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Realities of Reflective Practice Skill among Public Health Nurses in Japan and Related Learning and Lifestyle Factors

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Abstract

Background: According to the diversification of the health needs and the expansion of health disparities, it is necessary to raise their reflective practice skills so that PHNs present more appropriate activities. The purpose of this study was to elucidate the realities of reflective practice skills among public health nurses in Japan and identify related factors. **Methods**: This study covered 1725 public health nurses in the Chugoku/Shikoku area. We conducted an anonymous self-completed questionnaire survey. As reflective practice skills (RPS), we adopted the six components of the six cycles of the Gibbs reflective model. We used the 20 criteria of the Scale for Practical Competence (SPC). We set 25 learning history/daily lifestyle items. The study plan was approved by the Ethics Committee of Okayama University. **Results**: We analyzed the 962 (55.8%) valid responses. Although years of experience as a public health nurse was highly correlated with practical skills as measured by SPC, with a correlation coefficient of 0.627, it was not closely related with RPS, with a correlation coefficient as low as 0.129. A logistic regression analysis of the eight learning history items and six daily lifestyle items associated with RPS, with the introduction of the high/low RPS groups as dependent variables, showed a convergence to five factors (odds ratio of 1.38 - 2.29). **Conclusions**: Going forward, we will need to consider how to accumulate learning on a daily basis and how to include positive health practice in PHN education, in connection with exploring the curriculum and method of training.

Keywords

Reflective Practice, Public Health Nursing, Education, Skill, Related Factors

1. Introduction

Reflective practice is a forward-looking exercise for practitioners to review their own way of working and find out about the best practice expected of them [1]. It is essential that nurses are able to reflect on their practice to find better ways, if they are to improve their practical skills [2]. The value of reflection lies in inspiring practitioners to generate something that leads to a more constructive process, particularly in uncertain conditions that preclude any easy answer [2].

Public health nurses are working to find solutions or improvements to community health issues. Health issues, however, change with the times, constantly influenced by area characteristics and the social landscape. Thus, there is no correct answer in the activities of public health nurses, who are always required to find the best possible solution to each specific case. This means that public health nurses have to upgrade their reflective practice skill if they are to ensure quality services. This is particularly important because of the realities of society today, characterized by the diversification of health issues, widening health gaps and frequent health crises including natural disasters and emerging infections.

Although reflection has been integrated into nursing education in Japan [3], it has yet to be widely adopted in public health nursing education. Previous studies only examined the effectiveness of lifestyle counseling skill development programs for public health nurses that used reflective practice [4]. Public health nurses have opportunities for reflection in their day-to-day activities as they report on and record the results of home visits and health services. However, such reflection stays within the limits of keeping their daily work journals, and does not cover their own practice. In order to improve the quality of public health nursing activities in Japan, it is thus necessary to identify the current levels of reflective practice skill among public health nurses and use the results to develop a training curriculum and system for skill upgrading.

The purpose of this study was to elucidate the realities of reflective practice skill among public health nurses in Japan and identify related factors. Since it is said that reflection stems from experience and that any learning should be built upon daily first-hand experiences [5], this study focused on the learning experience and daily lifestyle of individuals. The significance of this study lies in the development of basic materials to consider how education should serve to upgrade reflective practice skill.

2. Study Approach

2.1. Study Design

The present study was designed as a cross-sectional field survey and relation exploration research.

2.2. Coverage of Study

This study covered 1725 public health nurses, or half of the Japanese public health nurses affiliated with the nine prefectures in the Chugoku/Shikoku area and all municipalities located in the prefectures.

2.3. Survey Method

We conducted an anonymous self-completed questionnaire survey. We sent a set of request letters, ethical consideration statements, questionnaire forms and reply envelopes to the lead public health nurse of each municipality, who was asked to distribute the survey kits to half of the full-time public health nurses selected to represent all age groups without bias. The survey was conducted from December 2013 to January 2014 in Chugoku, and from December 2014 to January 2015 in Shikoku.

2.4. Scope of Survey

(1) Basic attributes

Basic attributes included gender, age, years of PHN experience and place of work.

(2) Realities of reflective practice skill

We defined reflective practice skill as comprising the six components of the six cycles of the Gibbs reflective model [6], including description ("What happened?"), feelings ("What were you thinking and feeling?"), evaluation ("What was good and bad about the experience?"), analysis ("What sense can you make of the situation?"), conclusion ("What else could you have done?") and action plan ("If it arose again what would you do?"). Regarding each of the components, a question was asked to see if their practice involved writing. We thought that the responses would be relevant because this model is used widely across the globe. Specifically, we asked to what extent the following statements applied to the respondent's core activities:

1) I always write down, and check what I did and why I did it.
2) I always write down, and recall what I thought and felt about what I did.
3) I always write down, and evaluate what was good and bad about what I did.
4) I always write down, and analyze what sense I could make of what I did.
5) I always write down what things I could have done better to help improve my performance.
6) I always write down what I would do if the same situation arose gain.

Regarding each of those statements, the respondents were asked to reply on a scale of 1 to 6: "Does not apply at all" (1); "Does not apply" (2); "Somewhat does not apply" (3); "Somewhat applies" (4); "Applies" (5); and "Applies very much" (6). Before analyzing the result, we calculated Cronbach's alpha for the six reflective practice skill (hereafter "RPS") components. The coefficient turned out to be 0.935, indicating a high internal consistency that warrants using the aggregate score for analysis.

Since it has been verified that the practical skills of public health nurses improve with experience [7] [8], we used the 20 criteria (score ranging from 20 to 80 points) of the Scale for Practical Competence (hereafter "SPC") of Public Health Nurses for measuring the practical skills of the PHNs [9], in order to find if the same is true with RPS. We adopted the questions and assessment measures in the original version of SPC, in view of its established reliability and relevance.

(3) Learning history and daily lifestyle items

We set nine items in total for learning history: PHN training institution; level of education; place of work (overlap with attributes); experience in presentation at academic meetings; average amount of annual out-of-pocket investment in self-development; out-of-pocket subscription to any journal for the current year; experience in reading any specialized book over the past year; membership of any professional association for the current year; and participation in any training or study session over the past year.

We set a total of 16 items regarding daily lifestyle: 10 daily health practice items integrating Breslow's seven items [10] and Morimoto's eight items [11] (with five overlapping items); and six positive health practice items determined through consultations among the researchers.

2.5. Method of Analysis

(1) Realities of reflective practice skills

We calculated the total RPS score, and mean and standard deviation of the six components. We also conducted a correlation analysis between the years of PHN experience on one hand, and SPC and RPS on the other for comparison purposes.

(2) Learning and lifestyle factors related to reflective practice skill

Using the mean value as borderline, we classified the respondents into the high RPS and low RPS groups for cross tabulation with learning and lifestyle items, followed by a statistical test (χ^2 test) at the significance level of 5%. Afterwards we performed a logistic-regression analysis of the learning and lifestyle items associated with RPS as independent variables, with the introduction of the high/low RPS groups as dependent variables.

We used SPSS Statistics 22 for the analysis.

2.6. Ethical Considerations

We provided to the lead PHNs and potential participants written explanations on ethical considerations, including the freedom (not) to participate in the survey, the protection of personal information, the method of data storage, the publication of the findings and the cost of participating in the survey, among others. Individual participants were asked to mail the completed questionnaire form for collection, and the return of the questionnaire form was regarded as indicating consent on the part of the participant. The study plan was approved by the Ethics Committee for Nursing Study, Graduate School of Health Sciences, Okayama University (approval no. M13-02, 29 October 2013).

3. Results

3.1. Collection

Of the 982 (56.9%) questionnaire forms returned, we analyzed the 962 (55.8%) valid responses. The attributes of the respondents are shown in **Table 1**. The

Table 1. Attribute (N = 962).

Items		N	%
Sex	Male	16	1.7
	Female	937	97.4
	Blank	9	0.9
Age	41.8 ± 10.41 (22 - 60)		
	Twenties	164	17.0
	Thirties	236	24.5
	Forties	268	27.9
	Fifties or more	284	29.5
	Blank	10	1.0
Years of PHN experience	17.9 ± 10.58 (1 - 38)		
	5 years or less	179	18.6
	6 - 15 years	235	24.4
	16 - 25 years	268	27.9
	26 years or more	280	29.1
Place of work	Prefectures	237	24.6
	Government-ordinance-designated cities	144	15.0
	Cities	421	43.8
	Towns and Villages	160	16.6

Mean value ± standard deviation (range) for age and years of PHN experience (except where data are not available).

respondents were mostly females, aged 41.8 on average, ranging from 22 to 60, but each age bracket had over 100 respondents.

3.2. Realities of Reflective Practice Skill

The mean value ± standard deviation (median, range) of RPS was 20.8 ± 5.81 (21, 6 - 36). As regards the six components, the value stood at 3.8 ± 1.15 (4, 1 - 6), 3.5 ± 1.12 (4, 1 - 6), 3.4 ± 1.10 (4, 1 - 6), 3.3 ± 1.08 (3, 1 - 6), 3.4 ± 1.13 (3, 1 - 6) and 3.3 ± 1.12 (3, 1 - 6), respectively.

Although years of PHN experience was highly correlated with practical skills as measured by SPC, with a correlation coefficient of 0.627, it was not closely related with RPS, with a correlation coefficient as low as 0.129 (Table 2, Figure 1 and Figure 2).

3.3. Learning and Lifestyle Factors Related to Reflective Practice Skill

Eight learning history items had a significant relationship with the two RPS groups ($p < 0.05$), including PHN training institution, level of education, place of work, experience in presentation at academic meetings, average amount of annual out-of-pocket investment in self-development, out-of-pocket subscrip-

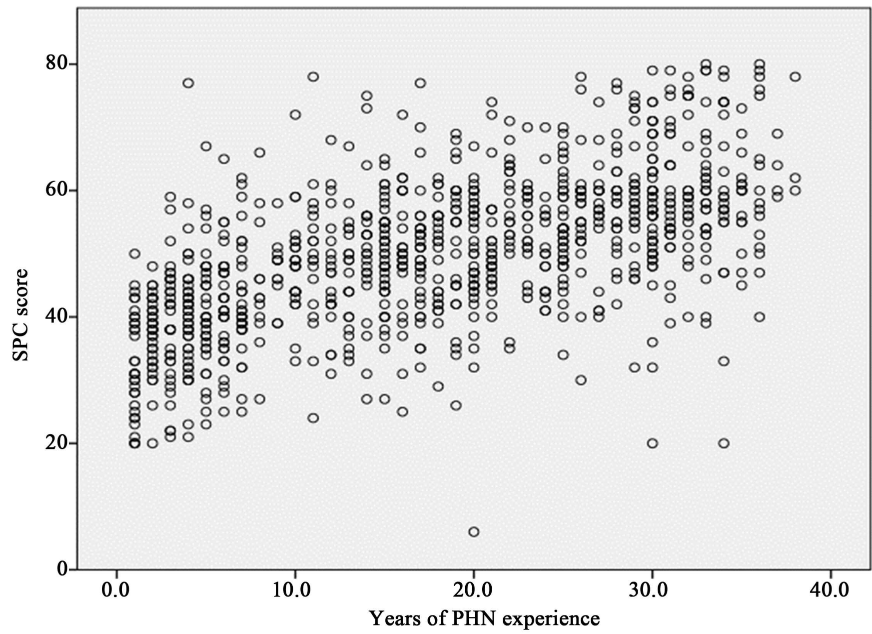

Figure 1. Correlation between practical competence of public health nurses and years of experience.

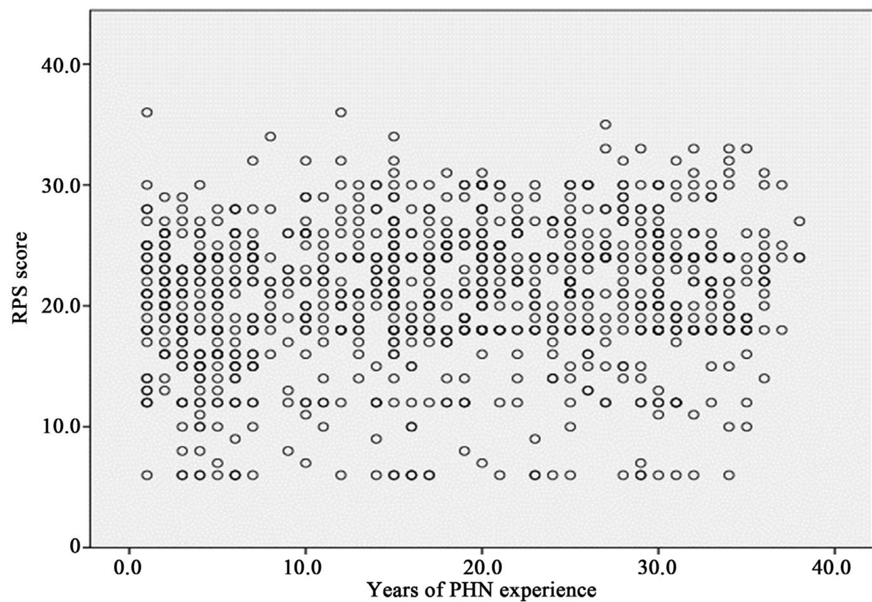

Figure 2. Correlation between reflective practice skill of public health nurses and years of experience.

Table 2. Correlation between practical competence/reflective practice skill of public health nurses and years of experience.

	Correlation coefficient with SPC score	Correlation coefficient with RPS score
Years of PHN experience	0.627**	0.129**

Correlation coefficient represents spearman's rho (two-tailed).

$P < 0.01$**

tion to any journal for the current year, experience in reading any specialized book over the past year and membership of any professional association for the current year. For each of those items, the share of the high RPS group exceeded that of the low RSP group by at least one percentage point among those who gave the following answers to the questions, respectively: One-year vocational school or specialized junior college course; Vocational school or specialized junior college; Prefectures; Yes; Yes; Yes; Yes; and Yes (Table 3).

Likewise, some daily lifestyle items had a significant relationship with the two RPS groups, including one daily health practice item (*i.e.* "Balanced diet") and five positive health practice items (*i.e.* "Active in adopting useful health information in daily lifestyle", "Usually cook food for myself and my family", "Try consciously to walk and use stairs", "Always take care not to catch a cold" and "Remain sociable with enjoyment"). The respondents giving those answers were likely to be included in the high RPS group (Table 3).

Further, a logistic regression analysis (step-up procedures, stepwise, likelihood ratio) of the eight learning history items and six daily lifestyle items associated with RPS, with the introduction of the high/low RPS groups as dependent variables and years of PHN experience as moderator variable, showed a convergence to the five items listed in Table 4. Thus, the factors related to the high RSP group were found to be: "Remain sociable with enjoyment/Yes (odds ratio of 2.290)"; "Active in adopting useful health information in daily lifestyle/Yes (2.148)"; "Experience in presentation at academic meetings/Yes (1.634)"; "Experience in reading any specialized book/Yes (1.470)"; and "PHN training institution/One-year vocational school or junior college course (1.380)".

4. Discussion

4.1. Representation of Population

There is no problem in the representation of the population, about a quarter of which was covered by the survey without any bias in age or place of work.

4.2. Realities and Characteristics of Reflective Practice Skill

(1) Difficulties in process leading to action plan

The mean score for each of the six RPS components stood at over 3, just between "4. Somewhat applies" and "3. Somewhat does not apply". The median score was 4 for "description", "feelings", and "evaluation", but only reached 3 for "analysis", "conclusion" and "action plan", thus pointing to a lower skill level in the latter half of reflection, *i.e.* skill to make sense out of experience for forward-looking purposes. This indicates that the practice of running the whole reflection cycle to action planning, as per the Gibbs reflective model, has not been established among Japanese public health nurses.

(2) RPS without any correlation with experience as PHN

Although our correlation analysis indicated a strong correlation between the practical skills of public health nurses in general and the years of PHN experience, as with previous studies, we found that RPS had little to do with the years

Table 3. Relationships between learning and lifestyle factors of public health nurses and reflective practice skill scores (N = 962).

	Learning and lifestyle factors			Total		Reflective practice skill score				χ^2 test	
				Persons	%	High RPS group Persons	%	Low RPS group Persons	%	*P value*	
Learning history	PHN training institution	1-year vocational school course		547	56.9	323	59.8	224	53.1	0.026	*
		Specialized junior college course		77	8.0	47	8.7	30	7.1		
		College		302	31.4	148	27.4	154	36.5		
		Vocational school integrated curriculum		36	3.7	22	4.1	14	3.3		
	Educational level	Vocational school		457	47.5	269	49.8	188	44.5	0.038	*
		Specialized junior college		153	15.9	92	17.0	61	14.5		
		College		329	34.2	164	30.4	165	39.1		
		Graduate school		23	2.4	15	2.8	8	1.9		
	Place of work	Prefectures		237	24.6	157	29.1	80	19.0	0.003	*
		Government-ordinance-designated cities		144	15.0	80	14.8	64	15.2		
		Cities		421	43.8	221	40.9	200	47.4		
		Towns and villages		160	16.6	82	15.2	78	18.5		
	Experience in presentation at academic meetings		Yes	476	49.5	302	55.9	174	41.2	0.000	*
			No	486	50.5	238	44.1	248	58.8		
	Average annual investment in self-development amounting to ¥30 k or over		Yes	281	29.2	177	32.8	104	24.6	0.006	*
			No	681	70.8	363	67.2	318	75.4		
	Out-of-pocket subscription to any journal over the past year		Yes	236	24.5	153	28.3	83	19.7	0.002	*
			No	726	75.5	387	71.7	339	80.3		
	Experience in reading any specialized book over the past year		Yes	583	60.6	352	65.2	231	54.7	0.001	*
			No	379	39.4	188	34.8	191	45.3		
	Membership of any professional association for the current year		Yes	600	62.4	361	66.9	239	56.6	0.001	*
			No	362	37.6	179	33.1	183	43.4		
	Participation in any training or study session over the past year		Yes	835	86.8	473	87.6	362	85.8	0.410	
			No	127	13.2	67	12.4	60	14.2		
Daily lifestyle	10 daily health practice items (integration of Breslow's 7 items and Morimoto's 8 items)			(n = 961 as one missing value)							
	1. Maintain desirable weight (BMI 18.5 - 24.9)		Yes	832	86.6	464	85.9	368	87.4	0.503	
			No	129	13.4	76	14.1	53	12.6		
	2. Moderate or no alcohol consumption		Yes	897	93.3	510	94.4	387	91.9	0.120	
			No	64	6.7	30	5.6	34	8.1		
	3. Do not smoke		Yes	936	97.4	528	97.8	408	96.9	0.403	
			No	25	2.6	12	2.2	13	3.1		
	4. Regular exercise		Yes	383	39.9	227	42.0	156	37.1	0.118	
			No	578	60.1	313	58.0	265	62.9		
	5. Get enough sleep (7 - 8 hours)		Yes	619	64.4	344	63.7	275	65.3	0.603	
			No	342	35.6	196	36.3	146	34.7		

Continued

6. Do not eat between meals	Yes	177	18.4	101	18.7	76	18.1	0.796	
	No	784	81.6	439	81.3	345	81.9		
7. Have daily breakfast	Yes	894	93.0	507	93.9	387	91.9	0.235	
	No	67	7.0	33	6.1	34	8.1		
9. Do not work over 9 hours per day	Yes	468	48.7	269	49.8	199	47.3	0.433	
	No	493	51.3	271	50.2	222	52.7		
10. Do not feel much subjective stress	Yes	409	42.6	227	42.0	182	43.2	0.710	
	No	552	57.4	313	58.0	239	56.8		
8. Balanced diet	Yes	854	88.9	491	90.9	363	86.2	0.021	*
	No	107	11.1	49	9.1	58	13.8		
6 positive health practice items (determined by researchers through consultations)									
1. Active in adopting useful health information in daily lifestyle	Yes	906	94.2	520	96.3	386	91.5	0.002	*
	No	56	5.8	20	3.7	36	8.5		
2. Usually cook food for myself and my family	Yes	827	86.0	478	88.5	349	82.7	0.010	*
	No	135	14.0	62	11.5	73	17.3		
3. Try consciously to walk and use stairs	Yes	769	79.9	447	82.8	322	76.3	0.013	*
	No	193	20.1	93	17.2	100	23.7		
4. Always take care not to catch a cold	Yes	919	95.5	523	96.9	396	93.8	0.025	*
	No	43	4.5	17	3.1	26	6.2		
5. Properly regulate life rhythm	Yes	865	89.9	491	90.9	374	88.6	0.240	
	No	97	10.1	49	9.1	48	11.4		
6. Remain sociable with enjoyment	Yes	856	89.0	503	93.1	353	83.6	0.000	*
	No		11.0	37	6.9	69	16.4		

*The items associated with RPS ($P < 0.05$) were used logistic regression analysis as dependent variables.

Table 4. Logistic regression analysis to clarify learning and lifestyle factors associated with reflective practice skill of public health nurses.

Learning and lifestyle factors	Partial regression coefficient	Significance probability	Odds ratio	95% Confidence interval	
		p value		Lower	Upper
Remain sociable with enjoyment No 0/Yes 1	0.828	0.000	2.290	1.484	3.533
Active in adopting useful health information in daily lifestyle No 0/Yes 1	0.764	0.010	2.148	1.197	3.854
Experience in presentation at academic meetings No 0/Yes 1	0.491	0.000	1.634	1.251	2.135
Experience in reading any specialized book over past year No 0/Yes 1	0.385	0.005	1.470	1.123	1.924
PHN training institution College or vocational school integrated curriculum 0/One-year vocational school or junior college course 1	0.322	0.022	1.380	1.047	1.819

Adjusted for years of experience, step-up procedures, stepwise, likelihood ratio.

of experience. This indicates that RPS might not be the kind of skill that simply improves with length of experience in public health nursing activities. In other words, improving RPS might require something other than practical experience as a public health nurse. What might those other factors be?

4.3. Characteristics of Learning/Lifestyle Factors Related to Reflective Practice Skill

(1) Commitment to positive health and balanced input/output

The factors that contributed to the higher RPS with an odds ratio of 2 or over were all related to positive health practice, namely those who "Remain sociable" or are "Active in adopting useful health information in daily lifestyle". Sociable public health nurses who take in useful health information are readily seen as being highly committed to positive health and enjoying interaction with the outside world, in terms of both input and output. Thus, a positive professionalism towards health promotion and affluence in human qualities appear to be closely related to higher RPS levels.

(2) Competency to drive activities for publication of results through continuing professional development

It was found that two learning history factors contributed to higher RPS with an odds ratio of about 1.5 - 1.6: "Experience in presentation at academic meetings" and "Experience in reading any specialized book over the past year". Thus, higher RPS levels are attained by those who continue their professional development by reading specialized books on a daily basis, run the PDCA cycle in their public health nursing activities, assess the results and present them at academic meetings. Thus, continuing professional development, as well as the competency to drive public health nursing activities based thereon towards the goal of publishing the results, can help improve the level of RPS.

(3) Adequate practical onsite training in a graduate course for PHN education

Other learning history factors contributed to higher RPS with an odds ratio of about 1.4: "PHN education in one-year vocational school or junior college course". The result indicates that the RPS level is higher among those who have received one-year institutional education with adequate time allocated to lectures, exercise and practical onsite training on public health nursing. In the 14-year period from 1997, when PHN education was integrated with nursing education in all colleges, the development of practical skills among public health nurses was seriously undermined by the double-counting of credits, for example [12]. Although such issues are now being addressed, our findings indicate the need for adequate education of public health nurses through a graduate course or one-year specialized graduate course.

4.4. Limits of Study and Future Challenges

Our study found: 1) that RPS among Japanese public health nurses is limited in that it does not help them develop action plans; 2) that RPS is not related to the years of practical experience as PHN; and 3) that higher RPS is related to some learning history and daily lifestyle factors. However, this study only succeeded in

considering RPS from a limited number of aspects. Further literature study and research are needed to identify additional factors required for upgrading skills.

Going forward, we will need to consider how to accumulate learning on a daily basis and how to include positive health practice in PHN education, in connection with exploring the curriculum and method of training to improve the practical competence of PHNs.

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Meanings Given to Professional Care: Focus Group Results

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Abstract

Background: Many studies have focused on exploring the concept of care from patient and nurse perspectives, but knowledge is limited regarding student perceptions. **Objective:** To explore the meanings given to the concept of professional care from the perspective of graduate students in nursing and pastoral care. **Research design:** A qualitative study was employed with the formation of six focus groups. Data were analyzed via a thematic content analysis of the discussions. **Participants and research context:** Thirty-one students attending a University College in Oslo participated. **Findings**: Seven main themes and forty-four subthemes were identified. Major themes included reverence and respect for the dignity and value of human life, bonding, sensitive to self and other, communication, competence, willfulness and deep caring. **Discussion:** Different levels of intentionality, professional comportment and caring consciousness were revealed in the discussions. Findings also lend support to major beliefs and values in Watson's Human Caring Theory. **Conclusion:** The focus groups generated valuable detail of complex experiences behind student's perceptions, attitudes, beliefs and actions. Focus group methodology can enhance holistic nursing practice by providing opportunities to explore and clarify holistic care values, create opportunities for self-awareness and transformative learning in education, clinical practice, administration and research.

Keywords

Caring, Concept, Focus Groups, Nursing, Pastoral Counseling

1. Introduction

Thoughts about care today have coalesced into an ethical theory with the power to evaluate personal relationships, professional conduct, public policy, international relationships and global issues [1]. The concept of care/caring is also the

essence of many caring disciplines and is not exclusively a phenomenon that belongs to the nursing discipline [2] [3]. However, as evidenced by practice and research, nursing has a long legacy as a caring-healing profession and many claim that caring is an integral part of nursing [4] [5] [6] [7]. Further, caring is also emphasized by nursing researchers [7]-[14].

Because caring is a core value in nursing practice, the capacity to care is a desired attribute in nursing students. Likewise, others have discussed the need for caring to be translated and transmitted in the practices of nursing education [15]. Caring has also been cited by many authors as the core value of nurse educator-student relationship. Nurturing a caring attitude in nursing education and in the educator relationship is especially important as this is the students' first confrontation with the significant values and essence of their profession [16]. Despite caring's fundamental place in professional care, education and practice, researchers and scholars have not reached a common definition to transmit to students. This has resulted in a wide array of various interpretations regarding the meanings of professional care, often leading to confusing and contrasting views amongst students, teachers, health professionals and patients. Because post-modern nursing care has become the focus of economical, technological and political and social restraining forces, the need to provide holistic quality care in the contemporary health care system has become urgent together with the importance of cultivating caring in nursing education [17]. Because a critical task of nursing educators is to promote students' learning about caring, it is imperative to explore student's perspectives about the meanings they give to the concept of professional care.

1.1. Literature Review

Focus Group Studies on Perceptions of Care/Caring

The focus group has gained considerable popularity as a means of gathering qualitative data in nursing research over the past 20 years [18] [19] [20]. Focus groups interviews are carefully planned discussions, designed to obtain perceptions on a defined area of interest [21] and are reported to be one of the most acceptable methods for obtaining research information on subjective perceptions [22]. Most authors agree that the main advantage of the focus group interview is the purposeful use of interaction in order to generate data [23]. Merton identifies 3 major components of focus group research as: 1) a method devoted to data collection; 2) interaction as a source of data; and 3) the active role of the researcher in creating group discussion for data collection. Focus groups are particularly suited to capture everyday knowledge from the terms and language people use to give meaning to their everyday world. Focus group interviews have also been shown to contribute to a body of knowledge that is conceptual and theoretical [24]. Schroeder and Neil [25] argued that focus groups are specifically useful for investigating issues in nursing in relation to caring.

Others have also explored the concept of care/caring from a student perspective using focus groups and participant observation. Dobrowolska and col-

leagues [26] explored how nursing and medical students understood care in their first practicum, and how their views changed over time. Results showed that both medical and nursing students defined care in the same way with themes consisting of compassion, commitment, competence, confidence, conscience, communication, patience, courage and support. Nursing students viewed their caring to be within both practical and emotional dimensions and this was a core feature of their identity as nurses. Medical students, on the other hand, viewed the practical dimension of care as an additional activity. All the students in the study underlined the importance of having time to care and showed that, for them, "time" in this context was embedded in moral meaning.

Sapountzi-Krepia and colleagues [27] conducted focus groups with Greek nursing students exploring their perceptions regarding the concept of care and found that care was related to "care as an emotional order", "care as a service", "care as bodily and psychological support", "care of an individual or group", and "care as a constant phenomenon". In this study, perceptions of care also included the aspect of love. MacNeil and Evans [28] studied the concept of care in nursing education from the perspective of students. In this study, students were asked to describe moments of caring experienced in the educational setting. Themes identified included connectedness, support, presence, respect and promotion/support of personal growth. Karaoz [29] investigated last year undergraduate students' perception of caring. Students were asked to write incidents in which they observed nursing behavior conducted in caring and uncaring ways, followed by interviews. Professional/helping and relational/technical competencies were the major themes discussed.

Although not based upon focus group methodology, Papastavrou and colleagues [30] in a large survey with surgical patients and their nurses found that both patients and nurses perceived knowledge and skill as being the most important caring behaviors. However, they found differences in the importance of human presencing and respectful deference to others, whereas nurses perceived such behavior as being more important than the patients. In a recent study, Begum and Slavin [31] also explored perceptions of caring in nursing education of Pakistani nursing students by personal interviews and found that caring represented a mothering relationship, helping attitude, limit setting, communication, and a source of empowerment and development.

Lastly, in another study focused on the aspect of learning caring, Ma and colleagues [17] explored baccalaureate nursing student's perspective on learning about caring in Chinese focus groups. Results demonstrated four themes which included learning by positive role models as an ideal way of learning about caring, negative role models as another way of learning, lack of directive substance as a hindrance to learning care, and lack of cultural competence as a barrier to learning about caring. In sum, many of the findings in these studies varied in relation to meanings given to care and caring behaviors.

1.2. Purpose

Based on focus group methodology, the aim of this study was to explore the

meanings given to professional care by Norwegian nursing and pastoral students enrolled in post graduate classes in order to increase the body of knowledge regarding care, based on research evidence.

1.3. Theoretical Framework

Transpersonal caring relationship

The theoretical framework for this study is based on Watson's Human Caring Theory which emphasizes caring as a transpersonal caring relationship. For Watson [32], this transpersonal relationship characterizes a special kind of human care relationship, which depends on the nurse's moral commitment in protecting and enhancing human dignity, as well as the deeper/higher self. The nurse's caring consciousness and connection is regarded as having the potential to heal; since experience, perception and intentional connection are taking place. The relationship describes how the nurse goes beyond an objective assessment, showing concerns toward the person's subjective and deeper meaning regarding their own health care situation. This approach highlights the uniqueness of both the person and the nurse, and also the mutuality between two individuals, which is fundamental in the relationship. As such, the one caring and the one cared-for, both connect in mutual search for the meaning and wholeness, and for the spiritual transcendence of suffering. The term "transpersonal" means to go beyond one's own ego and the here and now, as it allows one to reach deeper spiritual connections in promoting patient comfort and healing [7].

Caring Occasion-Caring Moments

According to Watson, a caring occasion is the moment (focal point in space and time) when the nurse and another person come together in such a way that an occasion for human caring is created [32] [33]. Both persons and their unique phenomenal fields, have a possibility to come together in a human-to-human transaction. For Watson, a phenomenal field corresponds to the person's frame of reference or the totality of human experience consisting of feelings, bodily sensations, thoughts, spiritual beliefs, goals, expectations, environmental considerations, and meanings of one's perceptions—all of which are based upon one's past life history, one's present moment, and one's imagined future [32] [33]. Watson insists that the nurse also needs to be aware of their own consciousness and authentic presence of being in a caring moment with patients. Moreover, both the one cared-for and the one caring can be influenced by the caring moment through the choices and actions decided within the relationship, thereby, influencing and becoming a part of their own life history. The caring occasion becomes transpersonal when "it allows for the presence of the spirit of both- then the event of the moment expands the limits of openness and has the ability to expand human capabilities" ([32], pp. 116-117).

Caritas Processes

Developed in 1979, and revised in 1985 and 1988, Watson views "carative factors" as a guide for the core of nursing. She uses the term carative to contrast with the conventional medicine's curative factors. Her carative factors attempt to "honor the human dimensions of nursing's work and the inner life world and

subjective experiences of the people we serve" ([14], p. 50). In all, the carative factors are comprised of 10 elements and is presented in **Table 1** ([33], p.75). As she continued to evolve her theory, Watson introduced the concept of clinical caritas processes, which have now replaced her carative factors, containing a greater spiritual dimension in these processes. The word "caritas" originated from the Greek vocabulary, meaning to cherish and give special loving attention.

2. Method

2.1. Design

The study uses an exploratory qualitative design, in which qualitative data are collected, based on real-life experiences brought out in focus group discussions. Focus groups were selected for enhancing the dynamics of discussions and ensuring that different perspectives would be expressed. The interactions and dynamics among focus group members can generate important information in a data collection situation, which most notable would be less accessible without the focus group interaction.

Table 1. Description of Watson's caritas processes and focus group themes.

Watson's Carative Factors	Watson's Caritas Processes	Focus Group Themes
Humanistic-altruistic values	Practicing loving-kindness & equanimity for self and other.	REVERENCE/RESPECT DIGNITY-VALUE OF HUMAN LIFE BONDING SENSITIVE TO SELF AND OTHER GOOD COMMMUNICATION COMPETENCE WILLFULNESS DEEP CARING
Instilling/enabling faith & hope	Being authentically present to/enabling/sustaining/honoring deep belief system and subjective world of self/other.	
Cultivation of sensitivity to one's self and other	Cultivating of one's own spiritual practices; deepening self-awareness, going beyond "ego self".	
Development of helping-trusting, human caring relationship	Developing and sustaining a helping-trusting, authentic caring relationship.	
Promotion and acceptance of expression of positive and negative feelings	Being present to, and supportive of, the expression of positive and negative feelings as a connection with deeper spirit of self and the one-being-cared-for.	
Systematic use of scientific (creative) problem-solving caring process	Creatively using presence of self and all ways of knowing/multiple ways of Being/doing as part of the caring process; engaging in artistry of caring-healing practices.	
Promotion of transpersonal teaching-learning	Engaging in genuine teaching-learning experiences that attend to whole person, their meaning; attempting to stay within other's frame of reference.	
Provision for a supportive, protective, and/or corrective mental, social, spiritual environment	Creating healing environment at all levels (physical, non-physical, subtle environment of energy and consciousness whereby wholeness, beauty, comfort, dignity and peace are potentiated.	
Assistance with gratification of human need	Assisting with basic needs, with an intentional, caring consciousness of touching and working with embodied spirit of individual, honoring unity of Being; allowing for spiritual emergence.	
Allowance for existential-phenomenological spiritual dimensions	Opening and attending to spiritual-mysterious, unknown existential dimensions of life-death; attending to soul care for self and one-being-cared-for.	

2.2. Focus Group Protocol and Participants

Purposeful sampling included post bachelor students in cancer nursing, nephrology nursing, pastoral counselling, public health nursing, and Masters' students in community health nursing attending a university college in southeast Norway. Participants were recruited by the researcher (MK) who visited classes at this institution and explained the purpose and procedure of the study at the beginning of their classroom lectures. Six focus groups were conducted and included the following: pastoral students (n = 4), two groups of nephrology students (n = 4, n = 5), a combined group of public health nurses and pastoral students (n = 8), and two groups of cancer students (n = 4, n = 6) were held between April 2016 - December 2016. Focus groups were conducted in a quiet room at the same university. Students were welcomed upon arrival and refreshments were served. The time span of the focus group sessions were between 40 minutes to one hour in length. Both authors served as moderators where one led the questioning and the other observed verbal and non-verbal interaction. The first part of each session was used to provide ground rule information, remind participants about ethical considerations, and obtain written informed consent and sociodemographic information. Oral consent was also given to tape record the sessions. A short list of standardized questions and prompts were formulated in advance to move the open discussion. Open-ended questions included: "When you think of the word professional care, what comes to mind?" "When you think of the term good care, what do you think about? Can you give some examples?" "What factors contribute to being able to give good care?" "Do you believe there is a difference in levels of caring, such as deep caring and just caring? Can you give some examples?" "When you feel that you have given good care, what consequences does this have for you?" At the closure of the focus groups, the moderator summarized the main points of the discussion, in order to verify the accuracy of the information discussed. At this time, participants were also asked to add other comments if needed, as well as express their views regarding the discussion. Field notes were written immediately after each focus group to document impressions, themes, and group interactions. None of the students recruited from classes decided to withdraw from the study after agreeing to participate.

2.3. Ethical Considerations

The study was approved by the research committee at the institution where the study took place. Participation was voluntary. Students were told that their refusal to take part in the study would have no consequences for their studies. Written consent to take part in the study was obtained and oral consent was given at the beginning of the focus groups to tape record the sessions and use the results in publications. An agreement was made that the tape recorder would be turned off during parts of the dialogue, if desired. Participants also received the email address and phone number of the researcher (MK) in case there was a

need for contact.

2.4. Data Analysis

Audio recorded interviews were transcribed in full by a professional transcriber and then translated into English by the researcher (MK). After all the six interviews were conducted, the analyses started with reading the transcribed interviews simultaneously in order to get a feeling of the whole. This holistic approach was taken in order to discern an overall and fundamental meaning of the experiences. Each interview was then condensed by highlighting passages of importance to the investigated phenomenon; by the first author (MK). This started a process of reflection and search for meaning in the text by extracting essential themes. Van Manen [34] calls this thematic analysis. In this analytic step, a list of preliminary themes was constructed, by highlighting phrases and quotes that seemed to be thematically related to professional caring. This step continued with refection over the themes by viewing them in light of each interview and the issues of interest as related to the open ended questions. In the process, the preliminary themes were constructed inductively into a hierarchy so that categories were grouped into sub-themes and themes into essential themes. The second author then reviewed all steps in this process, also searching for evidence that contradicted and as well conformed to this process [35]. Afterwards, critical discussion ensued until both authors were in agreement regarding major themes, subthemes and exemplars. This procedure was an interpretative creative process and findings evolved as a result of an intuitive and reflective writing process. This process can be understood as a circular process occurring between reading and re-reading the transcribed interviews, viewing the themes in their own context, and writing and re-writing towards a higher level of abstraction. At the end of this process, the themes were supported by quotations from the interviews to enhance credibility. To enhance the validity of the categorizing method and to guard against bias, a list of themes, subthemes and quotations were then presented to colleagues at the institution where the study took place. These colleagues were invited to discuss the naming and classification of the themes and sub-themes, searching for confirmation as well as contradictions to enhance the reliability of the findings. Cultural and historical influences were also discussed at this meeting as both researchers have English as their mother tongue, residing in Norway since the 1970's.

3. Results

3.1. Sociodemographics

Of the 32 students, the majority were women (n = 29, 93%) with only 2 men participating (6.45%). A large proportion were middle aged (40 - 60 years) and had worked over 15 years. Twice as many of the students were working full time as compared to half time and the majority were married with children. Refer to Table 2.

Table 2. Sociodemographic characteristics of the focus groups.

Variable	Number
Number of participants	31
Gender*	
Women	29
Men	2
Age*	
20 - 30	
>30 - 40	4
>40 - 50	7
>50 - 60	10
>60	9
Marital Status*	
Unmarried	0
Married	3
Living together	19
Divorced/separated	6
Widowed	1
Educational Background	
Nursing	27
Counselling	3
Years Working*	
1 - 5	2
>5 - 10	6
>10 - 15	3
>15	4
Working %	
Full time	16
Half time	15
Other	1
Children*	
Yes	22
No	4

**Missing answers.*

3.2. Qualitative Findings

Findings revealed that the concept of care could be categorized into seven main themes: 1) reverence and respect for the dignity and value of human life; 2) bonding; 3) sensitive to self and others; 4) communication; 5) competence; 6) willfulness; and 7) deep caring with 44 sub-themes. An overview is presented in Table 3.

Reverence/respect for the dignity and value of human life

A major theme that consistently emerged throughout the focus groups was

Table 3. Major themes and sub-themes found in focus groups regarding professional care.

Reverence/respect-dignity and value of human life
humane, spirit
holistic
moral stance
wishing the good
compassion
appreciating uniqueness
wisdom, gratitude, personal growth

Bonding
full presencing, authentic, open
affirmation, attentive, concerned
trusting, kind, near
wishing good
security, confidence
consciousness
courageous

Sensitive to self and other
intuition, insight
focused awareness
centered self-other
personal characteristics and reactions
professional identity
self-reflection
cultural sensitivity

Communication
dialogical
listening and questioning
finding opening
non-invasive, non-judgmental
confidentiality, accepting boundaries
accepting own limitations
word use

Competence
information
enhance autonomy
respecting beliefs, concerns, wishes
setting expectations, boundary setting
professional skills
collaboration, teamwork
advocacy

Willfulness
intentional, initiative
choice, decision making
creating challenges, see alternatives
commitment
concern
pacing
expressing feeling

Deep Care
little extra's
sacred acts

reverence and respect for the dignity and value of human life. This included appreciating the humaneness and spirit of others, which also featured seeing the whole person and not the disease, and revering the client as a human being as illustrated by the following comment: "You see the whole person and their needs and not just the disease; one sees the human being in the patient. This is so important, maybe even talk about other things than their illness." Reverence and respect also embraced a moral stance by wishing the good and best for others, based on caring actions representing the good. The importance of compassion and empathy were often mentioned by attempting to place oneself in the others' situation and reflecting over how one would feel, if for example, one had to spend life in bed or felt like a prisoner in a room. Various comments included: "Every day you are in a different situation, many which are complex and changing. One has to try to place oneself in the other's situation and think how would I feel if someone spoke to me like that or neglected to acknowledge me?" "It is so important to acknowledge the other as a valued human being. For example, a homeless on the street, how would he feel if I approached him with holes in my clothes?" and "I believe after a patient has died that bathing the body should be done with quietness and a sense of respect. I also speak softly. I often visualize that the person who has just died is up under the ceiling and watching how I am caring for his dead body." Many discussed dignity and value which included respect for the uniqueness of the other, respecting their needs and encouraging self-respect. Looking directly into the other person's eyes, anticipating needs before the need to ask, respecting family needs and roles, and respecting the space people needed were also regarded as essential to caring. Other features related to reverence and respect included feelings of gratitude, enhanced wisdom and personal growth as outcomes of close relationships. One participant said: "Good caring is feeling that you have succeeded with something that has been your aim in the relationship. For example, when working with depressed teen-agers and you note a small change in their humor during the consultation. This is a very, very good feeling." Also, the importance of organizational standards and ethical guidelines were mentioned as grounding one's reverence and respect for the dignity and value of human life.

Bonding

The theme *bonding* embodied full presencing with authenticity which included being open, trusting, kind and near and for some, also included the aspect of love as illustrated by the following comment: "One has to accept that one doesn't always find the best solutions, and that one doesn't have an answer to everything. For example, one can say I can't help you with this and I don't have an answer to your question. One needs to be honest and this is related to the trust you have established and your way of being." Features of bonding embraced affirmation, being attentive, accepting and showing concern based on a wish for doing the best for the other. "Some patients don't know what they need. But if I listen to my gut feeling I can sense a strong bond with the patient with feelings of closeness that I mean something to this patient." Bonding also in-

cluded showing that one cares even though there is little one could do in the situation by giving signals that one wished to share the suffering with the other. One verbalized. "Some patients invite us in to be closer to them. I had a young patient with cancer. I looked at him closely and took the initiative to ask him why he couldn't sleep. He said he was very scared he would die. I was concrete with him in saying that death doesn't happen more often when you are sleeping than when you are awake. He then asked if I could stay there with him and pray. And I did just this. Afterwards I left the door a bit open so he could feel more secure." Creating a sense of confidence and security, being conscious of the way one observes and speaks to the other, having tolerance and not taking over tasks for the other and giving distance so that a sense of autonomy could be maintained were also deemed important. Bonding also included courage to be the person one is, courage to help each other as colleagues instead of resignation, courage to make decisions and say no to patients when there is a risk to their health and quality of life were also discussed. Further, using one's senses, so that one can do what was right and needed at the moment were also perceived as representative of caring. As illustrated by these comments: "For me, care is being present in the moment, capturing the need in the moment. Also, the way you observe and look at the other, the way you speak to other people" and "Caring is also respecting that your client doesn't want to do what you recommend, but one can say I'm here if you decide differently. That we are willing to give them room not to need us and at the same time we keep an eye on them."

Sensitive to self and other

The theme *sensitive to self and other* embodied a form of authentic comportment including features such as intuition, insight and focused awareness, taking quiet moments to center, being open to one's senses, questioning why one is here, being conscious of professional identity and power in relationships, knowing one's own boundaries and not performing tasks one is not qualified to do. Other features embraced consciousness of one's personal characteristics and reactions, and realizing that everyone is always communicating something in body and appearance. The following comments illustrate these points: "I reflect sometimes over why I feel that I have given good care, what impacted this and what happened in this situation?" and "If we are going to make any difference in this world, it is best that we begin with our own self, because you are with your own self twenty-four hours a day." Others said, "One has to get back to the basics, to one's own emotional register." "I need to be conscious of my own reactions, how do I manage my anger and what do I do with that feeling?" Cultivating caring consciousness toward self and others by creating rooms for reflection, supervision, and education, being conscious of one's own needs for care, and self-retreat were also considered important. Being sensitive to another also involved cultural sensitivity and being conscious of cultural differences, questioning one's own cultural beliefs, and respecting the others' beliefs systems. This also embodied not forming preconceived judgements based on information received from others as shown by these comments: "I had a patient from a differ-

ent culture who had to have dialysis and she would not accept having a leg amputation even though her toes were almost falling off. She believed in voodoo. We tried to convince her that this was for her best but she was totally against it. In the end we had to respect her wishes and she died earlier than she would have if she had undergone the operation. But I mean this is also caring because her belief was so important to her." "It is easy to have images of a person you don't know from the histories you have heard. For example, that they have used drugs or have mental problems and you make up your mind about who the other is and how they are going to act, before you meet them."

Competence

The theme *competence* was considered by the majority as an integral part of care. This included gathering information through one's senses, which help people form decisions, discover alternative goals, and giving encouragement in meeting these aims. "It is important to set boundaries, to reflect upon how close is it wise to be. To think how much self-care does this person need so they maintain their self-respect? One must be conscious about not setting too rigid boundaries, so that others can't get close to you and move you within." This issue also embraced enhancing autonomy, and allowing people to live their own lives based on their own beliefs, needs, concerns, and wishes. Competence also enclosed trying to discover what is most important to the unique individual, simply asking how they could be helped, and setting expectations and professional boundaries as some patients couldn't care for themselves. Competence also embodied the use of professional skills such as updating knowledge and clinical skills as exemplified by this comment: "I try to gain updated knowledge and professional skills so that I know what I am doing." "Caring competency comes from experience. As a novice, one is unsure and asks what have I done wrong now? One takes the clients' comments more personally because one is vulnerable. Now after many years of experience I can say to the client, of course we can do this differently if this is best for you." Planning ahead, such as not discharging people too early when possible, and the importance of collaboration, teamwork and delegating responsibility were deemed important as shown by the following comments, "Caring depends on the colleagues you are working together with on a specific day. With some, you work quietly together and it is like moving together on train tracks where everything runs so smoothly. While other days, things go roughly because you are working with someone you don't share good energy with and there is a lot of complaining" and "One observes vulnerability in the other, and then works together as a team, starting a documentation process early. Good care begins on an abstract level and moves downward towards more selective actions." Further, client advocacy was also mentioned as an important aspect of care and caring.

Good Communication

The theme *communication* embodied the importance of shared dialogue grounded in listening and questioning. This embraced trying to find an opening so the other could find words as illustrated by the following comments: "You

find the good moment when you feel here and now we can talk about something that it difficult and we grasp that moment which may have had to do with pain or anxiety and on a different level. You just sense something and the words just seem to flow—it's not that so many words need to be said, but it is so beautiful when it happens" and "I think that if you have respect for each person you meet, caring evolves in your relationship with the other. One asks what one truly needs; one takes time to develop good communication between the two of you." Of importance to communication, was also not having a high-down attitude, not being invasive and discriminating, and understanding that language has power in itself. Other interpretations included being non-judgmental, not using a pitying attitude, and not being condemning, as for example, thinking that the client's condition is their own fault. Good communication was also regarded as being based on confidentiality and accepting patients' boundaries. Other views involved not using empty words like stating "everything will be okay", and not giving false hope. Good communication also entailed giving support to help the other find the right words.

Willingness

The theme *willingness* included a will to give by creating intentions and caring through intentional acts as exemplified by these comments: "Caring is related to the intentions, thoughts, feelings and wishes which are behind the gestures. It is not the touch itself, but the intention that is shown through the gesture." Another said: "I take an extra initiative when the client doesn't come for his appointment. I check whether he was at school that day, try to find the reason he didn't come, and if something special has happened. This little extra shows I really care about him and his situation." "Other features related to this theme included taking initiative in caring relationships, increasing participatory choices and decision making, respect for nearness and distance, creating challenges and helping the other see and understand alternatives." One participant said: "I have to watch myself that I don't take over the situation as this can happen quite easily. I must be aware that I do not do things for the patient which they are quite capable of doing themselves even though it takes longer time." This also embraced showing commitment, kindness, concern and the expression of feelings as shown by the following: "Caring is giving, instilling in others a belief that they can cope with what they are going through, it is creating challenges and giving encouragement."

Deep Caring

The theme deep caring embodied a deep level of comportment and caring consciousness. It seemingly embraced a sense of loving care which was exemplified in a form of intensity of being present in the moment with sensitivity, understanding and concern. It was evidenced by ethical imperatives, consciousness of the small steps needed to journey together with the ability to break through barriers in capturing the moment. Some participants said: "Deep caring involves a spiritual dimension. I use the word love, it is the way in which I move the other's body with gentleness, and this is the difference between caring and loving."

Deep caring also includes a greater flexibility in demanding situations and being on the giving side, as reflected by these comments, "It is being present in the moment, being near, you don't need to hold a hand or move anything, you are simply there, … just taking a bit more time," "We are not taking about ethics, but instead, what is good nursing right there and now, we're talking about the moments when you sense we can talk about what is difficult exactly now." Another stated: "Caring is having responsibility and there are different responsibilities in varied situations. One sees that someone is in need and simply tunes in on a deeper level." Others described this feeling as the following, "She placed her hand on my shoulder and I could almost feel her caring concern, what was behind this gesture I am unsure, but I felt she really cared." Other comments included "Some patients move you more than others—why this is, can be questioned, one feels more deeply, but it is not conscious." and "There exists good chemistry and bad chemistry, it is easier to give a little extra to those you have good chemistry with, than those who are difficult."

Deep caring was also reflected in offering the little extras or what Watson may refer to as scared acts. This was described as creating an atmosphere by offering little things, a cup of tea, lighting a candle, bending down to tie a shoelace, setting a table in a place where the other won't be observed crying or be disturbed by telephones, a little touch on the shoulder, showing silent gratitude, and simple questions like "how are things going for you?" Other descriptions included placing a glass of water within reach, taking an extra trip into the patient's room because you know they need it, sitting down, listening intently and using time to discover more, moving a pillow and hearing the sigh of relief. Deep caring was also connected to the ward atmosphere-where one gives the little extra to each other, to one's self and to clients, which in turn, created energy.

Participants also discussed the consequences of performing deep caring acts: "It is easier to try again, it creates good feelings, you feel you have succeeded in something and have made a difference." Another said, "For the patients, good caring means a lot, they feel secure, valued and less a burden, and one has created an opening where a change has taken place. I feel happy because there is a positive outcome for the other, and this contributes to my professional growth, I feel I have done a good job."

4. Discussion

In this study, we explored the different meanings given to the concept of professional care by post graduate nursing and pastoral students. The results included seven main themes which included reverence and respect for the dignity and value of human life, bonding, sensitive to self and other, communication, competence, willfulness and deep caring and 44 sub-themes.

Reverence and Respect for the Dignity and Values of Human Life

Watson has earlier described caring as "moral ideal" rooted in humanistic values of caring with the ultimate goal of treating other people with respect and dignity ([33], p.54). Watson's beliefs also greatly emphasize the importance of

intentionality. This is described as aligning one's consciousness with co-interconnectedness which displays a commitment toward the other which conveys reverence, respect, compassion, and authenticity. A major theme from our findings included the importance of reverence and respect for the dignity and value of human life which support these contentions. Respect, as an essential component of care, has been well documented in other studies [5] [36] [37] [38]. Dialogue was also centered on the importance of recognizing and appreciating the humanness, wholeness and uniqueness of the other with feelings of compassion. These caring attributes are also well documented [39]-[47]. Further, notions of the good and wishing the good for the other were discussed. We found this particularly interesting as in a recent systematic review on the concept of care, this quality received little weight [48]. These finding may be related to the institution where our study was conducted which supports spiritual values.

Bonding

Watson also describes conscious intentionality as holding thoughts that are caring, loving, open, kind and receptive, in contrast to an intentionality to control, manipulate and have power over [49] which was also conveyed in our findings. The importance of bonding, being present and authenticity were also discussed as supported by others [40] [44] [50] including MacNeil and Evans' [28] research with students. Bonding was also characterized by such attributes as openness, affirmation, attentiveness, concern, trust, kindness and nearness, also evidenced in the literature [5] [44] [51]. Likewise, aspects of consciousness, confidence and protection were deemed important as supported by others [40] [51] [52]. Smith [52] has described the concept of presence with such attributes as genuine dialogue, commitment, full engagement, openness and attentiveness, similar to our findings. Notably, supporting Watson's views on intentionality to control, dialogue also centered on characteristics of not being judgmental, not being invasive and being cognizant of word use in labelling others. Others have also described the need to be daring and firm with consideration of one's attitudes toward the other and positioning within the relationship also verbalized by our participants [5] [43] [53].

Sensitive to Self

Caring consciousness has been described by Watson [54] as being open to new and expanding experiences with a depth of reflective and emotional capabilities. This openness contains the ability to be real, honest and authentic and is based on self-knowledge and openness to feelings. A major theme that emerged in our findings was the importance given to sensitivity, both sensitivity to self and sensitivity to others. This sensitivity included such qualities as forms of intuition, focused awareness, self-reflection, and emotional adaptability. These themes underline the importance of remaining emotionally close to one's own vulnerability in the common experience of being human. All these themes have been supported in the literature on caring [5] [42] [43] [45] [47]. The importance of having cultural sensitivity was also underlined. This is important consi-

dering other studies involving students have reported observations where nurses appear reluctant to provide care to ethnic minorities [55] [56]. Lack of cultural competence was also perceived by students to be a barrier to learning about caring [57].

Further, Watson views empathy as the key to developing healing–trusting relationships [55]. Results also underlined the importance of this attribute as documented by others [5] [38] [42] [43] [45] [58]. Empathy can be regarded as the ability to sense the inner world of another which requires that the carer is aware of their own inner world while also creating a common emotional meeting ground. As such, one needs to tune into one's experiences with uncertainty, anger, sadness, joy, love, etc. which creates the capacity for becoming sensitive to another's emotional state and needs [55]. Our carers' described the necessity of "tuning in" to the other, as also vital to caring, as confirmed by others [42]. Other studies have also described experiences of joy, cherishing and love [40] as well as anger, weariness and irritation among carers [5]. The aspect of love was also underlined by Greek students [27].

Communication

Caring presence and intentional resonance focus on trying to understand what is meaningful and of concern in the lives of the other. Such a presence incorporates reflections on meanings, events and needs so that new meanings can be formed from disrupted meanings. Such meanings cannot be uncovered without good communication which the majority of participants often described. Good communication includes such aspects as attentive listening and questioning, finding openings, confidentiality, accepting the others' boundaries and self-limitations which have been confirmed by others [5] [40] [43] [47] [58] [59] [60]. As evidenced by our findings, invitation to dialogue also embodies recognition of the other, invites affirmation and trust, and fosters security and confidence, also with the intent of wishing the good or the best for the other. In this mutual process, the self and other are engaged in an experience which includes attention, acceptance, concern which potentiates insight, also supported by others [5] [42] [51].

Competence

Within a transpersonal caring moment, the carer enters into, and stays within, the other's frame of reference. Our results also underlined the importance of respecting the beliefs, needs, and wishes of the other. This human–to human interaction includes the totality of human experience, composed of perceptions, feelings, intentions, thoughts, goals, environmental impacts and for some, spirituality and love [61]. The meaning of one's perceptions also depends on observations, feelings, imagination and understanding which are reflected in the carer's professional competency. Such competency entails communication of critical information accurately and timely and is also essential for problem solving with colleagues. It also enhances autonomy, forms expectations, and incorporates collaboration and advocacy as professional skills. Aspects of knowledge and skill were also important to students in Papastavrou and colleagues [30] re-

search. These characteristics seemingly support the idea of promoting partnership and freedom of choice by attempting to stay within the other's frame of reference. All these qualities as essential to care have been documented by others [5] [38] [40] [42] [43] [47] [51] [59] [62].

Willfullness

Intentionality involves consciousness and awareness directed toward a mental object, with purpose and efficacy toward action, expectation, belief, volition, and even the unconscious [49]. Our results also underlined the importance of willfulness as a form of intentionality in taking initiative, being committed, sharing choices and decisions, creating challenges and helping the other see alternatives as being paramount, which may be interpreted as demonstrating a willingness to share power. Further, pacing and the expression of feelings can be understood as characteristics of intentionality as supported in other studies [5] [38] [44] [45] [58].

Deep Caring

Different levels of intentionality, action, and caring consciousness were revealed in the discussions. Some carers discussed caring acts which we have termed "deep caring". These acts seemingly reflect what Watson describes as the emergence of caring and love coming together in a transpersonal caring moment. "Deep caring" also focuses on grasping the experience of deeper and more spiritual concerns that emanate from the personal and intersubjective ([63], p.5). These acts were portrayed by a willingness to move into moments with a deep intentionality and consciousness. In "deep caring" there seems to be a transforming presence formed, where one grasped the moment, which involved letting go of time constraints, putting other tasks aside, and focusing completely on the other's instant need. This aspect of time as embedded with moral meaning was also confirmed by students in Dabrowolska and colleagues [26] study. "Deep caring" was also shown by taking time to offer the little extras, or what Watson refers to as sacred acts, such as placing a glass of water within reach, listening intently and using time to discover more, or simply moving a pillow and hearing the sigh of relief. Others have also described similar nursing acts as being deeply involved and going beyond routine [5] [38] [42]. These acts seeming support DeQuincey's [64] contention which states "Being intensely engaged in a relationship with another… is perhaps the most vital manifestation of consciousness. It requires a shift from a world of subjects-objects to a view which sees the relationship as fundamental." As authors we believe the provision of these little extras may represent the energy of caritas processes all merged into one substance.

Study findings may attune to what is described as professional comportment as a quality interrelated with intentionality and caring consciousness. Professional comportment, as one's demeanor and bearing, has been described as determining a carer's effectiveness in relating, communication and collaboration which includes self-regulation and individual accountability. This in turn, promotes mutual respect, commitment and harmony [65]. Others such as Benner

and colleagues [66] describe professional comportment as including the nurses' words, intents, beliefs, values, stance, touch, physical presence and actions together with the assimilation of abilities, knowledge, interpersonal effectiveness and communication with members of the healthcare team and patients. Professional comportment can also be understood as encompassing the carer's sentience (perceptions, senses, conscious mind) as represented in sentient embodiment [67]. We believe our findings witness to these attributes.

Our findings also lend support to many of the major beliefs and values in Watson's Human Caring Theory and the description of her caritas processes which focus on caring consciousness grounded in deep connectedness, of relationship and mutuality, subjective meaning and shared humanity. This perspective also embodies moral commitment, intentionality, and authenticity which are essential in enhancing human dignity and wholeness. Such a perspective supports intentionality and caring consciousness as deeply embracing energy and spirit as exemplified in what we described as "deep caring" moments [49]. These beliefs support a moral stance based on reverence and respect for the value and uniqueness of other and self and the uniqueness of the moment in human-to human caring transactions.

5. Limitations

The study is limited because of convenience sampling and a small sample consisting of a majority of women, although their age spans differed greatly. Furthermore, participants were recruited from only one institution though they lived and worked in many geographical areas in Norway and had backgrounds in community health nursing, cancer nursing, nephrology nursing, public health nursing and pastoral care. The names given to the major themes and sub-themes were discussed by two independent researchers, yet the selected terminology used in classifying themes and sub- themes denote specific nursing knowledge. However, interpretations of the themes and sub-themes were reviewed by inviting colleagues with different expertise and backgrounds to review the results. Watson's Human Caring Theory used in this study may have biased the researcher's interpretation of findings. It should also be noted that this theory is not a part of the curriculum in nursing or pastoral care at this specific institution, although the institution is grounded in Christian ideals. Notably, it has been reported that the dynamics of focus group interactions are seldom reported in presenting focus groups results [68]. As such, group dynamics may also introduce bias to the study, also threatening the trust worthiness of the findings. Therefore, a short description of the group dynamics is included inconsideration of the study's limitations.

The moderators had previous experience with conducting focus groups. The moderators played a more passive role, using probes when needed, but allowing discussion to evolve openly. Because all of the groups had been recruited in their own classrooms, the atmosphere of the groups portrayed a sense of group membership and cohesiveness. Notably, research has shown that there is a tendency

for more self-confident and articulate individuals to be more willing to agree to take part in focus groups [69]. In two of the groups, certain members were more assertive and as a result the more silent participants had to be invited into the dialogue. Also, in groups where there were a majority of older participants, the younger tended to be less articulate. Tape recording the sessions, could have caused feelings of unease for some, and one group commented that it would have been easier to speak together without the tape recorder. Some groups had participants who talked all at once and many of the groups used laughter when participants were in agreement with what was being described. However, both divergent and similar views were aired in all of the groups. Interestingly, some of the most valuable information was discussed towards the end of the group, which could be related to the fact that the participants felt safe and were more at ease. It was also interesting to note that when the groups were formally closed and the tape recorder turned off, discussion could ensue with a few participants.

6. Implications for Nursing

The goal of holistic nursing practice is to treat and heal the whole person–by recognizing the interconnectedness of body, mind, spirit, and environment. By exploring the meanings given to phenomenon of professional care, findings revealed ways in which the whole person was shown respect, revered and treated in differing intensity. The interactive discourses generated valuable detail of complex experiences and beliefs, behind participant's perceptions, attitudes, beliefs and actions. They also illustrated both practical and moral reasoning and skilled ethical comportment which are cornerstones in practicing holistic care.

We believe focus group methodology can enhance holistic nursing practice by providing opportunities to explore and clarify holistic care values on many levels by creating opportunities for holistic self- development and awareness, group interaction and transformative learning in many arenas such as in education, practice, administration, research, health care theory and model development.

A vast array of studies, also cross culturally have shown that Watson's Human Caring Theory can inform holistic practice. Numerous institutions and health care facilities have since adopted her theory as a guide to change their own nursing practice. Although a small study, our findings also affirm some of the major beliefs and descriptions of the caritas processes underlined in her theory.

Of importance to holistic nursing, is the fact that various studies have shown that nurses' and patients' views differ in what they view as important in caring. Nurses have been found to perceive expressive behaviors like providing trusting relationships, listening and comfort as most important, as compared to patients who assign higher importance to instrumental, technical caring activities and information [70] [71] [72] [73]. Recently, Papastravrou and colleagues [30] conducted a systematic review of 23 quantitative studies focused on nurses and patients' perceptions of caring behaviors where they also found evidence of incongruence in patient and nurse perceptions. Findings showed that patients valued instrumental, technical caring skills which demonstrated competency and

"know how" as being more important than nurses. Nurses, on the other hand, perceived affective caring behavior as more important than patients. In a cross-cultural study of six different EU countries which explored the concept of caring through nurse behaviors, important differences were observed between patients' and nurses' perceptions of caring behaviors. Perceptions related to assurance of human presence, knowledge and skills, respectful deference to others and positive connectedness was widely diverse. Further, Watson also found that listening to patients scored as the most caring of all tasks for nurses, whereas patients on the other hand rated most highly being involved in care and providing privacy [49]. Such findings highlight the need for future holistic nursing studies which assess nurses, patients' and families' perspectives regarding what they perceive as important caring behaviors. Culture and holistic care are embedded in each other, consequently, holistic caring needs to be understood in a cultural context, also in future comparative studies.

7. Conclusion

The results of this study demonstrate a congruence between some of the major beliefs and caritas processes in Watson's Human Caring Theory and the meanings given to professional care as described by post graduate nursing and pastoral students. The themes of reverence and respect for the dignity and value of human life, bonding, sensitive to self and others, communication, competence, willfulness, and "deep caring" together with their sub-themes lend support to these beliefs. Results also show that professional comportment, intentionality and caring consciousness are reflected in varied intensity and depth.

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The Benefits of Person-Centred Clinical Supervision in Municipal Healthcare—Employees' Experience

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Abstract

Satisfied employees in healthcare services who have opportunities to develop their professional competence by reflecting on professional challenges play an important role in the quality of care. The aim of the present study was to describe the employees' experience of the benefits of participating in a person-centred clinical supervision setting. The supervision, guided by a professional supervisor, was carried out with a group of six day- and night-shift municipal healthcare professionals for a period of four months during their mandatory work hours. Data were obtained from written individual evaluations and group interviews shortly after the last session and again twelve months later. The results showed that the participants experienced that their internal resources and coping skills had been strengthened by the supervision. They developed abilities to meet the challenges more constructively than before. New understandings gave them the opportunity to alternative actions in practice. Further intervention studies of person-centred clinical supervision must focus on such clinical outcomes as patient safety and professional development.

Keywords

Person-Centred Clinical Supervision, Municipal Healthcare Professionals, Qualitative Content Analysis

1. Introduction

Satisfied employees play an important role in an organisation's success [1]. Job satisfaction in healthcare services relates to the beliefs and emotions that individuals have about their work and their job [2] and is crucial to the quality of

care [3]. However, employees of municipal healthcare services face emotionally demanding tasks on a daily basis. Addressing complex ethical issues can be inspirational and motivating, but it may also lead to stress and poor experience of coping at work [4]. In order to promote coping in daily work, there must be support and opportunities to develop professional competence. Clinical supervision may provide this opportunity by reflecting on professional challenges [5] [6] and ethical dilemmas [7]. Begat, Ellefsen and Severinsson [8] assumed that the supporting of nurses by clinical supervision could have a positive influence on their perceptions of well-being. Therefore, it is important to provide conditions for easy communication for healthcare employees. This might not only enhance job satisfaction for care providers, but also lead to better quality of life for care receivers [9].

There are many kinds of approaches to clinical supervision. According to Tveiten ([10], p.17), it is "a formal, pedagogical, relational enabling process, related to professional competence. Relationship and dialogue are central aspects. Supervision is based on theory and humanistic values, has a normative, formative and restorative function". The approach in clinical supervision used in the present study is based on existential/phenomenological tradition and influenced by person-centred theory [11], with elements of gestalt theory [12], which is a process between individuals as well as within the individual. The supervisor's role is grounded in Rogers's client-centred approach, also called the person-centred approach [13] [14]. In a person-centred process, the function of the supervisor makes it possible for the supervisee to achieve emotional release in relation to a problem and to think more clearly and more deeply about her/himself and the situation. The supervisor is not the expert, but facilitates the supervisee to release her/his own problem-solving forces.

In Buus *et al.* [15], the care providers in psychiatric care considered clinical supervision to provide limited improvements to their clinical practice. However, neither management nor the staff prioritised participation in clinical supervision settings, which might have undermined its potential benefits. Häggström and Bruhn [16] showed that employees responsible for the care of older people felt positive towards the idea of participating in clinical supervision, but they felt that the management did not create the conditions needed to carry out supervision during work hours. The authors concluded that clinical supervision had to be integrated into work life. In an attempt to develop the quality of care in health practice, the management of municipal healthcare services of older people in the present study encouraged clinical supervision, which was carried out during the participants' work day. The aim was to describe the employees' experience of the benefits of participating in a person-centred clinical supervision setting.

2. Method

The study was conducted in a qualitative descriptive approach focusing on individual stories about personal experiences, which should be seen as unique and never generalised [17].

2.1. Participants and Context

The sample was six day-and night-shift health professionals (two registered nurses, one occupational therapist and three nurse-aids). They were all women aged from 44 to 56 years (median = 50). Their duration of work experience in health and welfare care service varied from 5 to 30 years (median = 17.5). They were invited to participate by the management. They provided healthcare services to older people in a small municipality in central Norway, but the occupational therapist also worked with younger adults. None of them had participated in organised clinical supervision before.

The clinical supervision was carried out through group sessions guided by one professional supervisor. The participants received 1.5 hours of supervision every other week for a period of four months during their mandatory work hours. They were encouraged to address situations from their everyday work that they wished to reflect on more closely. At each session, one of them usually told her story by sharing feelings and thoughts about the situation. The supervision and group discussions proceeded further on the basis of what was reported.

2.2. Data Collection and Analysis Procedure

Data were obtained from written individual evaluations and group interviews shortly after the last session and again twelve months after the last session. The written individual evaluations and the interviews emanated from the main question: "What have you discovered or been more aware of in relation to your everyday work?" To ensure the trustworthiness of the study, the authors' findings were also discussed and validated in the second group interview.

Sandelowski (2010) argues that qualitative content analysis is a dynamic form of analysis that identifies and summarises data that provide knowledge and insight. This process involves a systematic search for the codes that are generated from the data. Accordingly, the data were analysed by qualitative content analysis inspired by Graneheim and Lundman [18]. *At first*, the transcribed interviews and participants' written texts were read through carefully several times to gain an overall understanding of them. *The next step* was to split the text into meaningful units, that is, words, sentences and paragraphs of text that were linked through their content and context. The two authors did those two steps independently. *In the third step*, the text was labelled with codes. Codes are meaning units that permit new reflections in a different way, and they have to be understood in relation to the context. However, according to Graneheim and Lundman [18], the development of categories is the core or main issue in content analysis. *The fourth step* was therefore to create categories. The categories refer mainly to a descriptive level, and the content could be seen as an expression of the manifest content of the text. Three sub-categories were formulated: increased security in themselves, more awareness and reflection than before, and accepted that their work involved challenges and ethical dilemmas. *In the next step*, the text was read from code to categories and vice versa. In the analysis process, it is important "to go back and forth", but the most important task is

still to point out the manifest content. After formulating the results of the first interview, the second group interview with the participants was carried out. From the interview, the earlier findings were filed into two categories (see Results). *Finally*, a theme represented a thread of meaning through which the categories were established on an interpretive level.

2.3. Ethical Considerations

The Norwegian Social Science Data Services (NSD) approved the research project (no. 31689). Participation was voluntary and based on informed consent. The study was conducted in a familiar context where the participants were well-known within the organisation. Therefore, it was important that the results were presented in a confidential and safe manner.

3. Results

After participants' validation, two categories with sub-categories emerged: 1) Clinical supervision contributes to increased professional competence, and 2) Clinical supervision contributes to the promotion of health. From those categories, the latent theme was created: Clinical group supervision contributes to personal growth and enhances the quality of provided healthcare services (see Table 1). This was done in a forward-backward process.

3.1. Clinical Supervision Contributes to Increased Professional Competence

The informants expressed that supervision strengthened their beliefs in their ability to handle challenges. When work experiences affected them emotionally, the opportunity for reflection in a supervision setting created new understanding and new knowledge. They emphasised the intervention of knowledge, in which they not only increased their awareness of what they already knew, but also gained completely new knowledge.

3.1.1. Increases Awareness and Confidence in Competence

All participants thought that the supervision setting had given them comfort and security to trust in their own competence and that each of them were important and responsible parts in the daily work of their organisation.

Table 1. Overview of theme, categories and sub-categories.

Sub-categories	Categories	Theme
Increases awareness and confidence in competence	Clinical supervision contributes to increased professional competence	Clinical group supervision contributes to personal growth and enhances the quality of provided healthcare services
Increases ability for reflection and conscious choice		
Increases ability for professional collaboration and the use of communication tools		
Prevents stress and burnout	Clinical supervision contributes to promotion of health	
Improves psycho-social work environment		

> "I now see that I am responsible for my work, I'm influencing changes and I expect much from myself".

At the same time, they became more aware of what they considered valuable and important: —"I have become more aware of my attitudes and values, what is right and wrong to me". The discussions in the group sessions helped them to place limitations in their own work: —"I have a higher ability to determine my own limits".

Those feelings of confidence in their own competence turned into feelings of professional confidence that were shown in their actions and in discussions at work.

> "I have become more conscious of my own professional confidence... and am not accepting items I do not agree with".

3.1.2. Increases Ability for Reflection and Conscious Choice

The supervision process also helped the participants to reflect and make conscious choices at work. They were growing more aware and reflecting about the issues being expressed and on how different situations had influenced them and the patients. This made them ask questions like:

> "Am I competent to do this?"

Their daily work involves many ethical dilemmas. Since the informants seldom had time or opportunity to discuss those dilemmas with their colleagues, the specific situations made them feel insecure and lonely. However, in the supervision setting, they felt affirmed and as though they were not alone:

> "Other colleagues experience the same dilemma as I do, and supervision would help in those situations".
> "Now I put ethical dilemmas into words, earlier they were hidden in my own head".

3.1.3. Increases Ability for Professional Collaboration and the Use of Communication Tools

After the supervision sessions, they also felt more open-minded to other solutions: "I feel well when I talk with colleagues within the same profession about problems due to my work. They may see it otherwise and may have other solutions … from other perspectives".

They expressed that they were listening and discussing professionally, without accepting ethical conclusions when they disagreed with them. Those talks within the same profession also made them more open to discussions with and listening to other professionals.

> "Collaboration is important to me, being able to discuss to find solutions, also crossing professional borders".

Supervision also increased the participants knowledge by asking control questions—"Is this ... what you mean?"—and being more flexible—"What can I do? Is there any other way to act?"

In addition, they emphasised that the supervision setting had introduced many methods that could be used in daily work.

> "We use many of the methods [from supervision] in facing patients and their families, students and colleagues. We listen, ask questions, examine our understanding, do not interpret any longer, and give confirmation".

They thought they had experienced many useful things that could be good tools at work.

3.2. Clinical Supervision Contributes to Promotion of Health

The informants experienced that their reflections and discussions of patients' situations and ethical dilemmas in the sessions offset their own stress and fatigue syndromes. There was also consensus that their increased awareness of reflections and ventilations benefitted the psychosocial work environment.

3.2.1. Prevents Stress and Burn-Out

The supervision setting enabled the participants to dive deeper into the situations by reflecting on them and airing them out. This not only improved their professional competence, but also their own health. They all thought that discussing situations, reflecting on them and feeling affirmed at work helped prevent stress. "Getting it affirmed, maybe you were not able to do it otherwise anyway, having verification". Previously, their minds often were preoccupied by daily work situations when they got home, and sometimes they had difficulties sleeping. Now they could engage in family instead of work during their leisure time.

> "Think it prevents what today is called being burned out".

3.2.2. Improves Psychosocial Work Environment

The participants emphasised that their frankness, "…getting better at directly saying what I mean, putting into words what I mean", and confidence in themselves and in the daily work situations led to their increased comfort in general discussions at work and not only in specific patient-related discussions. Before the sessions, it was possible to air something out during staff meetings, but it happened more randomly. They experienced their work environment as being more open-minded after the supervisory sessions.

> "It does something about the work environment, it is getting better".
> "That we talk about a situation in general, getting aware and reflect and bringing closure to it in a way together".

4. Discussion

The aim of this study was to describe the healthcare employees' experience of the benefits of participating in a person-centred clinical supervision setting. The informants' descriptions emerged into the theme of "Clinical group supervision contributes to personal growth and enhances the quality of provided healthcare

service". The theme reflects the interpretation of their descriptions of themselves as individuals as well as their interplay with colleagues within the same profession, other professions, patients and their families, and students.

All participants expressed that the supervision had given them comfort and security to trust in their competence and that each of them were important and responsible parts in the daily work of their organisation. The supervision also led to increased knowledge, which raised their competence. The participants described this as a completely new kind of understanding and knowledge. It occurred especially when the group discussions in the supervision setting led them to reflect about work situations that had affected them emotionally. In gestalt and person-centred theories, the paradoxical theory of change and awareness is central and may enlighten what happens in the process of supervision. Beisser ([19], p.77) has formulated that "…change occurs when one becomes what he is, not when he tries to become what he is not". According to Melnick and Fall [20], the freedom to choose new behaviour is what the paradoxical theory of change and the construct of awareness are about. Person-centred clinical supervision uses methods that are developed to increase awareness of the participants' own thinking, feelings, reactions and actions so that they can clearly recognise and see themselves and their choices. This awareness emerges through empathetic listening, dialogue and creative methods [21]. The supervision setting focuses on the present by exploring the experience as it really is through a process of involvement and awareness of new understanding that leads to choice and action. Expanded awareness creates growth and development, and the supervisee can choose behaviours that fit her/his expanded awareness. This can be referred to as nurses' professional autonomy [22]. Weston [23] argues that professional improvement is a necessary precondition for nurse autonomy. This also provides a framework for augmenting clinical autonomy.

Further, the participants expressed that clinical supervision strengthens their beliefs in their ability to handle challenges and cope with demanding professional tasks. To be more confident of their expertise can be seen as positive, but if this expertise is lacking, this reassurance may not have a positive effect on the quality of care. Nevertheless, the present study shows that comfort and confidence in their own competence and increased awareness made them both more secure in action and more open-minded to new and different solutions. Some choice of actions were accepted and acknowledged, other times it was obvious to the supervisees that both their mindsets and attitudes needed to be revised. They were aware of their true selves. Harter [24] describes that authenticity is a concept, which means acting in agreement with one's emotions, values, thoughts and beliefs. The awareness and acceptance of "what I am and what is" instead of "what should I have been and what should have happened" led to acceptance, security in action, as well as openness to discussion, reflection and new solutions. The group process in the supervision setting and that the group was multidisciplinary may have had an impact. According to Fay *et al.* [25], multidisciplinarity has a positive influence on a group's quality of innovations. Their find-

ings showed that the clinical supervision made them more open to analysing and listening to others' experiences and assessments of professional challenges. Co-operation both within the supervision group and with other groups was rated as a positive opportunity to deal with professional challenges. They described it as increased portability for reflection and making conscious choices.

The participants found that the supervision strengthened their ability to cope with daily challenges. This again had a positive impact on the health situation. After conducting the sessions, consensus was reached about the supervision's health benefits, *i.e.* by preventing burnout and improving the psychosocial work environment. Their work with patients in municipalities is often single-handed, with few possibilities to co-operate with colleagues in patient care situations, a factor that is of importance for job satisfaction [26]. Burnout has increased in many countries, especially among healthcare staff, during the last decades [27]. In a study by Edwards *et al.* [4], community mental health nurses reported lower levels of burnout after clinical supervision sessions. Burnout is also connected to work atmosphere [28]. Koivu *et al.* [29] found that the nurses who received efficient clinical supervision reported more job and personal resources and were more motivated and committed to the organisation than others who had not received it, and that supervision may be viewed as a preventive method for burnout. The informants expressed that receiving support and challenge from colleagues, both from the same profession and from other professions, affected the work environment positively. Ohlson and Arvidsson [30] found that clinical supervision had an impact on preventing negative effects of work-related stress and strengthened the ability to handle a stressful work situation. Support from the group strengthened self-esteem and promoted mental health. According to Rogers [31] [32], the task of the supervisor is to assist the person attaining the intentionality and health that is natural to each individual by making it possible to gain emotional release in relation to his problems. He claimed that self-actualisation or health may ultimately be defined as experiencing one's completest humanity. A person who becomes truly in touch with his/her inner self will move to positive action, fulfilment and self-actualisation.

Travelbee [33] claims that nurses have who suppressed their emotions too much and for too long are not able to meet the needs of their patients because their own needs have not been met. In our study, the supervision setting provided opportunities to release and support repressed emotions, consistent with thoughts about supervision, burnout and health. Pavlish, Brown-Saltzman, Fine and Jakel [34] found that many healthcare employees avoid talking about ethical problems because of factors such as fear of harming relationships, lack of continuity in care and lack of shared decision-making. They meant that this avoidance could lead to moral distress and burnout. According to Antonovsky's sense of coherence theory, humans with the resources of comprehensibility, manageability and meaningfulness have better chances of coping with the challenges of work life [35].

Kitwood and Bredin [36] presented the person-centred care approach in

healthcare, which was influenced by Rogers's client-centred theory [31] [32]. However, to be in a person-centred caregiver role, the caregiver also must be able to have her/his needs met and to have opportunities for personal professional growth and development. That is, the caregiver must be met as a professional in a personal way. This puts demands on the individual employee, but also on the staff as a group and the organisation, including the leadership. Lynch *et al.* [37] state that person-centred nursing must be integrated with situational leadership theory to provide the individual level of appropriateness to support person-centred practice. In Edvardsson *et al.* [38], the results showed that job satisfaction as well as support from the organisation and the degree of environmental accessibility could predict perceived quality of person-centred care. That is, to be in a person-centred caregiver role, the caregiver must be in a work environment that gives opportunities for reflection and professional development [39]. This requires creating a work environment that is characterised by employees perceiving themselves as active participating subjects able to identify and be aware of their internal and external resources [35]. It is necessary to create a democratic and inclusive approach to practicing culture that gives space for implementing person-centred relationships [40]. Accordingly, the person-centred clinical supervision allowed the participants in our study to improve their ability to reflect, communicate and be more empowered in their work environment.

5. Methodological Considerations

The participants in this study were few, only six persons, but they actively took part in the study over a period of four months in which they developed data for the entire period. The data were collected from written individual evaluations as well as group interviews. In the last interview, the participants increased and developed the data. This might indicate that the knowledge and awareness from the person-centred clinical supervision setting had been integrated into the individual participants as well as into the everyday work. Further, to ensure credibility, the participants also consulted our preliminary interpretation from the first interview in order to come up with the final version [41]. Moreover, the participants were explicitly asked whether they had negative experiences with participation, which all clearly said that they had not. They were not randomly selected, and they might be more open-minded and positive towards quality changes and developments than others staff members. However, the study may say something about these six individuals' experience of the benefits of participating in person-centred clinical supervision settings. Then it is up to the reader to determine to what extent our findings are transferable to other contexts.

6. Conclusion

Communication and interpersonal relationships are essential to the quality of patient care [42]. The findings in our study show that the inclusion of person-centred clinical supervision is an enabling process that contributes to those aspects and enhances the quality of municipal healthcare services. The participants

experienced that their internal resources and coping skills were strengthened as a result of the supervision. They developed skills to meet work challenges in a more constructive way than before. New understandings gave them the opportunity to alternative actions in practice. According to change theory, this is not only beneficial to the individual, but also relevant to organisations in order to improve integration and holism. That is, making the work setting healthier may contribute to improving the overall practice. However, since there is still a lack of evidence on the effects of person-centred clinical group supervision [43], further intervention research must focus on such clinical outcomes as patient safety and professional development issues.

7. Implications for Practice

The process of person-centred clinical supervision supports professional competence, which in turn gives opportunities to improve the health of both the individual staff and the organisation. The process of person-centred clinical supervision also supports person-centred communication and person-centred care by supplying a holistic work-environment. However, when implementing person-centred clinical supervision, it is important that the management as well as the individual employees create conditions for participation. Besides integrating the sessions into work time, there is a need for person-centred clinical supervision education for the staff and students who provide the municipality healthcare services.

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Contributions

Data Collection: CN, Study Design and Analysis: CN and IE, Manuscript Writing: CN and IE.

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Jordanian Nurses' Knowledge of Preventing Surgical Site Infections in Acute Care Settings

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Abstract

Background: Surgical Site Infection (SSI) is one of the most common healthcare-associated infections, its account for up to 16% of all healthcare-associated infections worldwide. The SSIs can contribute to post-operative morbidity, prolonged recovery, delayed discharge and increasing cost. Nurses' knowledge of the evidence-based recommendations is necessary to provide high-quality nursing care. **Aims**: To assess the level of Jordanian nurses' knowledge regarding evidence based guidelines for the prevention of SSIs, to describe the relationship between nurses' knowledge and selected sociodemographics, to examine the differences in nurses' knowledge with respect to selected dichotomized variables, and to identify the most significant predictors of Jordanian nurses' knowledge regarding evidence based guidelines for the prevention of SSIs. **Design**: Cross-sectional design. **Sample**: Two hundred registered nurses at four targeted hospitals were recruited conveniently. **Results**: The mean of the total knowledge scores of the sample was 3.28 out of nine (SD = 1.72, range = 0 - 7), the median was 3 out of nine. There were a statistically significant correlation between all tested continuous sociodemographics variables and the total knowledge score ($p > 0.05$). There is a significant difference in nurses' knowledge between those who are attending to special surgical related training course and who are not. The most significant predictors of Jordanian nurses' knowledge were: the number of credit hours attended by nurses for surgical-related training courses and the total years of work experience in nursing. These variables explained 16.7% of variance. **Conclusion**: The results of this study shed light on the obstacles that hampers the Jordanian nurses' knowledge regarding evidence based guidelines for the prevention of SSIs in acute care settings. However, the successful implementation of infection control measures, particularly SSIs prevention measures, and well-structured continuing education programs are considered as a substantial element that would improve nurses' knowledge.

Keywords

Prevention, Evidence Based Guidelines, Nurses' Knowledge, Infection Control, Surgical Site Infection

1. Introduction

Surgical site infection (SSI) is a wound infection that developed postoperatively, it is considered as a complication of the surgical procedure or of the post-operative caring of the surgical site [1]. Surgical site infection is an infection that developed after surgery in the part of the body where the surgery took place. Surgical site infections can sometimes be superficial infections involving the skin only. Other surgical site infections are more serious and can involve tissues below the skin, organs, or implanted material [2] [3].

The SSI is one of the most common healthcare-associated infections, its account for up to 16% of all healthcare-associated infections worldwide [2]. The SSI, globally, is considered as a challenging problem that was facing all surgical patients who are acutely ill. The annual incidence rate of SSI in general population was 20.3% in Nigeria [4], 16% in India [5], and 14.7% in Japan [6]. The annual incidence rate of SSI in Jordan among Coronary Artery Bypass Graft Surgery (CABG) patients reached up to 16.8% [7].

Surgical site infections have too many risk factors that may contribute to its incidence that include: 1) all operations that involve the abdomen; 2) all operations that last longer than two hours; 3) contaminated or dirty site of wound; and, 4) patients who had three or more co-morbidities when they left hospital [8]. In addition to contaminated or dirty site of wound, high body mass index, re-operation and use of post-surgical drain increased the infection risk of surgical site infection among lumpectomies and mastectomies patients [9].

Furthermore, there are other contributing risk factors among colorectal cancer patients, such as: disseminated cancer, ileostomy, patient temperature less than 36˚C for more than 60 minutes, and high blood glucose level [10]. There are Pre-operative influences on surgical site infection incidence such as: length of hospital stay, cigarette smoking, miss usage of antibiotic prophylaxis, bowel preparation, hair removal and patients shower use [8]. These factors are modifiable by minimizing patient's length of pre and post-operative stay, decline patient's cigarette smoking, giving appropriate systemic prophylactic antibiotic, proper bowel preparation, remove hair with clippers with a disposable head as close to the time of surgery as possible, and showering with ordinary soap and water the night before surgery [8].

Healthcare-associated infections are still considered as a major challenging problem clinically. In United States, its cost may reach up to $45 billion yearly. SSI is one of the most common causes of post-operative morbidity [11]; such infections contribute to prolonged recovery, delayed discharge and increase costs to both patients and health service [12]. The SSI could prolonged surgical pa-

tients' stay approximately 14 days more and increase the direct cost burden 10.232$ per patient [13]. Furthermore, the SSI indirect cost can reach up to 97.433$ per patient [13].

There are major effects of SSI on postoperative hospitalization stay, where infected surgical site could extent patient's hospitalization stay up to 16 days more [14]. Furthermore, it's raising the hospitalization cost more than 100% [14].

Nurses at all levels of work have a crucial role in controlling and preventing infection [15]. Knowledge of the related evidence-based guidelines regarding the prevention of SSIs is necessary to provide high-quality nursing care [16].

Nurses should apply standards of infection control and precautions to prevent cross contamination from both recognized and unrecognized sources of infection, and transmission-based precautions for special indicated cases [17]. In patients who have surgical procedures such as; caesarean section, hip arthroplasty, knee arthroplasty, reduction of long bone fracture, or repair of neck of femur, nurses should collaborate with other health team members to control and prevent surgical site infection occurrence [2]. Nurses should continually learn the updates of evidence-based in prevention of surgical site infections [17]. Nurses play a key role in wound management and their theoretical understanding of basic wound management expected to influence the quality of wound therapy fundamentally [18]. Subsequently, education of health care professionals can improve their knowledge level, thus promoting infection prevention guidelines implementation which directly contributes to health care associated infections reduction [19]. In a recent qualitative study that compared knowledge and attitudes towards Evidence-Based Nursing Practice (EBNP) among nurses depending on their occupational positions. The level of knowledge about EBNP in both groups departmental nurse, and charge nurse was inadequate and needs urgent supplementation of knowledge and skills of nurses with reference to this subject area [20]. However, a gap exists between the best evidence and practice with regards to SSI prevention. Awareness of evidence is the first step in knowledge translation [15].

In Belgium, a study, conducted to evaluate nurses' knowledge regarding evidence based guidelines for the prevention of SSIs in order to identify their specific educational needs, male nurses' were found to be more knowledgeable than their female colleagues concerning the implementation of the SSIs prevention guidelines [16]. In Australia, another study found that there was a positive relationship between the number of years of work experience and nurses' level of knowledge regarding SSIs prevention [21].

1.1. Aims of the Study

1) To assess the level of Jordanian nurses' knowledge regarding evidence based guidelines for the prevention of SSIs.

2) To describe the relationship between nurses' knowledge regarding SSI prevention and selected personal sociodemographics that were measured on both continuous and dichotomous variables.

3) To examine the differences in Jordanian nurses' knowledge regarding SSI prevention with respect to gender, marital status, and level of education.

4) To identify the most significant predictors of Jordanian nurses' knowledge regarding SSI prevention.

1.2. Research Questions

1) What is the level of Jordanian nurses' knowledge regarding evidence based guidelines for the prevention of SSIs in acute care settings?

2) Is there any association between nurses' knowledge regarding evidence based guidelines for the prevention of SSIs in acute care settings and selected sociodemographics measured as continuous variables?

3) Are there any significant differences in Jordanian nurses' knowledge regarding evidence based guidelines for the prevention of SSIs in selected sociodemographics measured as dichotomized variables?

4) What are the most significant predictors of Jordanian nurses' knowledge regarding evidence based guidelines for the prevention of SSIs in acute care settings?

2. Literature Review

2.1. Nurses' Knowledge Regarding Evidence Based Guidelines for the Prevention of SSIs

Nurses have a golden role in preventing surgical site infection occurrence [15]. The higher nurses' level of knowledge, the fewer incidence of surgical site infection [16]. Nurses require to be knowledgeable regarding the cause, effect and management of SSI to ensure optimum patient's outcomes following surgery [2].

What the nurse should know regarding surgical site infection prevention? Nurses should be aware of surgical site infection definitions, classifications, risk factors and the population at risk, signs and symptoms of surgical site infection, the antibiotic prophylactic use, pre-operative skin preparations, post-operative surgical site caring, infection control standards and surgical site infection prevention strategies, and to advocate their clients at all situations [8].

2.2. Nurses' Knowledge and Surgical Site Infection Classifications

It is important for nurses to distinguish between surgical site infection classes. Which are superficial incisional, deep incisional, and organ/space SSIs, depending upon the tissue or body part involved [2].

In a descriptive study, that evaluated Intensive Care Units (ICU) nurses' knowledge of surgical site infection prevention guidelines using a newly developed tool that used in this study, only 7% of nurses knew the correct classification of surgical site infection, while 46% knew that stitch abscesses are not to be reported as SSI. Furthermore, only 2% recognized the exact time frame in which emerging superficial incisional infections are classified as SSIs. Eventually, it was reported that overall scores of nurses' knowledge regarding evidence based guidelines for the prevention of SSIs were poor; thereby, it may reflect nurses'

daily practice [16]. However, the study's target population were all nurses who work in ICU, regardless to the ICU specialty, so, the data may be collected form medical ICU nurses who were not exposed to surgical experience which may negatively impact nurses' knowledge scores.

2.3. Nurses' Knowledge and Surgical Site Infections: Signs and Symptoms

Usually, following surgery, patients experience; pain, swelling and redness around the wound as part of the normal wound healing process [22]. However, these symptoms may intense when SSI occur [3]. Furthermore, SSIs are associated with redness, heat, pain, swelling, hyperthermia as temperature greater than 38 degrees centigrade, purulent discharge, and abscess or cellulitis directly related to the surgical site [23]. Moreover, in Sweden, a study conducted to evaluate quality of life of patients with sternal wound infection after cardiac surgery, it was found that if those patients survive, SSI is a very serious complication that negatively impact their quality of life [24]. Another study, that investigated the long term effect of SSI on several quality of life measures in patients undergoing knee and hip surgery, it was found that SSI significantly affected patients' mobility, their independency of living, and their psychological health [25].

2.4. Nurses' Knowledge and Surgical Site Infections Risk Factors

Several factors increase the risk of developing SSI. These factors are divided into modifiable and non-modifiable factors, thus, nurses' awareness of these factors especially those that are modifiable can help in SSI prevention implementation strategies [2]. Nurses should be aware of the extrinsic factors such as: pre-operative skin preparation, antibiotic prophylaxis use, and post-operative surgical site caring; which can be manipulated to reduce the risk of SSI [8].

Pre-operative skin preparation such as skin disinfection and hair removal are playing an important role in preventing SSI [8]. In an experimental study, that conducted in Turkey to determine the effect of preoperative skin preparation procedures performed by nurses on postoperative surgical site infection in abdominal surgery; the study participants were divided into two groups (control group, n = 39) and (interventional group, n = 43), control group participant's skin were mostly prepared by shaving with a razor blade. In contrast, clippers were used to prepare 55.8% of interventional group participant's skin, while 44.2% of them were not treated with the clipper because their wounds were cleaned. All interventional group participants had a chlorhexidine bath at least twice after being hospitalized and at least once a night before the operation under controlled conditions. The difference between control group and interventional group with respect to surgical site infections was statistically significant; which means that preparing skin using clipper at the night before an operation and a 50 ml chlorhexidine bath excluding head area taken twice in the preoperative period were useful measures to reduce SSI during postoperative period [26]. In spite of its powerful design, the small sample size was the major limita-

tion of this study, which may affect its clinical validity, and generalizability of the results.

In a recent literature review paper that was evaluating the evidence in the literature to identify the best antiseptic agent in terms of skin preparation, it was suggested that cholorhexdine with alcohol is the most effective antiseptic agent in terms of reducing SSI [27].

2.5. Nurses' Knowledge and Antibiotic Prophylactic Use

Antibiotic prophylaxis use is one of the measures used in prevention of the development of surgical site infections [15]. Although systemic antibiotics reduce the incidence of SSI significantly [28], the use of antibiotic prophylaxis for prevention of surgical site infection was not effective post breast cancer surgery [29], and not necessary for elective laparoscopic cholecystectomy surgeries [30]. However, the use of antibiotics during the preoperative period for the prevention of surgical site infection remains controversial.

Moreover, accurate and timely administration of antibiotics is a crucial element of pre-operative patient care. Educated nurses can contribute to safe antibiotic administration by preventing medication errors such as; omitted doses, duplicate doses, and incorrect doses. Which indirectly affect post-operative surgical site infections occurrence [31].

2.6. Nurses' Knowledge: Pre-Operative and Post-Operative Surgical Site Caring

Post-operative surgical site caring is an important mission in preventing surgical site infection and wound healing. Nurses should know the chain of infection and the modes of infection spread [2].

It is important to know that any break in the skin can help microbial pathogens to get a portal of entry, and hence places the patient at an increased risk of infection, however, postoperative dressings playing a key part alongside universal precautions such as; hand hygiene and aseptic technique [32]. Nurses should be aware that theatre dressing should remain in situ for at least 48 hours before removal, to prevent the entry of microorganisms and promote healing [2]. In a descriptive study, that evaluated ICU nurses' knowledge of the surgical site infection prevention guidelines, 45% of nurses knew that primarily closed incisions must be protected for 24 to 48 hours [16].

In a recent study, that conducted in Philippines to determine the knowledge and extent of practice of sterile technique among operating room nurses, and to investigate whether certain nurses' characteristics are correlated with their knowledge. The study found that age, gender, length of clinical experience, and numbers of trainings attended are not determinants of the knowledge on the principles of sterile technique [33]. In contrast, an Australian study found a positive relationship between the number of years of work experience and self-reported level of knowledge, as higher scores indicate greater knowledge [21]. Moreover, a Belgium study found that male nurses' were more knowledgeable

than their female counterparts [16].

3. Methodology

3.1. Design

A cross-sectional design used to conduct this study.

3.2. Population and Sampling

A convenience sample of 200 nurses working at acute care settings from four targeted hospitals was included. The sample size (n = 200) was calculated through a power analysis (Cohen, 1992), which considered the power of 80%, an alpha error of 0.05, with a confidence interval of 95%, and a large effect size as revealed in the reviewed literature [34]. The population of interest for this study were all eligible registered nurses working in acute care settings; Surgical Intensive Care Unit (SICU), Medical Intensive Care Unit (MICI), Intermediate Care Unit (IMU), Coronary Care Unit (CCU), Coronary Intensive Care Unit (CICU), Surgical wards, and Orthopedic wards in four hospitals: three governmental hospitals, and one university-affiliated teaching hospital in Jordan. These hospitals selected based on: their location and importance. These hospitals are considered as the largest referral hospitals that serves the center and north of Jordan.

Study participants were selected based on a specific eligibility criteria, inclusion criteria for participation in this study include:

1) Age of 20 years and older.

2) Educational level should be BSc or higher.

3) Can read and understand English language efficiently.

4) Work as a full time registered nurse in acute care departments.

5) Jordanian nationality.

3.3. Instruments

Two instruments were employed to collect the data for the purpose of this study: the demographic datasheet, it has been developed to collect specific demographic characteristic data including respondent's age, gender, marital status, total years of work experience, nationality, level of education, special surgical related training courses, and monthly income. A multiple choice knowledge test questionnaire that was newly developed by Labeau *et al.* (2010) based on the Centers for Disease Control and Prevention [1], and SSI prevention guideline [15]. The multiple choice knowledge test questionnaire consisted of nine questions follows the pattern of multiple choice questions, where each question followed by four response alternatives: one answer is correct, two distractors, and the sentence "I do not know", to discourage guessing [16].

Ranks of nurses' knowledge primarily based on the quartile (Q) "Ntile" ranking system which divide the participants in to four equal groups based on their total knowledge percentile as per to the following classification: Q1: cases below

the 25th percentile, Q2: cases between the 25th and below 50th percentile, Q3: cases between the 50th and 75th percentile, and Q4: cases above the 75th percentile. The main questionnaire consisted of ten questions that was presented to seven experts to assess face and content validity. All experts had at least a master's degree in nursing or medical social sciences, and were, at least locally, involved in research on ICU acquired infections with special interest in SSI. In order to achieve face validity, experts were asked if all questions were clearly worded and would not be misinterpreted. For content validity, the experts evaluated the nursing relevance of the 10 items by using a scale of 1 to 3, where 1 = not relevant, 2 = relevant but not necessary, and 3 = absolutely necessary. Content Validity Index (CVI) was calculated per item, which reflects the proportion of consulted experts agreeing on the content validity of an item. Content validity was beyond the 0.05 level of significance. One question concerned the issue of preoperative bowel preparation, which was identified by the experts as overruled by more recent evidence. This question was deleted from the questionnaire and minor revisions of the wording of some other questions were performed. The experts considered all nine remaining items of the questionnaire relevant for nursing practice. Calculation of the unreported CVI reflected their unanimous agreement with the questionnaire's content and clarity. Cronbach's alpha for the multiple choice Nurses' knowledge test questionnaire was .81 suggesting reasonable level of internal consistency reliability. This result of reliability is comparable to established and unreported high internal consistency of the questionnaire as indicated by the original authors [16].

3.4. Data Collection Procedure

The data were collected by the investigator from the four targeted hospitals. Data collected from the last week of September to the end of October 2015, these hospitals were visited randomly at the accessible times during the morning, noon, or night shifts to select the accessible and eligible participants conveniently. Nurses who met the inclusion criteria were asked to participate voluntarily and anonymously by signing the consent form and filling the questionnaire. However, respondent given approximately (ten to fifteen minutes) to fill the questionnaire in nursing station and hand it over manually to the investigator at the same visit time.

3.5. Statistical Analysis

Data entered and analyzed statistically using Statistical Package for Social Science (SPSS) version 19. A descriptive statistical analysis was conducted to describe the characteristics of the sample, and their knowledge level. Bivariate spearman's correlations were employed to describe the correlation between continuous selected personal characteristics and knowledge level. The correlation was considered significant at the 0.05 level. A non-parametric Mann-Whitney U-test was employed to detect differences between the medians of knowledge scores in dichotomized selected nurses' characteristics, two-tailed ($P > 0.05$) was

considered statistically significant. Linear stepwise regression analysis was employed to determine the most significant predictors from all personal characteristics.

3.6. Ethical Considerations

Jordan University of Science and Technology Institutional Review Board (IRB) was obtained, and all administrative approvals were obtained from the participant institutions. Thereafter, the permission to use the instrument was obtained from the instrument developer and her colleagues. All participants' rights were ensured based on ethical principles of respect for human dignity, privacy, confidentiality, and autonomy. Participation in the study was voluntarily and anonymously. In addition, each nurse informed regarding his/her right of withdrawal at any time. All participants were informed regarding the purpose of conducting such study. The study procedure explained for each participant, and written consent was signed before filling of the questionnaire to ensure voluntarily participation.

4. Results

4.1. Characteristics of the Sample

In the four targeted hospitals there were approximately a five hundred and twenty Jordanian registered nurses working in acute care settings. This study recruited two hundred Jordanian registered nurses who were conveniently selected to answer the questionnaire in the targeted hospitals. Nurses' mean age was 27.52 + 2.92 years with a range of 23 - 38 years. One hundred thirty-six (68%) of the sample were male nurses, and (32%) were female nurses, In terms of their marital status, the data analysis revealed that (54%) of the participants were married and (46%) were unmarried (Table 1).

The mean of the total years of work experience in nursing for the selected sample was 5.3 + 2.94 years with a range of 1 - 15 years. The mean of total years of work experience in surgical care units was 3.3 + 2.43 years with a range of 0.0 - 13 years. Data also revealed that (92%) of the sample were bachelor-prepared nurses and (8%) were master-prepared.

Twenty five percent of the sample underwent a special surgical-related training course and 75% did not. The total number of credit hours spent by all participants in the training courses was 1782 hours with a mean of 8.91 + 21.83 hours (range = 0.0 to 128). Monthly income of the total sample ranged from 333 JD to 800 JD (1JD = 1.41$) with a mean of 496.22 + 82.24 JD (Table 1).

4.2. Jordanian Nurses' Knowledge Level

Two hundred questionnaires were completed. Data analysis revealed the mean of total knowledge scores of the sample = 3.28 (SD = 1.72, range = 0 - 7), and (Mdn = 3). Median was used to describe the center of the data because of the data were not normally distributed. The results showed that the overall Jordanian nurses' knowledge level regarding evidence based guidelines for the pre-

Table 1. Sample characteristics.

Variable	Range	Mean	SD	N	%
Age (years)	23 - 38	27.52	2.92		
Gender					
Male				136	68
Female				64	32
Marital status					
Married				108	54
Unmarried				92	46
Total years of work experience in nursing	1 - 15	5.3	2.94		
Total years of work experience in surgical care units	0 - 13	3.3	2.43		
Level of education					
BSc				184	92
MSN				16	8
Special surgical related training courses					
Yes				50	25
No				150	75
Credit hours spent by nurses in the training courses	0 - 128	8.91	21.83		
Monthly income (JD)	333 - 800	496.22	82.24		

vention of SSIs was low (Mdn = 3). In order to categorize the participants based on their scores we used quartile. Furthermore, the data analysis showed that more than thirteen percent (n = 27) of participants were located in Q1 which represent the cases below the 25th percentile, those participants were classified to have very low level of knowledge, while more than forty five percent (n = 91) of participants were located in Q2 which represent the 25th to below 50th percentile, those participants were classified to have low level of knowledge. Sixteen percent (n = 32) of participants scores were located in Q3 which represent the 50th to 75th percentile, those participants were classified to have moderate level of knowledge. Furthermore, twenty five percent (n = 50) of participants were located in Q4 which represent the cases above the 75th percentile, those participants were classified to have high level of knowledge (Table 2).

Fifty three percent of study participants (n = 106) knew that primarily closed incisions must be protected for 24 to 48 hours, and 25.5% (n = 51) of the participants were aware that the appropriate time to shower or bathe with uncovered incisions is unresolved. Twenty seven percent (n = 54) of the participants knew that postoperative surveillance by itself succeeds in reducing the incidence of SSI, and 69.5% (n = 139) of the participants answered the question number four "Elective surgery on patients with remote site infections should be postponed until the infection has resolved" correctly. The correct classification of SSI was known by 36% (n = 72) of the sample population, while 25% (n = 50) of the study participants were answered question number six "stitch abscesses (mi-

Table 2. Description of nurses' knowledge level according to their quartile rank.

Knowledge level	N	%	Quartile
Very low	27	13.5	Q1
Low	91	45.5	Q2
Moderate	32	16	Q3
High	50	25	Q4

nimal inflammation and discharge confined to the points of suture penetration) are classified as SSI" as false which was the correct answer. Only 7.5% (n = 15) of the participants recognized the exact time frame in which emerging superficial incisional infections are classified as SSI. Thirty sex percent (n = 72) of the participants knew that preoperative hair removal should take place immediately before surgery, and 49% (n = 98) of the participants knew that electric clippers are recommended to remove the patient's hair at or around the incision site (Table 3).

4.3. The Correlation between Nurses' Knowledge of SSI Prevention and Selected Nurses' Characteristics

To describe the correlation between selected continuous variables (personal characteristics) and knowledge level, spearman's correlations were used. Results of correlations analysis indicated that there were a statistically significant correlations *P*-value < 0.01 between all tested continuous personal characteristics and the total knowledge score; age, total years of work experience in nursing, total years of work experience in surgical care unit, number of credit hours spent in surgical training courses, and monthly income (Table 4).

4.4. Differences in Jordanian Nurses' Knowledge in Terms of Selected Sociodemographics

The data were not normally distributed, therefore, a non-parametric Mann-Whitney U-test was employed to detect differences between medians in Jordanian nurses' knowledge of SSI prevention with respect to gender, marital status, level of education, and attending to special surgical related training course. Data analysis showed that there is a significant difference in nurses' knowledge regarding evidence based guidelines for the prevention of SSIs between those who are attending to special surgical related training course and who are not. Furthermore, there were no statistical significant differences detected in nurses' knowledge regarding evidence based guidelines for the prevention of SSIs with respect to gender, marital status, and level of education subgroups (Table 5).

4.5. Most Significant Predictors of Jordanian Nurses' Knowledge

The stepwise regression analysis was employed to determine the most significant predictors from age, gender, marital status, total years of work experience in nursing, total years of work experience in surgical care unit, level of education, number of surgical courses' accredited hours, and monthly income in predicting

Table 3. Description of nurses' knowledge level with respect to each question.

Question	Correct		Incorrect	
	N	%	N	%
1. It is recommended to protect a primarily closed incision …	106	53	94	47
2. The appropriate time to shower or bathe ith an uncovered incision is…	51	25.5	149	74.5
3. Surveillance succeeds in reducing the incidence of SSI.	54	27	146	73
4. Elective surgery on patients with remote site infections should be postponed until the infection has resolved.	139	69.5	61	30.5
5. SSIs are classified as …	72	36	128	64
6. Stitch abscesses (minimal inflammation and discharge confined to the points of suture penetration) are classified as SSI.	50	25	150	75
7. To be classified as SSI, a superficial incisional infection needs to occur …	15	7.5	185	92.5
8. If the patient's hair at or around the incision site interferes with the operation, it is recommended to remove it by …	98	49	102	51
9. The recommended time of pre-operative hair removal in elective surgery is …	72	36	128	64

Table 4. Spearman's correlation matrix between all continuous variables.

Variable		Age	TYOWEIN	TYOWEISCU	NOCH	Monthly income	Total knowledge
Age	Coefficient P-value	1.000	0.920 0.001	0.571 0.001	0.173 0.014	0.637 0.001	0.313 0.001
Total years of work experience in nursing (TYOWEIN)	Coefficient P-value	0.920 0.001	1.000	0.577 0.001	0.183 0.009	0.662 0.001	0.330 0.001
Total years of work experience in surgical care unit (TYOWEISCU)	Coefficient P-value	0.571 0.001	0.577 0.001	1.000	0.287 0.001	0.388 0.001	0.260 0.001
Number of credit hours spent in spent in surgical training courses (NOCH)	Coefficient P-value	0.173 0.014	0.183 0.009	0.287 0.001	1.000	0.180 0.011	0.337 0.001
Monthly income	Coefficient P-value	0.637 0.001	0.662 0.001	0.388 0.001	0.180 0.011	1.000	0.247 0.001
Total knowledge	Coefficient P-value	0.313 0.001	0.330 0.001	0.260 0.001	0.337 0.001	0.247 0.001	1.000

Correlation is significant at 0.01 level (2-tailed).

total knowledge regarding evidence based guidelines for the prevention of SSIs. Two variables; number of credit hours attended by nurses for surgical-related training courses and total years of work experience in nursing were statistically significant predictors of the total knowledge (Table 6). These variables explained

Table 5. Differences in nurses' knowledge with respect to selected sociodemographics.

Variable	N	*P*-value
Marital status		
Single	92	0.053
Married	108	
Gender		
Male	136	0.318
Female	64	
Level of education		
BSc	184	0.445
MSN	16	
Special surgical related training course		
Yes	50	0.001
No	150	

Table 6. Significant predictors of nurses' knowledge.

Variable	B	Adjusted R square	*P*-value
Number of credit hours attended by nurses for surgical-related training courses	0.337	0.109	0.001
Total years of work experience in nursing	0.250	0.167	0.001

16.7% of variance in nurses' knowledge regarding evidence based guidelines for the prevention of SSIs. This model was statistically significant at ($F = 20.94$, $df = 2$, $P < 0.01$).

5. Discussion

The main purposes of this study were; to assess the level of Jordanian nurses' knowledge regarding evidence based guidelines for the prevention of SSIs, to examine whether certain nurses' characteristics are correlated with their knowledge regarding evidence based guidelines for the prevention of SSIs, to evaluate the differences in Jordanian nurses' knowledge regarding evidence based guidelines for the prevention of SSIs in terms of gender, marital status, and level of education subgroups, and to determine the most significant predictors of Jordanian nurses' knowledge regarding evidence based guidelines for the prevention of SSIs.

The sample was selected conveniently to answer the questionnaire in the four targeted hospitals, which were located in the center and north of Jordan to ensure relative generalizability. The participants who met the inclusion criteria were asked to participate voluntarily in the study by signing the written consent form and answer nine multiple choice questions; where each question have four choices one of these choices was the only correct choice.

The analysis of total knowledge scores of the total sample showed that Jorda-

nian registered nurses working in acute care settings knowledge level regarding evidence based guidelines for the prevention of SSIs was low based on their median score (Mdn = 3; % = 33.3%). The sample was not normally distributed (Skewness = 0.262, Kurtosis = −0.586), so that, the median is a better representative of central tendency parameter compared to the sample mean score which assumes normality of the data (M = 3.28, SD = 1.72, range = 0 - 7). However, (Mdn = 3).

This low level of knowledge regarding evidence based guidelines for the prevention of SSIs is reflecting a serious problem that need immediate intervention in order to improve nurses' knowledge. This lack of knowledge is definitely considered as a main barrier to implement the standard of care in controlling SSIs which is negatively impact the quality of care delivered to the surgical patients, and patient's safety. This claim was congruent with [16], she believed that the poor level of nurses' knowledge regarding evidence based guidelines for the prevention of SSIs considered as a significant obstacle to complying with guidelines for the prevention of SSIs, which is risky on patient's safety and quality of care. However, in a recent study that was conducted to evaluate nurses' knowledge of guidelines for preventing infections associated with peripheral venous catheters, it found that nurses' knowledge was frequently low. It claimed that this low level of knowledge could be a potential risk factor for patient's safety [35].

The result of the total knowledge scores is congruent with other research findings which used the same tool that used in this study to assess nurses' knowledge regarding evidence based guidelines for the prevention of SSIs, it was reported that overall knowledge scores were poor (Labeau *et al.*, 2010), this result attributed primarily to nurses' misconceptions concerning the correct measures to prevent SSIs, and to controversies and contradictions between published recommendations regarding SSIs prevention. However, this result supported also by another research findings investigated nurses' knowledge regarding SSIs prevention which was describe the overall knowledge scores as inadequate [36], their results attributed primarily to lack of exposure to special training courses regarding to preoperative and postoperative nursing interventions in order to prevent SSI.

In this study, the scores that were shifted the data toward low level of knowledge could be attributed to many factors, the main important factors noticed were: firstly, the lack of exposure to special training courses regarding surgical site infection prevention, where a seventy five percent (n = 150) of study participants did not attend special training courses regarding surgical site infection prevention. This result was congruent with [36], who reported that only 6% of three hundred and thirty three nurses who work in surgical wards and operating theatre have had additional exposure to special training courses about surgical site infection prevention where the rest of the study sample (94%) did not. Tentatively, the lack of exposure to special training courses is a challenging problem facing Jordanian nurses nowadays, which may be due to the lack of conducting well-structured special courses regarding evidence based guidelines for the pre-

vention of SSIs in Jordanian public governmental hospitals despite of the availability of continuing education units in all of these hospitals, this problem may be refer to defect in continuing education programs implementation which explained by the lack of proper assessment of their nurses educational needs, and the lack of motivation from both the nurses themselves and the hospital administration. However, previous claim was supported by a Jordanian study conducted in 1999 to assess the nurses continuing educational needs. It was concluded that almost two thirds of study participants were not attended continuing education programs in the last previous year. In that study, investigator attributes his result mainly to the lack of motivation to participate in continuing education programs [37].

Nurses' misconceptions concerning the correct measures to prevent SSI was the second main factor that contributed to deviation of the total knowledge score regarding evidence based guidelines for the prevention of SSIs; twenty seven percent (n = 54) of study participants correctly recognized that surveillance as a concept succeeds in reducing the incidence of SSI without supplementary preventive measures, while seventy three percent (n = 146) did not. This result was congruent with Labeau *et al.* (2010) who reported that more than half of study participants 54% were either thought that stitch abscesses are classified as SSI, which is incorrect, or they did not know the concept of stitch abscess. However, this misconceptions may be come from the improper assessment of nurses' educational and learning needs, the lack of highlighting SSI prevention topic as a priority in continuing educational programs, and the lack of available research sources for nurses in order to update and implement evidence based practice. In a recent study that conducted in Jordan to explore the predictors that facilitate or limit research utilization among Jordanian registered nurses, it was found that the first barrier to implement research utilization was an organizational factors such as: lack of time providing by the organization to nurses in order to read research, the shortage of staff nurses hinders the implementation of new evidences, lack of availability of resources (e.g. equipment) or new instruments in the clinical areas that needed to implement some research findings, and lack of enough authority to change patient care procedures according to research findings. The second ranked barrier was the lack of consistency between education and practice in nursing, and the lack of organizational and administrative motivation for the employee to do research was ranked as the third barrier, this barrier could be explained by the lack of interest of administrators and decision makers to change [38].

Furthermore, the controversies and contradictions between published recommendations regarding nursing interventions of SSI prevention was the third main factor affect the knowledge scores; in this study, the last question of the questionnaire, which asked about the recommended time of pre-operative hair removal in elective surgery, thirty six percent (n = 72) of the study participants were answered it correctly as "immediately before surgery" and sixty four percent (n = 128) did not [39] [40] found in their clinical trials that patients who

shaved the site of surgery at the day before the surgery day developed SSIs less than those who shaved the site of surgery at the day of surgery. Moreover [26], found in their experimental study that using clipper on the night before an operation and a 50 ml chlorhexidine bath excluding head area preoperatively are useful to reduce postoperative SSI. In contrast [2], reported that preoperative hair removal must be performed as close to the surgery time as possible. However [41], conducted a systematic review regarding preoperative hair removal including eleven randomized controlled trials and they concluded that there was insufficient evidence to state when is the best time to remove hair. Such contradictory findings may affect nurses' conception regarding the proper measures to be implemented to prevent SSIs and put them in state of uncertainty.

In contrast, the scores that shifted the data toward high level of knowledge could be attributed primarily to many other factors that include: the basic knowledge that nurses had gained in their nursing schools, personal working experience in nursing, information gained through discussion with other health care providers, and information from policy and procedures. This claim is congruent with the findings of a recent Jordanian study that was aimed to explore the sources of Jordanian registered nurses' knowledge that used during their practice, it was found that most frequently used sources of knowledge are: firstly, the information gained during nursing education and secondly, the information from policy and procedure manuals [42]. Moreover, it was concordant with a study conducted in 2015 which reported that the basic nurses' knowledge of infection and its control measures come from the general information gained in basic schools of nursing [36]. However, Nurses experience can positively impact their knowledge. This idea was emphasized by Patricia Benner in 1982, when she published her theory "novice to expert" which report that the experience in clinical practice can continuously expand nurses' knowledge base; she categorized nursing experience to five levels; begin from novice who is beginner with no experience, she described the aspects of this category by; uncertainty, lack of confidence and frequent asking. Followed by the advanced beginner who characterized by the need of constant supervision; then, the competent nurse who has gained two to three years of experience in the same work area or in similar day to day situations. Thereafter, the proficient nurse who become perceive and understand the situations as a whole parts and who learned from experiences what to expect in certain situations and how to modify plans. Finally, the expert nurse who has an intuitive grasp of every clinical situations, this grasp come from the exposure to different situations and challenges [43].

Moreover, the accessibility of the information that can be gained from policy and procedure manuals and the convincing of these information put it as one of the top five sources of knowledge and let the nurses depend on these information when they need to get a fast answers for their questions in certain situations [44].

Spearman's correlations analysis were indicated that there were statistically significant relationships between all selected personal characteristics measured

at the continuous level: age, total years of work experience in nursing, total years of work experience in surgical care unit, number of credit hours spent in surgical training courses, and monthly income. The age, total years of work experience alongside income were significantly correlated at $p > 0.01$, this correlation may come from a logical link between these continuous variables, where the increase in the total years of work experience is axiomatically linked with aging and increasing monthly income and vice versa. The working experience in nursing ranked as the second source of knowledge utilized in practice among Jordanian registered nurses [42]. Moreover, Benner's theory was confirmed this idea by adopting Dreyfus brothers model of skills acquisition. However, Benner's believes that the experience in clinical settings allows nurses to continuously expand their knowledge base, and provide holistic patient care [43]. On the other side, culturally, the aging people in Jordan are supposed to be more aware, responsible, and loyal to their work. This claim may attribute to cultural issues such as; the cultural image of the older persons that is expected from them the idealism and a good reputation in their work. Alongside to the awareness of the humanitarian nursing role regarding patients' quality of life and safety.

However, in a recent study which conducted to evaluate the effects of gender, age, and educational level on the level of emotional awareness, it was reported that emotional awareness depends on the cultural context and generational societal teachings [45].

The analysis of Mann-Whitney U-test showed that there is a significant difference in nurses' knowledge regarding evidence based guidelines for the prevention of SSIs between those who are attending to special surgical related training course and those who are not. Furthermore, there were no statistical significant differences detected in nurses' knowledge regarding evidence based guidelines for the prevention of SSIs with respect to gender, marital status, and level of education subgroups. However, the statistical significant difference in participants' knowledge regarding evidence based guidelines for the prevention of SSIs between those who are attending to special surgical related training course and those who are not attributed to; nurses' exposure to the new recommendations regarding evidence based guidelines for the prevention of SSIs, and retrieving their knowledge regarding evidence based guidelines for the prevention of SSIs. Moreover, the difference between married and unmarried participants was approaching significant P-value = 0.053. Furthermore, this approaching difference can be referred to the variations between married and unmarried nurses which is attributed to; firstly, the sense of responsibility; the married persons in Jordanian culture have a bulk of responsibilities that may let them more loyal to their work and more constant. Secondly, age and goal orientation; in the last three decades the average marriage age in Jordan was raised because of the economic hardship that affect the country and other regional geopolitical events. In an article addressing changes in marriage trends in Jordan, it was report that 94% of men between ages 20 and 24 were single and 67% of women in the age of 20 - 24 were unmarried [46]. Furthermore, the older aged nurses are more aware and goal oriented compared to younger adults. However, it has been found that

goal oriented persons have more occupational well-being and work engagement than others [47]. Thirdly, the number of years of work experience; nursing experience can develop nursing knowledge, and also, it can change nurses' way of thinking and their decision making regarding serious situations [43]. And finally, monthly income was increased by aging and years of experience. This factor can directly support the marriage persons psychosocially and enhance their satisfaction to be more loyal to their work and more constant. Generally, higher income is one of the most important factors that enhance job satisfaction among California registered nurses, which primarily attributed to the sense of secure life [48]. However, the overall difference in marital subgroups in this study was negligible or inconsiderable. Moreover, Labeau *et al.* (2010) found that there was no significant difference between marital status subgroups with respect to nurses' knowledge regarding evidence based guidelines for the prevention of SSIs. However, in this study there was no significant difference in gender and level of education with respect to the total knowledge scores. In comparison to other research findings, there were a significant difference in knowledge scores of gender subgroup, where the male nurses' knowledge regarding evidence based guidelines for the prevention of SSIs were significantly better than female nurses; however, there were no significant differences in knowledge scores between the other subgroups [16].

Stepwise regression analysis was employed to determine the most significant predictors from age, gender, marital status, total years of work experience in nursing, total years of work experience in surgical care unit, level of education, number of surgical courses' accredited hours, and monthly income in predicting total knowledge regarding evidence based guidelines for the prevention of SSIs. Results showed that the most significant predictors were only two variables; firstly, number of credit hours attended by nurses for surgical-related training courses which explained 10.9% of variance in nurses' total knowledge scores. In general, it's intuitive that continuing education and training courses have a crucial role in improving nurses' knowledge. Moreover, the number of credit hours attended by nurses for surgical-related training courses reflects the time spent in studying the topic and reviewing the updates regarding evidence based guidelines for the prevention of SSIs which intuitively predict some percent of total knowledge score. However, this claim was congruent with a study that was conducted to evaluate the impact of a cancer nursing education course on cancer nursing-related knowledge, it was found that nurses who attended the nursing education course extremely improved their cancer nursing-related knowledge compared to those who was not attended [49]. Secondly, adding the total years of work experience in nursing to the regression model explained 5.8% of variance in nurses' total knowledge scores. The work experience considered as a source of knowledge as claimed by [25].

6. Study Limitations

There are several limitations in this study that need to be taken into consideration. Firstly, the major limitation of the current study was related to the main

instrument used, although it is a valid measure to assess nurses' knowledge regarding evidence based guidelines for the prevention of SSIs in Western culture, this instrument may lack the sensitivity to measure the same construct in the Jordanian culture. In addition, guidelines can change over time, thus, adaptation and re-evaluation of the instrument will be needed every time when a newly published evidence for the prevention of SSI is cited. Secondly, the use of a convenience sampling from governmental and university–affiliated sectors, and did not include nurses from military or private sector, therefore, limit the external validity (generalizability) of the results and create selection bias of the sample. Thirdly, the use of cross-sectional design considered as a weakness of this study where more controlled research design could have been employed to control for confounding variables. However, according to our knowledge, this is the first study of its kind assessing Jordanian nurses' knowledge regarding evidence based guidelines for the prevention of SSIs conducted at the national level.

7. Conclusion

The results of this study shed light on the obstacles that hamper the Jordanian nurses' knowledge regarding evidence based guidelines for the prevention of SSIs in acute care settings. However, the successful implementation of infection control measures, particularly SSI prevention measures, and well-structured continuing education programs are considered as a substantial element that would improve nurses' knowledge regarding evidence based guidelines for the prevention of SSIs and ultimately leads to positive impacts on surgical patients admitted to the acute care settings in terms of patients' quality of care, and their safety. Thus, hospital administrators and all other parties involved should continue to emphasize more on the educational needs of general nurses population, particularly those working in acute care settings in order not to compensate quality of care delivered in acute care settings. Researchers in nursing discipline must also continue exploring the factors that may significantly affect nurses' knowledge regarding evidence based guidelines for the prevention of SSIs employing well-controlled research design.

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Perspectives on Everyday Suffering among People with Adult Attention Deficit Hyperactivity Disorder and Concurrent Mental Disorders

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Abstract

The aim of this study was to describe the perceptions of everyday suffering among adults with attention deficit hyperactivity disorder (ADHD) and comorbid mental disease. Directed content analysis guided by Eriksson's theory on human suffering was performed on data from 20 individual interviews. Expressions of both suffering and well-being were identified; the former centred on loneliness and related to life, illness, and care, which supported Eriksson's theory, whereas expressions of well-being related to ADHD diagnosis and supportive social relationships. Nevertheless, results indicate the need to expand those expressions in order to better contribute to developing a supportive rehabilitation regimen that can provide more interpersonal care.

Keywords

Adult Attention Deficit Hyperactivity Disorder, Directed Content Analysis, Suffering, Supportive Rehabilitation

1. Introduction

Although research has suggested that living with attention deficit hyperactivity disorder (ADHD) can be a strength, the disorder nevertheless affects many aspects of health, beginning in early childhood and continuing throughout adulthood [1]. ADHD affects individuals of all ages, who as a result of the disorder face more challenges than the general population [2] [3]. Roughly 70% to 80% of adults with ADHD also have at least one psychiatric disease, including depres-

sion, anxiety, substance abuse, personality disorder, or autism spectrum disorder. This complicates the diagnosis of ADHD since these conditions overlap [4] [5]. Adults with ADHD often suffer from a wide range of social, emotional, and psychological problems that affect both their professional and social lives [6].

ADHD negatively impacts adult's well-being across a number of domains and generally diminishes quality of life [7]. At one extreme, ADHD has shown a strong relationship with suicide [8]. Less drastically, several studies have described the burden of living with ADHD in experiences that are highly similar across various cultures [2].

Many adults with ADHD have reported struggling to receive correct diagnoses, and though such diagnoses have improved their lives, the lack of professional help was perceived to be disappointing [9]. Many adult sufferers wish to find additional support in order to increase their self-knowledge, achieve greater acceptance of imperfections, and receive positive feedback for their gifts, talents, and skills [9].

Traditionally, patients receiving psychiatric care suffer when they are negatively judged [10]. In particular, people with ADHD diagnoses are more likely to be stigmatised both in public and by healthcare professionals, both of which strongly affect their life satisfaction and mental well-being [11]. Studies have provided valuable insights into the burden of diagnosis, treatment, and the everyday needs of adults with ADHD. Above all, recognising and alleviating suffering may be the most important ethical rule in mental healthcare practice. In rehabilitation support, it is also vital for healthcare practitioners to learn how to understand and help adults with both ADHD and concurrent mental disease in their suffering.

Even so, current understandings of adults with ADHD and their daily suffering remain limited. According to Eriksson [12] suffering is linked to the concept of health. It is associated with illness and treatment, and manifests in the form of physical pain, spiritual and mental suffering [13] [14]. According to the basic of nursing care, it is always important to protect human dignity [12]. Self-dignity may be noted in how care providers support and respect a person's dignity during rehabilitation [15]. However, few studies have elucidated concepts of suffering or developed more supportive, individual rehabilitation regimens for adults with ADHD and comorbid mental disease, despite the importance that persons with ADHD explore their individual expressions of suffering. In response, the aim of this study was to describe the perceptions of everyday suffering among adults with ADHD and comorbid mental disease.

2. Method

2.1. Design

The study was conducted in autumn 2015. This study adopted a qualitative approach that allowed for nuances, details, and reflections [16]. The design em-

ployed a directed approach [17] [18] guided by existing theory adhering to Katie Eriksson's framework on human suffering, which the study sought to validate or extend, if not both. Such a method afforded the inclusion of deductive thinking in qualitative research to facilitate the development of theory and science [19].

2.2. Setting and Participants

Participants lived in one of two counties in the north of Sweden. Participants were recruited through collaboration with the national association Attention, an interest group for people with neuropsychiatric disabilities, as well as via radio and newspaper outlets and open psychiatric clinics. Eligible participants received written information about the purpose and procedure of the study, and individuals who wished to participate were instructed to contact the "researchers" by phone. In all, 20 participants (10 women and 10 men, aged 19 - 57 years) provided their consent to be interviewed. Inclusion criteria of ADHD diagnosis and concurrent mental disease were confirmed, according to DSM-5 (see **Table 1**) [20]. The exclusion criteria were acute mental illness, active substance abuse, inability to speak and read the Swedish language, or mental retardation.

Most of the participants in the present study received their diagnoses late in life which also may have contributed to the development of other psychiatric disorders, see **Table 1**.

2.3. Data Collection

Each participant's written consent was collected, and each participant decided on the time and place for his or her interview. Interviews were constructed following Kvale's [21] approach for addressing all aspects of suffering described by Eriksson [13] [14]. Using stories as a data collection method is supported by Sandelowski [22], who has argued that an individual's story gives important information about the narrator—that we are the stories that we tell—and that each story addresses the past, present, and future. Simultaneously, questions were formulated openly to capture unexpected elements and unique experiences. Initially, interviewees were asked to speak openly about their experiences of living with ADHD. The following primary questions guided the conversation:

- Would you please tell me about your daily life and how you experience it?
- Would you please tell me about an incident of good health and not-so-good health that you have experienced?
- Would you please tell me about your daily life before and after you were diagnosed with ADHD?

As stories unfolded, more targeted questions were posed to interviewees about their perceptions of daily suffering. The first author (AB) conducted and audiotaped all interviews, which lasted 60 to 90 min, and the second author (YR) transcribed all interviews verbatim. All interviews were conducted at the university office.

Table 1. Demographic characteristics of participants ($N = 20$) %.

Sex	
Male	50
Female	50
Partner status	
Partnered	50
Divorced/single	50
Children	
None	65
Yes	35
Age at interview (in years)	
18 - 21	15
24 - 26	15
30 - 34	30
36 - 43	30
48 - 56	10
Years of education	
8 - 9	5
11 - 12	65
14 - 15	30
Age when diagnosed with attention deficit hyperactivity disorder	
Childhood	15
19 - 24	35
25 - 30	5
32 - 38	30
40 - 56	15
Employment status	
Working	30
Unemployed	25
On sick leave	30
Studying	15
Additional diagnoses (Several may have dual diagnoses)	
Depression	60
Anxiety	35
Obsessive–compulsive disorder	5
Bipolar disease	10
Asperger syndrome	20
Tourette syndrome	5
Post-traumatic stress disorder	5

2.4. Data Analysis

Directed qualitative content analysis [17] [18] was chosen for analysis. The chief strength of that deductive approach is that it facilitates the corroboration and extension of existing theory [16]. By applying Eriksson's [13] [14], theoretical framework on human suffering, analysis aimed to make deductions from content about suffering related to life, illness, care, and adult ADHD and concurrent mental disease.

The analysis involved several steps. In general, complete interview texts were considered to be the units of analysis. Because the data already represented an interpretational dimension of participants, manifest content was primarily sought. All interviews were read several times in order to gain a sense of the whole. Data were reviewed to identify meaningful units that corresponded with or exemplified a predetermined coding scheme (*i.e.*, pre-determined categories for suffering). In a subsequent step, meaningful units that did not represent suffering because they appeared to fit into additional categories were inductively analysed. All meaningful units were condensed, compared, and abstracted into subcategories and then into primary categories. The logic of analysis was constantly tested by alternating between the transcribed text and the developed categories [17]. The initial analysis, performed by the first author, became the subject of reflexive discussions between all five authors. De-contextualized findings were re-contextualized, reflected upon, and challenged from various angles [23]. To achieve trustworthiness, all authors were involved in the interpretation of findings until consensus was reached [24].

2.5. Ethical Considerations

In accordance with the requirements of the Helsinki Declaration, written informed consent was obtained from each participant. The Regional Ethical Review Board in Umeå (granted permission for the research (no. 2015/51-31)).

3. Findings

Participants revealed experiences of both suffering and well-being in their daily lives. Our analysis resulted in predetermined codes/categories in terms of expressions of suffering; suffering related to life, suffering related to illness, suffering related to care, as shown in **Table 2**. Category in terms of expressions of well-being; subcategory Well-being related to ADHD diagnosis and Well-being related to supportive relationship as shown in **Table 3**.

3.1. Expressions of Suffering

Suffering related to life

Adults with ADHD and concurrent mental disease revealed that suffering related to life could include anything from existential threats to a compromised ability to feel a sense of purpose in various social endeavours. Suffering related to life emerged in all areas of daily life and included problems with school or work, as well as social hardship with family, friends, and colleagues. Feelings of

Table 2. Overview of the deductive analysis according to the predetermined codes/categories in terms of expressions of suffering.

Interview text	Condensed meaning	Subcategory	Categories/predetermined codes
"I find it difficult to maintain lasting social relationships. I have experienced a lot of conflict in social relationships. I have always been troubled by that. In my workplaces, it has been difficult because of conflicts. My boss was horrible... and also a contributor, so I went on sick leave" (W, 37 years old).	Struggling with recurrent conflicts in social relationships	Expressions of suffering	Suffering related to life
"I was very depressed, and then I drank alcohol. I have a lot of aches and pains in my neck and shoulders... If you are obliged to sit still too much, you become awfully stiff and get more pain and become even more irritated" (M, 32 years old).	Struggling with psychiatric and physical symptoms	Expressions of suffering	Suffering related to illness
"I have had a lot of problems with mental healthcare. A doctor said that I had bipolar disorder, and I got medication for it. I had to take it for several years. It did not help... The side effects from medication were severe... I became so angry. I hated the doctor" (W, 39 years old).	Feelings of anger and hate when treated for the wrong diagnosis	Expressions of suffering	Suffering related to care

Table 3. Overview of the inductive analysis related to expressions of wellbeing

Interview text	Condensed meaning	code	Subcategory	Category
I find it more difficult to identify myself. It is a big positive difference to be diagnosed… (Female)	Diagnosis could give identity, and is mainly positive.	Diagnose	Well-being related to ADHD diagnosis.	Expressions of well-being
When I forget to eat, my husband who also is a chef reminds me of that. He is very health conscious person and make sure that I eat healthy food. He tells me to eat and even if I do not want to eat as he says I have to…… (Female)	Experience of having a supportive family relationship.	Relationship	Well-being related to supportive relationship.	

being different were experienced by some participants before the age of five years and by others when they started primary school; in both cases, the feelings affected their self-esteem. Conflicts and difficulties with listening and coordination in gymnastics at school, for example, strongly affected some participants' self-esteem. As one participant reported:

It was painful because I did not understand what they yelled at me over... [and] difficult when my parents had to go from work all the time to take me home... There were several times when... I tried to kill myself... I was 11 or 12 years old (Male participant).

Some participants expressed sadness, anger, or feelings of unfairness, guilt, and shame, and some used avoidance strategies such as isolating themselves to cope with their situations and thereby experienced loneliness. Some expressed suicidal thoughts. One woman expressed that she had very low self-esteem and felt strong self-hatred. One man reported that he felt so mentally exhausted that he often vomited when he came home from school. Unfortunately, experiences of teasing at school and having no close friends were common among participants.

Employment usually resulted in participants' first contact with healthcare services. Several participants described feelings of stress, problems with sleeping, and conflicts with colleagues, as well as a lack of structure and high expectations

put upon them. Tiredness after a day at work was described as paralyzing and negatively influential on social interactions, which often prompted greater feelings of loneliness. As one man stated, "I worked, slept, and had no social life at all".

Suffering related to illness

Adults with ADHD and concurrent mental disorders were found to suffer from physical, psychological or existential pain. Many participants said that they often suffered from insomnia as well, which gave them the feeling of being as tired as a zombie and useless, in addition to emotions of worthlessness, loneliness, and anxiety and even suicidal ideation. Others reported suffering from bodily pain, including headaches, joint pain, and muscle aches. A female stated, "Physically, I am so bothered by headaches that come and go and pain in my joints and muscles. I have pain in my neck, on my back". Others reported that they suffered from forgetfulness, which resulted in feelings of confusion and even panic attacks. One man described his discomfort with forgetting things and his fear of harming his children as a result. He said that he sometimes forgot to give them food, which made him feel a constant, nagging anxiety and sometimes even experience panic attacks. Lost support described by several interviewees prompted their feelings of loneliness and depression.

Another woman described how her great supporter in life—her mother—passed away, after which she ended up with major depression that lasted for several years. Numerous participants described that they had great stores of energy and were industrious at work, but could nevertheless suffer from exhaustion or depression. "The job was so fun, so I was there all of the time" one interviewee described. "But there was a major reorganisation at work... in the end... I entered into a deep depression" (Female participant).

Major problems in achieving structure in daily life and planning (e.g., planning meals or sleep time, taking medication correctly, and performing physical activities) were also described to be quite difficult. Many participants considered taking care of their health to be increasingly important over the years, and some expressed that the greatest challenge was simply finding the motivation to initiate tasks. Many found it difficult to eat balanced meals and described their diets as consisting mostly of fast food. Some said they could eat the same food every day for a week or so, and several described that even when they felt hungry, it was so difficult to get into meal routines that they did not bother to or forgot to eat. Several participants reported they had no energy left after their workday to cook or even think about what they would eat for dinner. According to a female participant, "Food has always been difficult... cooking dinner and getting it ready by a certain time... I feel stressed out... then I start to feel bad mentally". Some participants gained weight and feared getting diseases such as diabetes or heart disease because of their poor diets and lack of physical activity.

Suffering related to care

Suffering related to care occurred during visits to hospitals or primary healthcare professionals and could refer to various healthcare professionals. Many par-

ticipants described that kind of suffering in their healthcare histories as they struggled to obtain an ADHD diagnosis. Several concluded they had ADHD based on information found online. However, they did not feel that the healthcare staff listened to them, and they felt a sense of being misunderstood and expressed feelings of powerlessness. When recalling such situations, interviewees became very emotional and expressed great disappointment over the loss of self-esteem and feelings of having wasted their lives. Some participants burst into tears, and others expressed anger.

Distrust of healthcare professionals was common among participants. Several reported that they were treated for a variety of psychiatric diseases before getting correct diagnoses, and many felt disappointed and lonely due to their diagnoses and lack of sufficient care. One man said that he did not receive any support from healthcare staff for his ADHD diagnosis; consequently, he paid for a private investigation that cost him an entire month's salary. For many, when a correct diagnosis was finally reached, they described experiencing a loss or lack of care, receiving only medical treatment, and feeling that they had been left alone, which saddened them. One said:

I did not receive much help from healthcare after my diagnosis, either. The mental healthcare staff prescribed medicine and then follow-up meetings to ensure that the medicine worked. It often did not work well... I tried cognitive behavioural therapy and sleep school, and nothing helped me (Male participant).

Nursing care, support, and treatment were absent in most cases. Although some participants reported receiving numerous treatments, including cognitive behavioural or dialectical behaviour therapy, they said that they felt even lonelier and wished for more professional support.

3.2. Expressions of Well-Being

Well-being related to supportive relationships

Having supportive relationships with family and familiar people was pivotal for participants' feelings of well-being. All participants were convinced that the family's presence and care had contributed to their well-being, and they described the importance of love, practical support, and understanding, all of which helped them to recover. Good friends as well as teachers provided practical support and helped to inspire hope in life, which contributed to their well-being. One woman shared her experiences with stress in school and keeping track of all of the classrooms, her schedule, and her books by saying, "I made it in school because my classmates helped me and took control".

Family members also provided safety and were important for participants' commitment to daily routines. Several participants described family support as a reason for receiving an ADHD diagnosis late in life. One woman said she managed her life thanks to her mother's structuring her days for her and provision of both support and advice. A man described how his wife gained an understanding of his disability and thus took greater responsibility for structuring the daily lives of the entire family. Supportive care from relatives was also men-

tioned as a means by which good and healthy food could be obtained. Participants described how family support throughout their lives provided strategies for them to deal with their difficulties and how relatives and friends could confirm their challenges could be assets.

Other ways to experience feelings of well-being included being active and participating in various physical activities. Many participants described feelings of increased well-being when performing physical activities with others in groups. Others said that relationships with animals and beautiful natural surroundings effected feelings of inner peace. As one participant reported,

I think that my solution is to try to run as much as possible and work out with the dog. When running so much, I become so exhausted that I can relax. Short explosive workouts work the best for me (Female participant).

Daily activities such as at work were also conceived to be key components for experiencing well-being. Feelings that meant something and furnished structure in everyday life eased anxiety and improved self-esteem. As one man stated, "The positive aspects of a working life are that you feel more independent and experienced—that you are a part of society in some way—and not so lonely".

3.3. Well-Being Related to ADHD

Positive experiences in obtaining an ADHD diagnosis dominated among participants. The diagnosis was often used to explain a past of even more difficult life situations and seen as a tool to gain more self-awareness and help with self-care strategies. Being diagnosed was also connected to a more supportive environment involving increased support from healthcare staff and the workplace and more understanding from friends and close relatives. Participants described positive feelings when taken seriously, believed, and listened to in meetings with healthcare workers. Nursing care staff showed that they understood the disability (e.g., with reminders sent before doctor's appointments) and gave a sense of well-being.

My life has become better now after the ADHD diagnosis. There is now an explanation for why I do not function like other people. I now know how to handle difficulties. With medication, it is easier to have focus and to concentrate. I feel better mentally and have energy around other people. Life has been much easier, but it is still not good (Female participant).

4. Discussion

Adults with ADHD and concurrent mental diseases were asked to relate their experiences with ADHD during their daily lives. Results revealed expressions of both suffering and well-being. According to Eriksson [13] [14], suffering is a fundamental part of human existence and can be divided into three dimensions: suffering associated with life, suffering associated with illness, and suffering in care. In short, the descriptions of suffering by participants were consistent with Eriksson's theoretical framework of human suffering.

The study suggests that suffering related to life can be understood as not only

a mental health problem, but also as a life experience found in a person's life story. Individual narrations afforded an opportunity to grasp a more comprehensive picture than what might have been possible if a more symptom-focused approach was used [22]. Participants' narratives seemed to describe deep suffering from as far back as childhood and little about future goals. Their lives seemed marred by conflicts at school and work and even on sick leave. Participants expressed feelings of guilt concerning others, of high expectations at work, of not to be believed, and of loneliness and alienation.

Many participants described feeling loneliness and engaging suicidal ideation throughout their lives. Such results confirm earlier reported feelings of loneliness and suicidal thoughts [25]. Loneliness seemed to stem from feelings of being different, which most participants expressed experiencing since early childhood. Loneliness is strongly associated with suicidal behaviour, even among the general adult population, and there is a strong connection between ADHD and suicide [8] [26]. Such a conceptualisation aligns with Eriksson's [13] view that the deepest feeling of loneliness is the deepest sense of suffering.

Among other results, suffering related to illness referred to various symptoms of ADHD, as described in other studies [7] [27] [28]. Loneliness could prompt depression and hyperactivity, even psychosis, depression, or burnout, while forgetfulness could be expressed in feelings of anxiety and precipitate panic attacks. Lack of motivation, planning, and structure were experienced as being stressful and to cause unhealthy lifestyles, marked by a fear of somatic disorders and obesity. This finding coincides with Eriksson's theory, which holds that illness-related suffering is experienced as physical pain originating from disease or its treatment and that spiritual pain originates from feelings of being belittled [13]. Some informants told stories about a weakened, powerless body, while others described increased bodily and spiritual pain, both of which are experiences described in other studies as well [29]. Basic symptoms of ADHD posed enormous consequences of suffering, and some participants were so devastated that they recounted thinking about death as a way to avoid the suffering caused by psychiatric disease.

Suffering related to care often meant struggling for an adequate diagnosis. Participants described being met with aggressiveness from healthcare staff who did not take their suffering seriously. Misdiagnoses and medication for other mental illnesses with serious side effects commonly occurred. Such situations could, in the worst case, last for several years and lead to disappointment and lack of confidence in healthcare. As found in earlier research, suffering associated with care includes various forms of neglect, condemnation, and punishment [13]. Neglecting or being denied help by healthcare professionals was perceived to generate the pain of both increased anxiety and feelings of disappointment, which escalated into physical pain. As the results of other studies have shown, interviewees have stated that much of their suffering could have been avoided if they had received the diagnosis earlier [30] [31] [32]. The findings confirm that suffering can prompt feelings of alienation, both from others and

from oneself. Suffering is an ontological and inevitable part of life and that interacting with others and developing as individuals occur at the same level. In that sense, suffering and well-being are strongly linked, and the concept of well-being in participants in the present study arose as entrusted suffering [33] [34] [35]. When a person is affected by ADHD, health may include the ability to adapt and self-manage in the face of social, physical, and emotional challenges (e.g., bodily functions, mental functions, existential and social dimensions, and daily functioning). Results confirm those of other research showing that undiagnosed ADHD is a risk that strongly and negatively influences a person's daily life in social, behavioural, and intellectual aspects [36]. Participants in the present study indicated that it also increased feelings of hopelessness, loneliness, and thoughts of suicide.

Edvardsson [37] has explained that healthcare staff who do not act from a patient-focused perspective often appear untrustworthy to patients and unable to understand them as individuals. This dynamic creates an unstable staff–patient relationship that may have a detrimental effect on patient health. All three kinds of suffering found in the analysis were interpreted to result in feelings of alienation and loneliness. Well-being was interpreted to counteract the alienation inherent to suffering by representing feelings of connectedness to other people.

Participants additionally described a longing for good interpersonal encounters. According to Eriksson [12], a caring conversation about suffering could be a turning point in life toward maintaining relationships with oneself as well as others. Such situations might arise, for example, when healthcare workers show genuine interest by confirming patients in their suffering. Such a response may be seen by an ADHD sufferer as an expression of togetherness. As earlier research has attested, all forms of care constitute variations of human togetherness [38].

To enter into togetherness means to create opportunities for another person. Togetherness in care is described as a healing process for both the patient and caregiver and constitutes a foundation for health. According to Buber [39], life involves gatherings and meetings; as humans, we are born into togetherness with other people, and that togetherness may be seen as a foundation for all humanity. In the present study, participants' feelings of being viewed as people with individual needs could also facilitate their sense of well-being and health. Being met as a person with a body, soul, and spirit is about viewing a person with unique features. A patient's world, vulnerability, health, and suffering are primary, and in the art and act of caring, relationships and dialogue are essential [40].

Participants were exposed to suffering related to life, illness, and care, which they sought to alleviate via various forms of well-being. Even so, they were all exposed to feelings of loneliness, social exclusion, and poor self-confidence, which affected their lust for life. According to Eriksson [13], suffering related to care is an unnecessary suffering that can largely be eliminated if a more humane perspective permeates the healthcare environment. According to Westin and

Danielson [41], encounters based on confirmation—that is, seeing, listening to, and understanding others and taking them seriously—will evoke feelings of being valued and respected as unique individuals, which can increase feelings of well-being.

5. Methodological Considerations

Using a qualitative method involving deductive content analysis following the theory proposed by Eriksson, this study revealed suffering to be the most suitable way of understanding the life situation for adults with ADHD and concurrent mental disease. A deductive approach was best suited to the research question, aim, and chosen theoretical framework of this study. Using a deductive approach allowed the examination of Eriksson's theory in consideration of real situations of suffering.

However, the method also affected the interpretation of data collected. The disadvantage of deduction is that it accepts old assumptions about reality as correct, meaning that there is a risk that new discoveries will disappear [17] [23]. The intention of using a theoretical framework for suffering could challenge traditional qualitative approaches and be understood as biased in being driven by theory [18].

To overcome that problem, texts were analysed as if they were not solely about suffering. Separately and inductively, a second category called expression of well-being emerged. The entire research process was performed with an awareness of trustworthiness in terms of credibility, transferability, confirmability, and dependability [24].

Twenty participants were enrolled through purposeful sampling, which resulted in rich interviews with informants who were willing to share experiences from their daily lives. Because individuals who were included had accepted an invitation to participate in a lifestyle program, their willingness to participate could have affected the results. According to Malterud et al.'s discussion of sample size and information power in qualitative studies, ten men and ten woman (n = 20) participated in this study [42]. Apart from that, the so-called "information power" in the study was reasonably strong in fulfilling the aim of the research. The sample included with both men and women of various ages and life circumstances, and an established theory and analytical strategy were used [23].

Semi-structured interviews did not directly mention suffering, which afforded participants the opportunity to freely describe their life experiences as guided by follow-up questions with the purpose of capturing suffering. Some participants said they found it important and interesting to participate in the research so that they could contribute to current knowledge. For them, the interview was an important conversation in which they were given the opportunity to discuss their difficulties in various life situations. In the analytical process, content analysis and predetermined codes revealed that the subcategories corresponded well with the content and aim of the study. All five authors were involved in analysis in order to achieve more trustworthiness.

6. Conclusions and Implications

Adults in this study experienced suffering related to their disability (ADHD). They expressed loneliness in suffering related to life, illness, and care, and some reported previously thinking that suicide was an escape from such suffering. They described aspects of well-being that contribute to health despite the presence of suffering: feelings of being in relationships with others and having explanations of their suffering. In sum, the care needed for the population studied remains short of ideal. There are ways to improve the quality of care, not the least of which is avoiding unnecessary suffering. Despite their expressions of well-being, feelings of loneliness and disappointment seemed permanent. Examining the population's expressions of suffering and well-being can facilitate approaches toward deeper understandings of adults with ADHD. Results indicate a need to review and possibly expand perspectives on suffering and well-being, and those findings can contribute to increased knowledge about how to develop supportive rehabilitation regimens for the population that involve both individual and interpersonal care, especially in social relationships.

The main results of this study were that adults with ADHD and concurrent mental disorders must be taken seriously, because their suffering is an obvious risk of suicide. It is important that nurses take consideration to suffering in terms of constant feelings of being different as well as multiple conflicts in social life. Moreover, suffering could also be expressed in form of bodily pain. Many participants also had poorer diet, lack of physical activity and expressed feelings of powerlessness in healthcare. A lifestyle program led by nurses could contribute to care and rehabilitation in mental, physical and social health.

Conflict

This paper has given full ethical approval from the The Regional Ethical Review Board in Umeå (granted permission for the research (no. 2015/51-31)). There is no funding given for this research. Disclosure: There is no conflict of interest.

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Development and Evaluation of Korean Nurses' Core Competency Scale (KNCCS)

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Abstract

Purpose: The purpose of this study was to develop and evaluate a Korean Nurses' Core Competency Scale (KNCCS). Methods: This methodological research was conducted over two major steps. The first step involved developing a preliminary 70-item KNCCS based on an extensive literature review and the standards and criteria proposed by the Korean Accreditation of Nursing. The second step involved evaluating validity and reliability of the KNCCS. 528 newly graduated nurses recently employed in nine major hospitals were participated in this research for validation. Results: The final KNCCS consisted of 70 items. The exploratory factor analysis identified five subscales under which each item could be categorized: 1) human understanding and communication skills; 2) professional attitudes; 3) critical thinking and evaluation; 4) general clinical performance; and 5) specific clinical performance. Conclusion: The KNCCS shows good reliability and validity. However, the test of both criterion and construct validity were recommended further.

Keywords

Competency, Scale, Nursing Education, Korea

1. Introduction

Nurses compose over a third of the workforce in hospitals, providing clinical and nursing care around the clock often in a collaborative multidisciplinary approach [1] [2]. The competence of nursing students is related to the quality of nursing care they provide, their cooperation with individuals from other disciplines and services, and, ultimately, patient health and safety. Inasmuch the professional standards of nurses rely on their competency, evaluating nurses' competence is an important and fundamental issue in healthcare.

Nursing education programs provide the education and training needed to

foster strong core competencies in nursing students. The vast amount of literature on measuring nursing core competency and factors related to it indicates how importance of such performance indicators for health professionals. This is unsurprising because the core competency of nurses is a measure of their ability to carry out nursing tasks at a professional level. Core competency is known to be influenced by various factors such as clinical environment, knowledge, technical skills, decision-making skills, and abilities of a nurse [3]. In nursing education, it is defined as the performance level a candidate must demonstrate to graduate from the baccalaureate nursing education program. The assessment of the core competencies of graduating nurses has been based on variables such as education goals and the curricula of baccalaureate nursing education programs [4] [5].

Notwithstanding this, the assessment of nurses' core competency, as shown in the Korean literature, has been performed without an agreement on competence domains among researchers, leading to difficulties in generalization and applicability of findings [6]. This has also resulted in inconsistencies in terminology and their definitions. For instance, terms such as nursing core competence [7], professional nursing competence [8], and clinical competency [9] [10] [11] have been used interchangeably without clear grounds to do so. In addition, most scales that assess nursing core competency lack a clear conceptual framework or have applied those of foreign scales without making the necessary adaptations to the educational context specific to Korea. Thus, there is a clear need for a standardized rigorously validated core competency scale that accurately assesses how well equipped are graduating baccalaureate nurses in the Korean context.

To this end, we developed a scale that quantitatively measures the core competencies of Korean nurses on the basis of an extensive literature review of preexisting tools by a pilot test of a preliminary competency scale. A validation of the KNCCS was carried out in this actual study to assess its reliability and validity.

2. Methods

1. Study design

This study was designed with methodological study for developing and evaluating the instrument to measure nurses' core competencies of nurses in Korea.

2. Participants

The total population of the pilot study comprised 615 graduating baccalaureate nurses. They were recently hired employees at nine Seoul-or Gyeonggi-based secondary hospitals and tertiary hospitals and were awaiting practical orientation at their new employment. Of the 615 nurses, 528 nurses who agreed to the aims of the study and gave their informed consent volunteered. The 70-item self-assessed questionnaires were distributed to the nurses at the hospital and retrieved through a deposit box. The response rate was 85.8% and the subject per item ratio was 7.5, well met for general rule of scale development of 5 to 10 subject per item ratio.

3. The instrument

We developed a preliminary scale composed of a self-assessed questionnaire on general characteristics and core competencies. This preliminary KNCCS was based on core and clinical competence scales developed in other countries. Content validity of the preliminary scale was assessed by a content expert panel consisting of nursing professors and of educators from health care institutions who coach novice nurses. The 70 item-preliminary scale was constructed into 5 sub-domains or subscales (critical thinking, clinical performance, communication skills, human understanding, and professionalism and ethics) (Table 1), and each item was rated using a 5-point scale with the following rating continuum (1 = *strongly disagree*; 2 = *disagree*; 3 = *neutral*; 4 = *agree*; and 5 = *strongly agree*). We developed seven binary or multiple-choice items pertaining to general characteristics: specifically, age, sex, religion, and the type of nursing education programs and three items on a 5-point scale on self-efficacy including self-appraisals of their performance during the baccalaureate program; self-appraisals of their nursing competence during clinical training; and the level of confidence in their own competence.

4. Data collection and analysis

For the data collection, we recruited participants from nine nursing departments of either secondary or tertiary major hospitals in Seoul or Gyeonggi region. Recently graduated nurses who approved the study rationale and volunteered to participate were recruited. By choosing the hospitals that employ nurses without regional discrimination, we were able to eliminate any geographical bias in the participant selection process. We explained the rationale of the study and the overall plan to the nursing managers of the hospitals and received their approval for participant recruitment, after which the same explanation was given to newly graduated nurses awaiting their practical orientation at the hospital. We distributed our preliminary KNCCS to the participants who after self-assessment, sealed the questionnaire into an envelope themselves and placed it into a deposit box anonymously. The collected responses were codified and statistically analyzed. The explanatory factor analysis was performed using SPSS program.

5. Ethical considerations

The study was approved by the college's Institutional Review Board (IRB

Table 1. Proposed preliminary Korean nurses' core competency scale.

Sub scales	1	2	3	4	5
Labeled name	Critical thinking	Clinical performance	Communication skills	Human understanding	Professionalism & ethics
Number of items	12	21	13	10	14
Item example	Based on nursing assessment, I can do nursing diagnosis and choose the best intervention	I can carry out appropriate nursing assessment skill including history taking and physical examination	I can perform therapeutic communication skill	I can understand my patient who has spirituality	With recognition of my institutional philosophy and policy, I can follow it as a health professional

2009-0018). We ensured that the participant recruitment process permitted only those who gave their informed consent. Data collection and data analysis were conducted in a way that guaranteed protection of sensitive, personally identifiable data and anonymity of participants. And the following instructions were adhered to: 1) the patients' informed consent forms were collected separately from the questionnaires; 2) the self-assessed questionnaires were sealed and placed in a deposit box by the participants themselves. Additionally, although the nurses had not even begun the hospital practical orientation at the time of self-assessment, we still made clear that participants declared any potential conflicts of interest between them and the institutions; and lastly; 3) the questionnaires and its parts were handled as unique codes for analysis purposes.

3. Results

1. Developing the KNCCS

1) Development of the KNCCS

We developed a preliminary scale to assess Korean nurses' core competency. This pilot instrument in the form of a questionnaire was structured into a 5-domain framework as an outcome of an extensive literature review. The items in the scale were created following the frameworks already outlined in nursing core competence scales developed elsewhere.

Our questionnaire comprised five main competence domains: 1) Critical thinking; 2) Clinical performance; 3) Communication skills; 4) Human understanding; and 5) Professionalism and ethics.

We defined *Critical thinking* as the process of problem-solving and decision-making, drawing upon various cognitive skills as the process requires, such as analyzing, evaluating, and collecting; inference, inductive, and deductive reasoning; prioritizing; and applying knowledge. Items used to measure this domain covered ideas of problem perception, evidence-based nursing practice, prioritizing issues, applying standards to multiple complex principles, clinical decision-making, and holistic nursing. We defined *Clinical performance* to constitute clinical application of the nursing process (including patient data collection), basic nursing skills, and teaching and supervising. Items on patient assessment, application of the nursing process, technical and clinical skills, use of medical equipment, documentation and information technology, clinical intervention, understanding and applying complementary alternative medicine, emergency and critical care, nursing of dying patients, nursing education, and transitional care were used to measure this domain. *Communication skills* refer to the ability to communicate with patients and their families, with colleagues, with nursing students, and with interdisciplinary teams. The items used to measure this domain included content on communication and on modes of communication. We defined *Human understanding* as the ability to make a differentiated approach to interpersonal relationships by being aware of the distinct needs of colleagues, patients, and families. The items used to measure this domain assessed, for example, a nurse's ability to discriminate the physical, mental,

social, and spiritual needs of patients and, hence, to provide differential nursing based on this needs assessment. *Professionalism and ethics* refers to the conduct of good nursing practice following legal and ethical principles, to continual professional development, to the provision of the highest standard of nursing care through collaboration, social participation, and quality improvement. Specifically, items measuring professionalism covered topics on ethical nursing practice; professional development; and professional attitudes. Those measuring accountability covered areas of delegation and personal and professional development. Specific examples of items in each domain are shown in **Table 1**.

2) Validity of the scale using the content validity index

The content validity of the scale was confirmed using the method devised by Polit & Beck [12]. We measured the content validity index of the overall scale (S-CVI), the proportion of items on a scale that achieves a relevance rating of 3 or 4 by all content experts (S-CVI/UA), the average of the I-CVIs for all items on the scale (Scale-CVI/Ave), and the content validity index of individual items (I-CVI) [12]. The seven expert panels who evaluated the relevance of each item in the scale were nursing professors with at least 20 years' experience in nursing education. The scale's content was rated in terms of its relevance to the construct being measured with a questionnaire developed by Lynn (1986). Each item was rated on a 4-point scale to avoid having an ambivalent midpoint (1 = *not relevant*, 2 = *somewhat relevant*, 3 = *quite relevant*, 4 = *highly relevant*), and the individual I-CVI ratio was computed as the number of 3 or 4 ratings, thus dichotomizing the scale into either *relevant* or *not relevant* [13].

The content validity analysis of the KNCCS revealed only 30 items whose content was judged as being relevant by seven expert panels unanimously, scoring an S-CVI/UA of 0.43. The S-CVI/Ave was 0.86, and the range of the I-CVI was 0.14 - 1.0. Our validity testing also showed that seven items had an I-CVI of less than 0.7 (item 17; item 24; item 26; item 38; item 54; item 55; and item 56).

2. Validating the KNCCS

1) General characteristics of respondents

The participants for the pilot testing of KNCCS included 528 graduating nurses. The majority of participants were women (95.5%), and the mean age of the graduating nursing students was 24.6 ± 1.7 years (range, 22 - 33 years). The majority of participants were either Christians or Catholics (53.6%). We found that 75% of respondents were baccalaureate graduates from either a traditional BSN program or a RN-BSN program. On a rating continuum from 1 to 5 (1 = *least competent*; 5 = *most competent*), the participants self-appraised their performance during the baccalaureate program as 3.68 ± 0.66; their nursing competence as 3.73 ± 0.66; and their level of confidence as 3.78 ± 0.73 (**Table 2**).

2) Reliability

The reliability of the KNCCS was assessed through an item analysis in terms of initial reliability and test-retest reliability. The item analysis revealed that none of the items showed an item-total correlation of less than 0.3 and that the item-total correlation ranged between 0.470 and 0.700 for all items. When we

Table 2. General characteristics of respondents.

	Frequency (Valid percent)	(*N* = 528) Mean ± SD (Range)
Gender		
Female	504 (95.5%)	
Male	24 (4.5%)	
Age (yr)		24.6 ± 1.7 (22 - 33)
Religious affiliation		
Protestantism	201 (38.1%)	
Catholicism	82 (15.5%)	
Buddhism	30 (5.7%)	
None	214 (40.5%)	
Other	1 (0.2%)	
Educational background		
3-year community college	126 (23.9%)	
Traditional BSN	385 (72.9%)	
RN-BSN	11 (2.1%)	
Double Major/Others	6 (1.1%)	
Self-recognized accomplishment		3.68 ± 0.66 (1 - 5)
Self-evaluated nursing practice		3.73 ± 0.66 (2 - 5)
Self-efficacy		3.78 ± 0.73 (1 - 5)

computed the initial reliability, we found that our preliminary KNCCS showed a Cronbach's alpha coefficient of 0.97. To check the consistency of results, 42 nurses from one hospital (8% of the study population) were asked to repeat the questionnaire. The retesting was performed within a period of 10 days of the first testing (still before their practical orientation, to calculate the test-retest reliability; the resulting correlation coefficient was 0.84 (Confidence Interval = 0.65 to 0.93, $p < 0.001$) (Table 3). All statistical analyses were performed using SPSS 18.0.

3) Exploratory factor analysis

We used explanatory factor analysis to determine the factor structure of the responses of our 70-item preliminary scale. To do this, we performed a principal component analysis with Varimax rotation and Kiser Normalization. We found that the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.97 (marvelous) and that the Bartlett's test of sphericity was 0.000, thereby, demonstrating the suitability of our data for factor analysis.

Our analysis revealed 12 factors with an Eigenvalue of greater than 1.0 and found they explained 61.76% of the variance in the scale. Since the preliminary study was founded on five core competence domains, we computed the Eigenvalue again, but using only five domains this round, and found an Eigenvalue

Table 3. The finalized Korean nurses' core competency scale.

Title	Korean Nurses' Core Competency Scale (KNCCS)				
Detailed description	70 items, 5 subscales 49.94% of variances explained, Cronbach's alpha = 0.97 Test-retest reliability alpha = 0.84, Item total correlation = 0.047 - 0.70				
Subscales	1	2	3	4	5
Labeled names	Human understanding & Communication skills	Professional Attitudes	Critical thinking and Evaluation	General Clinical Performance	Specific Clinical Performance
Number of items	21	13	14	13	9
% Variance explained	12.6%	11.2%	10.4%	8.6%	7.2%
Cronbach's alpha coefficient	0.94	0.92	0.90	0.91	0.84
Factor loadings	0.35 - 0.66	0.44 - 0.73	0.43 - 0.66	0.34 - 0.69	0.08 - 0.61

greater than 5.1. We found that the five domains explained 49.94% of the variance. The sub-domains derived from the factor analysis were named as *Human understanding and communication skills*; *Professional attitudes*; *Critical thinking and evaluation*; *General clinical performance*; and *Specific clinical performance*. And after the validation of the scale through reliability and validity testing of items and of subscales, we were able to develop the final scale (Table 3).

The results of the analysis show that 69 items had a factor loading of more than 0.03 in at least one factor. Only one item (item 29) had a factor loading of less than 0.3, which had a factor loading of 0.08 (Table 3).

4) The final KNCCS

On the basis of the reliability and validity testing, we finalized the KNCCS that would be used to measure the core competency of recently registered baccalaureate nurses in Korea. Of note, we agreed not to omit the subscale concerning 'spiritual care', although it was associated with a factor loading of less than 0.3, because we considered it an integral part of good nursing practice. Thus, the final KNCCS contains 70 items structured in 5 subscales; *Human understanding and communication skills* (21 items); *Professional attitudes* (13 items); *Critical thinking and evaluation* (14 items); *General clinical performance* (13 items); and *Specific clinical performance* (9 items) (Appendix 1).

4. Discussion

In this methodological study, we developed the KNCCS and evaluated its reliability and validity. Here, we discuss why it is important to measure core competencies of Korean nurses, appraise the content of the selected items, and, on the basis of this appraisal, evaluate the appropriateness of the scale in measuring core competency.

1. Rationale for measuring Korean nurses' core competency

In 2008, Axley explored the multidimensional aspects of competency and

considered the following concepts integral to the definition of nursing competency: 1) knowledge derived from information, education, and training; 2) actions in ability, patterns, procedures, and techniques; 3) professional standards; 4) organizational policies affecting responsibility, attitudes, autonomy, motives, and self-regulation; and 5) dynamics such as societal change and constant quality improvement [14].

A pre-requisite to acquiring these competencies relies heavily on receiving education and all ancillary skills that come with receiving an education. Specifically, this means that nurses must 1) earn the relevant nursing education degrees; 2) have clear standards of their activities and actions; and 3) show accountability, all of which should in line with the knowledge that they have attained through the nursing education program. Evidence of having achieved the level of core competency expected in nurses includes improved safety of patients, provision of patient care of the utmost standard, application of key knowledge, and self-driven professional development through continuing education [14]. Graduating nurses should be equipped with the appropriate core competency by the time they graduate so that the outcomes of their cultivated skills are directed to the right end-consumer, which is the patient. For these reasons, there is a need to assess the core competency of Korean nurses and develop tools to do so.

2. Composition of the KNCCS

We reviewed literature and compared the frameworks of preexisting competency scales so that we could analyze the trends and composition of core competencies of nurses. With the advent of the Six-Dimension Scale of Nursing Performance Scale (Six-D Scale) [15], a plethora of similar scales with subscales adapted in accordance to the specific needs and context of each country was developed. The Six-D Scale contains 52 items grouped into six subscales on leadership, critical care, teaching/collaboration, planning/evaluation, interpersonal relations/communications, and professional development. A study validated the Six-D Scale on 914 newly registered US nurses and 587 supervisors and reported it as a highly reliable performance evaluation instrument. This scale has been adapted and translated into Korean and tested on nursing students and registered nurses in Korea to evaluate their clinical performance [8] [10].

The Finnish Nurse Competence Scale (NCS) contains 73 items rated on a 4-point scale. It has been validated on 498 Finnish nurses. The conceptual framework of NCS was derived from Benner's *From Novice to Expert* competency framework [16]. Subscales include responsibilities of the collaborator, teaching and diagnostic function, situational management, treatment interventions, maintaining quality care, and accountability [17].

The Self-Evaluated Core Competencies (SECC) Scale is a 4-point scale developed by the Taiwan Nursing Accreditation Council. Eight core competencies established in the scale are critical thinking, general clinical nursing skills, basic biomedical science, communication and cooperation, caring spirit, ethics, accountability, and lifelong learning. A principal components analysis of the scale

identified two components of core competencies, namely humanity/responsibility and cognitive/performance. And the scale was validated using the responses of 802 nursing students pending graduation [5].

The Australian National Competency Standard Inventory (ANCI) national competency standards for enrolled nurses were developed by the Australian Nursing Council. The 51-item ANCI national competency standards are structured into 14 elements covering four domain competencies: professional practice, critical thinking and analysis, management of care, and enabling. Further, the self-assessed levels of competence (of 116 Australian nurses) derived from the ANCI national competency standards were shown to have a statistically significant relationship with those derived from the NCS (r = 0.75) [18], demonstrating convergent validity of ANCI.

The Competency Inventory for Registered Nurses (CIRN) for Chinese registered nurses is a scale based on the ICN Framework of Competencies for the Generalist Nurses developed by the International Council of Nurses (ICN), which categorizes nursing competencies into three domains: Professional, ethical, and legal practice; Care provision and management; and Professional, personal, and quality development. The CIRN scale contains 58 items rated on a 5-point Likert scale. Through a validation study on 533 registered nurses in Macao, the overall CIRN scale was found to have an internal consistency of a Cronbach's alpha of 0.908. Their confirmatory factor analysis indicated a 7-factor structure for this scale with 55 items, where three items with low factor loading were eliminated. The seven subscales were clinical nursing, leadership, interpersonal skills, legal and ethical responsibilities, professional development, education and coaching, and critical thinking and research attitudes [19].

Ideally, the core competency of nurses should be acquired through a formal baccalaureate program in nursing. And the standards identified by international nursing councils or associations should form the basis of the conceptual framework of core competency scales. Conceptualizing and integrating competencies such as critical thinking, professional attitudes and ethics, interpersonal skills, and communication skills are important to make scales as context-relevant as possible. In other words, the scale must be a reflection of not only the Korean nursing education and assessment system but also the common set of constructs considered as core nurses competencies domestically and internationally. In this study, the final scale generated a total of five subscales: *human understanding and communication skills*; *professional attitudes*; *critical thinking and evaluation*; *general clinical performance*; and *specific clinical performance*. Thus, our set of subscales reflect the nursing competencies commonly measured in other countries and those that the Korean Accreditation Board of Nursing regard as essential (application of nursing knowledge, communication and collaborative skills, critical thinking, awareness of legal and ethical responsibilities, leadership, research skills, and adapting to global public health policy changes).

3. Psychometric evaluation of the KNCCS

In this study, we computed internal consistency (measured as the Cronbach's alpha coefficient) as our indicator of the equivalence reliability and we computed

the test-retest reliability as our indicator of stability and reliability. Our findings showed high internal consistency and high stability, demonstrating the reliability of KNCCS. However, a few limitations to our performance evaluation instrument were found through content validating testing. We found that there were seven items that failed to reach an I-CVI of 0.7, covering important areas of nursing competency such as complementary and alternative therapy, critical care, supervision of nursing students, genetic nursing, and tailored nursing. Additionally, the explanatory factor analysis showed factor loading of less than 0.3 of item was one item #29 which was about the importance of spiritual care in nursing.

A core competency scale must represent essential competencies not only dealt in nursing education but also those that reflect the future. This is because nurses face challenges adapting to and keeping abreast of both societal and healthcare changes [20]. Nursing education must be constantly reviewed and developed to remain relevant so that nurses are prepared to the effects of globalization, changing patient characteristics, technological developments, progression of healthcare, and developments in policies and in the economy. Specifically, Hegarty *et al.* proposed that nursing education should address areas of transcultural nursing, patient-orientated care, chronic disease self-management, evidence-based nursing, leadership development, ethical and legal issues pertaining to patient healthcare, and international nursing standards [20]. Accordingly, as the instrument measuring the readiness of nurses to meet these challenges, the KNCCS should cover areas of multi- and trans-cultural society, complexities in healthcare, and technological advancement in a manner appropriate to the Korean context and should be continually reviewed and refined to reflect the changing healthcare environment.

5. Conclusion

We developed and validated a 70-item scale that quantifies core competences of graduating baccalaureate nurses in Korea. Each item was rated on a 5-point Likert scale. The strengths of the KNCCS are its conformity to the standards and criteria for the accreditation of baccalaureate nursing education programs proposed by the Korean Accreditation Board of Nursing; its contemporary and perspective content; and its congruence with the core competencies valued in other countries. We provide evidence of content validity of the scale that is based on the evaluation of seven content experts. We validated the scale by measuring its reliability and validity after pilot testing the scale on 528 novice nurses recently employed in nine major hospitals in Korea. Parameters of reliability and validity we used were internal consistency, test-retest reliability, and content validity. However, future studies assessing construct validity and criterion validity of the scale are still required. And the need to continually review and refine the scale must not be overlooked if it is to be an accurate measure of the effectiveness of baccalaureate nursing education programs in a constantly changing environment.

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Appendix 1. Korean Nurses' Core Competency Scale (KNCCS).

Item no.	Subscales and item titles	Factor loading
	Subscale 1–Human understanding and communication skills	
34	Help patients to articulate thoughts and emotions about their health.	0.66
40	Verbally communicate issues, emotions, and thoughts relating to the nursing practice.	0.62
50	Recognize patients as spiritual beings requiring spiritual care.	0.62
39	Exchange constructive feedback and criticism between colleagues.	0.59
37	Help families of patients to respect patient autonomy through sufficient consultations.	0.58
48	Recognize the support and the help that colleagues need.	0.58
36	Demonstrate therapeutic communication skills, such as sympathy, listening skills, restating patients' accounts, and clarifying an issue.	0.55
41	Establish productive working relationships with colleagues and within the healthcare institution.	0.54
49	Explain coherently the physical, the mental, and the social needs of a patient.	0.54
38	Support nursing students to reach the objectives of their clinical training.	0.53
51	Understand the different needs of patients from culturally diverse backgrounds in a cross-cultural society.	0.51
47	Recognize the values, the strengths, and the weaknesses of self.	0.51
45	Seek help to relevant persons for nursing resources (including human resources).	0.49
52	Incorporate the needs of the individual into the nursing plan or adapt it as necessary.	0.49
43	Assess the progress of nursing care or patient education with relevant members of the healthcare team.	0.43
46	Document medical records to promote better communication between team members.	0.43
54	Teach patients through appropriate educational mediums or those preferred by the patient.	0.42
35	Communicate to patients the procedural aspects, contents, and purposes of the medical service that they will receive.	0.41
53	Provide a differential approach to patient education according to the developmental stage of the patient.	0.40
42	Plan nursing interventions that reflect opinions of multidisciplinary teams.	0.35
44	Give a comprehensive report of the patient's condition during ward rotations or during delegation or transfer of roles.	0.35
	Subscale 2–Professional attitudes	
59	Practice in accordance to the philosophy, the policies, and the values of the healthcare institution.	0.73
60	Adhere to the legal and ethical roles and responsibilities of a nurse.	0.72
64	Display a positive attitude, take initiatives, and set an example to others.	0.70
58	Participate actively in educational and research activities for personal and professional development.	0.70
61	Assume responsibility and accountability for owns role in nursing care.	0.70

Continued

63	Participate in enhancing the nursing profession by becoming involved in nursing associations or council activities.	0.67
57	Have a clear professional identity as a nurse.	0.65
62	Identify hazards to patient safety and make the necessary quality improvements to prevent harm.	0.64
65	Use self-reflective practice to prevent exhaustion of personal mental and physical resources.	0.60
66	Delegate nursing responsibilities appropriately and accept accountability for the consequences.	0.51
68	Recognize the importance of quality improvement and perform actions relating to this.	0.47
70	Communicate opinions on health policy as a member of society and as an expert in the medical healthcare profession.	0.46
69	Understand and perform the needs of socially-disadvantaged and vulnerable groups as their advocates.	0.44
	Subscale 3–Critical thinking and evaluation	
7	Make nursing and intervention decisions based on knowledge acquired from nursing education programs.	0.66
6	Prioritize nursing interventions as relevant to the patient.	0.62
2	Interpret both subjectively and objectively-collected patient data.	0.60
4	Practice evidence-based nursing care.	0.60
3	Identify and use resources required for nursing care.	0.59
9	Consider the specific situation of the patient when making decisions in nursing care.	0.58
10	Judge the relevance of the decisions or instructions of various multidisciplinary experts.	0.54
1	Predict potential clinical hazardous situations of a patient.	0.53
8	Make decisions in nursing care that takes into account ethical values.	0.52
5	Use findings of nursing research in nursing practice.	0.51
15	Assess changes in patients continuously.	0.50
17	Systematically evaluate results of nursing care and level of patient satisfaction.	0.49
11	Provide nursing care that integrates needs of patients and their families.	0.47
12	Undertake decisions about the most optimal care for patient in multiple perspectives.	0.43
	Subscale 4–General clinical performance	
20	Use mechanical devices required for nursing care.	0.69
22	Administer drugs safely and accurately.	0.63
19	Perform the basic nursing techniques in nursing practice.	0.63
21	Use information technology in nursing care.	0.61
32	Share appropriate knowledge of self-care and teach techniques relating to this to patients impending discharge.	0.55
23	Have knowledge of the pharmacological effects and of the potential adverse effects of a drug and monitor the outcome accordingly.	0.54
31	Establish a plan of discharge for a discharging patient.	0.53

Continued

13	Be knowledgeable enough to understand the pathophysiological state of a patient.	0.42
33	Provide discharging patients with information to resources of the local community and of community health centers.	0.40
30	Adapt teaching to the needs of the patient and family.	0.40
14	Practice accurate nursing assessment such as nursing history and physical examination through questioning.	0.39
16	Practice following a plan of nursing care.	0.37
18	Comply with nursing standards and protocols of the healthcare institution.	0.34
	Subscale 5–Specific clinical performance	
56	Plan a tailored nursing intervention that considers the patient's genetic characteristics.	0.61
26	Perform nursing care required by critically ill patients.	0.59
27	Practice physical nursing that includes symptom management in patients approaching their end of life.	0.58
25	Take appropriate actions in emergency situations as a member of the medical team.	0.56
55	Understand the genetic properties of patients.	0.56
24	Understand and evaluate the basis of which patients who are receiving complementary alternative medicine receives it.	0.51
67	Have knowledge of and follow regulations pertaining to emergency situations.	0.43
28	Demonstrate end-of-life care and meet the emotional needs of patients and their families.	0.34
29	Use resources to address the spiritual needs of patients.	0.08

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