated that poor compliance with medication causes the patient to be re-hospitalised. This finding agrees with previous studies, which highlighted reasons for non-compliance. A study by [Semahegn et al. \(2020\)](#) provided an in-depth map of the psychiatric patient factors for non-adherence to medication: individual patient, social support, treatment and health system-related factors. The same study made it clear that poor family support was a factor leading to patient readmission.

The second theme of the study findings related to the value of psychoeducation as part of the nurse's role to minimise patient readmission. The participants found this to be a helpful tool and beneficial for patients. Healthcare professionals have widely used psychoeducation in psychiatric settings, as indicated by the nurses in this study. According to [Pedersen et al. \(2015\)](#), psychoeducation is considered a simple therapy for individuals with mental disorders in the healthcare and primary care settings, giving patients theoretical and practical approaches to understanding and coping with their disorder. [Srivastava and Panday \(2016\)](#) added that psychoeducation allows the patient and family to understand the nature, course and prognosis of the disorder. Other studies further illustrated the importance and effectiveness of psychoeducation and its wide use in the psychiatric setting. Psychoeducation is also perceived as a therapeutic tool with a non-pharmacological approach. As [McFarlane in Srivastava and Panday \(2016\)](#) mentioned, one example is the 'Multiple Family Group Therapy' model, which aims to involve families in the rehabilitation and aftercare program of patients. Additionally, there is a need for psychoeducation to be culturally sensitive. Several participant nurses highlighted that interference exists towards accepting psychoeducation because of cultural beliefs. [Rummel-Kluge and Kissling \(2008\)](#) showed an improved patient risk of readmission when psychoeducation programs address cultural needs.

The third theme addressed the needs of the patient. While trying to address the needs of the readmitted patient, it is clear that these impact both the patient and nurses. The participant nurses reflected on the effects of psychiatric readmission on their patients. While nurses indicated patients experience "uneasiness" in response to readmission, this was inconsistent with a study by [Howard Anderson et al. \(2016\)](#), which detailed dissimilarities in nurses' and patients' attitudes about readmission. Their study found that patients were not upset despite readmission. This needs to be studied further because re-

hospitalisation rates will remain elevated if patients are comfortable with readmission. In this study, the participant nurses' experiences of the impact of readmission were expressed both humanely and professionally.

Despite readmission being stressful in caring for an aggressive psychiatric patient, the nurse's ability to direct their personal feelings humanely and professionally was astounding. This was borne out in the study by Nontamo (2019). Notwithstanding unbearable conditions related to psychiatric readmission, nurses responded with empathy for the patient and committed to the ethics of the nursing profession. Cleary et al. (2013) stated that humanism was at the core of caring and should be espoused in each professional nurse. However, there is a growing concern on how psychiatric readmission can compromise nursing care. Sobekwa and Arunachalam (2015) found that nurses acknowledged the importance of intervention in response to psychiatric readmission to achieve quality care when dealing with aggressive readmission patients, such as debriefing and peer support. As a result, the significant implications of this study for nursing practice, both nationally and internationally, are the development of appropriate interventions and measures to support and enhance nurses' ability to care for readmission patients while maintaining and strengthening their quality of care. Such measures may include opportunities for personal and professional growth among nurses and healthcare team members through debriefing sessions. The study also presents the importance of family as a salient factor in preventing patient readmission. To mitigate the carer burden, preparing a consistent, proper and systematic intervention or program to support the family will ensure that the carer is not overly burdened. Future studies are recommended to review current programs and implement culturally consistent and systematic psychoeducation for patients and families.

Limitation

The findings were restricted to psychiatric nurses working in a single psychiatric department in Brunei's main hospital. Thus, the study results are only pertinent to the population considered and not the entire psychiatric nurses in Brunei. Another consideration is the possibility of response bias since the principal investigator is studying her own workplace. This may lead to a lack of objectivity as an insider researcher.

Conclusion

The study reveals that non-adherence to medication was thought to be a significant determinant for patient readmission. Furthermore, the patient's family was noted as the primary contributor in reducing patient readmission. Our results stress the importance of the value of psychoeducation and psychiatric community services and their respective roles in supporting the patient and family to minimise rates of psychiatric readmission. Additionally, it was evident that the reasons for psychiatric readmission

from the nurses' perspectives should be acknowledged to improve patient care and mental health services.

Declaration of Conflicting Interest

The authors declare no conflict of interest in this study.

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Authors' Contributions

All authors have equal contributions in this study started from the proposal, data collection, data analysis, final report, and development of the manuscript.

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Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

References

- Akbari, M., Alavi, M., Irajpour, A., & Maghsoudi, J. (2018). Challenges of family caregivers of patients with mental disorders in Iran: A narrative review. *Iranian Journal of Nursing and Midwifery Research*, 23(5), 329-337. https://doi.org/10.4103/ijnmr.IJNMR_122_17
- Braun, V., & Clarke, V. (2021). *Thematic analysis: A practical guide*. London: Sage.
- Chi, M. H., Hsiao, C. Y., Chen, K. C., Lee, L.-T., Tsai, H. C., Lee, I. H., . . . Yang, Y. K. (2016). The readmission rate and medical cost of patients with schizophrenia after first hospitalization—A 10-year follow-up population-based study. *Schizophrenia Research*, 170(1), 184-190. <https://doi.org/10.1016/j.schres.2015.11.025>
- Cleary, M., Horsfall, J., O'Hara-Aarons, M., & Hunt, G. E. (2013). Mental health nurses' views of recovery within an acute setting. *International Journal of Mental Health Nursing*, 22(3), 205-212. <https://doi.org/10.1111/j.1447-0349.2012.00867.x>
- Dlamini, S. B., & Shongwe, M. C. (2019). Exploring mental health nurses' perceptions on factors contributing to psychiatric readmissions in Eswatini: A qualitative study. *International Journal of Africa Nursing Sciences*, 11, 100157. <https://doi.org/10.1016/j.ijans.2019.100157>
- Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative content analysis: A focus on trustworthiness. *SAGE Open*, 4(1), 2158244014522633. <https://doi.org/10.1177/2158244014522633>

- Glette, M. K., Kringeland, T., Røise, O., & Wiig, S. (2019). Hospital physicians' views on discharge and readmission processes: A qualitative study from Norway. *BMJ Open*, 9(8), e031297. <https://doi.org/10.1136/bmjopen-2019-031297>
- Graneheim, U. H., & Lundman, B. (2004). Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today*, 24(2), 105-112. <https://doi.org/10.1016/j.nedt.2003.10.001>
- Howard Anderson, J., Busuttil, A., Lonowski, S., Vangala, S., & Afsar-manesh, N. (2016). From discharge to readmission: Understanding the process from the patient perspective. *Journal of Hospital Medicine*, 11(6), 407-412. <https://doi.org/10.1002/jhm.2560>
- Javed, A., & Herrman, H. (2017). Involving patients, carers and families: An international perspective on emerging priorities. *BJPsych International*, 14(1), 1-4. <https://doi.org/10.1192/s2056474000001550>
- Mgutshini, T. (2010). Risk factors for psychiatric re-hospitalization: An exploration. *International Journal of Mental Health Nursing*, 19(4), 257-267. <https://doi.org/10.1111/j.1447-0349.2009.00664.x>
- Nontamo, S. (2019). *The experiences of professional nurses regarding patients who are repeatedly readmitted to a psychiatric hospital*. University of the Western Cape, Cape Town. Retrieved from <http://hdl.handle.net/11394/7044>
- Nxasana, T., & Thupayagale-Tshweneagae, G. (2014). Nurses' perceptions on the readmission of psychiatric patients one year after discharge. *Africa Journal of Nursing and Midwifery*, 16(1), 89-102. <https://doi.org/10.25159/2520-5293/1490>
- Pedersen, P., Søgaaard, H. J., Labriola, M., Nohr, E. A., & Jensen, C. (2015). Effectiveness of psychoeducation in reducing sickness absence and improving mental health in individuals at risk of having a mental disorder: A randomised controlled trial. *BMC Public Health*, 15(1), 1-12. <https://doi.org/10.1186/s12889-015-2087-5>
- Polit, D. F., & Beck, C. T. (2018). *Essentials of nursing research: Appraising evidence for nursing practice*. Philadelphia, PA: Lippincott Williams & Wilkins.
- Rummel-Kluge, C., & Kissling, W. (2008). Psychoeducation in schizophrenia: new developments and approaches in the field. *Current Opinion in Psychiatry*, 21(2), 168-172.
- Semahegn, A., Torpey, K., Manu, A., Assefa, N., Tesfaye, G., & Ankomah, A. (2020). Psychotropic medication non-adherence and its associated factors among patients with major psychiatric disorders: A systematic review and meta-analysis. *Systematic Reviews*, 9(1), 1-18. <https://doi.org/10.1186/s13643-020-1274-3>
- Shamsaei, F., Cheraghi, F., & Esmaeili, R. (2015). The family challenge of caring for the chronically mentally ill: A phenomenological study. *Iranian Journal of Psychiatry and Behavioral Sciences*, 9(3), e1898. <https://dx.doi.org/10.17795%2Fijpbs-1898>
- Sobekwa, Z. C., & Arunachalam, S. (2015). Experiences of nurses caring for mental health care users in an acute admission unit at a psychiatric hospital in the Western Cape Province. *Curationis*, 38(2), 1-9. <https://doi.org/10.4102/curationis.v38i2.1509>
- Srivastava, P., & Panday, R. (2016). Psychoeducation an effective tool as treatment modality in mental health. *The International Journal of Indian Psychology*, 4(1), 123-130. <https://doi.org/10.25215/0401.153>
- Substance Abuse and Mental Health Services Administration. (2018). *Key substance use and mental health indicators in the United States: Results from the 2017 National Survey on Drug Use and Health (HHS Publication No. SMA 18-5068, NSDUH Series H-53)*. Retrieved from Rockville, MD: <https://www.samhsa.gov/data/>
- Tilhowe, T. T., Du Plessis, E., & Koen, M. P. (2017). Strengths of families to limit relapse in mentally ill family members. *Health Sa Gesondheid*, 22(1), 28-35. <https://doi.org/10.1016/j.hsag.2016.09.003>
- Vasudeva, S., Kumar, M. S. N., & Sekhar, K. C. (2009). Duration of first admission and its relation to the readmission rate in a psychiatry hospital. *Indian Journal of Psychiatry*, 51(4), 280-284. <https://dx.doi.org/10.4103%2F0019-5545.58294>
- Vigod, S. N., Kurdyak, P. A., Seitz, D., Herrmann, N., Fung, K., Lin, E., . . . Gruneir, A. (2015). READMIT: A clinical risk index to predict 30-day readmission after discharge from acute psychiatric units. *Journal of Psychiatric Research*, 61, 205-213. <https://doi.org/10.1016/j.jpsychires.2014.12.003>
- WHO. (n.d.). Mental health in Brunei Darussalam. Retrieved from http://www.commonwealthhealth.org/asia/brunei_darussalam/mental_health_in_brunei_darussalam/

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Understanding stigma and coping strategies among HIV-negative Muslim wives in serodiscordant relationships in a Javanese community, Indonesia

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Abstract

Background: Although advanced treatment and accessibility of HIV/AIDS prevention and care have been increased, HIV-related stigma persists in the Indonesian community, especially among HIV-negative Muslim wives in a serodiscordant relationship. Therefore, understanding their coping strategies of the stigma is a necessity.

Objective: The study aimed to explore HIV-related stigma and coping strategies of HIV-negative Muslim wives in a serodiscordant relationship.

Methods: A qualitative study was conducted among seven HIV-negative Muslim wives in a serodiscordant relationship who experienced stigma. Data were collected by in-depth interview, and content analysis was used for data analysis.

Findings: Three themes emerged from the data. The first theme was the meaning of HIV/AIDS to Muslim wives, including perceiving HIV as a *wanita nakal* (immoral women) disease, perceiving HIV causes death, assuming herself as a carrier, and presuming HIV is less harmful than Diabetes Mellitus. The second theme was HIV-related stigma experiences, including being shunned by people, rejected by a midwife, and humiliated by a health worker. Finally, the third theme was coping strategies with the stigma, consisting of hiding the husband's HIV-positive status from the neighbors, disclosing HIV-positive status to a selective person, seeking support from the peer group, and strengthening the relationship among family members.

Conclusion: HIV/AIDS-related stigma affected people living with HIV/AIDS and their families, and it becomes a barrier to HIV/AIDS reduction programs in the marriage relationship. These findings will be beneficial to nurses and other health professionals to develop stigma reduction interventions related to HIV/AIDS.

Keywords

HIV-negative; Muslim wives; marriage relationship; HIV-related stigma; serodiscordant; nursing; Indonesia

Since 2005, HIV cases in Indonesia tend to increase every year. By the end of 2020, the cumulative number of people living with HIV/AIDS (PLWHA) was 419,551, spread throughout the nation ([Indonesian Ministry of Health, 2021](#)). The HIV prevalence was reported among many groups, such as drug users (4.3%), heterosexuals (30.8%), homosexuals (17.2%), prostitutes and their clients (68%) ([Indonesian Ministry of Health, 2021](#)). Therefore, it is indicated that HIV has already spread in the general community.

Of the total adult HIV infections, 33% are confirmed as women. It is estimated that the majority of them acquired the virus from their intimate partners. This condition indicates that many uninfected women have been living in serodiscordant relationships. In the area of HIV/AIDS, the term serodiscordant relationship is usually used to refer to a couple who engages in a relationship in which one partner is HIV-positive, and another partner is HIV-negative ([World Health Organization, 2012](#)). At the same time, uninfected women in serodiscordant relationships are extremely high

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risk of becoming infected. They also may be stigmatized by the community because of their partner's HIV status.

HIV-related stigma is one of the biggest challenges for PLWHA and their families. HIV/AIDS-related stigma has been seen worldwide, even though it manifests differently between individuals, groups, cultures, and countries. UNAIDS reported that more than 50% of people aged 15 to 49 having discriminating attitudes towards people living with HIV (UNAIDS, 2020). People perceive HIV/AIDS as misbehaving and immoral behaviors, such as drug use, sex workers, homosexuals, and transgender people. The HIV/AIDS prevention programs, which mainly focus on the high-risk groups or key populations, may contribute to exacerbates HIV-related stigma. As a result, those beliefs caused negative social judgment and discrimination for everyone with HIV positive and their family.

The stigma experienced by PLWHA and their family comes from close friends, neighbors, colleagues in workplaces, and healthcare workers (Putri et al., 2019; Juanamasta et al., 2020). Experiences of stigma are prevalent and include being subjected to gossip, rumors, and name-calling, and HIV-negative partners being labeled HIV-positive (Rispe et al., 2015). Another study has categorized the form of stigma experienced by HIV-negative partners as distancing, depreciation, violation of privacy, and accusation (Siegel et al., 2018). Goffman (1963) proposed stigma that affects those closely associated with stigmatized individuals and the group as a courtesy stigma.

In Indonesia, HIV-related stigma was initially started by the first case found when a Dutch homosexual tourist died in Bali in 1987. This first case made the Indonesian community perceived HIV as a foreign disease. Afterward, new cases of HIV were added by female sex workers in 1991. The new cases lead people to view HIV as a foreign and homosexual disease and as a disease of female sex workers. The stigma toward the latter group becomes a challenge for women in Indonesia, either they are HIV positive or a wife to a husband with HIV positive. A wife in a negative serodiscordant relationship is stigmatized by their community as if they share the same disease with their husband (Imelda, 2011).

HIV-related stigma is more pronounced in Indonesia, as a predominantly Muslim country. It happens because of the religious beliefs, in which most of the ways of HIV transmission violate religious prohibitions such as same-sex practices, extramarital sex, adultery, and drug use (Hasnain, 2005). Muslim society considers HIV/AIDS as a moral-religious issue rather than a health problem. Most people believe that HIV/AIDS is a punishment from God for violating society and religion (Badahdah, 2010). Regardless of the violation of forbidden behavior as the cause of the husband's HIV status, Muslim wives decided to continue their marriage (Agnes Yeni et al., 2020). The decision to stay in a serodiscordant relationship may cause psychological disruption among HIV-negative wives, such as anger toward their husbands since they knew their husbands' HIV-positive status during their marriage. They

also fear being infected and stigmatized (Larki, 2020). On the one hand, living in a serodiscordant relationship puts HIV-negative wives experienced courtesy stigma. On the other hand, their situation may lead them to be stigmatizers toward their husbands.

Numerous studies have explored HIV-related stigma and coping strategies among PLWHA. They faced HIV-related stigma by seeking social support, emotional support, practical support, and stigma-reducing interventions (Chambers et al., 2015; Anima-Korang et al., 2018). They also did selective disclosure to their family, friends, HIV activists, and health care providers as a positive coping strategy (Kumar et al., 2015; Mendelsohn et al., 2015). However, there is still a lack of explanation of the HIV-negative wives' experiences disclosing their serodiscordant relationship. One qualitative study described that HIV-negative wives disclosed their husband's HIV-positive status to a limited person to avoid negative experiences from family, friends, and health care providers (Larki, 2020). The fear of HIV-negative wives disclosure their serodiscordant relationship, especially to nurses and other health care providers, may become a challenge for HIV prevention programs within a household. As a care provider who counsels Muslim wives on HIV testing, a nurse needs to understand HIV-related stigma among Muslim wives and their coping strategies to develop HIV prevention programs or interventions.

Methods

Study Design

The study was a part of the doctoral dissertation entitled 'sexual negotiation for HIV prevention among Muslim married women within serodiscordant relationships in the Indonesian socio-cultural context' using a grounded theory approach (Agnes et al., 2018).

Participants

The study initially used purposive and snowball sampling approaches to recruit participants. Seven of the total HIV-negative wives with experiences of HIV-related stigma were selected from the more extensive study. The eligibility for participation was chosen by following inclusion criteria: being a wife with an HIV-positive husband (based on the Non-Governmental Organization (NGO) / Voluntary and Counseling Testing (VCT) clinic reports), being married for at least one year, and was taken an HIV test at least twice. There were two pathways to obtain access to the eligible participants. The first recruitment pathway was through VCT clinics at public hospitals in two towns (Blitar District and Kediri Municipality). The second recruitment pathway was through Non-Government Organizations (NGOs) working on HIV/AIDS (all members of the NGO were HIV-positive) (Figure 1).

Data Collection

Data were collected over 15 months between April 2016 and July 2017 through in-depth interviews, observation,

and field notes. Each participant was interviewed by the researchers at least twice, mainly at the participants' homes. Each interview was about 60 minutes and recorded using a digital recorder. A guideline for the interview in open-ended questions in *Bahasa Indonesia* was used. The sample questions included "what did you perceive about your husband's illness"? "what was your family's reaction when they knew your husband's HIV status?" Recorded interviews were transcribed verbatim in *Bahasa Indonesia* for analysis. In addition, participants' behavior and nonverbal communication during the interviews were recorded in the field notes. Data collection and data analysis proceeded simultaneously until no more new information.

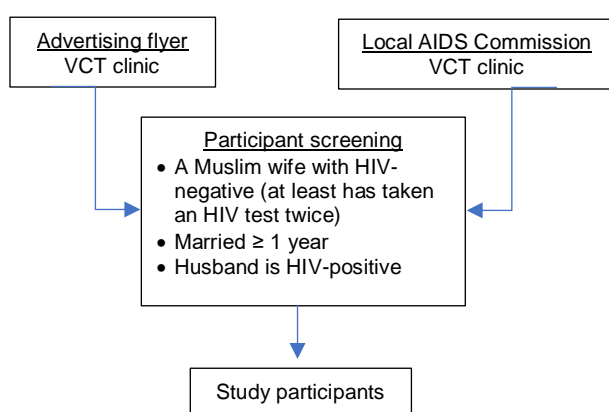


Figure 1 A pathway of participants' recruitment

Data Analysis

Data were analyzed according to the guidelines of constructivist grounded theory with the process of initial coding, focusing coding, theoretical coding, memo writing, theoretical sampling, saturation, and ordering memos (Charmaz, 2006). Line-by-line coding was applied for all the manuscripts in the initial coding. All of the codes from the transcripts were written down in different electronic worksheets to develop preliminary categories. In the process of focused coding, the researchers reviewed the codes used by the participants from the initial coding. During this process, memo writing was performed, and all codes from the initial coding were reviewed and grouped similar codes into preliminary subcategories. One core category was determined in the theoretical coding process. The saturation was reached when the researcher extended to sample and code data until no new categories can be identified and up to when new cases of variation for the existing categories have stopped arising (Kyngäs et al., 2020).

Trustworthiness/Rigor

For a study to be trustworthy, Patton (2015) identifies five essential elements; credibility, authenticity, dependability, conformability, and transferability. To increase conformability, the researchers can use processes such as data audits (Patton, 2015). In this study, the various forms of data were collected from personal interviews and

observations. The participants' quotes were used to confirm the categories, in which used in theory. Therefore, the categories emerged from the participants' experiences and were not solely based on the researcher's interpretation. To ensure dependability, detailed memos before the beginning, during the planning stages, during the discussion sessions, after each session were provided. Peer review with faculty advisors to confirm emerging themes also helped to support the dependability of the results. To ensure credibility and conformability, a member checks whether the codes and categories were valid to the participants' experiences. The participants performed a second review of the codes, grouped codes, and concepts as a member check. The intent of transferability is to transfer findings from one context to another. By offering rich narratives and thick descriptions of context and participants and clearly stating the purpose of the study, transferability to other individuals and/or situations becomes a viable result of the qualitative research process (Patton, 2015). In this study, a prolonged engagement with the participants and their atmosphere helped the researcher gain their trust and more personal data.

Ethical Consideration

The study was approved by an Institutional Review Board committee of University No MOE 0521.1.05/2148. All participants were informed of the study's objective, and they signed a free and informed consent form. They also were informed about the purpose and the nature of the study, participant's rights, confidentiality, and potential risks of the study. All information was delivered through oral and information sheets. Oral information was provided in two languages, both Javanese (the local language in the study setting) and "Bahasa Indonesia" (national language). The crucial issue in joining the study was that some husbands wanted to accompany their wives whenever the researchers did the interview. In this case, the researchers placed the husband in a different area but still at the exact location of the interview and asked the HIV/AIDS activists to accompany the husband during the interview.

Results

Characteristics of the Participants

The key participants of the study were seven married Muslim women with HIV-positive husbands. The participants' age ranged between 26 and 48 years old. Javanese was the most common ethnicity of the participants (100%). The majority of the participants (57%) were housewives, in nuclear families (87%) and extended families (13%). All of the participants reported knowing their husbands' HIV-positive status during their marriage.

Thematic Findings

Three themes emerged from the data based on the aim of the study: 1) the meaning of HIV/AIDS to Muslim wives, 2) HIV-related stigma experiences, and 3) Muslim wives' coping with HIV-related stigma (Figure 2).

Theme 1: Meaning of HIV/AIDS to Muslim wives

Muslim wives' perceptions of HIV/AIDS had been shaped by the negative perception of HIV/AIDS in society. All of the participants associated HIV/AIDS with immoral behaviors, such as sex workers. Some participants perceived they might be responsible for their husbands' illness because of their history as international migrant workers. Another participant perceived that her status as a divorcee might lead her recent husband to get HIV. They also believed that people with HIV/AIDS would be dying soon after the diagnosis. However, some participants were less worried about their husband's illness because they compared it to another disease.

Perceiving HIV as a '*wanita nakal*' (immoral women) disease

Participants' perceptions about HIV might represent how society stigmatized HIV/AIDS as a *wanita nakal* (immoral women) disease. In the participants' community, *wanita nakal* (immoral women) was identified as female sex workers (FSWs). Therefore, they perceived that only *wanita nakal* could get the disease. As a result, they could not believe it when they received their husband's diagnosis. The following participant's quotation was an example of the participant's perception of HIV/AIDS:

When my husband told me he got HIV, I did not believe it. At that time, I believed only *wanita nakal* could get the disease. That is what people said about HIV (Mrs. L, age 36)

Assuming herself as a carrier of HIV

Two of the participants were concerned they might be blamed for their husbands' illness. They perceived having some responsibilities because of their backgrounds. Being a divorcee and a migrant worker made them feel that they had put their husbands at risk of HIV transmission. The participants talked about their worries:

I thought he got HIV from me, yet I never had sex with other men before he married. Still, if people knew he got HIV, they would blame me because I used to work as a migrant worker in Taiwan. People said that if someone used to work as a migrant worker, she might have HIV (Mrs. W, age 43)

For me, I could tell that I might also share the risk fifty-fifty since I was a divorcee when I married him so that I could transmit the disease as well (Mrs. R, age 26)

Perceiving HIV causes death

Most of the participants believed that HIV was like a death sentence. People living with HIV/AIDS (PLWHA) would die soon. For example, some of the participants thought they would lose their husbands soon because, at the time they received the news about their husband's HIV-positive status, their husbands were very sick. For example, Mrs. I, a 42-year-old housewife, explained her worries as follows:

I felt shocked when I heard about my husband's HIV status for the first time. At that time, I thought my husband would die soon. I cannot imagine how I would be bringing up my son alone if he died (Mrs. I, age 42)

Presuming HIV is less harmful than Diabetes Mellitus

Two participants perceived the HIV was better than Diabetic Mellitus (DM). The meaning was relatively favorable for self, influenced by health care providers who advised their husband's illness was HIV-positive. They also got information that DM was more dangerous than HIV/AIDS. They explained their husbands' HIV-positive status to their families by using this comparison. Some of the participants shared their understanding of HIV/AIDS:

For me, HIV is not easily contagious. Diabetes is a more dangerous disease than HIV (Mrs. T, age 45)

Our families knew about my husband's HIV status and accepted. There was no negative response. The doctor said my husband's illness was less severe than diabetes (Mrs. S, age 48)

Theme 2: HIV-related stigma experiences

The participants had many bad experiences related to their husband's HIV-positive status. Being shunned and away from others was a shared experience. People rejected and avoided HIV-positive persons and their families, even if the family members were HIV-negative. Another participant was rejected by a health care provider when she wanted to do antenatal care and get a vaccine for her children. The HIV-related experiences of the participants can be categorized into:

Being shunned by people

Most of the participants experienced being avoided by their extended family, neighbors, and coworkers when the news about their husband's HIV status spread thoroughly. For example, one of the participant's families who lived next to the participant was relocated to another place to avoid her husband.

Being shunned by neighbors

Our neighbors did not want to talk to us. When I tried to talk to them, they would answer from a distance as necessary. It was better than before. At first, my neighbors did not want to speak to us when my husband was just released from the hospital. They did not want to visit us. All of my neighbors already knew that my husband is HIV-positive (Mrs. Sun, age 41)

Being shunned by family

Even two of my husband's siblings and their family moved out from their home since our houses are close. They moved out to another place since my husband was released from the hospital. They stayed with one family for a while then went to another family. They were very worried my husband would transmit the disease to them. They perceived that the disease would be transmitted through the water. Very funny (Mrs. Y, age 35)

The worst thing was that his siblings did not want to visit him, but they also prevented people from visiting us. Those people said that they would get the disease by talking to us. My relatives had the same opinion (Mrs. Sin, age 41)

Being shunned by coworkers

Even though my husband works at *Puskesmas* (Primary Health Care service), his coworkers are avoiding him since he

knows he is HIV-positive. I do not know why they act like that. They work at a health care service. They should know better about HIV/AIDS than we (ordinary people) do. However, what can I do? It is difficult to change people's minds (Mrs. Sun, age 41).

Being rejected by a midwife

One of the participants received discrimination from the midwives during her pregnancy because of her husband's HIV-positive status. As a result, she was rejected when she came to a midwife for a pregnancy check-up.

We found out about my husband's HIV status when I was pregnant with my second child. I did not know where the midwives got the news. She rejected me when I came to the clinic for a pregnancy check-up. She asked me to go to the hospital instead. I felt hurt. The hospital is very far... Very, very far. It would take more than one hour to go there, and the road is not in good condition. I told her that my HIV status is negative. However, she still insisted I should go to the hospital for a pregnancy check-up. She is a health care provider. She should know better. Why she treats me like that? It was getting worst when I was pregnant with my third child. After we knew about his HIV and all the bad experience we had during my second pregnancy, we decided not to have another child. However, Allah has another plan for us. I was pregnant again. All the midwives in our area refused to do a pregnancy check-up on me. (Mrs. Lk, age 36)

One of the midwives even scolded me about my pregnancy. She claimed that I should not be pregnant again because of my husband's HIV status. I felt hurt, really hurt. The midwife even did not want to immunize my children (Mrs. Lk, age 36)

Furthermore, Mrs. Lk was very upset with the midwives because of the irrational accusation about the cause of her husband's illness.

So, when I was pregnant with my second child, a midwife came to our house because of my pregnancy and my husband's HIV status. At that time, she asked us many things related to HIV/AIDS as if she did not know about it. Then she railed on my husband's HIV status. It seems she accused my husband has had sex with a sex worker from whom my husband got HIV. I was very mad at her. She did not know my husband, yet she accused him. I was upset, but I said nothing at that time. (Mrs. Lk, age 36)

Theme 3: Coping strategies of HIV-related stigma

In this study, all of the participants tried to be strong for their families. As a wife, all of the participants were being main caregivers for their husbands. Some participants chose to talk to their families, while other participants kept the news to themselves. Some participants came to their families (parents, siblings, brothers-in-law, sisters-in-law) to find the strength to face their new life with their HIV-positive husbands.

Hiding the husband's HIV-positive status from the neighbors

Hiding the husbands' HIV-positive status was a main concern for the participants. In their situation, they could not

leave their husbands without revealing their husbands' HIV-positive status to their family and friends. They could not use their husbands' illness as a reason to leave their husbands. Instead, they chose to commit to their husbands and marriages. Three participants decided to keep news about their husbands' illness for themselves. They did not want their extended families and neighbors to hear about their husbands' illness. The participants believed that if people knew about their husbands' HIV status, their families would avoid them. They felt shame because HIV was an immoral disease. One participant, a 36-year-old housewife, explained her situation as follows:

I did not tell anyone about my husband's illness, even my own family. I kept it for myself; I did not tell my neighbors. No one knew about my husband's illness. It would be a shame if my neighbors knew about it. They would avoid my family as well (Mrs. Li, age 36)

Another participant, a 46-year-old housewife, mentioned that she kept her husband's illness from her family and neighbors. She told them that her husband got chronic gastritis whenever her neighbors asked about her husband's illness.

I told my daughter and neighbors that my husband gets chronic gastritis. I did not want my daughter to know about her father's illness. It will make her upset. If my neighbors know about my husband's illness, I am worried that they avoid my family. Whenever they come to visit my husband, they always asked about his illness. I just told them that he has chronic gastritis. They seemed to believe it (Mrs. MA, age 46)

Disclosing HIV-positive status to a selective person

Disclosing to a selective person referred to an act of telling a certain person whom they believed could be trusted to keep their secret and also to get the support they needed. Four participants shared the news of their husbands' illness with their families. They revealed their husbands' HIV-positive status to their brothers or sisters-in-law, their children, parents, and extended families. The following participants' quotations provide examples:

Until now, we only tell our firstborn and my husband's twin. When I told my firstborn about his father's illness, he was also shocked. Fortunately, since he is a grown-up, we ask him to keep the news for himself (Mrs. Sun, age 41)

I told my husband I could not bear the news alone, and I asked him whom we should tell about his illness. There are two choices, his mother and his older sister. Then he decided to tell his older sister. So, when his sister came to visit, we told her that he got HIV (Mrs. Sy, age 41)

I told my sister-in-law about my husband's illness. She is supporting us financially and took care of all the hospital bills. She was very grateful to me because I took care of his brother and did not leave him after he got the illness (Mrs. At, age 38)

Furthermore, one of the health care providers stated that disclosing their husbands' HIV-positive status was an

important factor in the household. The HIV disclosure was the first step the husband took to protect the wife from HIV.

The first thing is that the husband has to open up to his wife. There were many cases in which the husbands came to the clinic and took the test. After they knew the result, they kept it to themselves. The husbands did not want to inform their wives. In the end, their wives knew their husband's HIV status after the husband had passed away. Some of the wives came to the hospital because they had similar symptoms before the husband died. One wife took an HIV test, and the result was positive (Counselor, age 30)

However, the disclosure of the husband's HIV-positive status has its consequences. Two of the participants were suggested by their families to leave their husbands when informed of their husbands' illness.

When my mother knew about my husband's illness, she asked me to divorce him (Mrs. R, age 26)

In the end, I talked to my siblings. Some of my siblings suggested I divorce my husband. Other siblings said I had to consider my financial situation if I wanted to divorce him since I have no job, and there is a huge need for my children's education. I was very confused (Mrs. Nur, age 45)

Moreover, other participants were avoided by their extended family after they knew about their husbands' HIV-positive status. They explained that their extended family did not come to visit their husbands anymore. Some of the extended family only called them by phone to update them on the news about their husbands. In Javanese culture, it is very common for family members to take care of each other whenever their family is in a difficult situation. Member of the family does not wait to be asked for help. They will come and by themselves and do everything that needs to be done based on their capability. One participant, a 35-year-old housewife, explained the attitude of her extended family after they knew about her husband's HIV-positive status.

When my husband was hospitalized, I went along with him; and left my children at home by themselves. There was no one to step in and take care of my children. In the past, before my husband's family knew about his HIV status, they always took care of my children whenever my husband was admitted to hospital. I felt miserable (Mrs. Y, age 35)

Seeking support from the peer group

The participants communicated with the peer group facilitators for PLWHA since they often come together with their husbands to attend a monthly meeting. They found out the peer group was beneficial. The participants felt free to discuss their husbands' illness with the peer group's facilitator because they were in the same situation. The peer group support made them able to deal with their husband's illness easier. Having someone on whom they could depend relieved their worries. One participant, a 41-year-old kindergarten teacher, expressed her feelings as follows:

Alhamdulillah (thanks to Allah), Joko (a facilitator from a peer group), is always there whenever I want to talk about my husband's illness. It is impossible to talk to my family or my neighbor if something happens to my husband. I always call Joko. I do not know what I would do with my husband if there were no Joko. Alhamdulillah, he can always be reached. So, whenever I want to ask something, I call him. I only can consult with my husband's doctor when we visit the clinic. Joko is very helpful (Mrs. Sun, age 41)

Strengthening relationship among family members

The participants decided to share the news with other family members because of the need for support for being a caregiver and helping if something happened to their husbands and they could not face it alone. They obtained varied responses from their families. The responses might indicate how close the relationship between the participants and their families is. Five participants gained support from their husbands' families.

I told my husband's brothers about his illness, and they helped me take care of him every day (Mrs. T, age 45)

I told my eldest son about his father's illness to help me if something happens to my husband. By knowing his father's illness, I want my son will be more careful. My son always drives his father to the hospital for a monthly check-up and to take medicine. He has the right to know about his father's illness (Mrs. Sun, age 41)

I told my kids that their father got HIV. I need their help to take care of him. I do not want my kids to hear about their father's illness from others. Even though my kids are angry about the current situation, they are always eager to help me when I need it (Mrs. L, age 36)

Discussion

This study sought to understand the experiences of HIV-related stigma faced by HIV-negative Muslim wives in serodiscordant relationships and their coping strategies. All of the participants perceived that HIV is a '*wanita naka*' (immoral women) disease. Their perception was congruent with a previous study that found two HIV-positive sex workers in a brothel in Surabaya, East Java Province, Indonesia. Since then, the Indonesian community has begun to perceive HIV as a disease of female sex workers, known as 'women without morals' (*wanita tuna susila*) (Imelda, 2011). This negative perception is so bad that when women were found to have HIV, they were accused of immoral sexual behavior and rebellious toward religious teachings. However, if the husband got HIV, the wife was accused because of her incapability to fulfill her husband's sexual needs, which lead the husband to seek sex with another woman (Sciortino et al., 1996). Some of the participants even assumed they were the ones who had transmitted HIV to their husbands because of their background before marriage. They perceived that being a widow and ex-female migrant worker put them at risk of HIV carriers. All of the participants had married Javanese men and lived in the Javanese community. Their marital

relationships within the Javanese family are influenced by Javanese culture in which women should support their husbands; they remained to idealize a *ngabekti-ngayomi* (devotion-protection) relationship with the husband. This philosophy affected how the participants reacted and took action in overcoming the problems caused by the stigma.

The findings showed that HIV-negative Muslim wives experienced several forms of HIV-related stigma after people knew about their husband's HIV- status. They were avoided by their family, neighbors, and coworkers. As shown in other studies, stigmatization was often based on fear of contracting the disease (Siegel et al., 2018; Mahamboro et al., 2020). Being rejected by health care providers was also another experience faced by the participants. As reported in previous studies, the rejection is most likely because of a lack of knowledge about the transmission and irrational judgment of the health care providers (Chambers et al., 2015; Qonitatillah et al., 2020). Since HIV/AIDS and reproductive health are mandatory in every health education program in Indonesia, the lack of knowledge and irrational judgment related to HIV/AIDS are noteworthy.

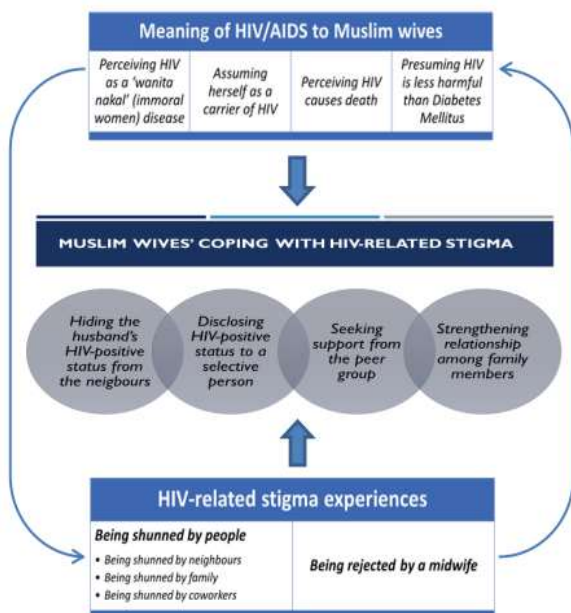


Figure 2 HIV-related stigma and coping strategies among HIV-negative wives

Furthermore, the study also found that some of the participants were advised to leave their husbands to avoid transmission. Another reason was because of people's perception of HIV/AIDS. This finding is similar to several previous studies when family and friends suggested the HIV-negative party leave their partner (Bourne et al., 2017; Siegel et al., 2018). In this study, Islamic and Javanese values might play a role in participants' decision to not leaving their husbands. In Islam, marriage is a religious task and is consequently a moral safeguard because families are established through marriage (Dogarawa, 2009). Therefore, while a divorce is allowed in Islam, it is most hated by Allah (Abu Dawud and Ibn Majah as cited in

Jaafar-Mohammad & Lehmann, 2011). Furthermore, Indonesian society has a stigma attached to being a widow (*janda mati*) or divorcee (*janda cera*). Society has stigmatized a *janda* (a widow or divorcee) as an immoral woman. It is hard for such a person to hold herself as a respectable woman (Parker et al., 2016).

Regardless of the bad experiences of HIV-related stigma, HIV-negative Muslim wives were able to produce some strategies. They overcome the stigma by disclosing their husband's HIV status to a certain person, which is beneficial. All of the participants shared their husband's HIV status with someone (family members, close friends) to prepare themselves if the worst happens and get the help they needed. This finding is supported by a previous study that people will gain a support system when they disclose their situation to family, friends, and coworkers (Kasapoglu et al., 2011).

Furthermore, some of the participants also connected to the peer group of PLWHA to gain more knowledge related to serodiscordant relationships. They felt comfortable discussing their situation among people with the same situation as them. As described in another study, when HIV-negative partners in serodiscordant relationships fear rejections from their family or friends, they may choose to seek support within their HIV-positive partners' peer group or HIV community organizations (Talley & Bettencourt, 2010).

The researchers found there were some limitations in this study. First, this study focused on HIV-negative Muslim women with HIV- positive husbands in the Javanese community. Another limitation was that the women participants were asked to recall events that could have occurred several years ago. Therefore, it is necessary to acknowledge serodiscordant couples in other ethnicities and explore their experiences toward HIV-related stigma.

Conclusion

The study identified several ways to address HIV-related stigma among HIV-negative Muslim wives. Since the stigma is experienced by persons differently, it should be addressed from different angles and aspects. The findings are important as supporting serodiscordant couples can be beneficial in the fight against HIV/AIDS and HIV-related stigma. Therefore, a study on the experiences of HIV-related stigma among HIV-negative Muslim wives in a serodiscordant relationship and their strategies to manage HIV-related stigma was very much needed. In addition, this study contributed to nursing science by providing nurses with an understanding of the experience of disclosure of HIV-negative wives in a serodiscordant relationship in a Muslim context. Nurses in the community played an essential role in decreasing the number of HIV infections among married women.

Declaration of Conflicting Interest

The authors declare there is no conflict of interest associated with this publication.

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Authors' Contributions

YLNA: Conceived the study, generated and analyzed data, drafted and edited the manuscript. PS: Supervised the research, provided important intellectual content, and edited the manuscript.

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Data Availability Statement

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

References

- Agnes Yeni, L. N., Songwathana, P., & Perngmark, P. (2020). A grounded theory study of how Muslim wives adapt to their relationships with husbands who are HIV-positive. *Pacific Rim International Journal of Nursing Research*, 24(2), 187-201.
- Agnes, Y. L. N., Songwathana, P., & Perngmark, P. (2018). *Sexual negotiation for HIV prevention among Muslim married women within serodiscordant relationships in the Indonesian socio-cultural context*. (Unpublished doctoral dissertation), Prince of Songkla University, Hatyai, Thailand.
- Anima-Korang, A., Gere, B. O., & Salimi, N. (2018). Stigma and discrimination: Coping strategies for persons living with HIV/AIDS in rural America. *IAFOR Journal of Psychology & the Behavioral Sciences*, 4(1), 33-44. <https://doi.org/10.22492/ijpbs.4.1.03>
- Badahdah, A. M. (2010). Stigmatization of persons with HIV/AIDS in Saudi Arabia. *Journal of Transcultural Nursing*, 21(4), 386-392. <https://doi.org/10.1177%2F1043659609360873>
- Bourne, A., Owuor, J., & Dodds, C. (2017). Intimacy, support and social connectivity: Experiences of HIV serodiscordant relationships among black African people living in England. In A. Persson & S. D. Hughes (Eds.), *Cross-cultural perspectives on couples with mixed HIV status: Beyond positive/negative* (pp. 111-124). Switzerland: Springer.
- Chambers, L. A., Rueda, S., Baker, D. N., Wilson, M. G., Deutsch, R., Raeifar, E., & Rourke, S. B. (2015). Stigma, HIV and health: A qualitative synthesis. *BMC Public Health*, 15(1), 1-17. <https://doi.org/10.1186/s12889-015-2197-0>
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. London, UK: Sage Publications Ltd.
- Dogarawa, A. B. (2009). *Marriage and divorce in Islam*. Paper presented at the NTA/FRCN Ramadan Annual Lecture Series 1430. <https://mpira.ub.uni-muenchen.de/23194/>
- Goffman, E. (1963). *Stigma: Notes on the management of spoiled identity*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Hasnain, M. (2005). Cultural approach to HIV/AIDS harm reduction in Muslim countries. *Harm Reduction Journal*, 2(1), 1-8. <https://doi.org/10.1186/1477-7517-2-23>
- Imelda, J. (2011). *Mobilizing motherhood: A case study of two women's organizations advocating HIV prevention programs in Indonesia*. (PhD Thesis), Amsterdam Institute for Social Science Research (AISSR), Amsterdam. Retrieved from <https://hdl.handle.net/11245/1.363831>
- Indonesian Ministry of Health. (2021). *Laporan perkembangan HIV/AIDS dan Penyakit Menular Seksual (PIMS) triwulan IV tahun 2020 [Progress report of HIV/AIDS and STDs trimester IV year 2020]*. Retrieved from https://siha.kemkes.go.id/portal/files_upload/Laporan_Perkembangan_HIV_AIDS_dan_PIMS_Triwulan_III_Tahun_2020.pdf
- Jaafar-Mohammad, I., & Lehmann, C. (2011). Women's rights in Islam regarding marriage and divorce. *Journal of Law and Practice*, 4(1), Article 3.
- Juanamasta, I. G., Nursalam, N., Efendi, F., & Erwanyah, R. A. (2020). Stigma of people living with HIV/AIDS. *NurseLine Journal*(2), 154-162. <https://doi.org/10.19184/nlj.v4i2.12107>
- Kasapoglu, A., Saillard, E. K., Kaya, N., & Turan, F. (2011). AIDS related stigma in social relations: A qualitative study in Turkey. *Qualitative Report*, 16(6), 1496-1516. <https://doi.org/10.46743/2160-3715/2011.1314>
- Kumar, S., Mohanraj, R., Rao, D., Murray, K. R., & Manhart, L. E. (2015). Positive coping strategies and HIV-related stigma in south India. *AIDS Patient Care and STDs*, 29(3), 157-163. <https://doi.org/10.1089/apc.2014.0182>
- Kyngäs, H., Mikkonen, K., & Kääriäinen, M. (2020). *The application of content analysis in nursing science research*. Switzerland: Springer Nature.
- Larki, M. (2020). Living with discordance: A qualitative description of the challenges faced by HIV negative married women. *International Journal of Community Based Nursing and Midwifery*, 8(2), 103-115. <https://doi.org/10.30476/ijcbrn.2020.82845.1093>
- Mahamboro, D. B., Fauk, N. K., Ward, P. R., Merry, M. S., Siri, T. A., & Mwanri, L. (2020). HIV stigma and moral judgement: Qualitative exploration of the experiences of HIV stigma and discrimination among married men living with HIV in Yogyakarta. *International Journal of Environmental Research and Public Health*, 17(2), 636. <https://doi.org/10.3390/ijerph17020636>
- Mendelsohn, J. B., Calzavara, L., Daftary, A., Mitra, S., Pidutti, J., Allman, D., . . . Myers, T. (2015). A scoping review and thematic analysis of social and behavioural research among HIV-serodiscordant couples in high-income settings. *BMC Public Health*, 15(1), 1-18. <https://doi.org/10.1186/s12889-015-1488-9>
- Parker, L., Riyani, I., & Nolan, B. (2016). The stigmatisation of widows and divorcees (janda) in Indonesia, and the possibilities for agency. *Indonesia and the Malay World*, 44(128), 27-46. <https://doi.org/10.1080/13639811.2016.1111677>
- Patton, M. Q. (2015). *Qualitative research and evaluation methods* (4th ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Putri, D. K., Malini, H., & Basmanelly, B. (2019). Living with HIV/AIDS: Stigma and social discrimination. *Jurnal The Messenger*, 11(1), 10-17. <https://doi.org/10.26623/themessenger.v11i1.875>
- Qonitallah, J., Handayani, S., Ernawati, E., & Rusli, M. (2020). Lower perceived-stigmatization by health workers among HIV-AIDS patients of key population backgrounds. *Indonesian*

- Journal of Tropical and Infectious Disease*, 8(2), 90-100. <http://dx.doi.org/10.20473/ijtidd.v8i2.15425>
- Rispel, L. C., Cloete, A., & Metcalf, C. A. (2015). 'We keep her status to ourselves': Experiences of stigma and discrimination among HIV-discordant couples in South Africa, Tanzania and Ukraine. *SAHARA: Journal of Social Aspects of HIV/AIDS Research Alliance*, 12(1), 10-17. <https://doi.org/10.1080/17290376.2015.1014403>
- Sciortino, R., Marcoes Natsir, L., & Mas' udi, M. F. (1996). Learning from Islam: Advocacy of reproductive rights in Indonesian pesantren. *Reproductive Health Matters*, 4(8), 86-96. [https://doi.org/10.1016/S0968-8080\(96\)90305-5](https://doi.org/10.1016/S0968-8080(96)90305-5)
- Siegel, K., Meunier, É., & Lekas, H.-M. (2018). The experience and management of HIV stigma among HIV-negative adults in heterosexual serodiscordant relationships in New York City. *AIDS Care*, 30(7), 871-878. <https://doi.org/10.1080/09540121.2018.1441971>
- Talley, A. E., & Bettencourt, B. A. (2010). A relationship-oriented model of HIV-related stigma derived from a review of the HIV-affected couples literature. *AIDS and Behavior*, 14(1), 72-86. <https://doi.org/10.1007/s10461-008-9493-y>
- UNAIDS. (2020). *UNAIDS data 2020*. Retrieved from <https://www.unaids.org/en/resources/documents/2020/unaids-data>
- World Health Organization. (2012). Guidance on Couples HIV Testing and Counselling (CHTC). Retrieved from <http://www.who.int/hiv/pub/guidelines/9789241501972/en/index.html#>
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Psychosocial factors and burnout among oncology nurses in Brunei Darussalam: A pilot study

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Abstract

Background: Existing evidence showed that adverse psychosocial factors contribute to burnout in oncology nurses and impose profound implications to nursing practice. Due to the complexity of this relationship, more studies are still needed.

Objective: To investigate the prevalence and relationship between burnout and psychosocial factors among oncology nurses.

Methods: A descriptive cross-sectional study design was conducted in 2018 using the Maslach Burnout Inventory and the Copenhagen Psychosocial Questionnaire to measure burnout and psychosocial factors, respectively. Descriptive and multivariate regression using maximum likelihood procedures were used for analysis.

Results: Out of three burnout variables, emotional exhaustion demonstrated a highly significant relationship towards psychosocial factors, particularly quality of leadership ($p < 0.001$), justice and respect ($p < 0.001$), and rewards ($p < 0.001$) – congruent to a high prevalence of emotional exhaustion reported.

Conclusion: Improvement in leadership quality, rewards, justice and respect could minimise emotional exhaustion among oncology nurses. These findings further inform management and policymakers to target these specific psychosocial factors in addition to using other interventions to counter the harmful effects of burnout. A positive psychosocial workplace would consequently decrease the risk of nurses' intention to leave, reduce nurse shortages, and increase the quality of patient care.

Keywords

burnout; psychosocial factors; cross-sectional studies; oncology; leadership; respect; nursing; Brunei

Burnout is a chronic response to emotional and interpersonal stressors on the job and is defined by the three dimensions of personal accomplishment, emotional exhaustion and depersonalisation (Maslach & Leiter, 2008). It has been established that burnout is highly prevalent among nurses (Cañadas-De la Fuente et al., 2015). A systematic review by Gómez-Urquiza et al. (2016) showed that nurses present high levels of emotional exhaustion and reduced personal accomplishment. In particular, oncology nurses experience moral distress and burnout because of the intensity and proximity to pain, suffering, and death. In

addition, these nurses experiencing burnout often have higher levels of emotional exhaustion (Cheng et al., 2015; Kutluturkan et al., 2016).

Consequences of burnout, such as chronic fatigue and impaired health, have serious implications on both patients' and nurses' safety. For example, high emotional exhaustion and depersonalisation are significantly associated with low patient safety grades (Halbesleben et al., 2008) and anxiety/insomnia, social dysfunction and severe depressive symptoms (Khamisa et al., 2015). Burnout could also lead

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to a shortage of nurses specialising in cancer care since it increases the intention to leave the profession (Lin, 2012).

A previous study has demonstrated promising evidence that burnout could be ameliorated by improving the psychosocial work environment, such as rewards received, reduced work-family conflict, and increased leadership quality (Rahman et al., 2017). However, due to the multi-dimensional factors in the psychosocial work environment, which consists of 28 factors (Kiss et al., 2013). This complex relationship warrants further research to improve understanding and design better interventions. In Brunei, no study has examined burnout among oncology nurses, and this research is timely to shed light on these nurses' levels of burnout. Brunei adopts universal healthcare services where the citizens enjoy free health services. With a large influx of patients at the only cancer centre, it becomes necessary to measure the burnout of nurses, particularly oncology nurses, where evidence is non-existent. Therefore, this study aimed to investigate the relationship between burnout and psychosocial factors in oncology nurses. The secondary aim was to estimate the prevalence of burnout among oncology nurses in the main cancer care centre in Brunei.

Methods

Study Design and Participants

This was a cross-sectional study using self-administered questionnaires on all oncology nurses working in the main cancer care centre.

Instruments

The questionnaire consisted of three sections: First part is the demographic data which collects participants' age, gender, and nationality, duration of work experience, highest qualification, designation, and working hours. The second part gathers data on burnout using the Maslach Burnout Inventory (MBI), and the third part collects data on psychosocial factors using The Copenhagen Psychological Questionnaire (COPSOQ II).

The English version of the Maslach Burnout Inventory (MBI) questionnaire was developed by Maslach and Jackson (1981). The MBI questionnaire was obtained from the Mind Garden website, and permission to use it was granted upon purchasing the License to Produce. It addressed three subscales, namely 1) emotional exhaustion, which measures feelings of being emotionally overextended and exhausted due to work, 2) depersonalisation which measures the unfeeling and impersonal response towards one's service and care treatment; and 3) personal accomplishment, which measures one's successful achievement and competency at work. MBI is a 22 item questionnaire established to measure burnout of people whose job description involved human services (Maslach et al., 2001).

The English version of the Copenhagen Psychological Questionnaire (COPSOQ II) was developed by the National Research Centre for the Working Environment, Denmark.

COPSOQ II was obtained from National Research Centre for the Working Environment website and can be used freely for research purposes. The medium version of COPSOQ II was used for this research. It has 87 items measuring 28 psychosocial factors, including quantitative demands, work pace, emotional demands, influence, possibilities of development, the meaning of work, commitment to the workplace, predictability, rewards (recognition), role clarity, role conflicts, quality of leadership, social support from supervisor, social support from colleagues, the social community at work, job satisfaction, work-family conflict, trust regarding management, mutual trust between employees, justice and respect, self-rated health, burnout, stress and sleeping troubles. In addition, offensive behaviours are also to be assessed, including sexual harassment, threats of violence, physical violence and bullying (Kiss et al., 2013).

Data Collection

Data were collected from February to March 2018. All oncology nurses at the only cancer centre in Brunei were recruited for this study. Seventy-one sets of self-administered questionnaires were distributed by the researchers.

Data Analysis

A validation procedure was conducted to re-establish validity and reliability estimates of MBI. Inter-scale correlation (correlation matrix), corrected item-total correlation (CITC), average variance extracted, and Cronbach's alpha were computed to establish discriminant validity, convergent validity, composite reliability and internal consistency reliability, respectively. In addition, Cronbach's alpha coefficient and CITC were also established for COPSOQ II.

Descriptive statistics were calculated for the characteristics of participants. Missing data were replaced with centred mean due to small (less than 5%) missing values. The scores of MBI was reported using proportion based on the categorisation of high, moderate or low. The scores of COPSOQ II were reported using mean and standard deviation for numerical scales and frequency and percentage for categorical scales. Multivariate regression (Structural Equation Modelling) using maximum likelihood procedures (bootstrapping with 1000 subsample and 95% confidence interval) was performed to determine the relationship between psychosocial factors and burnout variables. Statistical analysis was computed with IBM|SPSS v21 and IBM|AMOS v.25. P-value less than 0.05 is considered evidence of statistical effect (two-tailed).

Ethical Considerations

The study was approved by the Institutional ethics review board of the Universiti Brunei Darussalam and the Ministry of Health. The participants were given a week to read the participant information sheet. Those who agreed have signed the written informed consent prior to completing the

survey and returned it to the researchers. Data were taken anonymously to protect the participants' identities.

Results

A total of 63 questionnaires (89% response rate) were used as valid data points for analysis. **Table 1** shows the sociodemographic data of participants. Participants' age ranges from 20 to more than 50 years old. The majority of the participants are female (77.8%), married (55.6%), and local (57.1%). The highest respondents are from the speciality nursing department (33.3%), and most are staff nurses (96.8%). The work experience ranges from 0 to more than ten years. Only 29% of the respondents have oncology nursing qualifications.

Table 1 Sociodemographic information of participants (*N* = 63)

	<i>n</i>	(%)
Age (years)		
20 – 29	19	(30.2)
30 – 39	37	(58.7)
40 – 49	6	(9.5)
More than 50	1	(1.6)
Gender		
Male	14	(22.2)
Female	49	(77.8)
Marital status		
Single	24	(38.1)
Married	35	(55.6)
Widowed/Divorced	4	(6.2)
Nationality		
Local	36	(57.1)
Expatriate	27	(42.9)
Work setting		
Outpatient department	12	(19.0)
Inpatient department	20	(31.7)
Day care unit	10	(15.9)
Speciality nursing	21	(33.3)
Designation		
Nurse manager	2	(3.2)
Staff nurse	61	(96.8)
Experience (years)		
0 – 5	21	(33.3)
6 – 10	15	(23.8)
More than 10	17	(42.9)
Highest education level		
Diploma	33	(52.4)
Advanced diploma	3	(4.8)
Bachelor degree	25	(39.7)
Master degree	2	(3.2)
Oncology nursing qualification		
Yes	18	(28.6)
No (General nursing)	45	(71.4)

n = frequency

Table 2 demonstrates the validity and reliability estimates for MBI. In terms of validity, the instrument was modified

corresponding to the changes suggested by participants to improve face and content validity. CITC for all numerical scales range from 0.5 to 0.8, indicating satisfactory to good convergent validity except for Item 14 (CITC=0.148) of emotional exhaustion subscale and Item 18 (CITC=0.119) of personal accomplishment subscale, which showed low correlation with overall items. The correlation matrix showed that personal accomplishment was negatively associated with emotional exhaustion and depersonalisation, which was intended by the scale. In terms of reliability, all the subscales had acceptable to good estimates. The average variance extracted estimates were above satisfactory (above 0.5). Cronbach's alpha coefficient was 0.70 and above, indicating good internal consistency reliability. The cumulative variance explained by these factors for burnout was 70.5%.

Table 2 Correlation matrix, Average Variance Extracted and Cronbach's alpha of MBI scale

	1	2	3	AVE	Alpha
1	1			0.585	0.764
2	-0.12***	1		0.698	0.862
3	-0.22***	0.57***	1	0.573	0.698

1 = Personal accomplishment (8 Items)

2 = Emotional Exhaustion (9 Items)

3 = Depersonalization (5 Items)

AVE = Average Variance Extracted (cut-off 0.5)

Alpha = Cronbach's alpha (cut-off 0.6)

*** Significance at 0.05 level

Table 3 Cronbach's alpha of COPSOQ II

	Cronbach's Alpha
1. Quantitative demand (4 Items)	0.683
2. Work pace (3 Items)	0.560
3. Emotional demand (4 Items)	0.349
4. Influence at work (3 Items)	0.378
5. Skill discretion (4 Items)	0.559
6. Meaning of work (3 Items)	0.634
7. Commitment to the workplace (4 Items)	0.715
8. Predictability (2 Items)	0.820
9. Rewards (3 Items)	0.866
10. Role Clarity (3 Items)	0.756
11. Role Conflict (3 Items)	0.398
12. Quality of Leadership (4 Items)	0.942
13. Social support (colleague) (3 Items)	0.616
14. Social support (superiors) (3 Items)	0.910
15. Social community at work (3 Items)	0.678
16. Job satisfaction (4 Items)	0.846
17. Work-family conflict (4 Items)	0.731
18. Trust (horizontal) (3 Items)	0.567
19. Trust (vertical) (4 Items)	0.697
20. Justice and respect (4 Items)	0.829
21. Sleeping troubles (4 Items)	0.869
22. Burnout (4 Items)	0.919
23. Stress (4 Items)	0.856

Table 3 shows the internal consistency reliability coefficients for COPSOQ II. CITC for all numerical scales ranges from 0.4 to 0.6, indicating acceptable convergent validity, except for items in emotional demand, influence at work, skill discretion, role conflict and trust (horizontal), which coincided with low Cronbach's alpha indicating poor internal consistency reliability amongst those subscales. On the other hand, other subscales demonstrated good to excellent internal Cronbach's alpha between 0.7 and 0.9.

Table 4 demonstrated that, in terms of prevalence, we estimated using a 95% confidence interval that personal accomplishment was low to moderate (20% to 43%), emotional exhaustion was high (55% to 79%), and depersonalisation was low (3% to 19%) among the population of oncology nurses in Brunei.

Table 4 Categorisation of burnout among oncology nurses ($N = 63$)

Burnout variables	<i>n</i>	(%)
Personal accomplishment		
High	20	(31.7)
Moderate	14	(22.2)
Low	29	(46.0)
Emotional exhaustion		
High	42	(66.7)
Moderate	21	(33.3)
Depersonalisation		
High	7	(11.1)
Moderate	15	(23.8)
Low	41	(65.1)

n = frequency

Table 5 Mean scores and proportion of psychosocial factors using COPSOQ II ($N = 63$)

	Mean	(SD)	<i>n</i>	(%)
1. Quantitative demand	3.5	(0.72)		
2. Work pace	2.4	(0.64)		
3. Emotional demand	3.2	(0.57)		
4. Influence at work	3.2	(0.59)		
5. Skill discretion	2.0	(0.58)		
6. Meaning of work	1.8	(0.56)		
7. Commitment to workplace	2.6	(0.84)		
8. Predictability	2.2	(0.89)		
9. Rewards	2.7	(0.99)		
10. Role Clarity	2.0	(0.64)		
11. Role Conflict	2.9	(0.56)		
12. Quality of Leadership	2.4	(0.82)		
13. Social support (colleague)	2.3	(0.78)		
14. Social support (superiors)	2.4	(1.06)		
15. Social community at work	1.9	(0.68)		
16. Job satisfaction	2.0 ^a	(0.44)		
17. Work-family conflict	3.0 ^a	(0.61)		
18. Trust (horizontal)	3.0	(0.66)		
19. Trust (vertical)	2.9	(0.77)		
20. Justice and respect	3.1	(0.86)		
21. Sleeping troubles	3.3	(0.92)		
22. Burnout	3.2	(0.89)		
23. Stress	3.5	(0.84)		
24. Health				
Excellent			10	(15.9)
Very good			18	(28.6)
Fair			28	(44.4)
Poor			7	(11.1)
25. Sexual harassment (Yes)			5	(7.9)
26. Threats of violence (Yes)			10	(15.9)
27. Physical violence (Yes)			3	(4.8)
28. Bullying (Yes)			9	(14.3)

SD = Standard deviation, *n* = frequency, Scoring: lowest = 0, highest = 5

^a = highest score is 4

Table 5 demonstrated that the participants reported a high level of stress, quantitative demands and sleeping troubles. On the other hand, 44.5% of the participants reported

excellent to a very good level of health compared to fair (44.4%) and poor health (11.1%).

Table 6 Multivariate regression results of the relationship between psychosocial factors and burnout variables

	Personal Accomplishment		Emotional Exhaustion		Depersonalization	
	Estimates	P-value	Estimates	P-value	Estimates	P-value
Quantitative demand	0.348	<0.001	-0.438	<0.001	-0.109	0.355
Work pace	-0.016	0.103	-0.020	0.858	0.873	0.553
Emotional demand	0.167	0.143	-0.270	0.047	-0.040	0.753
Influence at work	-0.047	0.717	-0.054	0.728	-0.196	0.097
Skill discretion	-0.320	0.005	0.397	0.003	-0.171	0.197
Meaning of work	-0.420	<0.001	0.609	<0.001	-0.137	0.378
Commitment to workplace	-0.290	0.004	0.570	<0.001	-0.119	0.379
Predictability	-0.198	0.102	0.258	0.074	-0.270	0.041
Rewards	-0.116	0.200	0.719	<0.001	0.094	0.500
Role Clarity	-0.355	0.002	0.319	0.020	-0.098	0.481
Role Conflict	0.099	0.425	-0.302	0.042	0.014	0.927
Quality of leadership	-0.026	0.775	0.876	<0.001	-0.499	<0.001
Social support (colleague)	-0.136	0.273	0.240	0.105	0.071	0.638
Social support (superiors)	-0.062	0.587	0.517	<0.001	-0.093	0.505
Social community at work	-0.094	0.417	0.373	0.007	-0.047	0.672
Job satisfaction	-0.165	0.130	0.620	<0.001	0.032	0.830
Work-family conflict	0.197	0.079	-0.364	0.006	-0.094	0.445
Trust (horizontal)	0.013	0.918	0.215	0.159	-0.282	0.017
Trust (vertical)	0.039	0.721	0.622	<0.001	-0.090	0.510
Justice and respect	0.002	0.986	0.755	<0.001	-0.053	0.737
Sleeping troubles	-0.062	0.550	-0.583	<0.001	-0.201	0.146
Burnout	0.138	0.125	-0.590	<0.001	0.167	0.132
Stress	0.096	0.322	-0.573	<0.001	0.007	0.955
Overall correlations	-0.292	0.530	0.770	<0.001	0.396	0.522

Estimates = Standardised regression coefficient, bold = significance at 0.05 level

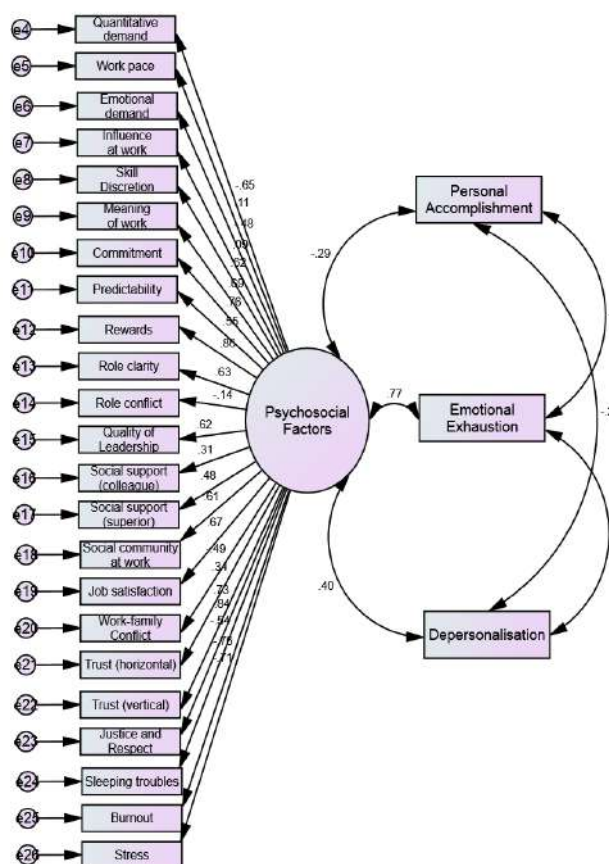
**Figure 1** Path model of the relationship between Psychosocial factors and burnout variables

Figure 1 illustrates the overall relationship between psychosocial factors and burnout variables. It was observed that there was a highly significant relationship between psychosocial factors and emotional exhaustion. **Table 6** shows that emotional exhaustion had a high positive significant relationship towards the quality of leadership ($\beta = 0.876, p < 0.001$), justice and respect ($\beta = 0.755, p < 0.001$) and rewards ($\beta = 0.719, p < 0.001$). Whilst having a moderate negative significant relationship with sleeping troubles ($\beta = -0.583, p < 0.001$), stress ($\beta = -0.573, p < 0.001$), and work-family conflict ($\beta = -0.364, p = 0.006$). However, the overall relationship between psychosocial factors and personal accomplishment and depersonalisation was not significant.

Discussion

This study investigated the prevalence of burnout and its relationship with psychosocial factors among oncology nurses using MBI and COPSOQ II. Both measuring tools demonstrated acceptable to good validation estimates except for items in emotional demand, influence at work, skill discretion, role conflict and trust (horizontal) of COPSOQ II. This is congruent to previous studies (Nübling et al., 2006; Ibtissam et al., 2012).

The main finding from this study suggested improving the psychosocial work environment could significantly lower emotional exhaustion. In this study, quality of leadership (extent to which immediate superior is considerate of staff

satisfaction and good development opportunities), justice and respect (fair treatment at work) and rewards (recognition and appreciation by management) were significantly related to emotional exhaustion. Therefore, management and policymakers could consider these specific factors in future policies while also accounting for characteristics of high quantitative demand, stress and sleeping troubles among these oncology nurses. These results were consistent with a previous study demonstrating that oncology nurses experience more emotional exhaustion (Kutluturkan et al., 2016). Another study by Cheng et al. (2015) showed that oncology nurses suffered a high prevalence of emotional exhaustion (45% from 358 nurses) and low personal accomplishment (66.7% from 358 nurses). The main implication is to reduce nurses' intention to leave and retain them to tackle a nurses' shortage as a persistent issue for decades (Brossoit et al., 2020).

Burnout among nurses compromises nurses' and patients' safety (Halbesleben et al., 2008; Pogoy & Cutamora, 2021). Despite the identification of this specific relationship, burnout management should not neglect. On the contrary, it should be complemented by other interventions, which could consist of identifying and recognising the signs and symptoms of burnout such as chronic fatigue, insomnia, forgetfulness, anxiety and depression, isolation and detachment, and lack of productivity and poor performance (Gómez-Urquiza et al., 2016). The sooner the nurses identified the signs, the sooner they can get appropriate interventions. There are also various stress and burnout management approaches, such as counselling, support groups, and relaxation methods (Braunschneider, 2013; Berg et al., 2016).

There should be acknowledging and accepting the expected reality of compassion fatigue and burnout, education on how to recognise symptoms of compassion fatigue and burnout, portray professional coping skills as a team and promote social support and positive relationships, and engage healthcare team in discussions about coping and make it part of regularly scheduled meetings. The management could also develop interventions to reduce burnout among oncology nurses, such as communication and team-building training, feedback techniques, and goal-setting (Maslach & Leiter, 2008).

In terms of study limitations, the results of this study should be interpreted with caution because several COPSOQ II factors had low reliability, such as emotional demand, influence at work and role conflict. Small sample size may impair external validity and hence generalisability as there may be cross-cultural or other demographic differences. Also, a small sample could impair model fitness for the multivariate regression analysis. However, this study aimed not to model the relationship but instead examine how psychosocial factors interact in terms of burnout variables and see the practical significance of this relationship, especially in a small country where a larger sample size requires collaboration with external nations. The cross-sectional and quantitative nature of the study might result in not much depth and limited implications.

Conclusion

This study showed that improvement in quality of leadership, justice and respect and rewards could minimise emotional exhaustion among oncology nurses. Therefore, management and policymakers could target these specific factors in addition to using other interventions to counter the harmful effects of burnout.

Declaration of Conflicting Interest

The authors declare that there is no conflict of interest.

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Authors' Contributions

Conception and design of the study: FAJ, TYC, HK, SS, KHAM, HAR. Acquisition of data: FAJ, SS. Analysis and interpretation of data: FAJ, HAR. Drafted manuscript: FAJ. Revised manuscript: FAJ, TYC, HK, SS, KHAM, HAR. Agreed to submit to the current journal and gave final approval of the version to be published: FAJ, TYC, HK, SS, KHAM, HAR.

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Data Availability Statement

Data belongs to Universiti Brunei Darussalam and is available from the researcher upon reasonable request.

References

- Berg, G. M., Harshbarger, J. L., Ahlers-Schmidt, C. R., & Lippoldt, D. (2016). Exposing compassion fatigue and burnout syndrome in a trauma team: A qualitative study. *Journal of Trauma Nursing*, 23(1), 3-10. <https://doi.org/10.1097/JTN.000000000000172>
- Braunschneider, H. (2013). Preventing and managing compassion fatigue and burnout in nursing. *ESSAI*, 11(1), 14-18.
- Brossoit, R. M., Crain, T. L., Hammer, L. B., Lee, S., Bodner, T. E., & Buxton, O. M. (2020). Associations among patient care workers' schedule control, sleep, job satisfaction and turnover intentions. *Stress and Health*, 36(4), 442-456. <https://doi.org/10.1002/smi.2941>
- Cañadas-De la Fuente, G. A., Vargas, C., San Luis, C., García, I., Cañadas, G. R., & Emilia, I. (2015). Risk factors and prevalence of burnout syndrome in the nursing profession. *International Journal of Nursing Studies*, 52(1), 240-249. <https://doi.org/10.1016/j.ijnurstu.2014.07.001>
- Cheng, F., Meng, A.-f., & Jin, T. (2015). Correlation between burnout and professional value in Chinese oncology nurses: A

- questionnaire survey. *International Journal of Nursing Sciences*, 2(2), 153-157. <https://doi.org/10.1016/j.ijnss.2015.04.004>
- Gómez-Urquiza, J. L., Aneas-López, A. B., Fuente-Solana, E. I., Albendín-García, L., Díaz-Rodríguez, L., & Fuente, G. A. (2016). Prevalence, risk factors, and levels of burnout among oncology nurses: A systematic review. *Oncology Nursing Forum*, 43(3), E104-120. <https://doi.org/10.1188/16.onf.e104-e120>
- Halbesleben, J. R. B., Wakefield, B. J., Wakefield, D. S., & Cooper, L. B. (2008). Nurse burnout and patient safety outcomes: Nurse safety perception versus reporting behavior. *Western Journal of Nursing Research*, 30(5), 560-577. <https://doi.org/10.1177%2F0193945907311322>
- Ibtissam, S., Hala, S., Sanaa, S., Hussein, A., & Nabil, D. (2012). Burnout among Lebanese nurses: Psychometric properties of the Maslach burnout inventory-human services survey (MBI-HSS). *Health*, 4, 644-652. <https://doi.org/10.4236/health.2012.49101>
- Khamisa, N., Oldenburg, B., Peltzer, K., & Ilic, D. (2015). Work related stress, burnout, job satisfaction and general health of nurses. *International Journal of Environmental Research and Public Health*, 12(1), 652-666. <https://doi.org/10.3390/ijerph120100652>
- Kiss, P., De Meester, M., Kruse, A., Chavée, B., & Braeckman, L. (2013). Comparison between the first and second versions of the Copenhagen Psychosocial Questionnaire: Psychosocial risk factors for a high need for recovery after work. *International Archives of Occupational and Environmental Health*, 86(1), 17-24. <https://doi.org/10.1007/s00420-012-0741-0>
- Kutluturk, S., Sozeri, E., Uysal, N., & Bay, F. (2016). Resilience and burnout status among nurses working in oncology. *Annals of General Psychiatry*, 15(1), 1-9. <https://doi.org/10.1186/s12991-016-0121-3>
- Lin, Y.-W. (2012). The causes, consequences, and mediating effects of job burnout among hospital employees in Taiwan. *Journal of Hospital Administration*, 2(1), 15-27. <https://doi.org/10.5430/jha.v2n1p15>
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior*, 2(2), 99-113. <https://doi.org/10.1002/job.4030020205>
- Maslach, C., & Leiter, M. P. (2008). Early predictors of job burnout and engagement. *Journal of Applied Psychology*, 93(3), 498-512. <https://psycnet.apa.org/doi/10.1037/0021-9010.93.3.498>
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52(1), 397-422. <https://doi.org/10.1146/annurev.psych.52.1.397>
- Nübling, M., Stöbel, U., Hasselhorn, H.-M., Michaelis, M., & Hofmann, F. (2006). Measuring psychological stress and strain at work-Evaluation of the COPSOQ Questionnaire in Germany. *GMS Psycho-Social Medicine*, 3, Doc05.
- Pogoy, J. M., & Cutamora, J. C. (2021). Lived experiences of Overseas Filipino Worker (OFW) nurses working in COVID-19 intensive care units. *Belitung Nursing Journal*, 7(3), 186-194. <https://doi.org/10.33546/bnj.1427>
- Rahman, H. A., Abdul-Mumin, K., & Naing, L. (2017). Psychosocial factors, musculoskeletal disorders and work-related fatigue amongst nurses in Brunei: Structural equation model approach. *International Emergency Nursing*, 34, 17-22. <https://doi.org/10.1016/j.ienj.2017.04.001>

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Nephrology nurses' views in giving a dietary recommendation for dialysis patients: An interview study

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Abstract

Background: Nutrition in dialysis patients plays an essential role in their life. Diet in dialysis patients are catered individually and applied according to the situation of the patients. A dietary recommendation is vital to dialysis patients, and nephrology nurses help patients understand the reasoning behind the dietary restrictions enforced.

Objective: This paper aimed to explore nephrology nurses' views in giving dietary recommendations for dialysis patients.

Methods: In this descriptive qualitative study, one focus group discussion ($n =$ eight nurses) and four individual interviews in one Renal Centre in Brunei Darussalam was conducted through purposive sampling. This interview took place between October 2020 and December 2020.

Results: Three major themes were identified: (1) Approaches in giving dietary information, (2) Getting patients to follow a diet plan, and (3) Negotiating with patients.

Conclusion: The importance of nephrology nurses in improving patient care, particularly in providing dietary recommendations to dialysis patients, cannot be overstated. They adopted different approaches, including negotiating with patients and using available resources to ensure that patients followed the dietary recommendations. However, they believe their current method and strategy for offering dietary recommendations to dialysis patients could be improved.

Keywords

focus groups; nephrology; diet; renal dialysis; nutritional status; nursing; Brunei

Giving dietary recommendations to patients is part of many tasks provided by nurses as part of their responsibility as professional healthcare providers. Knowledge and good clinical reasoning are key ingredients in caring for dialysis patients. As dialysis patients, diet restrictions are part and parcel of their new lifestyle. It is essential for them to comply with the restrictions set by their doctors as it may promote better quality and prolong the life expectancy of the patients. This was suggested by [Dabrowska Bender et al. \(2018\)](#) in their study, where they found that dialysis and diet play a significant role in patients' survival rates. However, [Murali et al. \(2019\)](#) emphasise that non-adherence is common in patients with chronic diseases, especially dialysis patients and failing to adhere can worsen health outcomes.

Advocating for patients and carers is a significant task for the nurses working in the Renal Department besides giving them support through their illness. In Brunei Darussalam, patients referred from other health care are increasing yearly, and people coming for dialysis are also growing. The Renal Department stated an increase of approximately 40 per cent of patients admitted under the renal unit each year ([Ministry of Health, 2019](#)). The conventional dialysis performed in Brunei Darussalam is undertaken in four major hospitals in each district and two sub-units in Bandar Seri Begawan, namely Rimba and Kiarong dialysis centre.

As a health care provider, educating patients is a daily duty besides maintaining patients' safety and well-being. Everyday conversation indirectly educates patients

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regarding their diet and fluid restrictions and how following the diet significantly increases their quality of life. [Mihai et al. \(2018\)](#) indicated that the relationship between diet and kidney disease is interconnected; meanwhile, in their research, [Dabrowska Bender et al. \(2018\)](#) said evidence suggests that dialysis and diet play a crucial role in patient survival rate. However, [Freedman \(2016\)](#) and [Meule and Vögele \(2013\)](#) argue that food choices and eating behaviour are also the influence factors besides the culture and social practice, which determines the ability of patients to manage their diet.

The majority of the literature reviewed is devoted to dietitian advice for patients, with an emphasis on the scope of work of dietitians and physicians. This contrasts with the notion that nurses spend more time with patients and provide follow-up information during dialysis. However, no concrete food advice or standard responses from nephrology nurses have been established. Thus, the study aimed to explore nurses' views in giving dietary recommendations to dialysis patients.

Methods

Study Design

A qualitative descriptive study design was undertaken as it was the most appropriate in addressing the research questions. In addition, it allows the voices of nurses in Brunei to be heard, thereby creating a real opportunity to explore nurses' views in giving dietary recommendations for dialysis patients in Brunei Darussalam.

Study Participants

The inclusion criterion was that the nephrology nurses had to have at least two years of working experience as registered staff nurses, posted more than one unit, and experienced delegating tasks to other nurses. The nurses were recruited through the gatekeeper, who has given eligible nurses access to the inclusion and exclusion criteria. The gatekeeper also helps in negotiating the interview location, date, and time. A single recruitment briefing was held whereby a written participants' recruitment sheet with information about the study was given to 20 nurses who had agreed to participate. However, due to the participants' hectic schedule, which makes it impossible to do interviews in the renal setting, only 12 nurses were interviewed. The majority of the participants were women with mean ages are between 30-54 and men between the ages of 20 and 40. The participants' average work experience was between 2-20 years of service. All sessions were conducted in a private meeting room within the Dialysis Unit.

Data Collection

Four nurses were interviewed through individual interviews, and eight nurses were interviewed through focus group discussion, fully audio-recorded and lasted from 30-45 minutes per session. The purpose of the one-on-one interview is to accommodate participants who are

uncomfortable voicing their opinions in a group setting. The interview guide was pre-tested with no changes made. It is important to note that the focus group interview guide was slightly modified, especially when focus group discussion is looking for collective perspectives. There were a total of six semi-structured and open-ended questions. Two audio devices were used as backups, and field notes were recorded during and after each interview. The interview lasts an average of 45 minutes.

All interviews took place in the dialysis unit and lasted from October to December 2020. The interviews started with the question: What do you think about nurses giving dietary recommendations to dialysis patients? Depending on the interview, further follow-up questions were used for clarification when needed, such as 'Can you explain more by offering some examples of what would be the best way to address such challenges?'. The data saturation was discussed, and multiple meetings with the research team members were held to develop the results during data analysis.

Data Analysis

All individual interviews and focus group discussions were transcribed verbatim and analysed using six phases of the thematic process described by [Braun and Clarke \(2021\)](#). The first phase involved the research team reading and re-reading to become familiar with its content. In contrast, the second phase entailed coding the transcripts and collating all relevant data extracts for further stages of analysis. The third phase prompted the research team to examine the codes and collected data to establish meaningful broader patterns of potential themes. Phase four involved comparing the themes to the transcripts to ensure they presented a credible story about the data and answered the research question. The fifth phase involved doing a detailed analysis of each theme and defining its scope and focus. Finally, in phase six, the research team combined the analytic narrative and data extracts and contextualised the results in the existing literature. It is critical to highlight that all phases were followed recursively, whereby we moved back and forth between phases. These phases were viewed as a roadmap for analysis, facilitating a complete and in-depth engagement with the data analysis. English words or phrases were used when translating from Malay to English since the source words have an English translation. There were no complicated words or phrases to translate or interpret.

Trustworthiness

This study established the four aspects of qualitative research trustworthiness: credibility, dependability, conformability, and transferability ([Polit & Beck, 2018](#)). Semi-structured open-ended questions guided the interviews. This encouraged the nurses to express their opinions as fully as possible. The interview was structured to encourage conversation and asks for clarification of the narratives to achieve credibility. Furthermore, the analysis process was conducted in a reflective dialogue between the

researchers. The researchers conducted the data analysis; the recordings were transcribed verbatim, and quotes from the nurses are presented in the findings for conformability. The findings might be transferred to inform other nurses' understandings of the perceived nurses' role in giving recommended dietary information, concerns over the compliance and patients' readiness to adhere to the diet restriction. However, the individual reader must assess the suitability of transferring the study results.

Ethical Considerations

We obtained ethics approval from the Faculty and Ministry of Health Research Ethics Committees (Reference: UBD/PAPRSBIHSREC/2020/64). A participant information sheet that included detailed information about the study was presented. Participation is voluntary, and informed consent was obtained before every participant's interview. Any participants can withdraw participation at any point during the study. All data were treated confidentially.

Results

The analysis shows that three major themes were identified from the data, and the findings will be illustrated with participant's quotes.

Approaches in giving dietary information

Giving information is a fundamental role in many nursing roles. The participants reported that nurses must possess good communication skills and sound knowledge to disseminate information effectively. To make the participants feel empowered and confident in giving necessary information, knowledge and experiences are required. When providing dietary recommendations, the majority of the participants described two critical approaches used by nurses. The first is through a proactive approach to information sharing. According to the participants, several nurses reacted to the patient's inquiry without providing a more detailed explanation. When one of the participants was asked about it, she replied:

Many patients ask what they can eat or what they should do to drink on a hot day. Is it ok to drink soda or fizzy drinks or, worst, coconut water? I am so overwhelmed with these questions that sometimes I throw the info to yes and no answer only (Nurse 2, FGD 2)

However, another participant stated that:

I love to explain to patients and answer their doubts. I would explain when I was preparing the dialysis set while sitting on the treatment chair and giving them their treatment (Nurse 7, FGD 1)

When patients do not understand the information provided by other health care professionals, the second strategy is employed. The vast majority of participants indicated that their patients would continue to press them to share the

information they receive from their physician or dietitian. One nurse reflected her views:

If patients could not grasp the dietitian or physician's information, they would contact us again to ask the nurses more at ease. We will gladly explain any material they do not grasp (Nurse 5, 10, FGD 2)

When asked the source of the given dietary recommendation, one of the participants responded:

The majority of the information we receive comes from our experience as nephrology nurses. Some of it comes from the dietitian or physician during patients' monthly reviews; but, if we are unsure, we Google it (Nurse 5, FGD 2)

Getting patients to follow a diet plan

According to the participants, nephrology nurses must be reminded of the value of explaining dietary information to patients. With this understanding, nurses can provide patients with accurate nutrition information. However, it is challenging to get patients to accept and follow the diet recommendations because they have their own set of mentality and attitudes. The majority of the participants feel that one of the issues they confront from time to time is disregarding diet information. As one of the participants put it:

It appears that dialysis patients need to be reminded about diet restrictions several times, and although some may listen, others will not. It makes me feel despondent and dissatisfied, and I am sure I would reply by reminding them of food they can or cannot consume (Nurse 4, FFI 2)

When the participants insist on the patient adhering to the restrictions, some may openly refuse to listen to the recommendations, leaving the participants feeling powerless. The participant went on to say:

I once cared for a patient who had a fluid overload and a moon face, yet she continued to eat and drink more during dialysis. When I came to counsel her on the diet recommendation, she just responded, "Let me enjoy my dinner because I do not know when it would be my final meal" (Nurse 15, FF 1)

The majority of the participants verbalised that patients' attitudes might make nurses feel helpless and hopeless at times. Nevertheless, the participants believed they had been doing an excellent job in assisting the patient. However, they speculated that some patients still struggle to manage and control their dietary intake.

Negotiating with patients

The majority of the participants reflected on the art of negotiation they engaged in with their patients regularly. While the patient's blood routine may be discussed, most of the conversation is about dealing with food cravings. As described by the participant in various cases:

If the patient has a craving, I will allow them to eat whatever they want in little amounts. I will tell them, however, that if they wish to eat the restricted fruit, they should do so a few hours before their dialysis treatment, not the day before or on the weekend, because the potassium levels accumulated during this period can harm their heart (Nurse 1, FF 3)

When a patient asks if they can eat tapioca starch, I tell them that they can; however, because the key ingredient in tapioca starch is water, the patient should consider their fluid intake. Furthermore, since dialysis patients' fluid intake is generally restricted, they should consider reducing additional fluid throughout the day until they get their dialysis (Nurse 9, FGD 2)

According to the participants, empowering patients with the knowledge necessary to manage their cravings can make them feel more independent and confident in managing their food and hydration consumption. This, in turn, assists nurses in gaining the patients' confidence and trust to assist them in receiving their treatment. Through negotiation, participants established that patients would feel more comfortable asking questions and providing more candid feedback. Additionally, it may facilitate the nurse's workflow, and patients may experience increased emotional and psychological well-being while undergoing dialysis. The participant elaborated:

When you cannot control what your patients eat or drink, it is frustrating. Seeing others who refuse to comply makes me want to figure out how to work around their eating habits. At first, the patient will be hesitant and irritated, but I have ways of negotiating and convincing the patient to do what I say (Nurse 9, FGD 2)

Despite this, the participant believes that it is still up to the patient to follow the nurses' instructions. For the majority of them, there is a meaningful sense of relief when patients demonstrate a greater willingness to conform to recommended diets. However, it is disappointing when patients inevitably end up in intensive care units as a result of their dietary practices.

Discussion

The first theme of the findings indicates that different patient approaches can be positively received or the opposite. In dialysis patients, diet restriction is imposed throughout their lifetime (Efe & Kocaöz, 2015). However, diet restriction is not easy for anyone to adhere especially for dialysis patients. As a result, the study participants would have to think of new ways to help patients. Some of them would be proactive in their advice, while others would provide material to answer patients' concerns without explanation. Health professionals' ability to deliver correct, realistic, and reliable nutritional advice to patients is limited (DiMaria-Ghalili et al., 2014). Thus, in this study, the participants describe that to be a practical nephrology nurse, one must absorb as much information and skills as possible about

their unit. In addition, they must avoid becoming sedentary in their function as primary healthcare professionals.

Although the participants agreed that knowledge alone does not change health outcomes for patients, it is an integral part of educating patients, so they understood the information presented to them. Patients might not appreciate the relevance of this information and may not recognise the most crucial aspect of the information given. They may believe the information but may choose not to act on it. Halle et al. (2020) advised that dietary and fluid restriction adherence is crucial for treatment to be successful, and failure to follow the adherence may lead to unwanted complications. This is also supported by Ozen et al. (2019) that non-adherence and social support status are related. However, some studies, for example, Beto et al. (2016), argue that understanding the information as dialysis patients and acknowledging the importance of adherence is relatively related to the level of education of the patients and the level of nurses in giving information. However, this was stated by Yangöz et al. (2021) in their research, stating that having a higher level of education does not necessarily increase patient adherence.

Nephrology nurse employed different approaches in giving information to patients. In this study, the participants described that irrespective of whether the patient accepts it, the nurse has a moral obligation to use their technical knowledge to overcome any obstacles they meet while approaching patients. Furthermore, a study by Miyata et al. (2018) has shown that many patients can cope with their dialysis treatment and understand more if they talk more to their healthcare staff. Patients' autonomy and adherence to dietary limitations can be increased by assisting them in understanding their conditions and diet restrictions (Arrieta Valero, 2019).

Patients may find it difficult and time-consuming to adhere to their diet (Tirfie et al., 2020). Therefore, to bring about a positive impact, the nurses must have various ways to handle the situations. Feeling helpless and frustrated is always in the nephrology nurse's heart whenever the patients are not compliant with the recommended dietary. The participants in the study are keen to provide information regarding the diet. However, given some patients' unfavourable reactions, they also feel that it can be futile to persuade them on the notion that diet restriction is a necessary component of their new dialysis lifestyle.

Meanwhile, reflecting on the second theme, several participants shared stories where patients might adhere to their diet restrictions at the beginning of their treatment but, along the way, would lose interest and resume consuming prohibited foods and beverages (Hong et al., 2017). This is not due to the participants' ineptness but rather internal factors leading to non-adherence. The participants recognised that some patients were well aware of their consumption's effects, such as fluid overload and moon face, but they chose to disregard this consequence. The participants viewed that patients only see their imminent death caused by this illness and prefer to enjoy the remainder of their lives with the barred items. Thus, it is

essential that nurses continue to encourage patients to be optimistic and trust their healthcare professionals (Birkhäuser et al., 2017). This will assist the patient in deflecting negative and powerless thoughts, which will impact the patient's treatment and adherence. At the same time, the participants agreed that consistency is essential since it boosts morale and indicates solidarity and support for patients' needs. It is hoped that the patient will cooperate if they are reminded regularly of the dietary recommendations. Furthermore, there is also a need to strengthen the nurses' nutrition knowledge. Most health professions training programs do not include a comprehensive understanding of nutrition and its application to healthcare. However, healthy nutrition has a significant positive impact on health and well-being (Munuo et al., 2016).

Drawing on the third theme, the participants expressed concerns regarding the effectiveness of their negotiation strategy while dealing with patients. Negotiation generally transpires between nurses and patients, with empathy as one of the most critical aspects of healthcare systems, including in negotiations with patients (Kerasidou et al., 2020). It leads to more success in getting patients to accept the adherence. The negotiation strategy is also one of the central elements that need to be highlighted when giving information (Berggren et al., 2020). At the same time, the participants expressed concern over the effectiveness of the recommendation as patients tend to follow what they want instead of what they need. This challenge has been the most frequently faced by nurses in previous research.

Dabrowska Bender et al. (2018) contended that healthcare professionals and patients often encounter challenges in their interactions due to many different cultures and education systems. In this study, the participants are prepared to go the extra mile to ensure that the patients comprehend the information they are being provided with. Most of them find it rewarding when patients follow the food restriction, which is evident in their monthly follow-up. Some participants, however, viewed that patients just nodded to what the doctors had explained. Nonetheless, most participants observed that patients do not always understand what they are being told, much to the dismay of the participants and that eventually, the patients will ask the same questions to the nurses. Thus healthcare professionals must identify the barriers that hinder patients from adhering to their treatment plans and empower them with the tools they need to make the necessary changes to their lifestyles (Chan et al., 2012).

This paper contributes to the growing emphasis on the need of providing patients with information. Increasing patient self-esteem may lead to them valuing themselves and caring more about adherence. However, while providing dietary recommendations, language is an issue that must be taken into account to ensure patient understanding. Meanwhile, the implications of this study for nursing practice highlight nurses' efforts to improve the critical role of encouraging dialysis patients to take adherence more seriously, which can be accomplished by

training and supervising nurses to deliver dietary information to dialysis patients. Meanwhile, at least the presence of one family member of the patient during the delivery of dietary information may improve the patient's understanding and adherence in the home setting.

Conclusion

Dialysis patients rely on nephrology nurses for many aspects of their health treatment, including dietary recommendations. Nurses can use their knowledge to improve patient care and foster a strong bond between patients and nurses. While diet and restriction adherence can be arduous, patients can be empowered to comprehend and adhere to dietary recommendations by communicating and delivering correct information. One critical characteristic that nephrology nurses should embrace is a positive attitude toward patient care, particularly when giving a dietary recommendation for dialysis patients.

Declaration of Conflicting Interest

The authors declare no conflict of interest.

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Authors' Contributions

All authors have equal contributions in this study started from the proposal, data collection, data analysis, final report, and development of the manuscript.

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Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

References

- Arrieta Valero, I. (2019). Autonomies in interaction: Dimensions of patient autonomy and non-adherence to treatment. *Frontiers in Psychology*, 10, 1857. <https://doi.org/10.3389/fpsyg.2019.01857>
- Berggren, E., Törnkvist, L., Olin, A. Ö., Orrevall, Y., Strang, P., & Hylander, I. (2020). District nurses and general practitioners' negotiation of responsibility for nutritional care for patients in palliative phases cared for at home. *Primary Health Care Research & Development*, 21, e58. <https://doi.org/10.1017/S1463423620000560>
- Beto, J. A., Schury, K. A., & Bansal, V. K. (2016). Strategies to promote adherence to nutritional advice in patients with

- chronic kidney disease: A narrative review and commentary. *International Journal of Nephrology and Renovascular Disease*, 9, 21-33. <https://dx.doi.org/10.2147%2FIJNRD.S76831>
- Birkhäuser, J., Gaab, J., Kossowsky, J., Hasler, S., Krummenacher, P., Werner, C., & Gerger, H. (2017). Trust in the health care professional and health outcome: A meta-analysis. *PloS One*, 12(2), e0170988. <https://doi.org/10.1371/journal.pone.0170988>
- Braun, V., & Clarke, V. (2021). *Thematic analysis: A practical guide*. London: Sage.
- Chan, Y. M., Zalilah, M. S., & Hii, S. Z. (2012). Determinants of compliance behaviours among patients undergoing hemodialysis in Malaysia. *PloS One*, 7(8), e41362. <https://doi.org/10.1371/journal.pone.0041362>
- Dabrowska Bender, M., Dykowska, G., Żuk, W., Milewska, M., & Staniszevska, A. (2018). The impact on quality of life of dialysis patients with renal insufficiency. *Patient Preference and Adherence*, 12, 577–583. <https://dx.doi.org/10.2147%2FPPA.S156356>
- DiMaria-Ghalili, R. A., Mirtallo, J. M., Tobin, B. W., Hark, L., Van Horn, L., & Palmer, C. A. (2014). Challenges and opportunities for nutrition education and training in the health care professions: Intraprofessional and interprofessional call to action. *The American Journal of Clinical Nutrition*, 99(5), 1184S-1193S. <https://doi.org/10.3945/ajcn.113.073536>
- Efe, D., & Kocaöz, S. (2015). Adherence to diet and fluid restriction of individuals on hemodialysis treatment and affecting factors in Turkey. *Japan Journal of Nursing Science*, 12(2), 113-123. <https://doi.org/10.1111/jjns.12055>
- Freedman, I. (2016). Cultural specificity in food choice—The case of ethnography in Japan. *Appetite*, 96, 138-146. <https://doi.org/10.1016/j.appet.2015.09.006>
- Halle, M. P., Nelson, M., Kaze, F. F., Jean Pierre, N. M. o., Denis, T., Fouda, H., & Ashuntantang, E. G. (2020). Non-adherence to hemodialysis regimens among patients on maintenance hemodialysis in sub-Saharan Africa: An example from Cameroon. *Renal Failure*, 42(1), 1022-1028. <https://doi.org/10.1080/0886022X.2020.1826965>
- Hong, L. I., Wang, W., Chan, E. Y., Mohamed, F., & Chen, H. C. (2017). Dietary and fluid restriction perceptions of patients undergoing haemodialysis: An exploratory study. *Journal of Clinical Nursing*, 26(21-22), 3664-3676. <https://doi.org/10.1111/jocn.13739>
- Kerasidou, A., Børøe, K., Berger, Z., & Brown, A. E. C. (2020). The need for empathetic healthcare systems. *Journal of Medical Ethics*, 1-5. <http://dx.doi.org/10.1136/medethics-2019-105921>
- Meule, A., & Vögele, C. (2013). The psychology of eating. *Frontiers in Psychology*, 4, 215. <https://doi.org/10.3389/fpsyg.2013.00215>
- Mihai, S., Codrici, E., Popescu, I. D., Enciu, A.-M., Albulescu, L., Necula, L. G., . . . Tanase, C. (2018). Inflammation-related mechanisms in chronic kidney disease prediction, progression, and outcome. *Journal of Immunology Research*, 2018, 2180373. <https://doi.org/10.1155/2018/2180373>
- Ministry of Health. (2019). *Statistics from Renal Department*. Bandar Seri Begawan: Ministry of Health.
- Miyata, K. N., Shen, J. I., Nishio, Y., Haneda, M., Dadzie, K. A., Sheth, N. R., . . . Harbord, N. B. (2018). Patient knowledge and adherence to maintenance hemodialysis: An international comparison study. *Clinical and Experimental Nephrology*, 22(4), 947-956. <https://doi.org/10.1007/s10157-017-1512-8>
- Munuo, A. E., Mugendi, B. W., Kisanga, O. A., & Otieno, G. O. (2016). Nutrition knowledge, attitudes and practices among healthcare workers in management of chronic kidney diseases in selected hospitals in Dar es Salaam, Tanzania; A cross-sectional study. *BMC Nutrition*, 2(1), 1-7. <https://doi.org/10.1186/s40795-016-0045-y>
- Murali, K. M., Mullan, J., Roodenrys, S., Hassan, H. C., Lambert, K., & Loneragan, M. (2019). Strategies to improve dietary, fluid, dialysis or medication adherence in patients with end stage kidney disease on dialysis: A systematic review and meta-analysis of randomised intervention trials. *PloS One*, 14(1), e0211479. <https://doi.org/10.1371/journal.pone.0211479>
- Ozen, N., Cinar, F. I., Askin, D., Mut, D., & Turker, T. (2019). Nonadherence in hemodialysis patients and related factors: A multicenter study. *The Journal of Nursing Research*, 27(4), e36. <https://dx.doi.org/10.1097%2FJnr.0000000000000309>
- Polit, D. F., & Beck, C. T. (2018). *Essentials of nursing research: Appraising evidence for nursing practice*. Philadelphia, PA: Lippincott Williams & Wilkins.
- Tirfie, M., Tadesse, S., Woldie, H., Weldegiorgis, T., Birhanu, M., & Shibabaw, T. (2020). Dietary non-adherence and associated factors among individuals with diabetes who are on treatment follow up at Felege-Hiwot Referral Hospital, Northwest Ethiopia. *Heliyon*, 6(8), e04544. <https://doi.org/10.1016/j.heliyon.2020.e04544>
- Yangöz, Ş. T., Özer, Z., & Boz, I. (2021). Comparison of the effect of educational and self-management interventions on adherence to treatment in hemodialysis patients: A systematic review and meta-analysis of randomised controlled trials. *International Journal of Clinical Practice*, 75(5), e13842. <https://doi.org/10.1111/ijcp.13842>

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Development of a nursing assessment form for patients with diabetes mellitus in a hospital: A research and development study

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Abstract

Background: People with Diabetes Mellitus (DM) tend to seek herbal medicine or complementary drugs in their treatments. But, unfortunately, the existing nursing assessment forms have not prepared the format for the use of complementary medicine.

Objective: This study aimed to develop a nursing assessment form in patients with DM based on the Chronic Care Model (CCM) approach.

Methods: This study employed a Research and Development study design, which consists of ten stages. The nursing assessment form was developed based on CCM theory and integrated complementary medicines into the assessment form. A content validity test was done by four experts and calculated using Aiken's V formula. Face validity among 12 nurses through Focus Group Discussions (FGDs) was also employed to test the quality of the nursing assessment form based on three aspects: functionality, efficiency, and usability. In addition, nine nurses were included for pilot testing of the form. Data were analyzed using descriptive analysis.

Results: The nursing assessment form demonstrated a good content validity, with Aiken's V value of 0.94. The form was categorized based on four components of CCM: self-management support, decision support, social activities, and clinical information. Additionally, all nurses could fill the form properly.

Conclusion: The nursing assessment form is valid. It can be used for nurses to assess patients with DM based on the CCM with an additional component to evaluate the use of complementary medicine.

Keywords

chronic disease; complementary medicine; diabetes mellitus; nursing assessment

Diabetes Mellitus (DM) is a chronic condition that occurs when there is an increase in blood glucose levels because the body cannot produce enough insulin or the use of the hormone insulin is ineffective. Some of the main risk factors that can trigger Type 2 Diabetes Mellitus (T2DM) include obesity, a bad diet, and lack of activity. In addition, DM can cause macrovascular and microvascular disorders, such as cardiovascular disease, nephropathy, retinopathy, and neuropathy (International Diabetes Federation, 2017; American Diabetes Association, 2019b). The prevalence of patients with DM in Indonesia ranks sixth in the world along with China, India, the US, Brazil, and Mexico, with an estimated number of people with diabetes of 10.3 million in

2017 and will be ranked seventh with 16.7 million in 2045 (International Diabetes Federation, 2017).

The pattern of treatment-seeking behavior in chronic diseases, such as DM sufferers, is tiered, ranging from seeking herbal treatment to conventional or vice versa (Kroeger, 1983). This behavior aims to control blood sugar levels. A literature review exploring the responses of patients with DM who use herbs to complement medical treatment have relatively normal blood sugar levels (Joeliantina et al., 2019). Patients who use herbs as a complement have a pattern of improper use, namely not carrying out regular self-care, changing the dosage of medical treatment, and not informing which herbs

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complement medical treatment. Patients with DM have a high belief that herbs can help regulate T2DM disease. Patients who currently use herbs never provide information to health workers because they are afraid of being the wrong feel they do not need to convey, and health workers never ask them about the use of herbs (Joeliantina et al., 2016; Joeliantina et al., 2019).

Various interventions have been implemented to improve adherence to a recommended standard (diabetes self-management) for patients with DM. However, its implementation to reach the standard still has significant obstacles. The system is often fragmented, lacks clinical information capabilities, is poorly designed, and duplicates services for coordinated chronic care delivery. The Chronic Care Model (CCM) considers these factors and is a practical framework for improving the quality of diabetes care (American Diabetes Association, 2019a).

Patients with DM who visit the hospital and have a habit of using herbs as a complement must get the ideal service to continue to carry out diabetes self-care appropriately and regularly. Interviews conducted with a patient with DM showed that 76.5% of 64 patients with DM who visited the outpatient department of internal medicine at Airlangga University Hospital, Indonesia, tended to use herbs as a companion to diabetes self-care, especially the aspect of medical treatment. These patients did not report to health workers about the use of herbs and had not performed self-care regularly. Self-care behavior must carry out regularly to prevent acute and long-term complications, so an efficient and effective service integration model is needed. CCM is a model used to manage chronic disease in society, which consists of six critical elements, namely: organizational influence (health system), self-management support, community linkages/resources, decision support, delivery system design, clinical information systems (Baptista et al., 2016; Sendall et al., 2017; American Diabetes Association, 2019a). The central element of CCM

is a team-centered approach to care, which facilitates and results in effective interactions between proactive and patient-empowering primary care practice teams to improve processes and outcomes in patients with chronic disease (Kong et al., 2019).

This study aimed to develop a nursing assessment form for a patient with DM as a chronic disease that uses herbs based on CCM components. The selection of CCM theory is the basis for the development of the assessment form. The use of CCM theory is to explore the needs of DM patients who use herbs in self-care, establish an effective relationship between patients and health workers, and convey the pattern of using herbs to complement treatment.

Development of Nursing Assessment Form

This study used a Research and Development (R&D) design to develop an assessment form by modifying the ten stages of research from Gall et al. (2003). The nursing assessment form was developed based on CCM theory and integrated complementary medicines into the assessment form. The ten stages include:

Stage 1: Collecting information

The researchers identified the nursing assessment form used in the outpatient department of internal medicine. The implementation of information collection was from 27 May to 18 June 2019 at the Airlangga University Hospital Surabaya, East Java, Indonesia. The hospital was chosen because it has a traditional medicine clinic as a referral for patients using complementary medicine. Coordination with health workers (doctors and nurses), the results in this stage showed that the assessment form was not yet following the CCM component, no information for evaluating the use of complementary medicine, and not specific to a specific disease (Table 1).

Table 1 Identification of the existing nursing assessment form

Form Components	Information
A focus or specific assessment form for patients with DM	The design did not focus on specifics for patients with DM. It was still mixed with other cases (Children, Obstetrics-Gynecology)
Self-care management: Regulating diet, exercise, smoking habits, drinking alcohol, patient medication patterns (herbal)	It did not describe the diet, exercise or activity, and healthy lifestyle for patients with DM
Assessing clinical information, including blood sugar levels, cholesterol levels, complaints, skin conditions (especially feet), pain, tingling, numbness	Nurses did this assessment. The data were in the complaint column. The information was still general and not specific for patients with DM
Assessing the referral system to other health teams according to the conditions and complaints of patients: nutritionists, ophthalmologists, cardiologists, etc.	Nurses carried out the assessment, but it was not documented in a nursing assessment form
Assessing the values of beliefs related to the patient's habits to deal with the problem	Nursing assessments regarding the implementation of worship were implemented, but no option about "always performing praying."
Patient's social environment or patient's activities at home or the integrated care posts	Nurses assessed the social environment by asking the patients, but it was not documented in the nursing assessment form
Assessing the patient's medication habits: The use of other drugs in addition to the treatment given by the doctor (herbs, acupuncture, cupping, etc.)	Nurses assessed it by asking the patients, but it was not documented in the nursing assessment form

Stage 2: Planning to develop the assessment form

Planning the development of a CCM-based assessment form by integrating data on the use of complementary medicines into the assessment form. The assessment form in this study was developed based on the existing nursing assessment form in the hospital records and the combination of CCM model, Patient Assessment of Chronic Illness Care (PACIC) (consisting of self-management support and clinical information assessment - 14 questions) (Aung et al., 2016; Simonsen et al., 2018), and The Complementary and Alternative Medicine (CAM) (three questions) (Patterson & Arthur, 2009; Quandt et al., 2009).

Based on the identification of the problems in stage 1, researchers plan to develop an assessment form for patients with DM. The development of the form was based on CCM, and the use of complementary medicine was integrated into the assessment form. In addition, the form checklist was used as the form.

Stage 3: Developing an initial form of the nursing assessment

The initial state of the form development was determined through the FGD (Focus Group Discussion) phase 1 as face validity to get input from nurses. The FGD phase 1 was on 2 July 2019. The FGD phase 1 was to develop an assessment form for patients with DM. The FGD was implemented in the discussion room of the outpatient department among 12 nurses. The characteristics of the nurses were: (1) age (four nurses aged 20-30 years and eight aged 31-40 years), (2) gender (three males and nine females), (3) Education (three with Diploma Three Nursing, five with Bachelor Nursing, and four with Masters in Nursing), (4) length of work at the hospital (four for 1-5 years, and eight for 6-10 years), (5) employment status (seven as contract nurses, and eight as civil servants).

This FGD was to present the results of the evaluation in the first phase of the research. Participants agreed to develop an assessment form from the initial nursing assessment in patients with DM based on CCM standards (self-management support, decision support, community resources, and clinical information) by integrating complementary medicine use data into the nursing assessment form.

Stage 4. Content validity testing

Content validity was done on 13 August 2019. A total of four experts evaluated the nursing assessment form based on four data components (self-management, decision support, social activities, and clinical information). The experts included the head of the internal medicine outpatient department, the head of the nursing department, representatives from the work-group assessment team, representatives from the nursing ethics committee team. The minimum number of experts recommended for content validity testing is three people (Azwar, 2015).

The total score of the content validity was calculated using Aiken's V formula (Azwar, 2015). Each section was

scored in the range of 1-5. The results indicated good content validity, with a V-value of 0.94 (the required V value limit is 0.88).

Stage 5: Revising the assessment form as an initial product

In this stage, the researchers recorded the inputs from the experts regarding the form for assessing patients with T2DM, including (1) Developing a specific assessment form for patients with T2DM in the outpatient control of Airlangga University Hospital Surabaya, 2) The nursing assessment form was compiled as a result of this research must still refer to the hospital accreditation national standards, which include bio-psycho-socio-spiritual aspects, and 3) This assessment form can be used as additional data from the existing assessment form.

Stage 6: Pilot testing the assessment form as a result of the development

At this stage, the researchers socialized the results of the form development and conducted a pilot testing with nine nurses in the internal medicine outpatient department on 20 August 2019. In addition, the researchers analyzed nurses' ability to fill out the form consisting of four components of CCM: self-management support, decision support, social activities, and clinical information. Descriptive analysis was used for data analysis, with good, sufficient, and poor categories.

The results showed that 90% of nurses' self-management data were good, 100% good of filling decision support and social data, 70% good of filling environmental data, and 100% good of filling about clinical information data. In conclusion, almost all nurses could fill in the four components correctly.

Stages 7 and 8: Revised and re-testing the quality of the assessment form

The researchers completed the nursing assessment form and revised it based on input from the nurses about the ease and accessibility of filling out the form. After revision, the form was sent back to nine nurses for re-check. The results revealed that 100% of nurses agreed with the high functionality, efficiency, and usability of the form.

Stage 9: Revising the final assessment form

After stages 7 and 8, the researchers conducted another face validity through FGD phase 2 on 10 September 2019 with the same nurses in FGD phase 1 to confirm the form. This step was to ensure that the form was in line with the latest information and recommendations for the patients.

The results of FGD phase 2 suggested that (1) The assessment form was prepared based on the CCM by adding a data component of the assessment of other (complementary) treatments used by patients with DM as a companion to medical treatment; (2) The form was valid and specially prepared for patients with DM by providing checkpoints to facilitate data filling. This form

complemented existing forms and was based on the hospital accreditation national standard; (3) It is necessary to follow up using the nursing assessment form to explore data. **Figure 1** shows an integrative assessment form in patients with DM.

Stage 10: Dissemination and implementation

The nursing assessment form in this study has not yet gone through the trial phase, which could be considered one of the limitations of this study, so it still requires a large-scale trial from both the number of respondents and the research location.

Ethical Consideration

This research was declared to have passed ethics by the Ethics and Law Committee of the Airlangga University Hospital in Surabaya through the Ethics Review Pass Certificate No. 137 / KEH / 2019. Informed consent was done for each participant in this study.

Discussion

The CCM is an approach that has been widely used in various health care settings to guide the improvement of chronic disease care systems (Baptista et al., 2016; Sendall et al., 2017; El-sol & Babikir, 2018). The design of CCM theory is to solve complex problems, motivate health workers, including nurses. Nurses as the frontline have a fundamental role in nursing practice—providing health information and education to patients and building relationships between patients and nurses and the community. Nurses also maintain continuity of care, use technology to optimize care delivery, support long-term adherence to therapy, and promote collaborative practice (Furtado & Nóbrega, 2013).

To improve the management of chronic diseases associated with CAM use, an open dialogue between CAM practitioners and medical professionals can help improve decisions about care for patients with various chronic conditions (Faldi et al., 2016). Patients with multiple comorbidities use a variety of non-conventional approaches to managing their disease. Health care providers at every level need to proactively know the behavior of patients who use CAM products and/or services. In addition, health care providers also need to offer patients information about the risks, benefits, and potential implications of using CAM (Mbizo et al., 2018). Health beliefs consisting of perceived vulnerability and severity, perceived benefits, perceived inhibition, and perceived self-efficacy were strong predictors associated with the use of herbs as a complement to diabetes self-care. Nurses, as part of health workers, must pay attention to patient health beliefs in providing education to patients (Joeliantina et al., 2021).

Research has shown that the application of CCM in the management of T2DM in public health services can be beneficial. CCM has been used for diabetic patients in some health care settings and has shown a reduction in cardiovascular risk factors and a reduction in A1c, along

with improvements in complication screening. That is evidence to suggest that high-performing practices occur when healthcare services are combined with several elements of CCM with a systematic approach (Stuckey et al., 2011). Therefore, in this study, the nursing assessment form was developed based on the CCM consisting of self-management support, decision support, service system design, and clinical information (Simonsen et al., 2018; Kong et al., 2019). The core element of CCM is the interaction between the doctor and the patient, which benefits the patient's awareness of self-management and the development of skills that further improve patient health outcomes. A previous study indicated that the CCM-based intervention improves multiple health behaviors, clinical examination outcomes, and quality of life of Chinese patients with type 2 diabetes in the short term (Kong et al., 2019).

Patients with DM need treatment in the long term. DM patients do not choose medical treatments alone, but the patients use other drugs as a companion to medical treatment. Airlangga University Hospital Surabaya has a traditional medicine department that allows patients with chronic diseases to consult with officers in the department. Health care providers should always ask about the use of herbs as complementary and alternative treatments for a patient with DM, as some herbs can cause unexpected side effects and/or interactions with traditional pharmacotherapy. Patients with DM need to inform health care providers if using herbs as a complementary and/or alternative medicine to manage their disease (Grossman et al., 2018). Herbs proved to be a better choice than synthetic drugs because of their fewer side effects. Herbal formulations are easy to obtain without a doctor's prescription. The use of this herb is for life-threatening illnesses and when chemical drugs are no longer effective in treating the disease (Verma et al., 2018). Compliance with taking medication for DM sufferers shows the behavior of using herbs to complement medical treatment. Patients with DM have experience using more than one herb to manage their disease (Joeliantina & Anugrahini, 2020). The use of herbs by patients with T2DM has a tendency to randomly lower blood sugar levels when used as a complement to medical treatment (Proboningsih et al., 2020).

However, the nursing assessment form in the outpatient department was not yet specific. It did not accommodate the needs of DM patients in taking treatment; therefore, adjustment and modification were needed. This research combined the concept of CCM with the use of herbs that complement or accompany medical treatment. The question items as other (complementary) treatment options were added and used by DM patients as a form of patient decision support in choosing treatment. Health workers (doctors or nurses) should be aware that one in two patients with DM is using CAM, and when evaluating patients, they should ask the patient about using CAM. It aims to quickly identify a decrease in quality of life in patients with DM who use CAM (Candar et al., 2018).

The government has regulated Integrated Traditional Health Services, a form of health service that combines conventional health services with traditional health services of complementary, either as a compliment or a substitute in certain circumstances. The implementation of Integrated Traditional Health Services in Health Service Facilities functions to complement conventional health services. Another function is to promote, prevent, curative, rehabilitate, and improve patient's quality of life physically, mentally, and socially (Ministry of Health of the Republic of Indonesia, 2017).

Overall, this study has provided the new form that will be beneficial for healthcare workers, especially nurses, to assess DMT2 patients who use complementary medicine.

It is also noteworthy that the form developed in this study did not replace the existing ones but rather provided additional information or insights needed for both healthcare workers and patients. Also, this form is still in line with the hospital accreditation standard, covering bio-psycho-socio-spiritual aspects.

Limitation

The results of this study could be used as an initial product of an assessment form development because the psychometric testing has not yet been done with the larger sample size, especially in nurses as the participants who fill the form. Therefore, further research is needed to examine the psychometric properties of the form.

NURSING ASSESSMENT FORMAT FOR PATIENTS WITH DIABETES MELLITUS			
PATIENT'S IDENTITY			
Name	:	Age	:
Gender	:	Insurance Ownership	:
Religion	:	Education Level	:
Ethnic	:	Marital status	:
Occupation	:	Income Family/month (IDR)	:
SELF MANAGEMENT			
Diets Settings			
Schedule	:	Weight (in kg)	:
Quantity	:	Height (in cm)	:
Type	:	BMI	:
Activity Settings and Exercise			
Regularly exercise	:	Activity at home	:
Lifestyle Healthy			
Smoking	:	Alcohol	:
Visits to health workers			
Others doctors	:	Nutritionist	:
DECISION SUPPORT			
Insurance ownership	:	Barriers in carrying out management	:
Beliefs and values			
Worship/habits praying	:	Barriers in worship/praying	:
SOCIAL ACTIVITIES			
Participate in health activities in the community	:		:

CLINICAL INFORMATION

Duration of DM:


Vital Sign: Blood Pressure: mmHg Pulse: x/min Respiration Rate: x/min Temperature: °C

Hereditary history : ☐ Yes ☐ No Taking medication ☐ Regular ☐ Irregular

Type of treatment : ☐ Pills Other treatment : ☐ Herbal

Drug name Name
 Dosage Dosage
☐ Insulin injection Presentation
 Drug name Supplements
 Dosage Name
 ☐ Acupuncture
 ☐ Others

Complaints : ☐ Tingling in the legs Complications : ☐ Sores on the legs
☐ Pain in the legs ☐ Disorders Eyes
☐ Numbness in the legs ☐ Heart disorders
☐ Itching ☐ Stroke
☐ Heart palpitations ☐ Amputation
☐ Frequent urination ☐ Kidney disorders
☐ Difficulty sleeping ☐ High cholesterol
☐ Blurred eyes ☐ High blood pressure
☐ Others

Blood sugar level (mg/dl) : 


HbA1c (%) or (mmol/mol) : 

Figure 1 Form of the integrative assessment of patients with diabetes mellitus

Conclusion

This study developed a new comprehensive nursing form for assessing patients with DM, with strong content validity and face validity. Furthermore, the integration of the four components of CCM (self-management support, decision support, social activities, and clinical information) into the assessment form enriches the assessment data and describes the patients holistically. Therefore, the healthcare workers and nurses could use this form for the assessment of patients with DM.

Declaration of Conflicting Interest

Nothing to declare.

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Authors' Contributions

AJ contributed to study conception, literature search, data collection, analysis, interpretation, manuscript preparation, manuscript review. DAJ contributed to study concept, literature search, data collection, manuscript preparation. HNA contributed to data collection and manuscript preparation. All authors agreed with the final version of the article to be published.

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Data Availability Statement

All data generated or analyzed during this study are included in this published article.

References

- American Diabetes Association. (2019a). 1. Improving care and promoting health in populations: Standards of medical care in diabetes—2019. *Diabetes Care*, 42(Supplement 1), S7-S12. <https://doi.org/10.2337/dc19-S001>
- American Diabetes Association. (2019b). Introduction: Standards of medical care in diabetes—2019. *Diabetes Care*, 42(Supplement 1), S1-S2. <https://doi.org/10.2337/dc19-Sint01>
- Aung, E., Ostini, R., Dower, J., Donald, M., Coll, J. R., Williams, G. M., & Doi, S. A. R. (2016). Patient assessment of chronic illness care (PACIC) in type 2 diabetes: A longitudinal study. *Evaluation & the Health Professions*, 39(2), 185-203. <https://doi.org/10.1177%2F0163278714556674>
- Azwar, S. (2015). *Penyusunan skala psikologi [Psychological scale preparation]* Yogyakarta, Indonesia: Pustaka Pelajar.
- Baptista, D. R., Wiens, A., Pontarolo, R., Regis, L., Reis, W. C. T., & Correr, C. J. (2016). The chronic care model for type 2 diabetes: A systematic review. *Diabetology & Metabolic Syndrome*, 8(1), 1-7. <https://doi.org/10.1186/s13098-015-0119-z>
- Candar, A., Demirci, H., Baran, A. K., & Akpınar, Y. (2018). The association between quality of life and complementary and alternative medicine use in patients with diabetes mellitus. *Complementary Therapies in Clinical Practice*, 31, 1-6. <https://doi.org/10.1016/j.ctcp.2018.01.002>
- El-sol, A. E.-S. H., & Babikir, R. K. M. (2018). Nursing: Chronic care model for diabetes mellitus. *National Journal of Advanced Research*, 4(1), 118-123.
- Falci, L., Shi, Z., & Greenlee, H. (2016). Multiple chronic conditions and use of complementary and alternative medicine among US adults: Results from the 2012 national health interview survey. *Preventing Chronic Disease*, 13, E61. <https://doi.org/10.5888/pcd13.150501>
- Furtado, L. G., & Nóbrega, M. M. L. d. (2013). Model of care in chronic disease: Inclusion of a theory of nursing. *Texto & Contexto-Enfermagem*, 22, 1197-1204. <https://doi.org/10.1590/S0104-07072013000400039>
- Gall, M. D., Borg, W. R., & Gall, J. P. (2003). *Educational research: An introduction* (7th ed.). New York: Pearson Education.
- Grossman, L. D., Roscoe, R., & Shack, A. R. (2018). Complementary and alternative medicine for diabetes. *Canadian Journal of Diabetes*, 42, S154-S161. <https://doi.org/10.1016/j.jcjd.2017.10.023>
- International Diabetes Federation. (2017). *IDF diabetes atlas* (8th ed.). Belgium: International Diabetes Federation.
- Joeliantina, A., Agil, M., Qomaruddin, M. B., Jonosewojo, A., & Kusnanto, K. (2016). Responses of diabetes mellitus patients who used complementary medicine. *International Journal of Public Health Science (IJPHS)*, 5(4), 367-374.
- Joeliantina, A., & Anugrahini, H. N. (2020). Self-care behavior in diabetes mellitus patients using herbals as a complement to treatment. *Health Notions*, 4(10), 333-337. <https://doi.org/10.33846/hn41004>
- Joeliantina, A., Anugrahini, H. N., & Proboningsih, J. (2021). The health beliefs of patient with type 2 diabetes mellitus who use herbs as a complement to self-care. *10(2)*, 265-271. <http://doi.org/10.11591/ijphs.v10i2.20729>
- Joeliantina, A., Soedirham, O., Agil, M., Qomaruddin, M. B., & Kusnanto, K. (2019). A literature review of complementary and alternative medicine used among diabetes mellitus patients. *International Journal of Public Health Science (IJPHS)*, 8(2), 277-386. <https://doi.org/10.11591/ijphs.v8i2.16537>
- Kong, J.-X., Zhu, L., Wang, H.-M., Li, Y., Guo, A.-Y., Gao, C., . . . Zhu, H.-H. (2019). Effectiveness of the chronic care model in type 2 diabetes management in a community health service center in China: A group randomized experimental study. *Journal of Diabetes Research*, 2019, 6516581. <https://doi.org/10.1155/2019/6516581>
- Kroeger, A. (1983). Anthropological and socio-medical health care research in developing countries. *Social Science & Medicine*, 17(3), 147-161. [https://doi.org/10.1016/0277-9536\(83\)90248-4](https://doi.org/10.1016/0277-9536(83)90248-4)
- Mbizo, J., Okafor, A., Sutton, M. A., Leyva, B., Stone, L. M., & Olaku, O. (2018). Complementary and alternative medicine use among persons with multiple chronic conditions: Results from the 2012 National Health Interview Survey. *BMC Complementary and Alternative Medicine*, 18(1), 1-12. <https://doi.org/10.1186/s12906-018-2342-2>
- Ministry of Health of the Republic of Indonesia. (2017). *Regulation of the Ministry of Health of the Republic of Indonesia Number 37 of 2017 concerning Integrated Traditional Health Services*. Retrieved from <https://peraturan.bpk.go.id/Home/Details/112104/permenkes-no-37-tahun-2017>
- Patterson, C., & Arthur, H. (2009). A complementary alternative medicine questionnaire for young adults. *Integrative Medicine Insights*, 4, IMI-S2281. <https://doi.org/10.4137%2FIMI.S2281>
- Proboningsih, J., Joeliantina, A., Novitasari, A., & Purnamawati, D. (2020). Complementary treatment to reduce blood sugar levels of DM2 patients. *International Journal of Public Health Science (IJPHS)*, 9(3), 267-271. <https://doi.org/10.11591/ijphs.v9i3.20434>
- Quandt, S. A., Verhoef, M. J., Arcury, T. A., Lewith, G. T., Steinsbekk, A., Kristoffersen, A. E., . . . Fønnebo, V. (2009). Development of an international questionnaire to measure use of complementary and alternative medicine (I-CAM-Q). *The Journal of Alternative and Complementary Medicine*, 15(4), 331-339. <https://doi.org/10.1089/acm.2008.0521>
- Sendall, M., McCosker, L., Crossley, K., & Bonner, A. (2017). A structured review of chronic care model components supporting transition between healthcare service delivery types for older people with multiple chronic diseases. *Health Information Management Journal*, 46(2), 58-68. <https://doi.org/10.1177%2F1833358316681687>
- Simonsen, N., Koponen, A. M., & Suominen, S. (2018). Patients' assessment of chronic illness care: A validation study among patients with type 2 diabetes in Finland. *BMC Health Services Research*, 18(1), 412. <https://doi.org/10.1186/s12913-018-3206-7>
- Stuckey, H. L., Adelman, A. M., & Gabbay, R. A. (2011). Improving care by delivering the Chronic Care Model for diabetes. *Diabetes Management*, 1(1), 37-52. <https://doi.org/10.2217/dmt.10.9>
- Verma, S., Gupta, M., Popli, H., & Aggarwal, G. (2018). Diabetes mellitus treatment using herbal drugs. *International Journal of Phytomedicine*, 10(1), 1-10. <https://doi.org/10.5138/09750185.2181>

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The importance of providing palliative care for patients with severe COVID-19 in Indonesia

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Abstract

Patients with Coronavirus Disease 2019 (COVID-19), particularly those with a severe condition, might not survive. Pandemic situation challenges the healthcare providers in addressing palliative care to the patients. This paper aimed to describe the importance of providing palliative care for patients with severe COVID-19 in Indonesia. We used a case scenario to illustrate the common condition experienced by a patient with severe COVID-19. Health care providers in Indonesia could address palliative care for patients with COVID-19 by focusing on controlling the symptoms, avoiding futile intervention, and connecting the patients and their families. Nurses need to consider the patients' needs for family supports, even though not in physical or psychosocial support, and help the patients who need end-of-life care to be dying with dignity. Communication technology must be utilized optimally by healthcare providers to realize the communication among the patients, families, and health workers.

Keywords

COVID-19; palliative care; end-of-life care; terminal care; patient-centered care; nursing; Indonesia

The world has been suffering due to the COVID-19 pandemic. This causes stress and anxiety amongst people around the world and seriously contributes to the instability of social and economic conditions (Bong et al., 2020). Therefore, health service organizations have to prioritize efforts to reduce the risk of diseases, complications, and suffering (Ting et al., 2020). Furthermore, patients with severe COVID-19 may experience distressing symptoms, and these can escalate rapidly, including breathlessness and agitation, in which they will feel they have life-threatening risks and are in uncertain situations. Accordingly, healthcare providers should address the best approach for the palliation of these symptoms (Ting et al., 2020).

In Indonesia, as in other countries, during the COVID-19 pandemic (<http://covid19.go.id>), family members are not allowed to assist the patients at their bedside in order to prevent the spread of the virus (NHS Education for

Scotland, 2020). This isolation gives a heavy burden for the family since, in Indonesia, they are used to assisting during most hospitalizations for even 24 hours a day and seven days a week (Effendy et al., 2015). Many patients and families suffer from numerous miserable conditions in this current situation, both physically and emotionally. In this context, the role of the healthcare providers to give adequate and qualified service needs to be doubled compared to the normal condition (without the pandemic). Healthcare providers can (and should) assist the patients to not feel lonely or isolated during their severe illness because it can lead to death (Ting et al., 2020).

Palliative Care and Its Roles in COVID-19 Pandemic in Indonesia

Palliative care as a basic need of patients with serious illness has been underused in caring for those with severe COVID-19. Palliative care involves therapy and caring and

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support for people with certain diseases that limit their lives, families, and social network. This is also categorized as supportive care. With its bio-psycho-socio-spiritual approaches, palliative care focuses on improving the patients' life quality with serious suffering related to their health and families (World Health Organization, 2020). This includes controlling the symptoms, therapeutic communication and empathetic attitude, psychosocial support, loss, grief, and end-of-life care (Hui et al., 2013).

One of the significant factors in giving palliative care is the involvement of the family caregivers as a support system. Taking care of sick family members as a family duty is one of the cultures in Indonesia (Effendy et al., 2015; Kristanti et al., 2017; Kristanti et al., 2021). that is highly respected by Indonesian society at any ethnic level. However, the present condition challenges the patients, families, and health care professionals. Ideally, palliative care is conducted by using the patient-centered care approach (Lavoie et al., 2013), and families are the crucial parts that always collaborate with the medical team who takes care of the patients. For the health workers, particularly nurses, providing palliative care for these patients is challenging due to several reasons (Giorgi et al., 2020). In Indonesia, the absence of the family members' attendance during the hospitalization or patient's isolation could be the main challenge in caring for the patient.

In this pandemic condition, nurses and healthcare providers must be creative and innovative in realizing the expected nursing objectives, which is, in this case, palliative care. In addition, the other challenges such as workload, society stigma, limited facilities, and uncertain patients' conditions as well as human resources must be handled well to help the patients to get qualified service and to uphold the patients' quality of life according to their conditions or so that the patients can pass away with dignity (Giorgi et al., 2020).

In this situation, it can be understood that the families get panic and worry if one of the family members tests positive for COVID-19 because it is impossible for the families to assist the patients anymore (Prime et al., 2020). In Indonesia, families are actively involved in taking care of the patients and have great roles in decision making related to the patients both about medication/therapy and other decisions related to the patients' treatment. In Indonesia, autonomy in decision-making is generally not in individuals but families (Effendy et al., 2015).

Health care systems and their workers can suffer more when the number of COVID-19 patients is constantly increasing (Margaretha et al., 2020). Several hospitals even experience a lack of healthcare providers (Bong et al., 2020). On any occasion, the health care providers, especially the nurses, should maintain effective communication with the patients' families. Communication between the patients' families and the healthcare providers will facilitate peace for the families and the patients (Ting et al., 2020). There are several aspects that nurses and other healthcare providers can provide for the patients and families during separation due to the COVID-19 protocol

(Feder et al., 2020). For example, an illustration of a case, as follows:

A Case Scenario

Mr. SN (52 years old) is an employee being hospitalized due to COVID-19. On day 6, he is still conscious, with complaints of suffocation, cough, and fever. The laboratory results are getting worse. The medical team predicts that Mr. SN might not be able to survive. All members of the medical team feel concerned with his condition. They try hard to give the best treatment for Mr. SN by not letting him feel pain and suffocated by giving him painkillers and applying respiratory aids. On the 11th day of the treatment, Mr. SN can no longer communicate, and his condition is getting worse. All medical workers are busy and focused on the physical condition of the patients. The problems that might arise in that case are as follows:

- 1. Physical problems: pain, suffocation, self-care problems, daily activities problems.*
- 2. Psychological problems: afraid and anxious due to the progress of the illness, depression, and loneliness.*
- 3. Social problems: feeling lonely, lack of communication, lack of knowledge, and far away from family.*
- 4. Spiritual problems: afraid of death, feeling that the disease is a punishment from God.*
- 5. Lack of information about the disease and its progress.*

In Mr. SN's situation, healthcare providers are able to provide palliative care to the patient. It means that medical team members take care of the patients regarding their physical condition and psychological, social, and spiritual problems. Of course, the medical team should consider the best solutions to realize palliative care for the patients.

Recommendation of Palliative Care in Caring for Patients with Severe COVID-19

Basically, the main goal of palliative care is to facilitate patients to handle the problems such as physical, psychological, social, and spiritual problems that eventually will help the patients feel comfortable and improve their well-being (The Lancet, 2020). In the situation where the patients' conditions are getting worse, the implementation of palliative care is expected to help and assist the patients in going through their life journey reflection, and eventually, they can die with dignity (Hui et al., 2013).

Generally, the medical team will feel that they do not have the skills in palliative care. This can be understood since, based on the prior research, in most of the hospitals in Indonesia, the active healthcare providers have never joined palliative care training, and only less than 10% have joined palliative care training (Effendy et al., 2015). However, this does not matter since the healthcare providers have conducted the basics of palliative care without realizing it, as long as they have paid enough attention to the physical, psychological, social, and spiritual aspects and have avoided futile actions since those are in line with the basic palliative care (Quill & Abernethy, 2013). Or, when health care professionals realize that they need to apply palliative care, they then make extra effort to get more information on this topic to enhance their own knowledge and learn about new skills (Fadul et al., 2021).

In the situation when there are no palliative specialists, primary palliative care is the responsibility of every healthcare provider caring for a seriously ill patient (Quill & Abernethy, 2013), including patients with severe COVID-19 (Powell & Silveira, 2020).

Several approaches might be able to be performed under challenging situations for health care professionals with no palliative care training certifications:

1. Providing comfort for the patients (no pain, no suffocating, no other physical complaints). This can be done by administering pain killer medications, giving oxygenation according to the patients' needs (referring to the lab results and oxygen saturation), and providing respiratory aids (if needed) (Ballentine, 2020).
2. Maintaining good communication among the families, patients, and medical team (using phone calls or video calls, whispering to patients' ears, holding the mobile phone when families communicate with the health workers) (Goodman, 2020).
3. Avoiding futility intervention. For patients with worsening conditions, futile supporting examination intervention should be avoided. This is to prevent the patients from feeling more suffered for something that is less advantageous. For example, CT scan, repeated COVID-19 tests, and so on. Besides, this is also to reduce more expenses for patients not covered by health insurance (Feder et al., 2020).
4. Helping the patients to find self-peace by assisting the patients in praying or praying for patients or letting the patients listen to some prayers (for those who are unable to communicate anymore). It is essential to keep in mind that even though the patients are not conscious anymore, patients still can hear or feel what is done to and for them (Ferrell et al., 2020).
5. Giving a chance for the patients to be close to their favorite belongings, like family or friends' pictures or others. This can be done by cooperating with the patient's family. Besides giving positive effects for the patients, it will also make the families feel calm and close to the patients even though they are physically separated. This could help the patients feel as if they are not dying alone (Wakam et al., 2020).
6. Always giving information related to the patients' progress for the families (because palliative care is not only meant for improving patients' life quality but also families' life quality).
7. Communicating with the patients about what they want during hospitalization and their whole lives and wishes (Goodman, 2020). It is important to ask about the patients' wants (preference) while it is still possible to ask them (still conscious). This might be a huge burden for most health care providers because they already feel overloaded and overwhelmed with the duties and daily activities (Margaretha et al., 2020). However, suppose it is planned well, for example. In that case, nurses can use their time when helping the patients bathe or do other interventions while establishing a mutual relationship with the patients by giving them

more time (a couple of minutes to chat with the patients). Besides serving as essential data for the medical team for the consideration in decision making related to the therapy and patients' illness, this is also beneficial in handling psychology problems of the patients if the patients feel lonely and far from their families. It is essential to believe that this action is very meaningful for the patients. Nurses can be excellent listeners.

8. Making families the source of information that can be useful in helping the patients to get anything they want or to make patients' habits optimally so that the patients can be "themselves" (Bajwah et al., 2020).
9. Trying hard so that the patients will experience their last moment with dignity. Medical team members, especially nurses whose job is to assist the patients for 24 hours, can help them realize their dreams and convey the family's messages to their patients. For example, the patients mention their wish for their children if they have a chance, they will give something, or the patients wish to be buried in their hometown or near their parents' grave, and so on. Therefore, it is vital to communicate and listen to the patients while they are still able to say their wishes. If the patients are already in an unconscious condition, then realizing the patients' wishes based on what is stated by their families is a crucial task to do. Maybe, their families did not know that the patients have certain desires, so the medical team should remind their families to realize the patients' wishes so that they can die peacefully.
10. Health care professionals can also offer a more memorable touch for the family. For example, when possible, ask if the family would like to get the patient's video. This may become the family's last moment with their loved ones.

Discussion

Palliative care is a treatment with a patient-centered care approach (Lavoie et al., 2013). Patients have different problems and needs from each other. Therefore, they must be treated personally by focusing on the patients' conditions and needs by considering numerous aspects such as norms and culture, patients' wants, beliefs/religion, and support system involved in patient care.

Based on the concept of patient-centered care, the medical team must focus on the problems and the needs of the patients personally (Lavoie et al., 2013). For example, even though the patients are hospitalized due to the same disease, COVID-19, the patients have a different medical history, personal and cultural issues, and religions. Therefore, medical team members must treat the patients by focusing specifically on the patients' problems and needs.

In handling the worsening condition of COVID-19 patients, the medical team should refer to the general local, regional, or national guidelines. In Indonesia, healthcare providers address palliative care based on the Decree of

the Minister of Health No. 812/Menkes/SK/VII/2017 about Palliative Care Policy as the national regulation. In caring for patients with severe COVID-19 who need palliative care, healthcare providers should adapt to the pandemic situation within various existing constraints.

Generally, in Indonesia, patients do not have autonomy in decision-making since it is mainly done by their families (Effendy et al., 2015). Therefore, families have a role in decision-making for every decision related to therapy and the patients' illness (Effendy et al., 2015). This is such a challenge for the healthcare providers in this pandemic condition because this is when the families cannot physically support the patients. Therefore, communication must be maintained very well by utilizing technologies to support the communication between the healthcare providers and the families and between the patients and the families (Fadul et al., 2021; Wittenberg et al., 2021).

For those who have family members with concerning conditions of serious chronic diseases, the families must have high anxiety and fears and have many questions related to how to support the patients to get better condition, safe, and not be infected by COVID-19 during this pandemic (Bajwah et al., 2020). In this situation, families need accurate and complete information about patient management, available services, and what must be done if the loved ones get worse and in a life-and-death situation. Therefore, it is essential to educate the families through various social media and using the roles of the village officials, public figures, and religious figures. Furthermore, it is irrefutable that family support is a crucial factor in the treatment process for the patients (Radbruch et al., 2020).

Healthcare providers must make sure that the patients being hospitalized with severe COVID-19 receive palliative care (Ballentine, 2020) not only for physical needs such as suffocation, cough, fever, and delirium but also for psychosocial and spiritual needs, as well as for the communication to their families, even from a distance. The medical team must not do a futile intervention and conduct the treatment effectively since the progress of the disease is rapid with sometimes only provides a short time to survive (NHS Education for Scotland, 2020). In facing a more severe condition, the medical team must anticipate this inevitable outcome with life-long care until the end (Fadul et al., 2021).

Implication for Nursing Practice

Nurses always have direct and frequent contact with patients and their families. In this pandemic condition, nurses must be creative and innovative in realizing the expected nursing objectives, particularly caring for patients with COVID-19. Nurses have an essential role in addressing palliative care. The use of technology can be optimally used to connect the patients and their families. In order to provide good palliative care for patients with severe COVID-19 and to enhance the quality of life of the patients as well as help the patients dying with dignity, we

have recommended 10 points in practically apply palliative care for the COVID-19 patients, especially those who suffer from separation with their families during isolation.

Conclusion

In this pandemic situation, both health care providers and patients' families are challenged to provide palliative care. Health care providers must prepare themselves to manage their time effectively and efficiently in giving treatment for the patients. Palliative care must be applied for COVID-19 patients by considering the patients' needs for family supports, even though not in the form of physical support. Communication technology must be utilized optimally by healthcare providers to realize the communication among the patients, families, and health workers. This is particularly intended for the patients so that they will not feel lonely and may eventually die without their families to share in their last breath.

Declaration of Conflicting Interest

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Authors' Contributions

CE was responsible for design the work, drafting the concept and writing the manuscript; MSK contributed to revising it critically for important intellectual content. Both authors have provided final approval of the version to be published and agreement to be accountable for all aspects on the work regarding to content.

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References

- Bajwah, S., Wilcock, A., Towers, R., Costantini, M., Bausewein, C., Simon, S. T., . . . Higginson, I. J. (2020). Managing the supportive care needs of those affected by COVID-19. *European Respiratory Journal*, 55(4), 2000815. <https://doi.org/10.1183/13993003.00815-2020>
- Ballentine, J. M. (2020). The role of palliative care in a COVID-19 pandemic. Retrieved from <https://csupalliativecare.org/palliative-care-and-covid-19/>
- Bong, C.-L., Brasher, C., Chikumba, E., McDougall, R., Mellin-Olsen, J., & Enright, A. (2020). The COVID-19 pandemic: Effects on low-and middle-income countries. *Anesthesia and Analgesia*, 131(1), 89-92. <https://doi.org/10.1213/ANE.00000000000004846>
- Effendy, C., Vernooij-Dassen, M., Setiyarini, S., Kristanti, M. S., Tejawinata, S., Vissers, K., & Engels, Y. (2015). Family caregivers' involvement in caring for a hospitalized patient with cancer and their quality of life in a country with strong family

- bonds. *Psycho-Oncology*, 24(5), 585-591. <https://doi.org/10.1002/pon.3701>
- Fadul, N., Elsayem, A. F., & Bruera, E. (2021). Integration of palliative care into COVID-19 pandemic planning. *BMJ Supportive & Palliative Care*, 11(1), 40-44. <https://doi.org/10.1136/bmjspcare-2020-002364>
- Feder, S. L., Akgün, K. M., & Schulman-Green, D. (2020). Palliative care strategies offer guidance to clinicians and comfort for COVID-19 patient and families. *Heart Lung*, 49(3), 227-228. <https://doi.org/10.1016/j.hrtlng.2020.04.001>
- Ferrell, B. R., Handzo, G., Picchi, T., Puchalski, C., & Rosa, W. E. (2020). The urgency of spiritual care: COVID-19 and the critical need for whole-person palliation. *Journal of Pain and Symptom Management*, 60(3), e7-e11. <https://doi.org/10.1016/j.jpainsymman.2020.06.034>
- Giorgi, G., Lecca, L. I., Alessio, F., Finstad, G. L., Bondanini, G., Lulli, L. G., . . . Mucci, N. (2020). COVID-19-related mental health effects in the workplace: A narrative review. *International Journal of Environmental Research and Public Health*, 17(21), 7857. <https://doi.org/10.3390/ijerph17217857>
- Goodman, E. (2020). The Conversation Project: Helping people talk about their wishes for end-of-life care. Retrieved from <http://theconversationproject.org>
- Hui, D., De La Cruz, M., Mori, M., Parsons, H. A., Kwon, J. H., Torres-Vigil, I., . . . Liem, C. (2013). Concepts and definitions for "supportive care," "best supportive care," "palliative care," and "hospice care" in the published literature, dictionaries, and textbooks. *Supportive Care in Cancer*, 21(3), 659-685. <https://doi.org/10.1007/s00520-012-1564-y>
- Kristanti, M. S., Kusmaryanto, K., & Effendy, C. (2021). Common ethical dilemmas of family caregivers of palliative patients in Indonesia. *Belitung Nursing Journal*, 7(3), 246-250. <https://doi.org/10.33546/bnj.1457>
- Kristanti, M. S., Setiyarini, S., & Effendy, C. (2017). Enhancing the quality of life for palliative care cancer patients in Indonesia through family caregivers: A pilot study of basic skills training. *BMC Palliative Care*, 16(1), 1-7. <https://doi.org/10.1186/s12904-016-0178-4>
- Lavoie, M., Blondeau, D., & Martineau, I. (2013). The integration of a person-centered approach in palliative care. *Palliative & Supportive Care*, 11(6), 453-464. <https://doi.org/10.1017/S1478951512000855>
- Margaretha, S. E. P. M., Effendy, C., Kusnanto, H., & Hasinuddin, M. (2020). Determinants psychological distress of Indonesian health care providers during COVID-19 pandemic. *Systematic Reviews in Pharmacy*, 11, 1052-1059.
- NHS Education for Scotland. (2020). *Caring for people who are dying and those close to them amidst COVID-19 visiting restrictions*. Retrieved from <http://www.sad.scot.nhs.uk/media/16396/caring-for-people-who-are-dying-amidst-covid-19-visiting-restrictions-web-final.pdf>
- Powell, V. D., & Silveira, M. J. (2020). What should palliative care's response be to the COVID-19 pandemic? *Journal of Pain and Symptom Management*, 60(1), e1-e3. <https://doi.org/10.1016/j.jpainsymman.2020.03.013>
- Prime, H., Wade, M., & Browne, D. T. (2020). Risk and resilience in family well-being during the COVID-19 pandemic. *The American Psychologist*, 75(5), 631-643. <https://doi.org/10.1037/amp0000660>
- Quill, T. E., & Abernethy, A. P. (2013). Generalist plus specialist palliative care — Creating a more sustainable model. *New England Journal of Medicine*, 368(13), 1173-1175. <https://doi.org/10.1056/NEJMp1215620>
- Radbruch, L., Knaut, F. M., de Lima, L., de Joncheere, C., & Bhadelia, A. (2020). The key role of palliative care in response to the COVID-19 tsunami of suffering. *Lancet*, 395(10235), 1467-1469. [https://doi.org/10.1016/s0140-6736\(20\)30964-8](https://doi.org/10.1016/s0140-6736(20)30964-8)
- The Lancet. (2020). Palliative care and the COVID-19 pandemic. *The Lancet*, 395(10231), 1168. [https://doi.org/10.1016/S0140-6736\(20\)30822-9](https://doi.org/10.1016/S0140-6736(20)30822-9)
- Ting, R., Edmonds, P., Higginson, I. J., & Sleeman, K. E. (2020). Palliative care for patients with severe covid-19. *British Medical Journal* 370. <https://doi.org/10.1136/bmj.m2710>
- Wakam, G. K., Montgomery, J. R., Biesterveld, B. E., & Brown, C. S. (2020). Not dying alone — Modern compassionate care in the Covid-19 pandemic. *New England Journal of Medicine*, 382(24), e88. <https://doi.org/10.1056/NEJMp2007781>
- Wittenberg, E., Goldsmith, J. V., Chen, C., Prince-Paul, M., & Johnson, R. R. (2021). Opportunities to improve COVID-19 provider communication resources: A systematic review. *Patient Education and Counseling*, 104(3), 438-451. <https://doi.org/10.1016/j.pec.2020.12.031>
- World Health Organization. (2020). *Providing palliative care during the COVID-19 pandemic: Experiences from Spain*. Retrieved from <https://apps.who.int/iris/handle/10665/336418>

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The war on COVID-19 and vaccination mandates: *Ethical code of conduct*

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"In loving memory of my beautiful sister, Estelle Salters, who passed away from COVID-19 (1965-2021). Rest in Love..."

Mandatory Employee Vaccines – Coming to A State Near You? (Mendelson, 2021). Dr. Ezekiel Emanuel, vice provost for global initiatives at the University of Pennsylvania, organized the statement, "Employer vaccine mandates are effective and lifesaving, and they are especially appropriate in health care and long-term care settings." He posits that healthcare professionals have an ethical responsibility to the health and well-being of society, vulnerable communities, and immunocompromised patients. Therefore, getting vaccinated for COVID-19 is integral to the ethical code of conduct and integral to their duty. Your patient should not worry that their healthcare worker will infect them, and no healthcare professional should risk the health of their patients. With COVID-19 case counts rising amid the spread of the Delta variant, over 50 health care professional societies and organizations called for all health care employers to require their employees to vaccinate against COVID-19. These societies and organizations represent millions of workers throughout health and long-term care—from doctors and nurses to pharmacists and physician assistants, public health workers and epidemiologists, long-term care, home care, and hospice workers (Association of American Medical Colleges [AAMC], 2021).

Globally, there have been 205,338,159 confirmed cases of COVID-19, including 4,333,094 deaths, reported to the World Health Organization [WHO] as of 13 August 2021 (WHO, 2021). Over 15 years before we recognized SARS-CoV-2 as a human pathogen, researchers were doing ground-breaking work that led to the concept of the mRNA and adenovirus vaccine platforms, which resulted in the rapid development of effective and safe vaccines

(Emanuel & Skorton, 2021). Would you mind refraining from conspiracy theories without substantive evidence to support your theory about the "rapid development" of the vaccine? You have an ethical responsibility to the health and well-being of your patients. Ethical awareness entails more than identifying situations in which ethical challenges arise. Robbins (2018) assert that Provision 5.3 of the American Nurses Association (ANA) Code of Ethics identifies the duty of nurses to engage in "sound ethical decision-making" when there is a conflict of values (para.1). Is a moral community in healthcare necessary for the ethical practice of nursing?

Milliken (2018) focuses on four ethical principles:

1. Autonomy (self-determination).
2. Beneficence (the promotion of good).
3. Maleficence (to avoid or minimize harm).
4. Justice (fairly or equally distributing both benefits and good).

Ethical awareness is necessary to avoid a conflict with one of these principles that would cause the nurse to act unethically (Milliken, 2018). The Nurses Association [ANA] Code of Ethics states: "Nursing encompasses the protection, promotion, and restoration of health and well-being; the prevention of illness and injury; and the alleviation of suffering, in the care of individuals, families, groups, communities, and populations" (ANA, 2015, p. vii).

"COVID-19 is a Beast we can all fight collaboratively in the spirit of Ubuntu! Let us continue the good fight, Amandla!!!"

Keywords

COVID-19; vaccination; nursing; ethics; vaccines; health personnel; public health; United States

Declaration of Conflicting Interest

The author declares no conflict of interest.

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References

ANA. (2015). *Code of ethics for nurses with interpretive statements*. Silver Spring, MD: American Nurses Association.

Association of American Medical Colleges [AAMC]. (2021). Major health care professional organizations call for COVID-19 vaccine mandates for all health workers. Retrieved from <https://www.aamc.org/news-insights/press-releases/major-health-care-professional-organizations-call-covid-19-vaccine-mandates-all-health-workers>

Emanuel, E. J., & Skorton, D. J. (2021). Mandating COVID-19 vaccination for health care workers. *Annals of Internal Medicine*. <https://doi.org/10.7326/M21-3150>

Mendelson, L. (2021). Mandatory employee vaccines – coming to a state near you? Retrieved from <https://www.littler.com/publication-press/publication/mandatory-employee-vaccines-coming-state-near-you>

Milliken, A. (2018). Ethical awareness: What it is and why it matters. *OJIN: The Online Journal of Issues in Nursing* 23(1). <https://doi.org/10.3912/OJIN.Vol23No01Man01>

Robbins, K. C. (2018, 2018 March-April). Nurses address ethical issues in health care. *Nephrology Nursing Journal*, 45, 215-219.

WHO. (2021). WHO Coronavirus Disease (COVID-19) dashboard. Retrieved from <https://covid19.who.int/>

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