Table 2 Illness cognition among respondents

Illness Cognition Dimension	Mean	SD	Median	Min	Max
Helplessness	13.20	4.776	12	6	24
Acceptance	18.22	3.335	18	8	24
Perceived benefits	20.13	3.055	21	11	24

Table 2 shows that acceptance and perceived benefits have a mean and median close to the maximum ICQ score (ICQ max score 24). On the other hand, the mean and median scores of helplessness are close to the minimum score ICQ (ICQ min score 6). These mean and median scores show that the respondents have high acceptance and perceived benefits also low helplessness.

Table 3 Depression among respondents

Depression Category	Mean	SD	Median	Min	Max	N	%
No Depression						77	72
Mild Depression	10.18	7.402	8	0	33	16	15
Moderate Depression						9	9
Major Depression						4	4

Table 3 shows the incidence of depression in this study. Just above three-quarters of respondents had no depression, but less than a fifth experience mild depression and a total of 12.3% of respondents had moderate to major depression.

Table 4 Correlation between illness cognition and depression

Independent Variables	Depression Score P/Approx. sig	Correlation Coefficient (r)
Helplessness	.000	.437**
Acceptance	.221	-.120
Perceived benefit	.317	-.098

*P/Approx. Sig <.05. | **P/Appox. Sig <.01

Table 4 shows that of the three dimensions of illness cognition consisting of helplessness, acceptance, and perceived benefits, the helplessness dimension is the only dimension with a significant correlation with depression. Also, the correlation coefficient (r) indicates a positive correlation between helplessness and depression with moderate correlation strength.

Table 5 Item analysis: Correlation between items helplessness and depression

Items	Depression P/Approx. Sig	Correlation Coefficient (r)
1. Because of my illness, I miss the things I like to do most.	.001	.316**
5. My illness controls my life.	.023	.221*
7. My illness makes me feel useless at times.	.003	.286**
9. My illness prevents me from doing what I would like to do	.026	.217*
12. My illness limits me in everything important to me	.004	.276**
15. My illness frequently makes me feel helpless	.013	.240*

*P/Approx. Sig <.05. | **P/Appox. Sig <.01

Table 5 shows that all items on the helplessness variable are significantly associated with depression. However, items 1, 7, and 12 had a higher significant correlation than other items. The correlation coefficient of all items shows a positive correlation between each item with depression.

Discussion

This study aimed to investigate the correlation between illness cognition and depression. Our study found that the helplessness dimension of illness cognition had a significant correlation with depression. Thus, this study supported prior research, which stated that helplessness was associated with depressive symptoms in patients with myocardial infarction (Karademas & Hondronikola, 2010) and patients with other chronic diseases such as chronic renal failure (Theofilou, 2011) and rheumatoid arthritis (Kwan et al., 2014). However, this study differs from Smallheer et al. (2018) in terms of participants. Smallheer et al. (2018) investigated the relationship between helplessness and depression among patients diagnosed

with CHD for at least a year. In this study, participants were involved from the acute care phase (several days after a heart attack) to more than six months after being diagnosed with CHD. This result showed that helplessness could occur since the beginning of an acute attack of CHD; previous research even stated that helplessness was experienced by patients persistently over time (Karademas & Hondronikola, 2010).

Helplessness, based on this research, was the only dimension correlated with depression. According to Beck (as cited in Smallheer, 2011), depression results from an individual's negative assessment. In the context of helplessness studied, depression manifests an individual's failure to get a relationship between response and appropriate outcomes. This condition increases pessimistic beliefs about oneself and negatively affects one's motivation, cognition, and emotions. Smallheer (2011) confirmed that if a person often fails to get the expected results for the efforts made, helplessness will occur and lead to depression.

According to Capobianco et al. (2020), helplessness is a negative metacognitive belief. Furthermore, this leads patients to an inability to control disease (uncontrollability), which is related to the onset of depression. In this study, uncontrollability can be identified from all of the statements of helplessness (Table 5), which showed a significant correlation with depression; thus, this result upholds findings from Capobianco et al. (2020).

Another study explains that helplessness had an independent impact on negative subjective health, including physical functioning and emotional wellbeing (Karademas & Hondronikola, 2010). Moreover, Juergens et al. (2010) found a significant relationship between initial illness belief and physical function and disability in the recovery phase of CHD patients after CABG surgery; this relationship shows that illness belief is essential to improve physical function. Furthermore, an increase in physical function reduces the patient's helplessness, thus diminishing the risk of depression.

Nurses as care providers need to consider helplessness in managing CHD patients because it is correlated with depression. Nurses can opt for various interventions to reduce helplessness. According to Hermele et al. (2007), increasing a better understanding of the patient regarding the disease and the treatment through psycho-education can lessen helplessness. Capobianco et al. (2020) added that helplessness is a form of pessimism, and the way to increase it is by cultivating optimism instead of helplessness through metacognitive therapy. Juergens et al. (2010) also identified illness beliefs related to physical function and disability in the recovery phase of CHD patients following CABG. One of the efforts to reduce helplessness is through increasing physical function. Moreover, improving physical function in CHD patients can be achieved through cardiac rehabilitation (Sutantri et al., 2019; Nuraeni et al., 2020; Su et al., 2020). However, those interventions still require further investigation of their influence on reducing helplessness among CHD patients in Indonesia.

Results also showed that acceptance and perceived benefits were not significantly correlated with depression. These may be attributable to several following explanations. According to Hirani and Newman (2005), acceptance is "Perceived ability to diminish, live with and master the aversive consequences of one's disease; recognizing the need to adapt to the chronic illness." While perceived benefits are " positive consequences arising from illness; benefits obtained, such as changes in life priorities and personal goals, positive personality changes, and stronger personal relationships." These two dimensions of illness cognition help deal with the disease. Furthermore, Karademas and Hondronikola (2010) state that acceptance was related to positive subjective health, which showed better physical function and emotional wellbeing.

Study Limitation

The determination of the sample using convenience sampling in this study is acceptable considering the sample involved a vulnerable population. Furthermore, the sample representation that depicts each category of care installation in the study had not considered the proportion of the average number of patients treated in each service unit, thus affecting the generalizability of the findings.

Conclusion

Based on three dimensions of illness cognition, helplessness was the most influential factor in depression among patients with CHD in Indonesia. Considering the adverse effects of depression, the factors that can reduce depression in CHD patients need to be identified and further explored to be used as potential measures in reducing the risk of depression.

Authors' Contribution
AN provided article development, ideas, reviewed theories, and literature analyzed, interpreted data wrote, and made manuscript final approval. AA, AP, and DN designed the study, data analysis, revised manuscript, and made final approval of the manuscript. All authors contributed and agreed with the final version of the manuscript.

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Data Availability Statement
All data generated or analyzed during this study are included in this published article (and its supplementary information files).

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Effect of care for child development training on cadres' knowledge, attitude, and efficacy in Yogyakarta, Indonesia

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Abstract

Background: Stunting is a common malnutrition problem among children in the world. The Care for Children Development (CCD) intervention is a strategy to reduce stunting.

Objective: This study aimed to identify the effect of culturally modified CCD training on the knowledge, attitude, and efficacy (KAE) of cadres about stunting in the community.

Methods: We conducted a community-based study with a quasi-experimental research design using a comparison group. The study was conducted from March 2018 to February 2019 at three Public Health Centers in Yogyakarta, Indonesia. The total participants were 69 in the intervention group and 53 in the comparison group. Cadres in the intervention group received two days of training on a culturally modified CCD guideline. In contrast, cadres in the comparison group received a brief explanation (a one-day training) on that program. The nurses from three public health centers were facilitators in this training. Knowledge and self-efficacy were assessed using a modified Caregiver Knowledge of Child Development Inventory and General Self-efficacy Scale, respectively. Data were analyzed using Mann-Whitney U and Wilcoxon tests.

Results: All 122 cadres completed the training. In the intervention group, CCD training significantly increased cadres' knowledge (median score 14 vs. 11), attitude (58 vs. 55), and efficacy (30 vs. 28), all with p <0.001. In the comparison group, the short explanation of CCD significantly improved cadres' knowledge (median score 12 vs. 10) and efficacy (29 vs. 27) but not their attitude. The delta or change in score before and after CCD training for cadres' attitude in the intervention group was significantly higher than that of the comparison group (3.78 vs. 0.72; p = 0.050).

Conclusion: A culturally modified CCD training significantly improves cadres' KAE in the intervention group and cadres' knowledge in the comparison group. The learning delivery methods with demonstrations and role-plays significantly improved the cadres' attitudes as health educators for stunted mothers in the community. For sustainability, community health nurses should regularly collaborate with cadres to improve the nutritional status of children in their area.

Keywords

child; volunteer; attitude; efficacy; nutritional status; nursing; Indonesia

Globally, stunting is a common malnutrition health problem among children. In 2019, the prevalence of stunting was around 21.3% (UNICEF, 2020). Commonly found in Low-

Middle-Income-Countries (LMICs), the highest prevalence of stunting occurs in Madagascar (49.8%), Guatemala (47%), Niger (47.5%), Burundi (54%), Madagascar

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(49.8%), Timor-Leste (49.8%), and Yemen (45.4%) (Kinyoki et al., 2020). The prevalence of stunting among children in Indonesia has been fluctuating. Recently, the prevalence of stunting was reduced from 37.2% (2013) to 30.8% (2018) (Indonesian Ministry of Health, 2018). Indonesia is still ranked second in South East Asia after Cambodia, which is based on the World Health Organization (WHO)'s indicators, where the countries with a prevalence of more than 20% indicate the chronic stunting condition.

Stunting has a long-term effect on growth and development. Previous studies found that the most impact of stunting involved lower cognitive development, school achievement, and economic productivity during adult and maternal reproduction health (Woldehanna et al., 2017; Alam et al., 2020). In addition, stunted children under two years old are more susceptible to suffer infection and diseases.

Review studies found some factors that contributed to the stunting of Indonesian children. These included male, premature birth, short birth length, maternal height, low maternal education, low household economic status, untreated drinking water, poor access to health care, living in a rural area, number of the household member under 5-year-old, weight at birth, and number of antenatal care (ANC) visits (Beal et al., 2018; Nshimyiryo et al., 2019; Titaley et al., 2019).

Recent research found that the most important factor affecting stunting was the maternal education level. Mothers with a lack of formal education were more likely to have stunted children (Berhe et al., 2019). In collaboration with The United Nations International Children's Emergency Fund (UNICEF), the WHO developed the Care for Child Development (CCD) program. This program aims to improve the mother's (caregivers') capability to be more sensitive and responsive to promote psychosocial development in young children (Chung et al., 2017). The CCD intervention has been piloted in 19 countries. However, only three countries implemented it as a national health policy that integrated the CCD with the health sector (Lucas et al., 2018). For example, in Pakistan, CCD interventions that involved Lady Health Workers (LHW) have enhanced the nutritional status among children under four years (Yousafzai et al., 2016).

In Indonesia, the large geographic diversity leads to inequality in many aspects of health care services, including access and coverage (Al-Ashwal et al., 2020). In 2018, the ratio of nurses for 1,000 population in Indonesia was 2.41 (The World Bank, 2021), which is less than what is recommended by the Organization for Economic Co-operation and Development (OECD) (OECD, 2019). In addition, most nurses are working in the hospital setting, and only a limited number of nurses are working in the community. Nurses working in Public Health Centers (Puskesmas) are responsible for monitoring children's health, growth, and development. Due to the limited number of nurses, they often involve cadres (LHW). Usually, the cadres in every village can routinely monitor

children's nutritional and developmental status through community programs such as *Balita,* which are focused on children <5 years old (Solikhah et al., 2018). Nurses from the local *Puskesmas* are responsible for providing training and supervising the volunteer cadres. The CCD program is essential to improve the Knowledge, Attitude, and Efficacy (KAE) of cadres. It will increase cadres' capability to fulfill their role as health educators and health facilitators in the community. However, the CCD intervention needs modification according to cadres' culture and local wisdom or mothers/parents in the community. The local wisdom approach will help cadres adapt their strategy and reach the goals of CCD training (Yousafzai et al., 2016). Recent research has shown that cultural involvement in training improved cadre's knowledge, attitude, and skills in the community (Subandi et al., 2019). In this study, the CCD intervention was modified by adding traditional games, Javanese music, and local forms of advice-giving. This study aimed to assess the effect of the CCD training on cadre's knowledge, attitude, and efficacy about stunting, in Yogyakarta, Indonesia.

Methods

Study Design
We conducted a community-based study with a quasi-experimental research design using a comparison group from March 2018 to February 2019.

Study Setting and Participants
The study was conducted in Yogyakarta Special Province, Indonesia. Yogyakarta Special Province consists of five districts: Kulon Progo, Sleman, Gunung Kidul, Bantul, and Yogyakarta City District. In 2019, the Kulon Progo District had the second highest ranked prevalence of stunted children (Health District Yogyakarta Province, 2019). From 12 sub-districts, Samigaluh and Kalibawang sub-district had the highest prevalence of stunting in their population. Both sub-districts are rural and remote areas.

Puskesmas serves as the first gate to access health care services in Indonesia. In Kulon Progo District, there are 21 Puskesmas, and each has a responsibility to cover a minimum of 30,000 population. Based on the current data from the Health District Yogyakarta Province, the highest number of stunted children were found in the areas covered by Puskesmas Kalibawang, Puskesmas Samigaluh I, and Puskesmas Samigaluh II. For sustainability, the community health nurses should regularly collaborate with cadres to improve the nutrition status of the children in their area. Therefore, we recruited cadres who are working under the supervision of nurses from those three *Puskesmas*. The cadres are healthcare volunteers who have a responsibility to support health programs in the community. Most of them are women who live in their village, and they do not receive a salary.

Cadres living in Kalibawang were assigned as the two-day training group, and cadres living in Samigaluh were selected as the one-day training group. The convenience

sampling method was used with the following inclusion criteria: registered cadres in the Puskesmas, minimal education background of Junior high school, living in sub-

village with stunted children < 2 years old, and agreed to participate in the program. The details of the participant selection are shown in Figure 1.
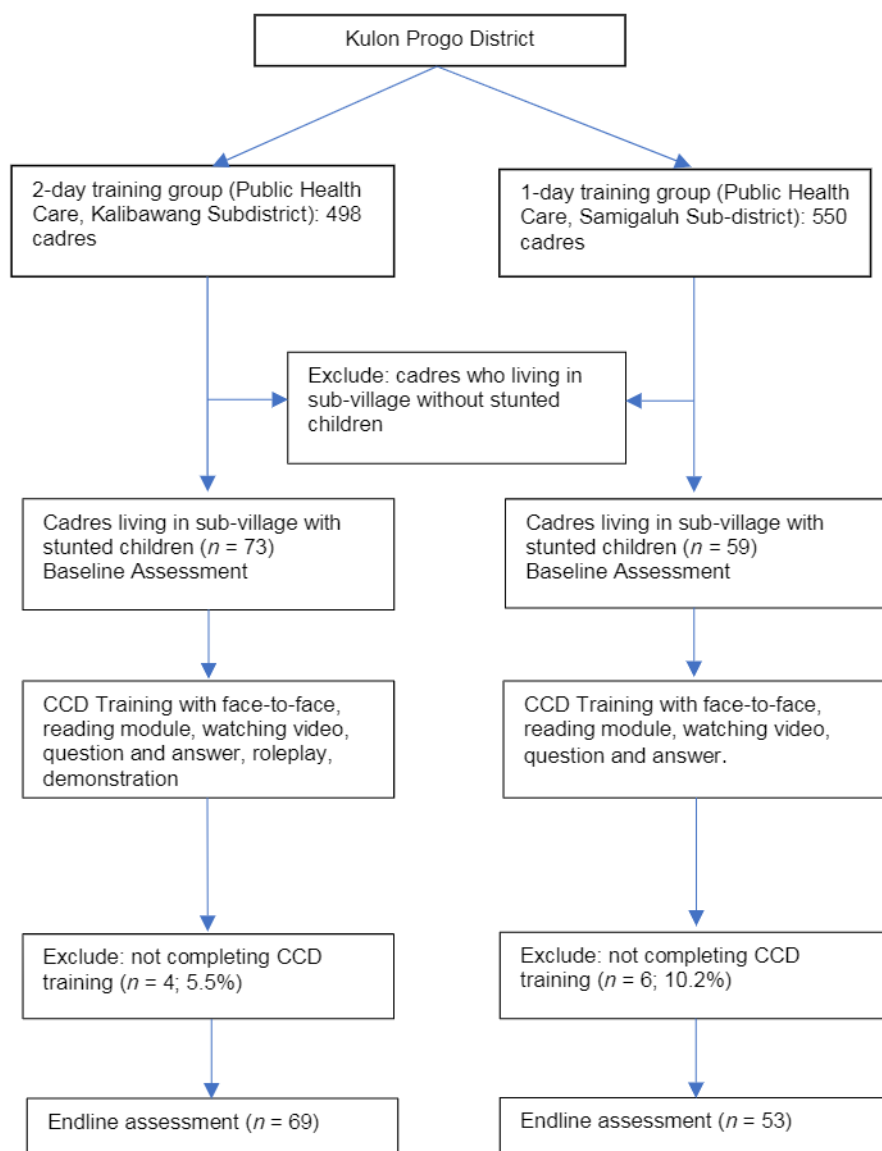
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                    ┌─────────────────────────┐
                    │   Kulon Progo District  │
                    └─────────────────────────┘
                       ╱                    ╲
        ┌────────────────────────┐   ┌────────────────────────┐
        │ 2-day training group   │   │ 1-day training group   │
        │ (Public Health Care,   │   │ (Public Health Care,   │
        │ Kalibawang Subdistrict):│   │ Samigaluh Sub-district):│
        │ 498 cadres             │   │ 550 cadres             │
        └────────────────────────┘   └────────────────────────┘
                    │      ┌───────────────────────┐      │
                    │─────▶│ Exclude: cadres who   │◀─────│
                    │      │ living in sub-village │      │
                    │      │ without stunted       │      │
                    │      │ children              │      │
                    │      └───────────────────────┘      │
                    ▼                                     ▼
        ┌────────────────────────┐   ┌────────────────────────┐
        │ Cadres living in sub-  │   │ Cadres living in sub-  │
        │ village with stunted   │   │ village with stunted   │
        │ children (n = 73)      │   │ children (n = 59)      │
        │ Baseline Assessment    │   │ Baseline Assessment    │
        └────────────────────────┘   └────────────────────────┘
                    ▼                                     ▼
        ┌────────────────────────┐   ┌────────────────────────┐
        │ CCD Training with      │   │ CCD Training with      │
        │ face-to-face, reading  │   │ face-to-face, reading  │
        │ module, watching video,│   │ module, watching video,│
        │ question and answer,   │   │ question and answer.   │
        │ roleplay, demonstration│   │                        │
        └────────────────────────┘   └────────────────────────┘
                    ▼                                     ▼
        ┌────────────────────────┐   ┌────────────────────────┐
        │ Exclude: not completing│   │ Exclude: not completing│
        │ CCD training           │   │ CCD training           │
        │ (n = 4; 5.5%)          │   │ (n = 6; 10.2%)         │
        └────────────────────────┘   └────────────────────────┘
                    ▼                                     ▼
        ┌────────────────────────┐   ┌────────────────────────┐
        │ Endline assessment     │   │ Endline assessment     │
        │ (n = 69)               │   │ (n = 53)               │
        └────────────────────────┘   └────────────────────────┘
```

Figure 1 The process of participant selection

Instruments

We collected data concerning the basic characteristics of participants, including age, educational background, duration as cadres, and quantity of training. The knowledge data described the knowledge of cadres related to children's development, how to give children stimulation, and how to educate mothers about how to do mother-children interaction according to their development stage. The knowledge of cadres was evaluated by the Caregiver Knowledge of Child Development Inventory (CKCDI), consisting of 20 questions (Ertem et al., 2007). The Indonesian version of the CKDI has been culturally and linguistically validated (translated and back-translated).

The Cronbach alpha of the knowledge instrument was 0.820. The range score is 0 ~ 40, with the higher score indicating more knowledge (Shrestha et al., 2019).

Attitude mainly describes how the cadres respond appropriately, including how to provide support or not through children development counseling. We developed a questionnaire to assess the cadres' attitude, modified from the WHO's CCD guideline (WHO, 2012). It consists of 19 items with a Cronbach alpha of 0.831. The range score of 4~ 76. A higher score indicates a higher attitude.

The cadres' efficacy was a measure of the cadres' confidence to educate primary caregivers regarding the stimulation of children's development. We used the

validated Indonesian version of the General Self-Efficacy Scale (GSES) to evaluate the efficacy of cadres. GSES was developed by Schwarzer and Jerusalem in 1995 (Schwarzer & Jerusalem, 1995). The Indonesian language version is available on the following website: http://userpage.fu-berlin.de/%7Ehealth/indonese.htm. It uses a Likert scale, and the result of the internal validity test was 0.725. The range of total score 10 ~ 40. A higher score indicates a higher efficacy.

Data Collection
The study process is described below:

1. Pre-intervention phase
In this phase, the researchers identified people involved in this study, such as instructors, facilitators, and enumerators. Instructors have a task to deliver the training material to cadres. Instructors were nurses from the School of Nursing Universitas Gadjah Mada, Yogyakarta, with master's or doctoral education backgrounds. Facilitators were selected from community health nurses from the three Puskesmas. Facilitators had the tasks to support the demonstrations during the training process, while enumerators had to collect the data before and after the intervention. All instructors, facilitators, and enumerators were trained before the implementation of the study.

The research team developed a training module based on the WHO CCD guideline. We modified it to the culture and local wisdom of cadres or mothers/parents in the community. The module was complemented with video, PowerPoint (PPT) presentation, and local toys. All of the local toys were adopted from Javanese culture. The module consists of a pocketbook and counseling card. The topics covered in the module included: who has the responsibility to care for the children; child development care; how to use counseling cards; recommendation for child development care; advice to improve communication and play, and how to create toys for playing. Additional topics included: family counseling how to child development care; how to observe, listen, and ask questions to make accurate child development care identification; how to give feedback, advice, and reinforcement to mother (caregivers); how to create a follow-up for child development care problems; and how to deliver counseling and help solve any issues. The module was piloted before the study implementation.

2. Intervention phase
The CCD training for the intervention group lasted two days. On the first day, the training methods in this group were reading the module, watching a video, demonstrating, and role-playing. On the second day, all cadres showed the counseling practice to a mother under the supervision of instructors. In this step, each cadre provided counseling to five mothers. The cadres received the CCD introduction, then watched the educational video and engaged in small group discussion.

Before the training started, questionnaires for the pre-test were distributed to participants, and questionnaires for the post-test were distributed three weeks after the training program. The CCD training was conducted in each village office. The training activities are described in Table 1.

Table 1 The differences in the CCD training for the two groups

	Intervention / Two-day training group	Comparison/ One-day training group
Training media	CCD module Pocketbook PowerPoint Video Checklist sheet Sticky sheet Stimulation kit	CCD module - PowerPoint Video Checklist sheet Sticky sheet -
Instructure	5 Nurses	5 Nurses
Facilitator	7 Nurses	7 Nurses
Delivery method	Face-to-face training Reading module Watching video Question and answer Role-play Demonstration	Face-to-face training Reading module Watching video Question and answer
Duration	10 hours	5 hours
Evaluation method	Direct feedback Questionnaires Redemonstration	Direct feedback Questionnaires

Data Analysis
Descriptive statistics were used to describe the distribution, frequency, and percentage of variables with means and standard deviation (SD). The comparisons of participants' levels of knowledge, attitude, and efficacy between pre- and post-intervention in each group were assessed using nonparametric Mann-Whitney U tests. For comparison analysis of pre-and post-intervention results between the

two groups, we used Wilcoxon Sign tests. *P*-value less than 0.05 indicated statistical significance. All analyses were performed using SPSS for Windows version 19 (SPSS, Chicago, IL, USA).

Ethical Consideration
This study was approved by the Medical and Health Research Ethics Committee (MHREC) Faculty of Medicine Gadjah Mada University-Dr. Sardjito General Hospital with number: KE/FK/0145/EC/2018. Informed consent was obtained from all participants. Firstly, we explained the purpose, the process of the study, and the benefits for the participants. Secondly, we provided time for the participants to clarify or ask questions related to the study. Finally, written informed consent was obtained from all participants before the study was conducted.

Results

Table 2 shows the basic characteristics of participants. The mean age, duration experiences as cadres, and training frequencies were closely similar in both groups. However, the educational background was significantly lower in the two-day training group than in the one-day group.

Table 2 The baseline characteristics of intervention and comparison training groups (*N* = 122)

	Intervention group (*n* = 69)	Comparison group (*n* = 53)	*p*-value
	Mean ± SD (%)	Mean ± SD (%)	
Age (year)	42.09 ± 8.37	41.26 ± 7.88	0.818[a]
Educational background			
Junior high school	50 (72.5%)	22 (41.5%)	0.001*[b]
Senior high school and above	19 (27.5%)	31 (58.5%)	
Experience as cadres (year)	9.93 ± 8.08	11.93 ± 8.10	0.157[a]
Quantity of training	3.65 ± 1.62	3.64 ± 1.62	1.000[a]

Note: * p <0.05; ** p <0.01; *** p <0.001; [a]Independent t-test; [b]Chi-square test

Table 3 shows the comparison of the participants' levels of knowledge, attitude, and efficacy in intervention and comparison groups at the baseline and the end of the training period. At the baseline, the knowledge of both groups was significantly different. The mean of knowledge in the intervention group was slightly higher than the comparison group. After the intervention, the knowledge of both groups was still significantly different. However, the level of efficacy was only significantly different between the intervention group and the comparison group in the post-intervention scores.

Table 3 Comparison of knowledge, attitude, and efficacy in the intervention and comparison group at the baseline and end line

	Intervention group (*n* = 69)	Comparison group (*n* = 53)	*p*-value
	Median (min-max)	Median (min-max)	
Pre-Intervention			
Knowledge	11 (7~16)	10 (7~14)	0.027*
Attitude	55 (36~75)	57 (47~69)	0.159
Efficacy	28 (10~37)	27 (19~34)	0.120
Post-Intervention			
Knowledge	14 (9~16)	12 (4~18)	0.001***
Attitude	58 (50~74)	57 (49~70)	0.16
Efficacy	30 (23~39)	29 (21~40)	0.017*

Note: * p <0.05; ** p <0.01; *** p <0.001; Mann-Whitney test

Table 4 Knowledge, attitude, and efficacy before and after the intervention in both intervention and comparison groups

Variables	Pre-test	Post-test	*p-value*
	Median (min-max)	Median (min-max)	
Intervention Group			
Knowledge	11 (7~16)	14 (9~16)	0.001***
Attitude	55 (36~75)	58 (50~74)	0.001***
Efficacy	28 (10~37)	30 (23~39)	0.001***
Comparison Group			
Knowledge	10 (7~14)	12 (4~18)	0.001***
Attitude	57 (47~69)	57 (49~70)	0.255
Efficacy	27 (19~34)	29 (21~40)	0.001***

Note: * p <0.05; ** p <0.01; *** p <0.001; Wilcoxon Sign test

Table 4 shows the comparison of pre-test and post-test scores in both groups. The mean scores before and after CCD training in the intervention group were significantly increased for all outcomes: knowledge, attitude, and efficacy (p <0.001). However, the scores of the comparison group increased only for knowledge and efficacy (p <0.001). Table 5 shows the comparison effect of CCD intervention on knowledge, attitude, and efficacy between the intervention and the comparison group groups. The score change or delta before and after CCD training for attitude in the intervention group was significantly higher than the comparison group (3.78 vs. 0.72; p = 0.05).

Table 5 Comparison of CCD training on knowledge, attitude, and efficacy between the intervention and comparison groups

Variables	Intervention group (n = 69)	Comparison group (n = 53)	Delta difference	*p-value*
	Delta mean score ± SD	Delta mean score ± SD		
Knowledge	2.73 ± 2.13	2.35 ± 2.24	0.38	0.342[a]
Attitude	3.78± 7.21	0.72 ± 6.11	3.06	0.050*[b]
Efficacy	2.62 ± 3.82	1.96 ± 3.73	0.66	0.341[a]

Note: * p <0.05; ** p <0.01; *** p <0.001; [a]Independent t-test: [b]Mann-Whitney test; SD (standard deviation)
Delta means score = mean score after intervention- mean score before intervention

Discussion

This study aimed to identify the effect of culturally adapted CCD training on cadres' knowledge, attitude, and efficacy. Results indicated that CCD training significantly increased cadres' knowledge, attitude, and efficacy in the two-day training group. In the comparison group, the CCD training significantly improved cadres' knowledge and efficacy but not their attitude. The final results show that the delta score before and after CCD training for cadres' attitude in the intervention group was significantly higher than that of the comparison group.

For cadres' knowledge, the mean difference was slightly higher for the two-day training group than that of the comparison group because the education background of cadres in the one-day training group was higher, and their experience was longer than that of the intervention group. This is the possible reason why the knowledge of both groups differed slightly. The previous study found that the higher education background in health volunteers will help them better understand new information. Therefore, they will easily improve their performance as health volunteers (Chung et al., 2017). The differences between learning methods for both groups also contributed to the different knowledge scores for both groups. However, in the final result, this was not significantly different. So, we assume that all participants had enough resources, appropriate learning methods, and had enough time to practice the material by themselves. Therefore, the learning methods of CCD training in this study for the two groups can be implemented for cadres in the community. One previous study stated that the role-play method was more effective in increasing knowledge (Vizeshfar et al., 2019). Considering the duration of intervention, another study found that it was significant in increasing the participants' knowledge between intervention and control groups. The knowledge score was higher in the group that received a more extended training duration (Tambi et al., 2019).

However, in this study, the two-day and one-day interventions have similar increases in the knowledge of cadres. Another possible reason for this result is the CCD training had already been adapted into the participants' culture and local wisdom. The culture approach reduced the barriers of interaction between instructors and cadres during the intervention. Cultural awareness is considered an important factor when the researcher adapts some health guidelines into a community (Shepherd et al., 2019). The CCD training in this study was only adapted for the Javanese culture. These results also serve as a reminder for the health workers or leaders in the community that they should be sensitive to various Indonesian cultures. Overall, the increasing knowledge in the CCD training is vital to increase awareness of cadres about the stunting children in their community (WHO, 2012).

We found the cadres' attitude was significantly higher in the intervention group than that for the comparison group. This result may occur due to the different learning methods. One study found that a better mood increased the motivation of the students to study and improve their cognitive capacity (Forbes & Schmader, 2010). The increasing of knowledge in this result had the primary goal to increase the attitude of cadres. It was consistent with the previous study that found the levels of knowledge and attitude were strongly linear (Muleme et al., 2017). For the delivery of health education in the community, the attitude of cadres becomes a motivation to deliver health education to mothers in the community. In the CCD intervention, their willingness develops into good behavior during the interaction between cadres and mothers or parents in the counseling section.

Besides that, the methods of CCD training in this study also used role-play and demonstration. Using role-play is known to increase participants' attitudes and knowledge compared to the lecturer method (Wang et al., 2015). The benefits of role-playing and demonstrations were to reduce the boredom of the audience and increase the enthusiasm in their attitude. Notably, these methods use more sense of body language and going through the motions to receive the new information. However, the use of role-playing and redemonstration was time-consuming (Vizeshfar et al., 2019).

The increase of the cadres' efficacy is part of the main goal of the study. The efficacy score of CCD training increased before and after intervention for both groups. However, the efficacy of volunteer health workers is influenced by their knowledge and attitude (Zamani-Alavijeh et al., 2019). The people who have good efficacy will generally be confident and successful in communicating with other people. They will efficiently deliver the information to other health volunteers (Alber et al., 2016). Therefore, efficacy is an essential factor to consider in performing as a health educator.

An important aspect of the efficacy's concept is vicarious experience when they get new information from observation activity. This concept was successfully implemented in the CCD training. Demonstrations and role-plays are appropriate delivery methods in the intervention. It allows participants to increase their efficacy. During the intervention, participants can observe responses from the trainer, mother or parent, and children. In general, good efficacy contributes to the cadres' performance. However, some additional factors influence the efficacy. A previous study stated that some influencing factors were the quantity and quality of the training (Zamani-Alavijeh et al., 2019). Related to the characteristics of the participants in this study, the results showed that they had a similar quantity of training, although the duration of experience as cadres was slightly different. For quality, this study tried to combine face-to-face, demonstration, and role-play for learning methods. Results showed a slightly higher change of efficacy in the intervention group compared to the control group. Several factors, such as encountering unexpected events, can cause self-efficacy reduction. Typically, vicarious experiences, self-concept, and self-efficacy act as reciprocally interacting influences on a person's perception of trust, while professional knowledge and skills also are known to increase efficacy.

Our results show that the CCD training can be implemented for cadres in Indonesia. The increasing number of cadres with CCD training experience is expected to create better health educators for mothers or parents with stunted children in the community. This study's implications support how cadres' role can increase nutrition status among children in the community with supervision by community health nurses from Puskesmas. This improvement in nutrition is an essential part of the role of the nurses especially related to community health empowerment activities. Therefore, the Indonesian Government should support and facilitate the current and continuous training for cadres in the community.

Strengths and limitations

As far as our knowledge, this was the first study to examine the effect of culturally modified CCD intervention training among cadres in rural areas, especially on knowledge, attitude, and efficacy. Nevertheless, this study has some limitations. First, the study was not a true experimental design. The selection bias of participants was possible in this study. Further study with a randomized control trial is needed. Second, we only assessed the knowledge, attitude, and self-efficacy only one time after the intervention. Finally, the material of CCD intervention was adapted for Javanese culture. Accordingly, when other researchers want to adapt the material, they should be sensitive to the culture of the cadres' life.

Conclusion

A culturally modified CCD training significantly improved cadres' knowledge, attitude, and efficacy in the intervention and control groups. In addition, the learning delivery method with demonstrations and role-plays significantly improves cadres' attitudes as health educators for stunted mothers or parents in the community. For sustainability, the community health nurses should regularly meet with cadres to maintain their current knowledge, attitude, and efficacy.

Authors' Contributions
AA, SH, MNS, and FH shared the responsibility to develop the study design. AA collected the data. AA and EM performed data analysis. EM and MNS have drafted the manuscript. AA, SH, and FH revised it critically for important intellectual content. All authors have read and approved the final manuscript and agreed to be 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

All data generated or analyzed during the study are available by request to the corresponding author. However, we do not make participants' data publicly available due to data protection restrictions and participant confidentiality.

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Senior nurses' perceptions of essential soft skills for novice nurses in a private hospital in Jakarta, Indonesia: A phenomenological study

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Abstract

Background: Nursing jobs are very complex and stressful, and nurses are demanded to have high competency and soft skills to keep their performance. However, the nursing workload often leads to fatigue, and it will be very challenging for novice nurses. Therefore, they need to be trained in soft skills in order to be able to control their emotion and adapt to the situation. Unfortunately, studies on essential soft skills for novice nurses in Indonesia are scarce; further research on this topic is a necessity.

Objective: This study aimed to explore the perception of senior nurses about the essential soft skills for novice nurses during their work adaptation process.

Methods: This qualitative study used an interpretive phenomenology approach, which was conducted in a private hospital in Jakarta, the capital city of Indonesia. Data were collected using semi-structured interviews from ten senior nurses selected using a purposive sampling technique. Data were analyzed using Gadamer's hermeneutic approach.

Results: Nine essential soft skills were developed for novice nurses during their transition phase from education to practice, including self-control, initiative, caring, self-motivated, hospitality, flexibility, adaptability, analytical skill, and presentation skill.

Conclusion: Findings of this study serve as a basis for developing the soft skills of novice nurses in their clinical practice in hospitals in Indonesia. It is also recommended that soft skills should be included in the nursing education curriculum. However, soft skills are essential for novice nurses to succeed in their adaptation and future career.

Keywords

novice nurse; new graduate nurse; soft skills; nursing; Indonesia

Nursing is a profession that touches other's lives. Nurses are responsible for bringing wellness to patients. Nevertheless, nursing is considered a stressful profession (Ibrahim et al., 2016). A nursing job is complex because they must apply competencies—knowledge, motor skills, and affection—simultaneously. Nursing students are prepared for those three competencies in the nursing education profession (Ibrahim et al., 2016).

Some barriers would interfere with a nurses' work quality. Studies show that nurses' workloads make them susceptible to stress (Regan et al., 2017). Because of their workload, time restriction, and lack of professional role understanding, nurses lack compassionate care and tend to do routines (Babaei & Taleghani, 2019). A study at a hospital in Thailand showed that nurses' emotional fatigue affected service delivery for patients, such as falls, errors in drug administration, and increased infections (Nantsupawat et al., 2016). Thus, a nurse's psychological condition can interfere with their work performance. However, Foster et al. (2015) highlighted that someone who has a strong

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capacity for soft skills would show the ability to control personal emotion, flexibility to face changes and adapt, optimism, innovation, and initiative.

Soft skills are a set of skills believed to be helpful in workplaces. As for nurses, soft skills contribute to meet the demands of the nursing profession. Clinque (2016) groups soft skills into several categories: personal skills, social skills, self-skills, and learning skills. Soft skills involve social or interpersonal skills and the ability to achieve and apply competencies in various situations (Clinque, 2016). In relation to nursing jobs, some studies confirmed that soft skills play important roles in nursing practice (Seutloadi, 2015; Ng, 2020). Raghubir (2018) stated that the quality of patient care, using critical thinking for decision making are essential soft-skill attributes. These are also needed in order to make satisfying collaboration with fellow nurses and other healthcare professionals. Thus, having soft skills make it easier for nurses to do their nursing job. This also applies to a novice nurse. Novice nurses need to use both of their hard- and soft-skills attributes in their adaptation phase to succeed in their nursing careers. Soft-skills capacities enable them to succeed in their job. However, such competencies are considered more problematic for freshly graduated nurses.

Generally, in Indonesia, novice nurses are those who have just graduated with a diploma or bachelor's degree in nursing, should have one year of experience for the orientation at a hospital, guided by senior nurses who have authority when they are in charge during a shift at a ward/unit. Nurses who undergo clinical practice have independent management and provide holistic nursing care (Hariti & Rejeki, 2020; Hartiti et al., 2020). The human resources hospital management has requirements for qualified nurses who show professional attitudes to provide patients' satisfaction. A better quality of nursing care indicates a higher level of nursing services (Hartiti et al., 2020).

Studies about soft skills in nursing education are considered scarce. However, one of the preliminary studies from 264 bachelor nursing students about soft skills in Indonesia found that the soft skills of nursing students in the 2nd, 4th, 6th, and 8th semesters have increased each semester. The study could be underlined as the maturity of professional attitude. In addition, it is also found that 32.3% of nursing students had high soft skills, 55.7% with moderate soft skills, and 12% with low soft skills. The best soft skills of the students were teamwork, morale, and professional ethics, while the lowest soft skills were the ability to lead and the capability for critical thinking (Hartiti & Ernawati, 2016).

Several studies have examined some essential soft skills to support carrying out duties and responsibilities in the workplace; one of the studies was conducted by Chiu et al. (2016). However, fewer studies have captured important soft skills for nursing jobs. To deliver the quality of nursing care, nurses need to have such essential characteristics: reliability, responsiveness, empathy, and assurance (Ng, 2020). In the context of Indonesia, the study conducted by Ariani and Aini (2018) found that nurses caring behavior is one of the factors that determine a patient's satisfaction. However, those two studies did not specifically capture the soft skills needed by new graduate nurses to be successful in their early career life.

In addition, those studies only included the patients and or their families as the research participants. In fact, in doing nurses' works, the freshly graduated nurses need to collaborate with other healthcare workers to achieve nursing goals. Therefore, it is necessary to know the perception of senior nurses about what essential soft skills are needed by new fresh graduate nurses or novice nurses. Therefore, this qualitative study aimed to explore the perceptions of senior nurses in a private hospital in the capital city of Indonesia regarding essential soft skills for novice nurses.

Methods

Study Design
This study used a qualitative research design with interpretive phenomenology as the methodology to get the perception of experienced nurses of how soft skills may impact the performance of novice nurses. Phenomenology is considered appropriate for understanding the significance of one's experience (Polit & Beck, 2017). Furthermore, interpretive phenomenology describes the phenomenon and emphasizes researchers' understanding of socio-historical context when interpreting and understanding a phenomenon (Polit & Beck, 2017). The study was conducted at one private hospital in Jakarta, the capital city of Indonesia, as a meeting place for various people from different cultures in Indonesia.

Participants
The recent study includes ten nurses who matched the inclusion criteria: nurses with ten years of working experience at the hospital, interacting intensely for at least three months with new graduate nurses, and serving as mentors for novice nurses during the orientation period in the hospital. The participants were from several different care units: Intensive Care Unit (ICU), emergency department, surgery room, medical care unit, pediatric room, and primary care unit. Data saturation could be achieved even when only five to eight participants are included (Norwood, 2010; Boswell & Cannon, 2014; Polit & Beck, 2017). The participants were recruited using a purposive sampling technique.

Data Collection
The data were collected in one private hospital in Jakarta, the capital city of Indonesia, from June to July 2018. Semi-structured interviews were used, and several interview questions were prepared prior to data collection (Table 1). The interview was held in a secure place in the participants' work unit for about 30-60 minutes, audio recorded, and conducted in Indonesia language by the first author.

Table 1 Example of questions from the interview guide

Question
1. What routine tasks do new graduate nurses do in health care service in the hospital?
2. What specific tasks are usually given in their early days of working as novice nurses?
3. What factors enable the new graduate nurses to adapt quickly to their job and working environment?
4. What experiences regarding the new graduate nurses' soft skills do you have?
5. What soft skills should the new graduate nurses have?
6. What are your expectations for educational institutions in educating prospective nurses?

Data Analysis

Data were analyzed using Gadamer's hermeneutic approach (Gadamer, 1989). This approach has three characteristics: prejudice (prior knowledge), hermeneutical circle, and tradition (culture or context). In interpreting the meaning of the studied object, the researchers should bring together the prior knowledge and the background into the hermeneutical circle (Gadamer, 1989). Prejudice (prior knowledge) helped researchers to understand the topic being studied and the process of data interpretation. The initial perception obtained from the experiences as lecturers in one of the nursing schools in Jakarta would enrich the study results. Prior knowledge makes it possible for the researchers to understand research's participants' perspectives. Some of the prior knowledge owned were: nature of the nurses' job, researchers' previous experience in guiding nursing students, and Indonesian cultural understanding. Knowing and experiencing all of those things makes the researchers have a sense of a research context. The background is essential to help researchers understand the reason for one's behavior. The hermeneutical circle process makes it possible for the researchers to track back again to the previous steps. With prior knowledge and background, as well as the hermeneutical circle process, it is believed it might bring the researchers to make the correct interpretation of the studied topic.

In this study, firstly, the researchers attempted to gain a sense of the data. After that, the researchers analyzed the data in more detail. Finally, in generating the precise meaning, the transcripts were read repeatedly until fusion was gained and a new understanding was developed. The analysis process is described in the cycle below (Figure 1 and Table 2).

Trustworthiness/ Rigor

The interviews of all participants were recorded using an electronic audio recorder to seek the study's credibility. This process enabled the researchers to pick up all of the information. Then, the transcripts of the interview were sent to all participants to be validated. The transcripts of the interview were translated by the researchers to eliminate the risk of imprecise meaning. Dependability was obtained by reaching an agreement between two researchers on the

data analysis process, while conformability was sought by providing clear research steps. Finally, transferability was obtained by selecting participants from many fields.
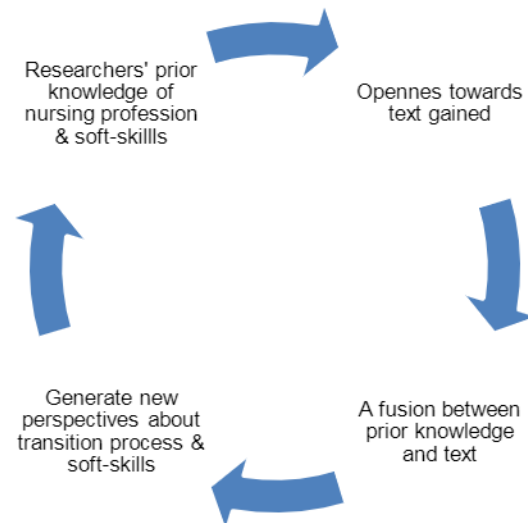
Figure 1 Study analysis process

Ethical Consideration

Ethics permission was obtained on 15 January 2018, with protocol number 18-01-0051, from the Ethics Committee of the Health Research Ethics Faculty of Medicine, University of Indonesia, Cipto Mangunkusumo Hospital in Jakarta, Indonesia. Prior to data collection, researchers sought approval from all study participants through informed consent. In conducting this research, the researchers still uphold ethical values such as participant confidentiality and autonomy. Each participant was given the flexibility to withdraw from the study if they felt uncomfortable without any consequences. The benefit of this research for research respondents is that through this research, they could provide an overview of the hospital's facts and provide suggestions for curriculum improvements to educational institutions, which will affect the quality of nursing care in the hospital's future.

Results

The study participants ranged in age from 33 to 56 years old nurses from ten different rooms and seven different care units. Their units were: medical care unit, surgical care unit, pediatric intensive care unit, pediatric care unit, intensive care unit, outpatient unit, and emergency care unit. Of ten participants, nine of them were female, and only one was male.

This study revealed nine attributes from three major categories of soft skills needed by novice nurses from the perspective of ten experienced nurses (Figure 2). Based on the experienced nurses' perspectives, having those soft skills would enable the novice nurses' successful transition. As a profession with altruistic characteristics, nurses' soft skills play an essential part in their daily duty. Soft skills

contribute to the quality of patient care and the success of collaborating with colleagues, which in turn will bring positive impacts on the institution where they work.

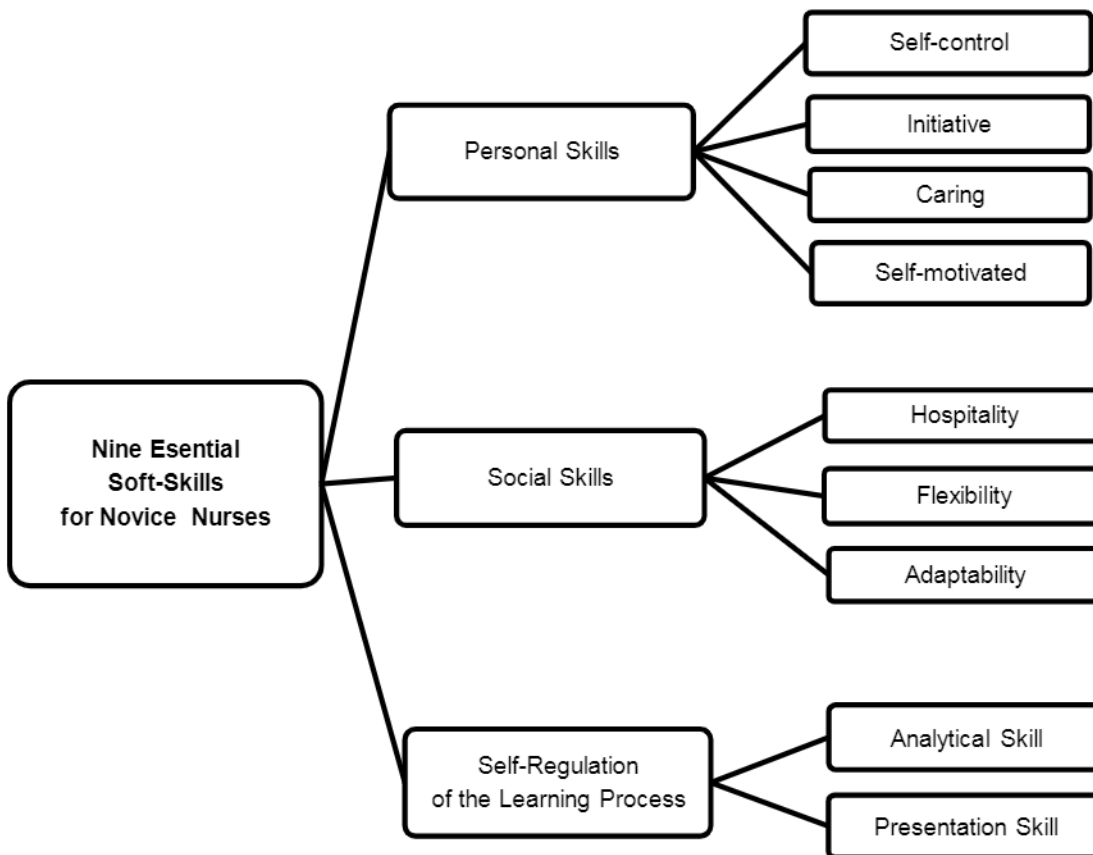Participants' quotes of each category can be seen in Table 2.

Figure 2 Nine essential soft skills for novice nurses

Personal Skills

Personal skills are aspects related to feeling comfortable and loving what we do. This helps nurses to be part of a good teamwork members because we understand other needs and desires. It also includes honesty of our emotions towards us, co-worker, or people around us. Study participants mentioned some personal skills needed from novice nurses: self-control, initiative, caring, self-motivation (Table 2).

Self-control

There will be a time when workplace strain cannot be avoided. The strain arises as a result of interaction made in teamwork or with patients. In an emergency, sometimes it is unavoidable if other team members are outspoken with each other. In this situation, nurses need to control their feelings and not be easily offended so that their performance at work will not be affected.

Initiative

It is understandable if, in orientation time, the novice nurses have not mastered all nursing procedures properly. However, suppose novice nurses feel they are unable to carry out nursing procedures for patients. In that case, they need to take the initiative to inform the experienced nurses

so that they are accompanied. It is hoped that this will reduce the risk of mistakes.

Caring

Every nurse should be familiar with the values of conduct in the nursing profession. The nursing profession has a moral idea of caring. This value must be attached to every single part of their action. A nurse needs to be aware of whether their actions are displaying caring values.

Self-motivated

Nursing is known as a "dirty job," one that is considered close to "smelly" and "dirty" things. Many nurses' daily activities are unpleasant. A nurse needs to be aware of her interest in the nursing job. Feelings of bored and easily frustrated might prove that they do not enjoy their job. Thus, a novice nurse needs to realize whether the nursing profession is the choice or not. Developing self-belonging requires quite a long time. A study participant has a high priority on her career as a nurse. She believes that the profession is part of her life. In addition, from the interviews, personal skills are most expected from the novice nurse working in the place where this study was conducted. Besides being useful during the orientation period, personal skills are also crucial for their future career.

Phrases	Formulated meaning	Code	Cluster
• "Do not be easily offended, yes this attitude has to be eliminated, mmm...because if everybody is reacting like that, it won't solve any problems." (P1)	The irritable character has the potential to impede the work.	Self-control	**Personal Skills**
• "Fresh graduate nurses may inform any experienced nurses that they actually cannot do a procedure properly. If they doubt their abilities in conducting a procedure, they may ask for a companion because the orientation process has not finished yet." (P2)	Any incompetence needs to be told openly to experienced nurses or mentors.	Initiative	
• "... for example, we can sit in front of patients and their families. We care about him, so we educate him to prevent complications ..." (P3)	Caring behavior for patients and families is done by giving a lot of time and educating them.	Caring	
• "So, if the motivation is only to have a job and get the salary, they won't enjoy their work. So, it's easy to get frustrated, easily bored, and so on [...] we live our profession as if we have married our profession. We walk with it entire life" (P3)	Novice nurse's working motivation would help them to endure the challenging situation in the working place.	Self-motivated	
• "In my opinion, nurses' attitude is the most necessary thing for patients. Do not need to prescribe a lot of medicine; the most important is nurses' attitude. Smiling, greeting, ... I always say "Please keep smiling" to everyone. "(P2)	One study participant thinks that patients need nurses with good habits such as smiling and greeting.	Hospitality	**Social Skills**
• "For example, yesterday, it was supposed to be my day off, but because there were many patients at that time, and more nurses were needed, I was called to come to work ... I was called at 4 in the morning." (P4)	The expectation for novice nurses to be flexible to change their day off at any time if needed by their colleague in the working unit.	Flexibility	
• "As the mobility is high here ... I want them to be fast too. If they work slowly, it would add burden to other team members. So, it cannot take a long time to adapt" (P2)	The need to adjust to the rhythm of work in the working unit.	Adaptability	
• "... I would say that they have to think critically." (P5)	Analytical thinking is an important attribute.	Analytical skill	**Self-regulation of the learning process**
• "The first three months were preparing them to make a real presentation in front of the committee who evaluated them." (P1)	Conducting a scheduled nursing care presentation as an evaluation method for novice nurses.	Presentation skill	

Social Skills

Social skills are vital soft skills possessed by all nurses as they need to interact with many people, with patients and their families, and with their teamwork. This study revealed three elements of social skills necessary for novice nurses: hospitality, flexibility, and adaptability.

Hospitality

One of the social skills needed when provides nursing care is hospitality. Hospitality makes it possible for a nurse to make patients feel comfortable and welcome during hospitalization time. This attitude is believed would bring greater contribution to patients' healing.

Flexibility

Due to a lack of nursing staff in the inpatient unit, a nurse often gets a sudden call to work even though they were previously scheduled to be off work. In a particular situation, the nurses must be willing to change their working schedules.

Adaptability

Novice nurses hope to be adaptive with their team members and follow the rhythm in the workplace. Therefore, the ability to adapt is essential. Due to the quality and effectiveness of nursing care for patients, the new nurses need to adapt quickly to the working culture in the workplace, including adjusting their working speed.

Nursing is a profession close to humans as a social being. To be a nurse, it is a must to have strong social skills as they need to interact and collaborate with people with different characteristics. It is undeniable that this profession requires members with excellent social skills.

Self-Regulation of the Learning Process

Self-regulation of the learning process was also a concern of study participants. From the study participants, in the orientation time, novice nurses were also needed to have analytical skills and presentation skills.

Analytical skill

This study revealed the analytical skills needed from a novice. As nurses need to oversee patients' health conditions for 24 hours, they need to assess patients' health changes and analyze what intervention modifications should be made.

Presentation skill

In the private hospital where the study was conducted, all novice nurses would also be evaluated through the nursing case presentation. In this study, they set a target for novice nurses to make a presentation. In addition, they must present the implementation of one nursing care they manage in the first three months. Thus, they need to

regulate themselves so that the task of presentation and their daily duty at work could be handled well.

Discussion

This study was the first study in Indonesia to examine the essential soft skills for novice nurses, especially in their transition time from education into practice in the workplace. Through the findings of nine essential soft skills, this study has given an overview of what sort of soft skills will be needed in the transition phase that may significantly contribute to improving the quality of nursing care. In addition, the findings in this study can be used to set standard soft skills on nursing staff recruitment in hospitals.

To begin with, the job of a nurse is close to the safety issue. In carrying out their work, a nurse strives to provide high-quality nursing care for the patient's health status. To achieve optimal patient health, a nurse needs to work in a team. Cooperate and collaborate with other nurses and other health care professionals in a hospital, and complement each other according to their competencies. Thus, a nurse needs to have soft skills which will help her to work as a team. Several soft skills that are important to enable nurses to work in a group are self-awareness (Turan, 2018) and a set of social skills.

However, this study did not find self-awareness as one of the essential soft skills for novice nurses. Even though some literature highlighted that this soft-skill is crucial for nurses as an altruist profession (Son, 2018; Turan, 2018), self-awareness will lead nurses to understand their feelings, thoughts, beliefs, and values. Nurses with good self-awareness will provide more care to patients and will affect the quality of service to patients (Rasheed, 2015). It also influences their professional relationship and communication (Turan, 2018). Furthermore, self-awareness is crucial to be owned by novice nurses as it enables them to face difficult situations successfully (Younas et al., 2020). Even though the level of self-awareness is greatly influenced by age and working experiences (Rasheed, 2015), it is difficult for novice nurses to have a high self-awareness level, which is still possible to build during the education period. The education period is one of the opportunities that can be used to build self-awareness. Therefore, it is useful to include self-awareness into nursing curricula (Rasheed, 2015). This study is also supported by Kim and Yi (2015) suggested that self-awareness should be developed during students' life. If it is not built during the education period, it will be more difficult for novice nurses to display good performance.

This study discovered that caring attribute is important. Caring is considered the identity of the nursing profession. Caring is the soul of the nursing profession. This value must be internalized in every nurse and reflected in their actions every day. One study participant was concerned about novice nurse caring action towards patients and families. In this regard, one application that requires caring values is Person-Centered Care (PCC). PCC by nurses strongly determines the quality of service for patients (Sagong &

Lee, 2016). However, one study of 310 nurses in Turkey found that study participants were less concerned about a professional value called altruism (Erkus & Dinc, 2018). This study is consistent with this study finding which found an expectation for novice nurses to have caring value in every action they do. Dehghani (2020) highlighted that healthcare services could be improved by developing professional ethics during education. However, it is believed that one's background and individual factors also play an essential role in professional ethics development among students (Dehghani, 2020).

Another highlighted finding from this study was social skills. For nurses, social skills are needed as they are closely related to "humans" who are social beings. Competent nurses are not only determined by their academic achievement but also their response to other people's needs. Good social skills enable new graduate nurses to give a correct response when advice is provided to them. On the other hand, weak social skills result in any conflicts among the members of a team, for example, communication skills. Failing to apply communication results is a problem of interaction (Souza et al., 2016), which would make it difficult for a nursing job that relies heavily on the teamwork process. Interpersonal conflict at work will weaken teamwork (Kim et al., 2017), whereas the quality of patient care depends on solid collaboration. In carrying out his profession, a nurse needs to have social skills. Social skills are crucial for nurses as a teamwork profession. It is vital as, most of the time, nurses must work in a team (Abraham & Scaria, 2017). It is not enough for nurses to know only their responsibility, but nurses need to have a team-oriented mindset (Kaiser & Westers, 2018). As a team, they must be aware of the needs of others. Aside from that, Afsar et al. (2019) highlighted that willingness to help colleagues arises from a nurse's sense of calling. Adaptability is also determined by career motivation (Fang et al., 2018). Minster (2020) highlighted that flexibility and adaptability are essential social skills for a nursing job, as it enables nurses to tolerate stress in their workplaces. In a study conducted by Mizuno et al. (2017), it is known that male nurses communicate more and are able to collaborate with colleagues compared to their counterparts. This study also underlines that when someone has good communication skills, they tend to have the ability to express their feelings well. Then, it will lead to physical and mental health problems. It is also suggested to enhance the knowledge and awareness of verbal communication among nurses to improve the patient-nurse relationship.

Regarding commitment & motivation, Fang et al. (2018) found that the careers of undergraduate nurses are affected by career motivation. In addition, the work motivation level is affected by age, years of experience, autonomy, education, and administrative positions (Baljoon et al., 2018). In addition, organizational factors also contribute to nurses' work motivation. Sasaki et al. (2019) found that work commitment is considered weak during 1-2 years of work experience. Nurses' work motivations are also affected by salary and career development; a conducive

working relationship; and supervision (Baljoon et al., 2018). Above all the factors mentioned before, it is highlighted that compassionate love impacts professional commitment (Mersin et al., 2020). Thus, vocation is the most determinant factor for working commitment.

Regarding organizational commitment, Labrague et al. (2018) found that organizational commitment is affected by a nurses' age, gender, education, rank, and work experience. Organizational commitment is vital to every nurse because it helps them better care for patients (Naghneh et al., 2017; Ha & Nuntaboot, 2020). On the other hand, the clarity of calling as a nurse makes a nurse have a stronger career and organizational commitment and tend to be willing to help colleagues and strive for the good of the organization (Afsar et al., 2019).

The efforts to develop soft skills for nursing students, as in the curriculum, are considered necessary (Ng, 2020). This is confirmed by a study conducted by Bratajaya and Ernawati (2020a), who found that new nurses did not have adequate soft skills at work. It is believed that soft skills must be internalized in their education. Improving the student's social skills, for example, would improve their mental health (Moeller & Seehuus, 2019). Ghasemi et al. (2018) recommended workshops that can improve the nursing students to be mentally spiritually ready to carry out their job responsibility. It would help prepare individual nurses to be more prepared for any challenges in their workplace. Ideally, soft-skills education starts early. Kim and Yi (2015) suggested that self-awareness should be developed during a student's life. If it is given only during higher education, the results will not be optimal. Challenges should be identified from the beginning of education. The education process is done for a moment in the classroom and integrated into the entire curriculum. On the other hand, Raeissi et al. (2021) suggested that the hospital is responsible for improving nurses' emotional intelligence, such as self-awareness, through organized training. Moreover, it is found that experienced nurses and mentors can be potential role models for new nursing staff (Bratajaya & Ernawati, 2020b).

Other soft skills expected from experienced nurses were analytical and Self-regulation of the learning process. Experienced nurses in this study think that novice nurses must already have critical thinking skills. Lee et al. (2020) stated that critical thinking skills are not influenced by age or experience but by education. So, it is suggested that during education time, students are trained to have good critical thinking. In achieving this goal, one of the ways that can be applied in the learning process is case-based learning (Sapeni & Said, 2020). To enable students to make health care decisions while doing nursing jobs in the future, they need to be trained for critical thinking (López et al., 2020). Other than that, Ibrahim et al. (2016) highlighted that self-regulation is essential for nurses to be able to provide good quality care. Even though analytical and self-regulation were less mentioned in this study, these two skills are still paramount owned by novice nurses.

This study proved that the quality of nursing services could not be separated from nurses' soft-skill attributes. Their soft skills need to attach to their personality. However, this study has some limitations. First, due to time and financial constraints, the researchers narrowed down the scope of study aim. Second, we only aimed to capture the perception of nurses working in a private hospital in Jakarta. With only ten participants, the data may not describe the perception of Indonesian nurses in general. Third, the findings might not capture the soft skills needed for nurses working in public hospitals in Jakarta or other regions of Indonesia. The need for soft skills might be different from public hospitals, which the public hospitals in Indonesia usually have more patients from lower-middle economic status and education levels. With the more complicated situation, it would be more soft-skills attributes needed. Regardless of the study limitations, this study is believed to give a significant contribution to the improvement of the quality of nursing care nationally and internationally. This study can be used as evidence to recommend integrating soft skills into the nursing education curriculum.

Conclusion

Soft skills are crucial for nurses' professional practice, especially in the hospital setting. This study highlighted nine essential soft skills for novice nurses to successfully go through the transition from education to practice in the workplace as well as for their career ladder. As a profession that upholds altruism value, the members of the nursing profession must have strong, caring attributes. Moreover, this profession is also identical to teamwork, and it requires strong social skills as the implication. To improve the quality of nursing care, educational institutions need to incorporate soft-skills attributes into the curriculum and integrate them into the learning process throughout daily guidance or workshops and seminars. It is hoped they will be internalized and embedded in their professional life. In addition, studies about soft skills in nursing education need to be refined, especially for soft skills that have not been discussed much yet. Therefore, this study should be continued, and it is suggested for future studies to include more participants from patients and families, nursing students, and other health care professions.

Authors' Contributions

EE: study conception, data collection, data analysis, interpretation, drafting of the article, critical revision of the article. CNAB: study conception, data collection, data analysis, interpretation, and drafted the paper. All authors agreed with the final version of the article.

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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.

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Using a mobile application ("PrimaKu") to promote childhood immunization in Indonesia: A cross-sectional study

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Abstract

Background: Universal immunization coverage among children in Indonesia is low compared to the global target. Many children in Indonesia are not fully immunized as recommended by the government, which results in a high mortality rate. The government has developed a mobile application (PrimaKu) to provide information on vaccinations and reminder features. However, the successful use of the immunization features of the app has not been widely studied.

Objective: This study aimed to evaluate the use of PrimaKu on maternal attitudes toward immunization and complete basic immunizations status among Indonesian children aged 12 to 24 months.

Methods: A cross-sectional research was conducted at a public health center in West Java Province, Indonesia, from August to December 2020. Convenience sampling was used to select the respondents. Data were collected using validated questionnaires and analyzed using binomial logistic regression.

Results: A total of 119 mothers were included. About 44.5% of children had a complete basic immunization status. Mothers who had a supportive attitude toward immunization were 3.58 times (95% *CI* 1.49-8.57, *p* 0.003) more likely to complete the basic immunization, and those who used the mobile app were 3.23 times (95% *CI* 1.18-8.87, *p* 0.034) more likely to complete the immunization.

Conclusion: Using the PrimaKu mobile application could increase maternal attitudes toward immunization and complete basic immunization status. Therefore, public health nurses should provide comprehensive education and improve mothers' literacy to use the application.

Keywords

attitudes; immunization; child; mobile application; nursing; Indonesia

Immunization is one of the most economic preventive measures to date, preventing 2 and 3 million children each year (UNICEF, 2019), particularly in developing countries, where availability and access to vaccines and antenatal services are somewhat limited (World Health Organization [WHO], 2020). Unfortunately, many young children failed to get the immunizations they were supposed to. As a result, more children are at risk of measles, polio, and other vaccine-preventable diseases (UNICEF, 2019). The Diphtheria, Tetanus, and Pertussis vaccine (also known as DTaP) is frequently used as a general evaluation of

immunization due to its ability to indicate how easily routine immunization services can be accessed. It was estimated that 85 percent of people worldwide had received their third dose of diphtheria, tetanus, and pertussis vaccine (DTP3) in 2019. This is an increase from 72 percent in 2000 and only 20 percent in 1980 (WHO, 2019).

In Indonesia, children are required to receive immunizations through a program known as universal immunization coverage (Ministry of Health of Indonesia, 2018). About 57.9% of children are completely immunized as recommended by the government; this is much lower

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than the country target of 93% (Ministry of Health of Indonesia, 2018). The detail of universal immunization coverage for each immunization was 79.1% for HB-0, 87.6 % for BCG, 75.6% for DPT-HB 3, 77% for Polio 4, and 82.1% for Measles. Therefore, the average universal immunization coverage was deficient (57.9%), far from the national target above 93% of universal immunization coverage (Ministry of Health of Indonesia, 2018). In addition, many provinces still have universal coverage under this percentage, including the Province of West Java, with low universal immunization coverage (89.27%) (Ministry of Health of Indonesia, 2018).

Although access to vaccination is often a problem, acceptance is also a factor in vaccination uptake, influenced by social-economic factors and individuals' emotions, experiences, attitudes, and beliefs about vaccination (Wilson, Bakkabulindi, et al., 2016; Larson, 2018). There are three distinct poles of anti- and pro-vaccination: some people are pro-vaccination, while others only accept some, and those who do not at all (Larson et al., 2014). Individuals who express doubts and concerns about vaccination have been shown to have lower vaccination uptake (Damnjanovic et al., 2018), which may have a significant impact on vaccination coverage and increase the risk of outbreaks (Smith et al., 2017). Unvaccinated people are at a higher risk of illness and negative health effects, but under-vaccinated people are at a higher risk of more serious outbreaks (Omer et al., 2008; Salathé & Bonhoeffer, 2008; Phadke et al., 2016).

Several mobile phone applications have been developed in low- and middle-income countries (LMICs) to address health problems, such as immunization, tuberculosis, and Malaria. In LMICs, mobile phones are used by 97 out of 1000 people (USAID, 2003), reaching out to rural communities that initially had very little engagement with public organizations and private companies (Stansfield et al., 2006). mHealth, including vaccine details portals and smartphone applications (hereinafter referred to as apps), has been researched by several private and public organizations to aid vaccination uptake. A systematic review published in 2015 on the design of vaccination reminder apps examined two studies on mobile reminder apps (Abahussin & Albarrak, 2016). These apps provide various features to assist health care professionals, caregivers, and, in some cases, children in accessing vaccine-related information, prescribed immunization schedules, storing vaccination records, and receiving appointment reminders. In many LMICs, the use of text messages and registrations to locate those who failed to receive immunization is being used to combat increasing levels of vaccine non-delivery (Bangure et al., 2015; Domek et al., 2016; Haji et al., 2016; Kazi et al., 2018). It has been proven that these interventions help complete vaccinations (Schlumberger et al., 2015; Haji et al., 2016; Uddin et al., 2016).

PrimaKu application is a health application intended for mothers to make it easier to monitor children's growth and development. One of its features is the immunization schedule feature, which provides information related to immunization, compiles an immunization schedule, and provides a reminder system to carry out immunization according to an arranged plan (PrimaKu, 2018). Thus, the application can play a role in increasing coverage and fostering positive attitudes towards universal immunization coverage programs. However, the successful use of the immunization schedule feature of the application has not been studied in Indonesia.

Public health nurses have a critical role in ensuring all children have up-to-date immunizations as recommended by the World Health Organization (WHO) and ensuring that the children's growth and development are monitored. Therefore, assessing the utilization of this mobile application could provide useful information as a starting point for public health nurses to encourage all Indonesian women to utilize it. This study aimed to evaluate the use of the PrimaKu mobile application on maternal attitudes toward immunization and completed basic immunization status among Indonesian children aged 12 to 24 months.

Methods

Study Design and Setting
Cross-sectional research was conducted at a public health center in West Java Province, Indonesia, from August to December 2020. Public health centers are government-mandated community health clinics located across Indonesia. They are supervised by the Indonesian Ministry of Health and are responsible for providing healthcare at the sub-district level. West Java Province is located on Java Island that is close to the Capital city of Indonesia, Jakarta. West Java consists of 17 regencies and nine cities. This study was specially conducted in urban areas considering that smartphone use is more common among mothers who live in urban areas.

Participants
The inclusion criteria of the participants in this study were mothers who had a smartphone and children aged 12 to 24 months. The sampling method employed was convenience sampling. The sample size was calculated using G-Power Software version 3.1.6 (Faul et al., 2007) using the Z test assumed to be $\alpha = 0.05$, odds ratio = 2 (medium effect size), power level = 0.80. Therefore, the total minimum sample that should be recruited was 88. However, a total of 119 mothers agreed to join in this study.

PrimaKu application
The PrimaKu mobile application (https://www.primaku. com/) was developed by the government through the Indonesian Pediatrician Association (IDAI). It is a health application designed specifically for parents. The purpose of this application is to enable all parents and physicians to take an active role in monitoring children's growth and development on a regular basis to detect growth and developmental disorders early. The features of PrimaKu are more engaging and user-friendly for parents. The following

are the most important features that are currently available: 1) growth (growth charts, nutrition recommendations); 2) development (developmental questionnaire); 3) vaccination (IDAI and PPI schedule); 4) at least 200 health-related articles; 5) integration of child health data from the PrimaKu

app into the "PrimaPro" app (Figure 1). The PrimaKu application is an open access app and can be downloaded freely for mobile phones and tablets via Google Play (Android) or the App Store (IOS) by searching for PrimaKu in the search field.
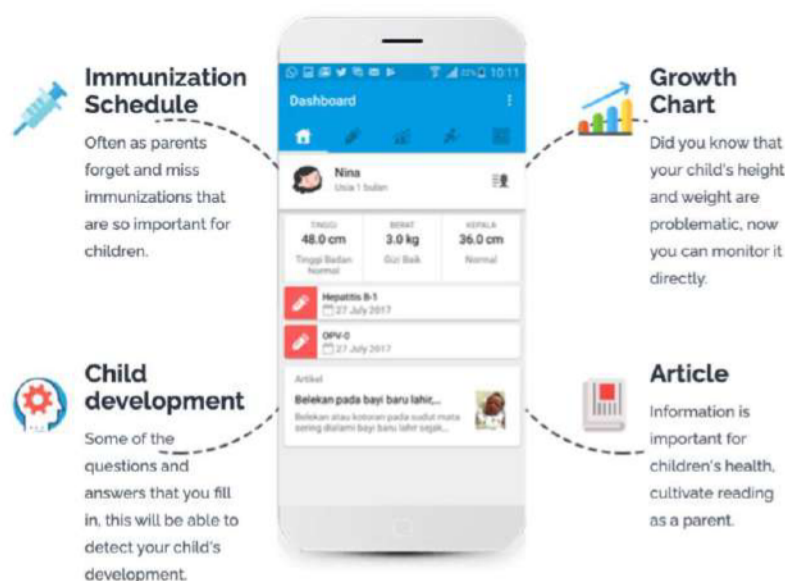
Figure 1 PrimaKu application (https://www.primaku.com)

Measures
The demographics questionnaire contained such questions as age, marital status, level of education, number of children, work status, and health-seeking facilities. The use of the PrimaKu mobile application was defined if they used the app for at least 12 months. Immunization status was categorized as complete or incomplete. Complete immunization was defined based on the WHO definition, *"a child in the 12–23 months of the age group who has received a single dose of BCG vaccine, three doses of DPT, hepatitis B and Haemophilus type b, three doses of polio vaccine (excluding the dose given shortly after birth) and the first dose of measles"* (WHO et al., 2009).

Attitudes toward immunization were adapted from Wilson, Atkinson, et al. (2016). Attitude is a parent's perspective that influences behavior in giving immunization to their children based on their stance and belief in immunization. The better the mother's attitude in supporting immunization, the greater the chance for the mother to comply with the process of giving child immunization. The questionnaire consisted of six items with a Likert scale to measure attitude in giving immunization to children based on their stance and belief in immunization. Permission to use the instrument was obtained prior to translation. This instrument has been translated from English to Bahasa Indonesia and then translated from Bahasa Indonesia to English. It consists of four stages: translation into a different language, back-translation by an expert panel, preliminary testing, and cognitive interviewing to follow (WHO, 2016).

This approach aims to produce final English translations of the Indonesian tool that are semantically identical across all target cultural backgrounds. Expert judgment was carried out by four experts (three Ph.D. in Nursing Community and one pediatric consultant) in the field of immunization in children in Universitas Indonesia. The content validity index ranged from 0.76 to 0.81. The reliability tested was carried out by distributing and analyzing the questionnaire to the 50 mothers not included in the study sample. In the current study, Cronbach's Alpha was 0.76.

Data Collection
A closed-ended, web-based survey was applied to collect the information on demographics, the use of the PrimaKu mobile application, complete coverage immunization status, and maternal attitude toward immunization. During the entire procedure, Google Form was developed by the authors. If the survey was already completed, the program automatically resolved the probability of double participants by denying two or more access permissions from the same e-mail address to the study. The survey took about five to ten minutes to complete on the internet.

Data Analysis
The standard deviation of the mean (*SD*) was added for continuous data, while frequency and percentage were used for categorical variables. The non-significant test using Kolmogorov–Smirnov test showed that the data were distributed normally for maternal attitude. Chi-square and

student *t*-test were used to compare demographic characteristics, immunization status, and maternal attitude toward immunization between those who completed and not completed immunization recommendations. Binomial logistic regression to identify the relationship between the use of PrimaKu and attitude toward immunization with complete immunization status. It was considered significant if the *p*-value was less than 0.05. SPSS 20 version was used to record and evaluate the data.

Ethical Consideration
Ethical approval from the ethical committees of the Faculty of Nursing, University of Indonesia, was obtained prior to data collection (SK-246/UN2.F12. D1.2.1/ETIK 2020). In addition, a detailed consent form was given to the studied participants before collecting data. The information

collected was confidential and saved on a separate drive that only the management team could access.

Results

Participants were 119 mothers who have children aged 12 to 24 months from the public health center in West Java Province, Indonesia. About 44.5% of children had a complete basic immunization as recommended by the government, and 55.5% did not have a full basic immunization status. Those who had a complete basic immunization were more likely to have children more than 3. While, there were no significant differences between those who had complete or incomplete basic immunization status in terms of maternal age, marital status, education level, and working status (Table 1).

Table 1 Demographic characteristics comparison between those who used PrimaKu mobile app and those who did not use (*n* = 119)

Variable	Immunization status		*p*-value
	Complete, *n* = 53 (%)	Incomplete, *n* = 66 (%)	
Maternal age, mean±SD	30.97±4.48	32.57±4.96	0.107
Marital status			
Married	48 (90.6)	60 (90.9)	0.316
Divorce/Widow	5 (9.4)	6 (9.1)	
Education level			
Below senior high school	25 (47.2)	31(46.9)	0.285
Above senior high school	28 (52.8)	35 (53.1)	
Number of children			
1-2	40 (75.5)	59 (89.4)	0.022
More than 3	13 (24.5)	7 (10.6)	
Working status			
Employed	46 (86.8)	56 (84.8)	0.121
Unemployed	7 (14.2)	10 (16.2)	

Table 2 shows the relationship between the use of PrimaKu and maternal attitude on complete immunization status. Findings showed a significant relationship between maternal attitude and the use of the app on basic immunization status. Mothers who had a supportive attitude

toward immunization were 3.58 times (95% *CI* 1.49-8.57, *p* 0.003) more likely to complete basic immunization, and those who used the mobile app were 3.23 times (95% *CI* 1.18-8.87, *p* 0.034) more likely to complete basic immunization.

Table 2 The relationship between the use of PrimaKu and maternal attitude with complete immunization status (*n* = 119)

Variable	Immunization status		*OR* (95% *CI*)	*p*-value
	Complete, *n* = 53 (%)	Incomplete, *n* = 66 (%)		
Maternal attitude				
Supporting	48 (90.6)	60 (90.9)	3.58 (1.49-8.57)	0.003
Not supporting	5 (9.4)	6 (9.1)	1	
Using PrimaKu				
Yes	25 (47.2)	31 (46.9)	3.23 (1.18-8.87)	0.034
No	28 (52.8)	35 (53.1)	1	

Discussion

This study found that the achievement of basic immunization status for under-five-year-old children in West Java Province was 44.5% and 55.5% not covered by basic immunization status. This achievement has a slightly

lower difference from the 2018 immunization data, namely 57.9%. This can be due to the tendency of mothers who do not have an awareness of the importance of immunization and an understanding of information on the location and schedule of immunization their children need (Hailu et al., 2019). In addition, the high percentage of immunization

coverage could be due to participants were included in the Family Hope Program (FHP) monitored by the Indonesian Ministry of Social Affairs. They complied to do vaccination because they receive financial support, especially for the continuation of family health. However, the findings of this study could not represent West Java Province due to the small sample size.

This study indicated that mother attitudes in supporting immunization programs in West Java Province were relatively high and significantly associated with completed immunization status. This is in line with the results of other studies, which explain that a person's views and attitudes regarding immunization in their children will provide an overview of the tendency of parents to provide complete and on-schedule immunization (Febriastuti et al., 2014; Atkinson et al., 2019). A supportive attitude towards immunization can grow from the exposure of the parents to information related to immunization. In this study, it is identified that mothers who are informed about the immunization are the mothers who have taken advantage of PrimaKu immunization features. The function of the immunization schedule feature of the app is to provide a reminder of the immunization schedule, provide information on current immunization that has not or have already been immunized, and access information on immunization details that are adjusted to the age of each child (Burgess et al., 2017).

Providing complete immunization information in PrimaKu encourages mothers to immunize their children. The results of other studies found that 80% of respondents state that information about immunization from mobile applications was the main source of information (Burgess et al., 2017). This is due to the fact that the correctness of the information can be justified, and this information rectifies various myths about immunization that exist in the community. The existence of doubts about immunization causes parents to seek reliable information to help differentiate fact and fiction (Seeber et al., 2017). A study has shown that information that emphasizes the risk of disease due to not being immunized can be an effective promotional method to increase the intention and motivation to immunize (Nyhan et al., 2014).

This study found a significant relationship between mothers having under-5-year-old children who use and do not use the PrimaKu immunization feature. This is in line with several studies which reveal that mobile applications that carry immunization themes can increase immunization coverage (Bangure et al., 2015; Domek et al., 2016; Haji et al., 2016; Kazi et al., 2018). The use of applications on mobile devices has been proven to raise concerns about immunization and support the success of immunization programs (Wilson, Bakkabulindi, et al., 2016). Immunization-related mobile applications contain accurate information about immunization and children's health to answer misinformation rife on the internet to social media. The successful use of mobile applications in increasing immunization coverage is supported by increasingly sophisticated mobile devices. Today's mobile devices, with the help of the internet and Web 2.0 platforms such as mobile applications, are slowly changing the ability of the general public to make crucial decisions regarding individual health (Bartfay & Bartfay, 2016). The existence of various components of the intervention in mobile applications that aim to provide information related to immunization to parents can effectively increase knowledge and increase the intention to provide immunization to children (Fadda et al., 2017). Technological interventions have shown promising results regarding the timeliness of vaccination because nearly everyone's mobile devices have them and are easy to use.

This study also found no significant relationship between the age of the mother and complete immunization status, which is consistent with previous studies (Chiabi et al., 2017; Mbengue et al., 2017). A non-significant correlation could be affected by the mother's age in the early adulthood group (≤ 35 years old) and the majority of whom have lived separately from their parents. At that time, there is often psychological unpreparedness in making decisions in family life, including the decision to give immunization or not to their child (Hasibuan & Sinambela, 2020). However, several studies stated that the mother's age was positively and significantly influenced immunization coverage (Mohamud et al., 2014; Harmasdiyani, 2015; Legesse & Dechasa, 2015). The early adulthood group already had mature thinking, experience, and a better understanding of the dangers of disease threats (Harmasdiyani, 2015). These experiences could influence mothers to take actions that focus more on children's welfare and more sensitive to healthy lifestyles, one of which was to support basic immunization programs for their children.

The limitation of this study was the difficulty in finding respondents using PrimaKu. In addition, this study also did not look at specific immunization features in the PrimaKu application nor see the advantages and disadvantages of the application from the user's point of view. However, this can be used as an area for further study to improve users' comfort and the success of childhood immunization in Indonesia.

Conclusion

The findings of this study highlighted the low coverage of basic immunization among children under five years in West Java Province. Furthermore, there was a significant relationship between mothers' attitudes toward immunization and the use of the PrimaKu mobile application with complete basic immunization status. Therefore, the need for advocacy from the government is recommended to implement a policy on the use of the application to support increased complete basic immunization coverage. Public health nurses should also provide comprehensive training to improve the literacy of mothers to use the application so that more parents can experience its benefits. For further study, it is suggested to replicate the study by using more and varied respondents.

Authors' Contributions

Data collection: NN. Data analysis and interpretation: NN, SC. Drafted the article: NN, RA, AA. Critical revision of the article: NN, SC, RA, AA. All authors agreed with the final version of the article.

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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.

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Recovery from 'schizophrenia': Perspectives of mental health nurses in the Eastern island of Indonesia

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Abstract

Background: Recovery is a way of life to make people's lives more meaningful by working and interacting socially in the community. The recovery has become a new vision of mental health services, including in persons with schizophrenia. However, this concept is relatively new and still limited to nurses in developing countries, such as Indonesia. Several studies among nurses related to this topic have been conducted in the Western part of Indonesia. Yet, no studies have been implemented in the Eastern part of Indonesia. Therefore, exploring nurses' perspectives in the Eastern island of Indonesia is necessary to provide a complete understanding of recovery in patients with schizophrenia.

Objective: To explore the perspectives of mental health nurses on recovery from schizophrenia.

Methods: This was a qualitative study using a phenomenological design. The study was conducted from April to May 2020 at community health centers in Maluku, Indonesia. Eight nurses recruited using purposive sampling participated in in-depth interviews. The interviews were audio-recorded, transcribed verbatim, validated, and analyzed based on Colaizzi's method of data analysis.

Results: Five themes were generated, including (i) treat a patient like a brother, (ii) recovery as an unfamiliar term with various meanings, (iii) medication as the primary action but also the main problem, (iv) being recovered if referred to a mental hospital, and (v) ineffective mental health programs.

Conclusion: The findings of this study can be used as an input and evaluation for nurse managers to make an effort to uniform the perception among nurses in Indonesia regarding the recovery process in schizophrenia. It is also suggested that community health centers leaders and mental health policymakers prioritize and optimize recovery-oriented mental health programs and services in the Eastern island of Indonesia. Additionally, the findings offer new insight about 'we are brothers' or called 'hidop orang basudara', which is expected to be one motto for nursing care in Indonesia and beyond.

Keywords

mental health; schizophrenia; Indonesia; community health centers; qualitative research; nursing

Globally, the concept of recovery has become a national mental health policy in most developed countries, such as England, Wales, and the European Union, and has brought significant changes to the mental health system (Jacob, 2015). The concept of recovery was proposed by Anthony (1993) as a new vision in the practice of mental health services. This vision requires healthcare workers to empower patients, with all their limitations, to live optimally

and productively. However, this is relatively new and is still limited to healthcare workers, especially nurses in a developing country like Indonesia.

Nurses as healthcare workers and at the forefront of service delivery have essential duties and responsibilities. The nurse's perspective on recovery is critical for improving mental health practice and quality of life for patients with schizophrenia. The important role of nurses in the recovery

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process is to accompany and teach patients to recognize the disease they are suffering from, build personal identity, regain the meaning of life, and maintain it so that they can function socially in society (Drapalski et al., 2012). Thus, nurses are not responsible for the fulfillment of daily life. But how to be a resource provider, supporter, and encourager of patients to manage their condition by providing trust, fostering a sense of responsibility, and motivating them to believe that they can recover (Suryani, 2013).

The contribution of nurses to mental health services can bring about a change in mindset, which based on evidence, recovery is not a treatment but a way of life to make patients' lives more meaningful by working and interacting socially in the community (Shepherd et al., 2012; Suryani, 2013). The proper perspective on recovery must be owned by the nurses in charge of the mental health program at community health centers in Indonesia. However, research conducted to build the understanding of nurses in charge of mental health programs regarding recovery from schizophrenia in Indonesia is still limited. For example, Agustina et al. (2019) also examined the experience of nurses in charge of psychiatric programs at community health centers in carrying out recovery at Cimahi, Indonesia. In addition, Nurjannah et al. (2019) examined the views of health workers on schizophrenia recovery in the community health center, Yogyakarta, Indonesia. Purbaningsih (2019) explored the perspectives of patients, families, professionals, and policymakers regarding recovery in schizophrenia in Cirebon City, and Tania et al. (2019) investigated the experience of health cadres in supporting the recovery process of people with mental disorders in the Cimahi City, Indonesia. However, these studies were conducted only in the Western part of Indonesia; there has been no research on recovery in patients with schizophrenia clients in Eastern Indonesia. This is a gap that needs to be filled up. Therefore, this study aimed to explore the perspectives of mental health nurses regarding schizophrenia recovery in the Eastern island of Indonesia.

Overview of Health Care System in Indonesia

Indonesia consists of three levels of the health care system: primary level, secondary, and tertiary level. Primary health care is mainly given in community health care centers (called *Puskesmas*) and village health posts (called *Pustu*) where most facilities are community-based and provide primary health care and prevention programs (Gunawan et al., 2020). Public and private hospitals provide the secondary and tertiary levels of health care. All of these levels are designed for universal health coverage in Indonesia.

Indonesia, officially the Republic of Indonesia, consists of 17,508 islands geographically located in Southeast Asia, between the Indian and Pacific oceans (Gunawan et al., 2020). Indonesia is also called the republic of multiculturalism, influenced by Mainland China, the Middle East, the Indian subcontinent, Europe, and Austronesia

(Stone et al., 2016; Central Intelligence Agency, 2018; Gunawan et al., 2020). Indonesia has multiple religions, 300 ethnics groups, and 700 local languages, including the Maluku language (BBC News, 2018; Central Intelligence Agency, 2018). All Indonesians are united by *Pancasila* (as the national philosophy based on belief in God, humanism, unity, democracy, and justice) and one language (Bahasa Indonesia) (Gunawan et al., 2020).

Health development in the Indonesian region is divided into Western and Eastern parts of Indonesia (Gotama et al., 2019). The Western part of Indonesia consists of Java, Sumatra, and Kalimantan islands, while the Eastern part of Indonesia consists of Sulawesi, NTT, Papua, and Maluku (Gotama et al., 2019). The development gap between the two regions is relatively straightforward, which can be seen from the transportation facilities, road infrastructure, hospitals, health service facilities and infrastructure, the number of professional health workers, and the communication system (Gotama et al., 2019). The Eastern part of Indonesia has a small population compared to the Western part of Indonesia, but a significant obstacle is an unevenly distributed population, some of whom live in the mountains or islands (Gotama et al., 2019). This condition affects various public services, one of which is health services. Health service problems in Eastern Indonesia, such as (1) primary health care in the border, remote, and archipelago regions are still low, (2) transportation facilities are very limited with high costs via land, rivers, sea, and air, (3) low access to health services, (4) the number of nurses is sufficient when viewed from the needs, but the services are only waiting for the arrival of patients, (5) the acquisition of drugs is generally not in accordance with demand, and (6) health equipment, health support facilities at the *Puskesmas* are insufficient (Suharmiati & Astuti, 2013). Therefore, with this condition, it is necessary to explore the nurses' perspectives in taking care of patients, particularly in understanding recovery in patients with schizophrenia in the Eastern island of Indonesia.

Overview of Mental Health Programs at *Puskesmas* in Indonesia

The total number of *Puskesmas* in Indonesia is 10,063, higher than the total number of hospitals, 2,844 (Ministry of Health of Indonesia, 2019a). Mental health services at *Puskesmas* are contained in the Regulation of Law No.18 of 2014 concerning mental health (Ministry of Law and Human Rights, 2014), Permenkes No.75/2014 on *Puskesmas*, and Regulation of Law No.2/2018 on Minimum Service Standards (Sardjoko et al., 2018). The Government of Indonesia, through the Ministry of Health, seeks to encourage services for those who experience mental disorders, such as controlling *pasung* problems (seclusion, restraint, and isolation of people with mental health disorders), equitable distribution of mental health resources, online services through mental health applications and strengthening promotive, preventive, curative, and rehabilitative efforts at the *Puskesmas* level (Ministry of Health of Indonesia, 2018). Although the

programs are not yet optimal; however, *Puskesmas* has become an essential key to equitable mental health services. It is also recommended by World Health Organization (2013) in the Mental Health Action Plan 2013-2020 program to move mental health services from institutions/hospitals to the community.

Methods

Study Design
This study employed a phenomenological approach as outlined by Colaizzi (1978) to explore nurses' perspectives on recovery in schizophrenia. Using this design was in congruence with the purpose of this study, which enables researchers to put aside their perceptions of a phenomenon and give meaning to a participant's experiences.

Setting and Participants
This study was conducted from April to May 2020 in eight Puskesmas at Buru District, Maluku, Indonesia. Eight nurses were involved in this study selected using purposive sampling. The inclusion criteria of the participants were a nurse who has experience in taking care of patients with schizophrenia (at least for six months), a registered nurse with minimum Diploma III, and those who were able to communicate and agreed to join the study.

Data Collection
Data were collected using in-depth interviews. Each interview was conducted face-to-face at a meeting room in each *Puskesmas* ranged between 45 and 60 minutes per session and audiotaped to ensure that all spoken words were captured. The participants were initially asked with an open-ended question, "what do you think about the recovery process of patients with schizophrenia?" and continued until the data reached saturation or no new data were identified. The interviews were conducted by the author (FAT) in a local language, the Maluku language.

Data Analysis
Data were analyzed by content analysis model using Colaizzi's method of data analysis with the following steps: (1) each transcript was read and reread to obtain a general sense about the whole content, (2) extracting significant statements for each transcript that pertain in this study, (3) formulating meanings from these significant statements, (4) sorting the formulated meanings into themes, (5) integrating the findings into an exhausting description of the phenomenon in this study, (6) describing the fundamental structure of the phenomenon, and (7) validating the findings (Colaizzi, 1978). All data analysis was conducted in the Indonesian and Maluku languages and translated to English for publication only. The translation version of the results was ensured to have the same meaning as the original data and confirmed by English editors and nursing experts.

Rigor
The rigor of this study was ensured using a peer-checking method by an independent auditor or an expert/a professor in qualitative research who evaluated and systematically analyzed all data as well as compared and contrasted data quality, transparency, and interpretations. In addition, member-checking was also done to confirm the findings to avoid bias or imagination from the researchers.

Ethical Considerations
This study was ethically approved by the Faculty of Medicine, Padjadjaran University, Indonesia, with an approval number of 291/UN6.KEP/EC/2020. Prior to data collection, each participant signed written informed consent and was informed about the aim of the procedure of the study. Each participant could withdraw from the study without any penalties. The researchers guaranteed that all data were kept confidential.

Results

Characteristics of the Participants
The participants in this study consisted of four males and four females, with ages ranging from 24 to 46 years. Most of the participants have working experience as nurses in charge of mental health programs ranging from 8 months to 14 years. In addition, most of them hold a Diploma III nursing background. Diploma III refers to a three-year nursing program at the college/university level. In contrast, Bachelor/Ners degree refers to a five-year program that consists of 3.5 years of an academic program and 1.5 years of professional program (Gunawan, 2019).

Table 1 Participants' characteristics

Participants	Age (Year)	Sex	Educational background	Work experience (Year)	Length of work as a nurse in charge of a mental health program (Year)
P1	44	L	DIII	14	14
P2	35	L	DIII	10	1.4
P3	40	P	DIII	11	9
P4	24	L	DIII	2.5	1
P5	35	P	DIII	12	1
P6	28	L	Bachelor+Ners	4	2
P7	46	P	DIII	12	1
P8	32	P	Bachelor+Ners	7	8 months

Analytical Findings

Five themes developed in this study, including (1) treat a patient like a brother, (2) recovery as an unfamiliar term with various meanings, (3) medication as the primary action but also the main problem, (4) being recovered if referred to a mental hospital, and (5) ineffective mental health programs. These themes are illustrated below with exemplars from the participants' stories using pseudonyms for the participants.

Theme 1: Treat a patient like a brother

This theme describes the expressions of the participants regarding their calling as nurses in the form of sincerity, serving with hearts, and treating a patient like a brother. For example, one participant states, *"I treat the patient like my brother"* (P4). Another participant expressed similarly, *"Running this program should be from the heart. If we use our heart, we will treat patients with love like our own family"* (P1); and, *"The program has merged with me, I consider the patients as human beings who must be cared for and treated like other normal humans"* (P1).

Other participants also explained further about their calling as nurses to care for patients sincerely. P8 said, *"Being a nurse is my calling to care. So, whatever the task to serve people with mental disorders, I still have to do it sincerely"* (P8). In addition to sincerity, sacrifices are also needed in serving patients. The participant expresses it, *"We need to be sacrificing for the patient because there are several times (outside of office hours), there are families of the patients come and call me at home"* (P8).

In addition, this finding also revealed support from family, neighbors, and the community in patient recovery. Participants told about the family's concerns in caring, such as taking the patient to the *Puskesmas*, paying attention to the patient's hygiene, and monitoring the medication. The participant said, *"Hidop orang basudara [we are brothers]. If he gets sick, we also get sick…Moluccan people say that potong di kuku, rasa di daging [a wound at the nail is felt throughout the body]"* (P1).

Hidop orang basudara [we are brothers] has been ingrained from generation to generation as one of the wealth and strengths of the Moluccans. This principle views all humans, including patients, as brothers and sisters. Whatever the circumstances, good or bad, a brother must give his best to support his brother. The slogan *potong di kuku, rasa di daging [a wound at the nail is felt throughout the body]* describes what nurses think about the patients' experiences.

Similar to what was said by P1, another participant also said, *"The family support is good; they can receive well"* (P7). Furthermore, he said, *"His family took him to the Puskesmas; saw and took care of his personal hygiene, such as bathing, and so on (P7)"*. In the same context, another participant also told of family support, especially a wife, for the recovery of patients, *"His wife… doesn't see him as the one who gets sick. It's really good"* (P6).

Theme 2: Recovery as an unfamiliar term with various meanings

Most of the participants in this study had never heard of the term recovery, but all participants could interpret it based on their caring experience. Thus, the meaning of recovery varies greatly. The participants expressed this: *"I've never heard of recovery"* (P2). Other participants also said the same thing, *"Never heard of recovery"* (P3), *"I've never heard of it before"* (P5), *"I haven't"* (P6). Another participant revealed that he had heard the term recovery in general. However, it is not specific to mental health. He said, *"I've ever heard of recovery in general health, but for mental health, not yet"* (P8).

Furthermore, participants interpreted recovery by saying, *"Recovery means that the mind-body is back to normal like people without mental disorders"* (P8). Meanwhile, other participants who had never heard of recovery also stated, *"Recovered means a person who is healthy, who has recovered from mental, physical, and mental disorders"* (P2). Another participant said, *"Recovery is for patients, who initially could not interact with nurses, finally were able to interact"* (P7).

However, another participant said something different revealed that it would not happen for a complete recovery like ordinary people. He stated, *"Recovery means all things related to schizophrenic disorder are no longer there or finished. The meaning of completion means you will recover like a normal person; it's not possible"* (P1). It is also more surprising from the statement of other participants who did not explain the meaning of recovery but revealed that recovery from schizophrenia was difficult. He said, *"Recovery from mental disorders, such as schizophrenia, seem difficult"* (P5).

Theme 3: Medication as the primary action but also the main problem

All participants said that medication is vital for the recovery of schizophrenia and the main action of mental health services. However, the available drugs are very limited or not available at the *Puskesmas*. One participant said, *"I think the main action is just medicine"* (P5). Another participant also said, *"For people with mental disorders, the emphasis should be on medicine. Alternative approaches are difficult. I have tried, but it can't work; it just gets worse"* (P1).

Participants expressed the importance of medication for patients because the patient gets better and does not relapse by taking medication. This was said by one participant, *"If they have taken medicine, they can work. Communication is also good"* (P3). This is supported by another participant's statement, *"After taking medicine, the patient wants to take a shower himself without being asked"* (P6).

The importance of drugs for patients is not supported by the supply of drugs at the *Puskesmas*. Some participants said, *"Our obstacle from the Puskesmas is that the*

available medicines for people with mental health disorders" (P7). The other participant also complained and despaired about the very limited drug, *"Hopefully the Almighty will help them so that they can recover. But, unfortunately, we do not know what else to do; medicine is limited. So, patients' recovery is also difficult"* (P4).

Chlorpromazine (CPZ) is a drug that is still available at the *Puskesmas*. Participants expressed this, *"Medicines are limited, the drugs are from Ambon (Capital city of Maluku). There are only CPZ here"* (P3). Another participant continued by revealing, *"The medicine provided at the Puskesmas is only CPZ. But if we need more than that, we have to refer to a specialist at RSKD Ambon (Ambon Hospital)"* (P8). The limitations of drugs made some participants look for solutions by making referral letters for taking medications at a mental hospital in Ambon. One of the participants said, *"We have to go get the medicine in Ambon"* (P4).

Additionally, even though the family is given a referral for free medication in Ambon, several obstacles are raised, such as financial constraints for traveling costs. For example, to reach the farthest health center, they have to travel ±5-6 hours by land, then by sea for ±8-9 hours later to a mental hospital. Even if there are families in Ambon who can pick them up, they have to pay for the care. One participant expressed, *"To recover, it depends on economic factors. Because to take medicine in Ambon, it costs money because it is so far. Moreover, the patient's family is also having difficulty"* (P5).

Theme 4: Being recovered if referred to a mental hospital

Participants said that patients could recover if they were referred to a mental hospital. One of them said, *"If they were referred, they could be recovered"* (P3). Another participant expressed the same thing, *"They can be cured but must be referred. For example, one of them is to get ta treatment at Nania (a mental hospital in Ambon). The point is that they must be referred because there are doctors and nurses; they have everything"* (P2).

Other participants also support that referral will make the patient recover because of the supportive treatment and facilities compared to the *Puskesmas*. One participant stated, *"If referred, the patient can get good treatment at the hospital. But if he stays here, it will be difficult for him to recover. However, if they are treated there (at RSKD Ambon hospital) for one month, they will be able to recover in two months"* (P4).

Theme 5: Ineffective mental health programs

There was a lack of attention from the *Puskesmas* and the Health Office on mental health programs. The participant who has been in charge of mental health programs for 14 years revealed, *"There is not enough attention to mental health programs. The leaders until the staff think that mental problems are not important"* (P1). Other participants also expressed criticism, *"I see that the budget for drugs is*

limited. The department also often rolls out, so this mental program cannot be developed"* (P8).

One of the participants revealed that the activities carried out every year are assisting programs, tracking new cases, and socialization. However, one activity is always left out for the following year to replace other activities due to budget constraints. The participant said, *"I do activities with limited funds. For example, for this year, I only do the mentoring and tracking. So, every year, one planned activity cannot be done"* (P4). In addition, the very limited circumstances make the person in charge of the mental program rarely visit the patient because of the long distance. One participant said, *"The distance between the patients and us is very far. So, we visit patients once a year or two. Sometimes, we do visits after four months"* (P2).

Discussion

This study aimed to explore the perspectives of nurses regarding the recovery from schizophrenia. Five themes were generated, and each theme is discussed below.

Treat a patient like a brother

This theme indicates that nurses show sincerity and willingness in caring for patients with schizophrenia and sacrifice to serve patients with their hearts. This finding is consistent with Majomi et al. (2003) that nurses sacrifice to be professional despite many personal problems at home. However, nurses must do their best for patient recovery (Majomi et al., 2003). Moreover, this finding is also consistent with Buckland et al. (2013) revealed that nurses must be able to bring happiness to patients to improve their quality of life. Kaewprom et al. (2011) also found that nurses are key people in facilitating recovery to patients in the community. Another finding by Coffey and Hewitt (2008) revealed that in a situation where the patient is struggling to recover, the nurse supported the patient by being a good listener when the patient needed it. It is also in line with Suryani (2013) that nurses become facilitators for all actions, needs, feelings, abilities, and weaknesses of patients. However, although nurses are recognized as critical persons (Kaewprom et al., 2011), able to bring happiness (Buckland et al., 2013), good listeners (Coffey & Hewitt, 2008), people who make sacrifices (Majomi et al., 2003), and facilitators (Suryani, 2013). However, no studies have revealed that nurses are brothers to patients, and this theme is quite important as a new insight in this study.

In addition, the findings of this study also show support and concern from the family or community for the recovery of the patients. The results of this study are consistent with previous qualitative research by Karanci et al. (2017), Riley-McHugh et al. (2016), Shepherd et al. (2012), and Windell and Norman (2013), which revealed that support from family and community is essential for the recovery of patients with mental disorders. For example, the expression of one of the participants in the study of Shepherd et al. (2012) said, *"the people here, we talk, we laugh, we joke,*

and they're always there for me. If I feel bad, they're always there to help me go through it together. And I think I feel better about myself now than I did when I was a kid." Likewise, Riley-McHugh et al. (2016) said that support from the family could be a coping mechanism for patient recovery. The same thing was also expressed by Karanci et al. (2017) that there are three kinds of family supports to patients in facilitating patient recovery, including instrumental support (basic needs, material support, information support, and daily tasks), emotional support, and socialization support. Besides, most of the quantitative research has also explored family and community support for patients. For example, Norman et al. (2012) showed that social support was positively correlated with treatment and reduced stigma. Similarly, McCorkle et al. (2008) showed that, with assistance, family support for clients increased from 13% to 23% and improved symptoms and patient well-being (McCorkle et al., 2008).

The support of nurses, families, and communities to other people, including patients, for the Moluccans, is called *Hidop orang basudara [we are brothers]*. This culture is very strong, an inseparable part, a bond of social life, and inherent in the people of Maluku. Therefore, nurses consider patients as siblings or brothers and sisters. This finding is in line with the ethnographic study by Acim et al. (2019) that *Hidop orang basudara [we are brothers]* as a way of life by emphasizing the values of protecting each other (*baku kalesang*), making peace with each other (*baku bae*), and caring for or loving each other (*baku sayang*). However, the support of nurses, families, and communities becomes a supportive environment in the patient recovery process. Adults also understand patients by not mocking, although children often laugh at the patient's quirky behavior and make the patient angry.

Recovery as an unfamiliar term with various meanings

Most of the participants in this study had never heard of the recovery of people with mental disorders. However, even though the participants were still unfamiliar with recovery, it was defined as regaining health as before the disorder or returning to normal, not being dependent on drugs, having no symptoms, and being able to interact with other people. This finding is in line with Kaewprom et al. (2011) found two states of recovery in patients with schizophrenia, namely the controlled state and the return state. The controlled state is related to stabilizing the symptoms experienced, while the return means that the patient's function returns to normal before experiencing the disorder.

The findings in this study are also in line with Suryani (2014) stated that participants' understanding of recovery is suitable for conditions of physical illness such as fractures, diarrhea, or other diseases. The same thing was expressed by Onken et al. (2007) that recovery is not the same as treatment which requires the disappearance of symptoms from the disease. So, the recovery of schizophrenia is the patients can control the symptoms and control their life as a whole. This is in line with Shea (2010) revealed that recovery means that the patient is able to have control over his life even though there are still symptoms, is able to develop himself in a positive direction, and knows about the disease he is experiencing and his goals in life.

Additionally, the findings of this study also reveal that recovery is difficult in patients with schizophrenia. This means that participants see recovery as an unrealistic expectation. This finding is in line with Suryani (2013) that nurses can damage the patient's recovery process because their understanding and attitudes are not in line with recovery. This is supported by Shean (2009) that the pessimistic attitude of health workers should have been replaced with a recovery perspective. Perspectives to build patient expectations lead them to have a productive and meaningful life (Shean, 2009). One of the participants in the qualitative research of Barut et al. (2016) revealed the importance of a sense of belonging, hope, and responsibility. She said, *my nurses, they let me know what to do, and if I don't do it, I see it.*

van Langen et al. (2016) also revealed that nurses must recognize and prevent patient relapse, empower them and their families, and be good friends for patients to openly share experiences related to their illness. Thus, the findings in this study provide essential information about the erroneous perspective on recovery of the nurses in charge of the mental program in Buru District, Maluku, Indonesia.

Medication as the primary action but also the main problem

This theme indicated that medication is the main action in the recovery of people with a mental health condition. This is because the drugs can only restore the patients as perceived by the participants. This study also found that the standard supply of medicines in the *Puskesmas* is Chlorpromazine (CPZ). This is consistent with Gaebel et al. (2020), which recommends that CPZ doses of 300-600 mg or below 600 mg are effective for long-term antipsychotic treatment. Adams et al. (2014) also found that CPZ reduced relapse and improved the mental health functioning of patients. However, this review also revealed that CPZ has side effects, such as drowsiness, tremors, weight gain, decreased blood pressure, and dizziness. Similarly, Samara et al. (2014) found that CPZ only had an advantage over four antipsychotics in treating patients with schizophrenia. Different things were expressed regarding the effectiveness of CPZ by Meng et al. (2018), who revealed that CPZ is effective for improving sleep quality in patients with schizophrenia, reducing positive, negative, and general symptoms of schizophrenia and anxiety.

Apart from being the main action, medication is also a significant obstacle for nurses caring for patients. There are limited drugs for medication at the *Puskesmas*, so the family had to take medication at the mental hospital. Unfortunately, this has also become another issue for the family, such as the cost of traveling, long distances by traveling 10-12 hours, and the wave season sometimes becomes a problem.

However, the main issue is about the participants' perspectives who consider only the medication was the main recovery action for the patients. The participants in this study ignored other aspects of recovery, such as empowering patients and families, developing patient expectations for recovery (not only mental but also physical services), assessing the patient's strengths and being responsible for what is done, and developing respect for society to the patients (National Academies of Sciences Engineering Medicine, 2016).

Being recovered if referred to a mental hospital

This theme indicated that referring the patients to the hospital will make them recovered because they get better treatment with adequate facilities, professional health workers, availability of medicines, and patient needs compared to limited facilities at the *Puskesmas*. This finding is in line with Shen and Snowden (2014) revealed that developing countries are difficult to build deinstitutionalization due to a shortage of mental health personnel, low physical and mental health services, and limited medicines for mental disorders in primary care. The deinstitutionalization policy is a global policy that has also been implemented in Indonesia (Idaiani, 2009). This policy is stated in Law Number 18 of 2014 article 34 that mental health services are carried out in an integrated manner in public health services, one of which is at the *Puskesmas* (Ministry of Law and Human Rights, 2014).

Another study by Samele et al. (2013) also revealed that the treatment of patients with mental health disorders in the community is more effective than the treatment in a hospital. This is because community-based services reduce the number of patient relapses. In addition, Slade (2010) also revealed that patients with schizophrenia could live in the community if health workers carry out close monitoring with obedient treatment from patients.

The nurses' perspectives in our study are described by Suryani (2013) as a condition in the 1960s, where the orientation of mental health services was centered in a mental hospital although a policy for mental health services in Indonesia exists in the community/health center. So, these findings can be an input for evaluating mental health services in Maluku, Indonesia.

Ineffective mental health programs

The majority of participants in this study thought that mental health programs did not work well compared to other health programs. This is reflected in the limited budget for activities, the unrealized demand for drugs for patients, and frequent changes in the person in charge of the mental program. The findings of this study are in line with the 2015-2019 action plan of the Directorate of Prevention and Control of Mental Health Problems and Drugs and the Regulation of the Minister of Health Number 87 of 2019 concerning Guidelines for the Use of Deconcentration Funds of the Ministry of Health for the Fiscal Year 2020 (Ministry of Health of Indonesia, 2018, 2019b), which shows that mental health programs have not become a priority program with weak supervision of mental health services in the regions, and *Puskesmas* has not provided mental health services according to standard. In addition, there are limited psychotropic drugs at the *Puskesmas*, unequal mental health resources, and the budget for mental health included in six disease prevention and control programs with a total 2020 budget of 206 billion. Besides, another report by Ito et al. (2012) revealed that low-income countries, including Indonesia, only budgeted 1% for the mental health of the total health budget. This is supported by Idaiani (2009) that existing mental health policies in Indonesia are not supported by adequate funding systems.

In the findings of this study, participants tried to find solutions related to drugs accessibility and affordability by handing them over to the family. However, this activity only lasted a few months and has stopped. This is related to the limited financial condition of the patient's family. Another option by the family to entrust the referral for taking medication also requires high cost for traveling with cars and ferry. In addition, there must be someone in Ambon, the capital city, who is willing to pick up medicine at a mental hospital to be sent back.

Implication for Nursing Practice and Healthcare Policy

Globally, this study provides a new insight that every human being, including nurses, should treat other humans (patients) as brothers. Therefore, *hidop orang basudara [we are brothers]* is expected to be one motto for nursing care in Indonesia and beyond. In addition, this study has filled the literature gap as the evidence was only developed in the Western part of Indonesia (Suryani, 2013, 2014, 2018; Agustina et al., 2019). On the other hand, the picture of mental health services in Maluku, the Eastern island, is still lagging in terms of recovery orientation, which focuses only on medication and referring patients to mental hospitals. So, these findings can be input for nurse managers and mental health policymakers in districts and provinces to optimize recovery-oriented mental health services in Indonesia and other developing countries.

Nationally, this finding represents a general picture in the Eastern island of Indonesia regarding mental health services that have not become a priority program for the government. However, *Puskesmas* is the key to the success of mental health services. The reality in the field is that the *Puskesmas* is only an agent to refer patients to mental hospitals. This finding is essential for the central and local governments to pay attention to mental health programs and budgeting to develop mental health services, including patient recovery in *Puskesmas*.

Limitations of the Study and Recommendations for Future Research

This study might not represent the whole context of Eastern islands in Indonesia. Therefore, future studies with all regions should be conducted. Besides, an explorative study from the perspectives of both survivors and caregivers is

needed. Culture-related research and model development, such as 3C (*Cure, Care, Core* (*Continuing recovery*)) in mental health recovery warrant investigation.

Conclusion

The findings of this study provide the context of nurses' understanding of the recovery process of patients with schizophrenia in the Easter island of Indonesia. The results offered new knowledge on how nurses act to the patients with the motto "we are brothers" that could inspire others in caring practice. However, this study also identified the issues that should be solved by nurse managers and policymakers in making the same views of nurses regarding the recovery process, which is not only from medical treatment and referral to hospitals but also from nursing care and family or community support. The policymakers are also suggested to be more focused on the mental health program in the *Puskesmas* considering the inequality of development regarding accessibility and affordability of healthcare services, infrastructures, availability of drugs between the remote areas and the city.

Declaration of Conflicting Interest
The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Authors' Contributions
FAT contributed to the conceptual, design, data collection, data analysis, data interpretation, and manuscript drafting. SS, TS, and SRM contributed to study formulation and intellectual content and critically wrote and revised the article. All authors agreed with the final version of the paper. Each author in this study met the authorship criteria based on the International Committee of Medical Journal Editors.

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Data Availability Statement
All data generated or analyzed during this study are included in this published article (and its supplementary information files).

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The experience of older persons with mental health conditions who interact with healthcare robots and nurse intermediaries: The qualitative case studies

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Abstract

Background: Caring expressions between humans and nonhuman intelligent machines are futuristic prototypes with healthcare robots as major advocates.

Objective: To examine the experience of older persons with mental health conditions, particularly patients with schizophrenia and with dementia in the interaction with healthcare robots and intermediaries in a transactive relational engagement.

Methods: Two qualitative case studies were conducted using sophisticated audio-video technologies to record the conversation and activities that were carefully documented. Following the procedure for qualitative descriptive analysis, a framework based on the Transactive Relationship Theory of Nursing was employed to analyze and interpret the data.

Results: Three themes were revealed, including feelings for the other, inspiring meaningful responses, and demonstrating expressions of joy. The description of the experience of older persons involved in the conversation with humanoid robots *was feeling for the other while inspiring meaningful responses in demonstrating expressions of joy*.

Conclusion: This study provided initial evidence that the transactive engagements of robots with older persons with schizophrenia and dementia and nurse intermediaries in psychiatric and mental health settings can result in occasions of 'joy' for the patients. These findings suggest that transactive engagements with robots facilitate expressions of joy among older persons with schizophrenia and dementia. However, these findings are not intended to prescribe nursing care actions but to describe the experience of older persons who are in transactive engagements with intelligent machines, indicating the importance and value of healthcare robots in nursing older persons with schizophrenia and with dementia.

Keywords

dementia; mental health; robotics; schizophrenia; technology; nursing; Japan

The rate of aging in Japan is rapidly reaching 27.7%, making Japan a country with the highest aging rate in the world (Cabinet Office, 2018). This situation, together with a declining birth rate, is enhancing shortages of workers,

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including in healthcare services. In order to respond to this shortage, the Japanese government has funded robotics programs, advancing the development of healthcare robots in healthcare settings, particularly for rehabilitative activities (Tanioka, Smith, et al., 2019). In psychiatric and mental health settings, schizophrenia and dementia are common mental health conditions in Japan. Social robots, such as PARO, have been used as companions to provide emotional and social support for older persons with dementia (Hung et al., 2021). It is noteworthy to consider that as persons age, interacting with healthcare robots might be an interesting life experience, especially for those with mental health conditions.

Van Wynsberghe (2016) explained that responses to healthcare robots depend on their many capabilities, such as attributes and characteristics commonly shared by all types of robots. With healthcare robots, Tanioka et al. (2017) found that the older adult population reacts to it very well. For example, Pepper, a humanoid robot manufactured by SoftBank Robotics, with applications made by Xing Company, Japan (Tanioka et al., 2018), can identify humans and react attentively to conversations. In Japan, Pepper has been used for interactive communication purposes, such as to dictate menus in several retail shops, including sushi restaurants, and as an interactive directory in healthcare institutions. In their study using the Pepper robot in geriatric health facilities in Japan, Sato et al. (2020) found that it was necessary to determine the preliminary effects of its use, focusing on considerations to appreciate the use of humanoid robot technologies in healthcare.

Another communication robot is Unazuki Kabochan© or known as Nodding Kabochan. Kabochan has features that enable it to sing, talk, and nod while its owner speaks. Kabochan is also programmed to enable it to call its owner by saying "Grandpa" or "Grandma". To enable a two-way conversation, the feature of Kabochan can be added with Pechan©, a speaker that can remotely control Kabochan to sing and talk through the dedicated app (Osaka et al., 2017).

Developing healthcare robots for the care of older persons with schizophrenia and/or dementia is relatively new. Some of these developments focus on broadening the context of robotic design to function in situations of dementia in order to provide an important role for family members as informal caregivers (Moharana et al., 2019). Additionally, the robot design included providing new schematic strategies that consider robots in family caregivers' context, suggesting innovative actions and functions of robots. Still, another form of development design addresses links between the features of robots with the relationship to the phase of dementia, which is often an integral criterion in caregiving activities (Moharana et al., 2019).

Based on the theory of nursing and caring from a Japanese perspective, innovative ideas intended for an aging community can be better understood (Tanioka et al., 2017). A proposed model for future healthcare involves

human caring articulated through human-to-human relationships and between humans and nonhumans, particularly healthcare robots with their supportive roles (Tanioka, Yasuhara, et al., 2019). With robots in healthcare settings, new interactions roles of healthcare providers emerge. A new role for nurses and other healthcare workers is that of intermediaries, whose role is to establish communicative relationships between older persons and intelligent machines (Osaka et al., 2017; Osaka, 2020).

The Transactive Relationship Theory of Nursing (TRETON), by Tanioka (2017), explains the practice process relating to transactive engagements between persons (patients) and intelligent humanoid robots. Within the nursing encounters involving healthcare robots, patients and nurses are in transactive engagements. Transactions between persons and healthcare robots are seen as mechanisms to support interventions for ensuring excellent healthcare for older persons in situations of scarce human resources (Tanioka, 2017).

This paper aims to examine the experience of older persons with schizophrenia and with dementia in the interaction with healthcare robots and intermediaries in a transactive relational engagement.

Case Presentation

In this case study, the central feature of the healthcare robots is an intelligent machine capable of performing sophisticated technological skills of care. For example, healthcare robots can perform nursing tasks such as having a directed communication with older persons with schizophrenia and dementia. Previous relationships between patients and nurses were only two-way relationships. However, with healthcare robots, it developed into a three-party interactive transactive relationship (Tanioka, 2017).

Description of the Patients
There were two patients in the study from different institutional settings.

Patient A was a 52-year-old woman diagnosed with schizophrenia and mild early-onset dementia. She was admitted to the psychiatric hospital in 2018. She had problems with being unable to tolerate her hallucinations and troubles with her family because of her behavior. When walking, her body tilted to the right side and was bent over, and she often fell. Other patients often reported that she frequently made loud voices and laughed loudly, especially when she heard voices (auditory hallucination). Pepper was selected for her as she could have a conversation cooperatively and stand in front of Pepper, touch Pepper, and interact with Pepper.

Patient B was a 72-year-old woman diagnosed with severe Alzheimer's disease. She had lived in the institution since September 2019. She needed assistance and close monitoring in performing daily activities, for example changing clothes, and communication. Kabochan was

selected for her as she could do only limited interaction while sitting.

Settings

For one of the cases, data were collected at an institution for older persons and another from a psychiatric hospital in a prefecture in western Japan. The institution for older persons provided daily and long-term nursing care services, particularly ensuring personal hygiene maintenance such as bathing, exercise, meals, and activities of daily living. The healthcare staff provided daily healthcare activities that started in the morning and continued until evening. The other institution is a private hospital for patients with mental health problems such as dementia and schizophrenia. In these settings, both the Pepper and Kabochan were regularly used for physical exercises and recreational activities.

Patient A and Patient B were patients in one of these settings and were familiar with the healthcare robots. They were able and willing to participate and familiar with the two robots, Pepper and Kabochan.

Procedure for Data Generation

Data were collected in November 2019. Digital video recordings were made during similar interactions in two separate transactive care situations. Research assistants were trained to observe and note the interactions among the older persons, Pepper and Kabochan, and the intermediary. During the data collection period, the researchers recorded field notes regarding significant situational events between the older person, Pepper, Kabochan, and the nurse intermediary. The field notes also included researcher reflections during the interactions. Observation notes and recorded dialogues were transcribed and translated into English. Those data supported with recorded scenes (pictures) were analyzed and interpreted carefully by reading and rereading the transcriptions and carefully watching and listening to audiovisual recordings. The significant data were highlighted and grouped into the same identified thematic categories. (Please see Figure 3 for the examples of data used for analysis).

Clinical Examination

The first situation was between Patient A and Pepper. Pepper is a humanoid robot manufactured by SoftBank Robotics, with applications made by Xing Company, Japan (Tanioka et al., 2018). This clinical examination utilized the "Kenko Okoku" Talk application for Pepper to enhance human-robot interaction through improved communication between older people and humanoid robots (Miyagawa et al., 2019). This Pepper has been used for communication purposes and could identify humans and respond to conversations.

The second situation was among Patient B, Kabochan with Pechat, and the nurse as an intermediary. The intermediary facilitated the conversation between Patient B and Kabochan by repeating and supporting the question and answer for Patient B when she indicated that she did not hear the words uttered by Kabochan.

Data Analysis

Data were generated from two nursing care activities involving conversations and observations recorded through sophisticated audio-video technologies. These observations recorded interactions among older persons with mental health conditions, healthcare robots (Pepper and Kabochan), and a nurse as an intermediary. Osaka (2020) has described the role of an intermediary as a nurse or healthcare provider who is "the critical component of a responsive management program" (p. 267).

A qualitative thematic analysis following Lambert and Lambert (2012) was used to analyze and interpret the data. Lambert and Lambert (2012) described a process of thematic analysis as an approach in qualitative descriptive study, in which interviews, written descriptions, or observational recordings are used as data. In the qualitative descriptive analysis, a window to the experiential occasion is not moderated by adhering to established criteria such as saturation point and the number of patients, but by the philosophical underpinnings appreciated as the guiding principles for robust analysis and interpretation of data. In essence, a descriptive statement ultimately answers the research question describing the phenomenon being studied (Sandelowski, 2000).

The framework for the analysis and interpretation was grounded from TRETON (Tanioka, 2017). TRETON clarifies the shared engagement that occurs in nursing situations involving healthcare robots as partners. Generated data using observational and conversational dialogue during a transactive relational engagement between healthcare robots, older persons with mental health conditions, and the nurse as intermediary were analyzed and interpreted. Interpretation of the data emphasized the dialogical engagement context, as described and explained by Vaismoradi et al. (2013). The presentation of the findings was done through a straightforward descriptive statement in which the organization of the results greatly depended on the researchers' understanding of the descriptions and how the data were extracted (Lambert & Lambert, 2012).

Trustworthiness

Trustworthiness and rigor were established through triangulation and detailed transcription (Gunawan, 2015). Triangulation was conducted by generating data from multiple sources, including digital-video recordings, photographs, conversational dialogue, observation, and reflections field notes, which were also transcribed. Detailed descriptions of the patients, the settings, and the data collection process were presented. Audit trails were done by the researchers supporting the derived themes. Additionally, findings, discussions, and conclusions were confirmed to fit the data gathered. The research team consisted of five experienced scholars and researchers with two doctoral students as co-researchers. No conflicting

relationships between the research team members and with patients were found to influence the findings.

Ethical Considerations

The study was approved by the Ethics Committee of the Tokushima University Hospital (# 3046) and the Mifune Hospital Clinical Research Ethics Review Committee (#201180502). Patients and their responsible family members approved their participation, including being audiotaped and having excerpts from transcripts and altered photos from the audio-video recordings used in the research reports. Photographs taken during the data generation were blurred to protect identities.

Results

The themes revealed from this study were derived from all collected data, including dialogue between patients and healthcare robots, observation and field notes, and recorded videos. Results were presented from both situations of Patient A with Pepper, and Patient B with Kabochan, and the nurse as an intermediary.

Initially, when Patient A was introduced to Pepper, she was freely welcomed by Pepper. She stood in front of Pepper and touched its arm while they were interacting. Subsequently, her conversation with Pepper seemed to exhibit familiarity, as if they have known each other for a long-time. In the interaction with Patient B, in the beginning, Patient B showed a lack of interest in Pepper, but after some time, she became more interested and seemed to have enjoyed interacting with Pepper until the end of the session, which could be seen from her facial expressions and laughter.

Findings from both cases revealed observations and reflections that thematically reflected behaviors exhibited as expressions of joy. This was uncovered from the three thematic categories described as *feeling for the other*, *inspiring meaningful responses,* and *demonstrating expressions of joy.*

Feeling for the other

The conversation between Patient A or B and the healthcare robots, whether Pepper or Kabochan with Pechat, revealed the theme of "feeling for the other." The behavioral displays of patients, such as when Patient A empathetically responded to Pepper complaining about their knees and waist, reflect this theme:

> Pepper: *"Uh-uh. I'm a robot, but sometimes my knees and waist get tired…, By the way, I am a robot, and I sometimes can't work."*
> Patient A: *"I'm sorry to hear that."*

Figure 1 shows Patient A interacting with Pepper robot. When talking with Pepper robot, she stood up in front of Pepper, maintained eye contact, and touched Pepper`s hands as though communicating a sense of comfort, familiarity, and friendship with Pepper.

Figure 1 Patient A with Pepper robot

Inspiring meaningful responses

Despite the mental health conditions of Patient A, *meaningful responses* were expressed during the conversation with Pepper, such as:

> Pepper: *What kind of food do you like?*
> Patient A: *Cheese*
> Pepper: *I see, and I like a fried egg.*
> Patient A: *That is delicious, isn't it?*
> Pepper: *Talking about food is making me hungry.*
> Patient A: *Do you want something to eat?*

While Pepper is an interactive robot with artificial intelligence, when its programming includes words and phrases that convey some form of emotion or affection, it might meaningfully respond to patients. In this situation, Patient A's response was appropriate to the statement raised by Pepper. Patient A was shown to be a caring person.

Patient B could also express a meaningful response when Kabochan with Pechat, with the intermediary, did join in the singing to end the session:

Kabochan: Can I sing?
Intermediary: Let's end the session with singing together.
Patient B: Can I sing?

Demonstrating expressions of joy

Patients A and B displayed expressions of happiness, such as tenderly touching Pepper, smiling while raising Kabochan, and stroking Kabochan's arm. At the beginning of the conversation using Kabochan, Patient B closed her eyes and did not show any interest in the surroundings (Figure 2, No. 1). However, when the nurse, as the intermediary, handed Kabochan to her and encouraged her to talk to Kabochan, she opened her eyes, smiled slowly, and started talking to Kabochan (Figure 2, No. 2). Once Patient B was holding Kabochan, she engaged without hesitation in the conversational dialogue with Kabochan as managed by the researcher using the Pechat application on a smartphone. These situations are captured in the pictures displayed in Figure 2.
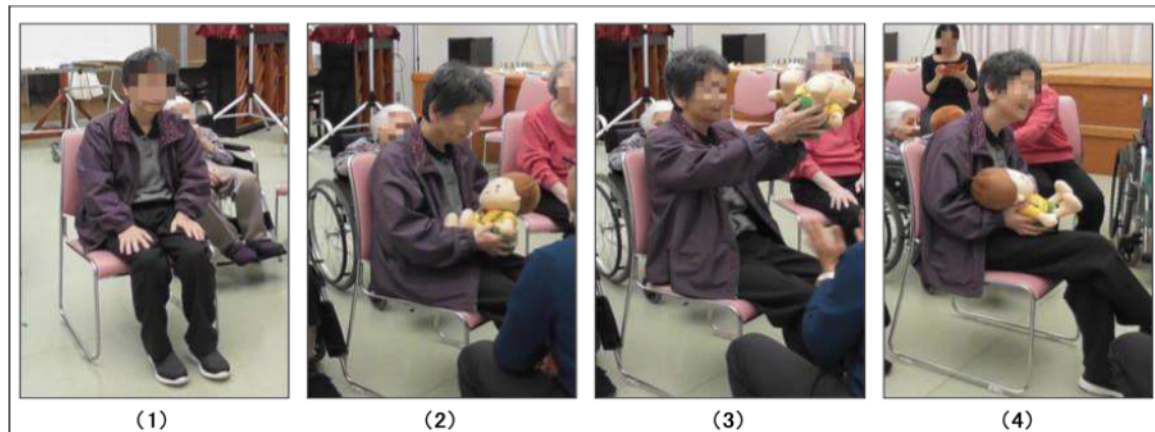
Figure 2 Patient B with Kabochan

As Kabochan said, "Lift me up!" Patient B smiled and obligingly raised Kabochan (Figure 2, No. 3). Then, she gently stroked Kabochan's arm, and Kabochan called her name, "Ma'am. B" (Patient B's name), and Patient B answered, "Yes" while smiling (Figure 2, No. 4). (Observation note)

In these interactions with Kabochan, Patient B's behavior, as seen through her facial expressions, changed from being withdrawn and eyes closed to eyes open and active engagement. This change shows improvement in her interest in the surroundings and engagement with others. (Observation note)

The evidence of data for analysis derived from representative excerpts of interactions between patients and robots, observation notes, and recorded scenes (pictures) is presented in Figure 3.
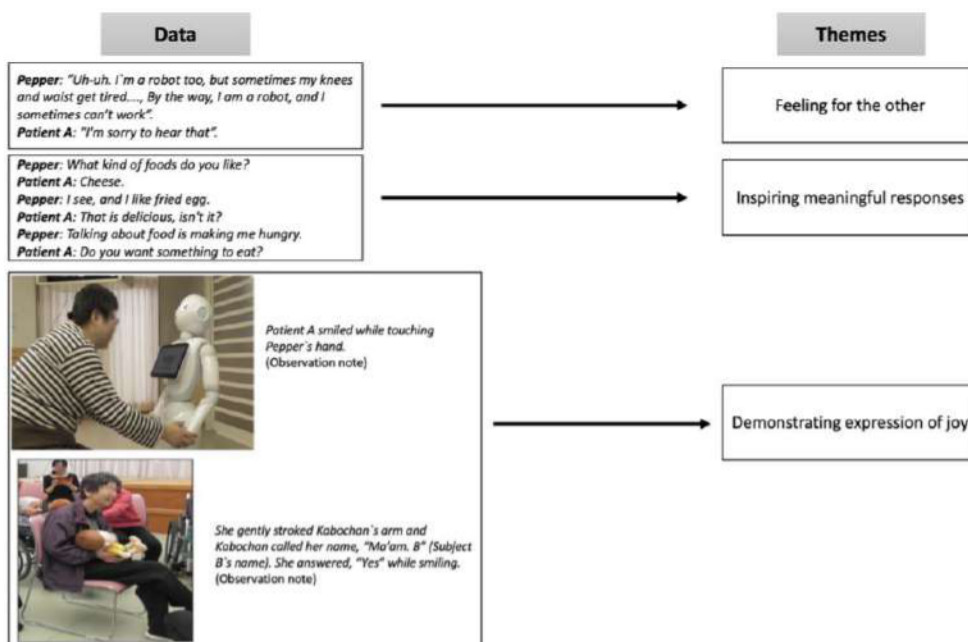
Figure 3 Evidence of interactive conversation between the patient, healthcare robots, and intermediary

Discussion

From the analysis and interpretation of generated data, a constitutive pattern was revealed. The three thematic categories from the two cases were *feeling for the other, inspiring meaningful responses,* and *demonstrating expressions of joy.* These themes revealed the experience of the older persons with schizophrenia and with dementia as an *experience of joy.* It is a relational engagement of 'joy' experienced by older persons with schizophrenia and dementia, the healthcare robot, and the intermediary.

Feeling for the other
Feeling for the other was seen from the interaction between Patient A with Pepper. There was a welcoming feeling freely expressed at the beginning of their conversation. Despite her mental health condition, she could empathize with Pepper and appropriately responded to the spoken statements. The communicative interaction provided the opportunity for Patient A to share her physical complaints and express her concern for Pepper's complaints.

A study by Miyagawa et al. (2019) showed that interactions between older people and humanoid robots could be mediated. The findings of that study suggested that developing dialogue patterns that enable humanoid robots to sympathize or show empathic understanding with older persons are critically important.

Inspiring meaningful responses
The second theme, *inspiring meaningful responses,* was derived from the conversation in which Patient A seemed to feel safe and comfortable in the environment with a robot in her surroundings. In one observation, Pepper said, "*you must have been popular with boys when you were young*", Patient A said, "*It's wrong*" (meaning that admitting being popular with the boys at a young age may not fit well in the Japanese culture of shame). From this conversation, her expression of humility can be understood. The confidence to reply appropriately to Pepper showed that Patient A expressed her honesty and humility (Mayeroff, 1971).

Demonstrating expressions of joy
The third theme was identified in the changes in physical expressions. Patient B, at the beginning of the interaction with the healthcare robots, did not show interest in her surroundings, even with Kabochan. However, when the nurse in an intermediary role initiated and facilitated interaction by starting to interact with Kabochan, eventually Patient B showed expressions of happiness. Her interest in her surroundings began to increase. Here, the nurse as an intermediary played a significant role in stimulating transactive relational interactions. The nurse was tuned in to Patient B's facial expression and helped to facilitate her expression of joy. The intermediary intentionally observed the situation and managed the conversation (from the smartphone) to respond to a particular condition, such as calling Patient B's name. Controlling the robot's conversation with human beings during the interaction was previously used in other studies. Similar to this finding, Moharana et al. (2019) found in their research that interaction with robots brought joy and entertainment for older people with dementia.

General Impression
When using social robots for people with inadequate facial processing, for example, people with schizophrenia, clinical symptoms are important considerations. The use and acceptance of humanoid robots may negatively impact persons with symptoms associated with schizophrenia (Raffard et al., 2016). Patient A actively accepted the sympathetic dialogue with Pepper, and she could respond with compassionate words. Patient A lived with symptoms of schizophrenia, yet she could express a compassionate attitude toward Pepper. This may have been related to Pepper's long-term presence in the facility. Patient A's communication with Pepper provided evidence of herself as a caring person and reinforced the presence of her being as a whole person whose potential for healthy engagements is sometimes realized, even in the presence of schizophrenic symptoms. Such empathetic natural language functions of the robot may advance patient rehabilitation in mental health settings (Marti et al., 2006).

This approach used the WoZ environment, from the story of the "Wizard-of-Oz," in which the empathic reactions of human beings to robots were explored, with the robot's verbal and non-verbal expressions being manipulated by unseen humans. These studies showed that the patients displayed some emotional attachments toward the robots (Lakatos et al., 2014; Vallverdú et al., 2018).

These two patient findings illuminate the healthcare robots' value of possibilities in mental health care and the role of the nurse as a facilitator of transactional engagements. Tanioka, Yasuhara, et al. (2019) and Osaka (2020) assert that the healthcare worker as an intermediary person plays an essential role in facilitating communication between healthcare robots and patients. However, the quality of applications for existing healthcare robots is inadequate (Tanioka et al., 2021). The dialogues between healthcare robots and patients often end with errors. Also, the verbal expressions and response timing of healthcare robots are delayed and different from those of nurses (Miyagawa et al., 2019). Despite, as the role of intermediary competency is increased, empathic conversations will create caring environments within the transactive relationships among older persons, healthcare robots, and intermediaries.

The findings of this study can contribute to the development of appropriate nursing care processes involving healthcare robots in situations of mental health conditions such as schizophrenia and/or dementia among older persons (Lee et al., 2018). Healthcare robots need to be imbued with communication functions that are based on caring in nursing. To reconstruct a similar human-like interaction, it is crucial for a social robot to understand humans' needs and modify their behaviors accordingly (Tanevska et al., 2020). Importantly, without guarantees of

safety, and the starter of healthcare robots in health facilities will not continue. Due to the different regulations in each country, it is essential to examine the national policies and related regulations for healthcare robots' use. As the initial stage, developing guidelines for the use of healthcare robots are encouraged (Yasuhara et al., 2020).

These qualitative case studies were conducted with two patients involving two nursing situations. Thus, the findings of this study cannot be representative of all situational involvements with healthcare robots; however, the results can inform healthcare providers as well as robotic engineers on ways healthcare robots can be used in healthcare practice, particularly in settings with older persons who have mental health conditions. In addition, further studies are needed in relation to the use and benefits of transactive engagements with healthcare robots.

Conclusion

This study provided initial evidence that the transactive engagements of robots and nurse intermediaries in psychiatric and mental health settings with older persons can result in occasions of 'joy' for the patient. Understanding the experiences of older persons can inform healthcare providers about prioritizing health concerns of older persons and provide new insights regarding the development of nursing care for persons with mental health conditions. Findings suggest that transactive engagements with robots in the aforementioned settings facilitate the experience of joy among older persons in psychiatric-mental health settings. However, these findings are not expected to be prescriptive but rather indicate the importance of this study as an early step in testing the value of healthcare robots in nursing situations.

Authors' Contributions
TT: Conceptualization, data collection, analysis, writing and revising the manuscript. FB: Data collection, analysis, writing and revising the manuscript. TY: Data collection, analysis, reviewing and revising the manuscript. KO: Conceptualization, data collection, reviewing and revising the manuscript. RL: Conceptualization, analysis, writing and revising the manuscript. BK: Data analysis, reviewing and revising the manuscript. SS: Data analysis and interpretation, reviewing and revising the manuscript. All authors agreed and approved the manuscript for publication.

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BNJ

Social stigma towards nurses: Time to refocus on what matters most

Yusrita Zolkefli*

Dear Editor,

I read the article "Social stigma towards nurses taking care of patients with COVID-19 in Indonesia: A mixed-methods study" by Manik et al. (2021) with great interest, but also with a sense of disappointment, sadness and anger, particularly in regard to the social stigma encountered by these nurses, which partially originates from their colleagues. While fear is understandable due to the sense of uncertainty brought about by the pandemic, being labelled a "plague spreader" and ostracised by their communities is uncalled for and cruel. This timely paper provides a first-hand narrative of the nurses' job and a critical analysis of the reality that nurses face in carrying out their professional responsibility to care for patients during a pandemic crisis. We learned the implication of stigmatisation of COVID-19 patients and its effects on the healthcare system, their families and healthcare professionals who come into close contact with people affected by the virus. Numerous acts of violence, harassment and stigmatisation have been reported in association with the COVID-19 pandemic, with 67 per cent of these recorded cases of violence and harassment directed at healthcare professionals (Devi, 2020).

This paper serves as a wake-up call to health organisations to refocus tangible and coherent strategies on what matters most on these frontlines: creating a safe, non-judgmental and professional environment that supports nurses in their daily professional responsibilities while also allowing them to manage the danger and threat of moral injury that they could face during the pandemic. Is this, however, viable? The answer is yes. First, during these perplexing and unpredictable times, health organisations are in the best position to de-escalate tensions and promote solidarity. In all honesty, the health organisation must balance between requesting that nurses perform their professional responsibilities and using their power to

ensure that nurses' morale is maintained despite the pandemic catastrophe. Manik et al. (2021) also added an essential and courageous voice to the debate about healthcare professional solidarity. Health organisations can no longer naively admire the enormous sacrifices made by nurses if we mistreat them. It is then necessary to reaffirm the points I made earlier about the importance of nursing leaders recognising and responding to moral distress (Zolkefli, 2020). Second, health organisations have an institutional responsibility to ensure that it is safe for employees to discuss mental health issues and reassure nurses about the potential consequences of such disclosure on their careers. The team leaders or nurse managers are considered to be the ones that provide psychological support to the nurses. While it is a manager's moral responsibility to foster a positive, ethical practice climate, it is also critical for the nurse leader to be open and welcoming to personnel with ethical concerns (Makaroff et al., 2014). The manager's responsibility on the ward also involves promoting, encouraging and supporting staff in seeking help. This 'in-house' social support may be one of the salient ways to keep all staff protected.

Third, it is also critical that affected nurses be ready to take the psychological support and resources available and be prepared to tell their managers if they require assistance. Nurses must not be afraid to communicate real or perceived difficulties to managers related to stigma or concerns about their mental health. At the same time, whether or not the nurses are directly affected by the social stigma associated with the pandemic, the importance of social support from colleagues cannot be overstated. Colleagues are like family, and we are responsible for shielding them from any undesirable stigmas that may arise during the pandemic. Such acts of solidarity (through social media groups, for example) can be one of the most effective ways to counter stigma. Fourth, social stigmas can

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be alleviated if the government consistently promotes the nurses' solidarity activities. Because ambiguous information is the 'catalyst of stigma', consistent methods to prevent pandemic disinformation are fundamental.

In short, we must consider how long nurses can keep their resilience in the face of social stigma and what additional role nurse leaders might play in this context. In all honesty, now is not the time to ask nurses to manage social stigma, stress and psychological well-being while remaining resilient in the quiet. Nurses have not only been put in a vulnerable position, but they are also very well aware that their physical and mental fortitude has been sorely stretched. Even though we must accept that nursing staff has shrunk, most nurses claimed that it is their duty to continue caring for patients. While it is critical to developing healthy coping strategies and mechanisms in managing social stigma, especially in the high-stakes environment of COVID-19, it is equally crucial to provide concerted and robust support to the nursing community when and where it is needed.

Keywords
COVID-19; social stigma; nurses; leadership; mental health; violence; anger; morals

Declaration of Conflicting Interest
The author declares no conflict of interest.

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