Original Article

Perceived implicit rationing of nursing care: Psychometric assessment in the Indonesian context

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ABSTRACT

Background & Aim: The perceived implicit rationing of nursing care is a tool for evaluating the rationing of nursing care. This tool has been used and psychometrically validated previously in different countries but never in Indonesia. This study aimed to assess the psychometric properties of the Indonesian version of the perceived implicit rationing of nursing care.

Methods & Materials: A descriptive cross-sectional design was chosen to investigate psychometric properties of the perceived implicit rationing of nursing care. The data collection period was during May 2021. Statistical analyses were performed using Partial Least Square-Structural Equation Models (PLS-SEM) on the SPSS software with the assistance of the Smart PLS-3 program. A multivariate analysis was conducted to assess construct validity. Cronbach's alpha coefficient was used to evaluate instrument reliability.

Results: Outer loading for the entire instrument was > 0.7. Cronbach's alpha for assistance with physical care= 0.964; monitoring-safety-support= 0.980; documentation-supervision= 0.994; communication= 0.931; and implementation of the prescribed treatment plan= 0.984. Using both statistical methods when evaluating the perceived implicit rationing of nursing care, in the confirmation that the tool is valid and reliable.

Conclusion: This version of the perceived implicit rationing of the nursing care instrument showed acceptable psychometric properties for use as an assessment instrument in an Indonesian-speaking country.

Introduction

In the past few decades, healthcare systems across the globe have endeavored to reduce costs and expand services (1). 'Rationing of care' or 'rationed care' is a health care term that is often used in various countries, where during the implementation of nursing care, there are actions that are left behind (2). This leads to neglect, which results in missing nursing care, delays in providing nursing care, or failure to provide nursing care altogether for various reasons (3). Patient/family education and emotional support were the most frequently neglected nursing duties (4). The most commonly neglected nursing practice is a prompt answer to a patient's request (5). The Perceived Implicit Rationing of Nursing Care (PIRNCA) is an important factor influencing the quality of patient care. Many nurses feel that they are overworked, thus showing problematic conditions during the process of providing nursing care (6). PIRNCA also affects nursing staff performance outcomes (4). The imbalance in the performance of nurses in carrying out their duties can be mitigated by providing thorough nursing care. Hospital leadership and nurses in acute care settings

should monitor PIRNCA levels to reduce the likelihood of negative patient outcomes (7).

PIRNCA addresses five issues often overlooked in the delivery of care: physical care assistance, safety-monitoring support, documentation monitoring, communication, and implementation of the prescribed treatment plan (8). The time necessary to accomplish a nursing care task is a factor that dictates the order of completion; this directly affects the patient, which may be caused by delays or omissions of chores (9). Missed care and patient outcomes are derived primarily from self-reported data from nurses and patients. There is a correlation between nurse staffing levels and skill mix and bad outcomes due to missed care (10). The presence of a personnel shortage at the nurse's workplace can enhance the likelihood of PIRNCA (11). According to the evidence, when there are limited resources to offer patient care, nurses are compelled to prioritize care activities (12). The areas of care that are most frequently rationed by nurses include emotional support, patient or family education, maintaining nursing records, communicating with the patient, and fundamental activities such as changing or feeding patients (13).

The prevalence of rationing of nursing care varies from 55% to 98% when there is one or more of the nursing care rationed by nurses (14). In Kuwait, it was found that 55% of nurses were unable to fulfill all aspects of nursing care at the end of their shift (15). In Korea, 81% of nurses missed nursing care (16). Across European hospitals, the most frequently absent nursing care activities were 'Convenience/ talking to patients (53%), 'developing or updating a nursing care plan' (42%), and 'educating patients and families (41%) (17). Unfortunately, a rising number of studies undertaken in the field of nursing in recent years have revealed the occurrence of missed or delayed nursing care, particularly for hospitalized patients (9, 15).

In nursing, several instruments have been developed to measure nursing care rationed in different countries and contexts. This instrument is not limited to a specific treatment system or model and can be considered generally usable. We feel that defining a comprehensive classification of the level of nursing care delivered by nurses according to the demands of their patients is a crucial step toward improving the clinical and research environment. Consequently, it is crucial to develop a robust, multilingual instrument for assessing the quality of nursing care operations worldwide. This study aims to assess the Indonesian version of The Perceived Implicit Rationing of Nursing Care (PIRNCA) instrument to psychometric properties.

Methods

A descriptive cross-sectional design was chosen to investigate psychometric properties. This research was conducted at Jember district government hospitals in East Java, Indonesia. The data collection period was during May 2021.

Sample

Participants include nurses who work in two government hospitals in Jember District, Indonesia. There are 214 nurses in two Jember district government hospitals. The minimum sample estimate from this study was 68 nurses. The number of nurses needed to complete the study was determined using a convenient sampling technique. Only qualified nurses included in this study were (a) working full-time as registered nurses in inpatient units, (b) taking in eight-hour night shifts (because night shift nurses have a different burden than others who do not work nights), and (d) giving direct patient care. 167 nurses representing two government hospitals in Indonesia's Jember district comprised the participants.

Measurements

The PIRNCA Questionnaire is derived from the Basel Extent of Rationing of Nursing Care (BERNCA) Questionnaire, which Schubert created in 2007 in Switzerland (18). The original version of BERNCA contains 20 statements divided into five domains-activities of daily living, care support, rehabilitation-instruction-education, safety-monitoring, and documentation made by Jones in 2014 in the United States (2). The Indonesian-translated PIRNCA instrument, which measures nurses' opinions about rationed nursing care, was used to collect data.

Kalánková created the 31-item PIRNCA instrument in the Slovak Republic in 2020, including 'assistance with physical care', 'safety-monitoring support', 'documentation-monitoring', 'communication', and 'implementation of the prescribed treatment plan' (11). In the instrument, participants are asked to rate the frequency with which care tasks and activities were not completed during the past seven working shifts on a 4-point frequency scale (1-'often done', 2-'never done', 3-'rarely done', 4-'never done'). The questionnaire used is shown in Table 1.

Table 1. Questionnaire of the perceived implicit rationing of nursing care (PIRNCA)"

PIRNCA (11) Assessment item	Often done	Never done	Rarely done	Never done
Assistance with physical care	1	2	3	4
Y1.1 Timely assistance with bowel or bladder elimination				
Y1.2 Routine hygiene				
Y1.3 Mobilization or changing patient position				
Y1.4 Assistance with needed ambulation				
Y1.5 Changing soiled bed linen				
Y1.6 Routine skincare				
Y1.7 Assistance with the intake of food or fluids				
Y1.8 Promotion of physical comfort				
Monitoring-Safety-Support				
Y2.1 Monitoring of the patient´s physiological status				
Y2.2 Monitoring of the patient's affect and behavior				
Y2.3 Emotional or psychological support				
Y2.4 Adherence to recommended guidelines for safe patient handling				
Y2.5 Preparing patients for treatments, tests, or procedures				
Y2.6 Monitoring of the patient´s physical safety				
Y2.7 Providing the amount of teaching for the patient or his/her family				
Y2.8 Following up on patient status changes				
Documentation-Supervision				
Y3.1 Documentation of all of the nursing care provided				
Y3.2 Evaluation of the plan of care				
Y3.3 Documentation of assessments and monitoring activities				
Y3.4 Documentation of the initiation or revision of the plan of care				
Y3.5 Reviewing the multidisciplinary patient documentation				
Y3.6 Provide adequate supervision of or follow-up on delegated activities				
Communication				
Y4.1 Important conversation with an external agency				
Y4.2 Important conversations with team members				
Y4.3 Timely response to request/need in less than 5 min				
Y4.4 Important conversation with a patient or family member about discharge				
Implementation of the prescribed treatment plan				
Y5.1 Administer enteral or parenteral nutrition				
Y5.2 Administer medications				
Y5.3 Provide wound care				
Y5.4 Change intravenous access sites, tubing, and/or dressings				
Y5.5 Adhere to infection control guidelines				

Ethical consideration

This study has passed the ethical test held at the Faculty of Medicine, Universitas Brawijaya (approval number 143/EC/KEPK-S2/05/2021). This ethical approval is valid from May 2021 until May 2022.

Data analysis

The data was analyzed using Partial Least Square-Structural Equation Models (PLS-SEM) on the SPSS software with the assistance of the Smart PLS-3 program. PLS-SEM is a multivariate statistical analysis technique to test the presence of a complex direct or indirect effect, either unidirectional or not, to produce a comprehensive picture of the model. This study is to test the PIRNCA instrument by looking at the results of the validity and reliability of each instrument item.

The test evaluates the reflective outer model by testing the validity and reliability in four ways: (a) Convergent Validity: To test convergent validity, the outer loading or loading factor value is used. Reflective measure or criteria in this test with a correlation > 0.7. However, for research in the early stages of developing a measurement scale, the loading value of 0.5 to 0.60 is considered sufficient; (b) Average Variance Extracted (AVE): A variable is said to be valid if the Average Variance Extracted (AVE) of each variable is > 0.50; (c) Composite Reliability: a variable is said to be reliable if the Composite Reliability of each variable is > 0.70; and (d) Cronbach's Alpha: a variable is said to be reliable if Croanbach's Alpha on each variable has a value > 0.70.

Results

Sample characteristic

The participant's demographic information is shown in Table 2 provides the participant's demographic data. The majority of the subjects were female (73.1%). The majority of the nurses were 31-39 years old (66.5%), and more than half (60.5%) had completed an associate degree. Most nurses (34.1%) had 6-10 years of work experience. More than half were clinical nurses (80.8%), and the majority of the nurses were temporary employees (89.8%).

Construct reliability and validity of the PIRNCA instrument

The data were analyzed using PLS-SEM on the Smart PLS-3 program. Table 3 presents the results of outer loadings and construct reliability and validity of the Perceived Implicit Rationing of Nursing Care (PIRNCA) instrument. The results of the analysis are presented as follows: (a) Convergent Validity: consists of 31 statement items on PIRNCA, the outer loading for each item is > 0.7. So it can be concluded that the whole of each indicator can be declared valid for further research; (b) Average Variance Extracted (AVE): each indicator has a criterion of > 0.5, so it is declared valid for all statement items; (c) Composite Reliability: the value of the Composite Reliability of each indicator with a value of > 0.7, this indicates that all constructs have good reliability by the required minimum value limit; (d) Cronbach's Alpha: the value of Cronbach's Alpha on each indicator is > 0.70. It can be stated that the PIRNCA instrument can be used to measure the same symptoms and will provide consistent measurement results.

Table 2. Distribution of respondent characteristics (N= 167)

Characteristics	Category	N (%)
Gender	Male	45 (26.9)
	Female	122 (73.1)
Age (year)	21-30	42 (25.1)
	31-39	111 (66.5)
	>40	14 (8.4)
Latest education	Associate degree	101 (60.5)
	Bachelor degree	64 (38.3)
	Master degree	2 (1.2)
Work tenure (year)	1-5	37 (22.2)
	6-10	57 (34.1)
	>10	73 (32.7)
Position	Nursing manager	32 (19.2)
	Clinical nurse	135 (80.8)
Employment status	Permanent employee	17 (10.2)
	Temporary employees	150 (89.8)
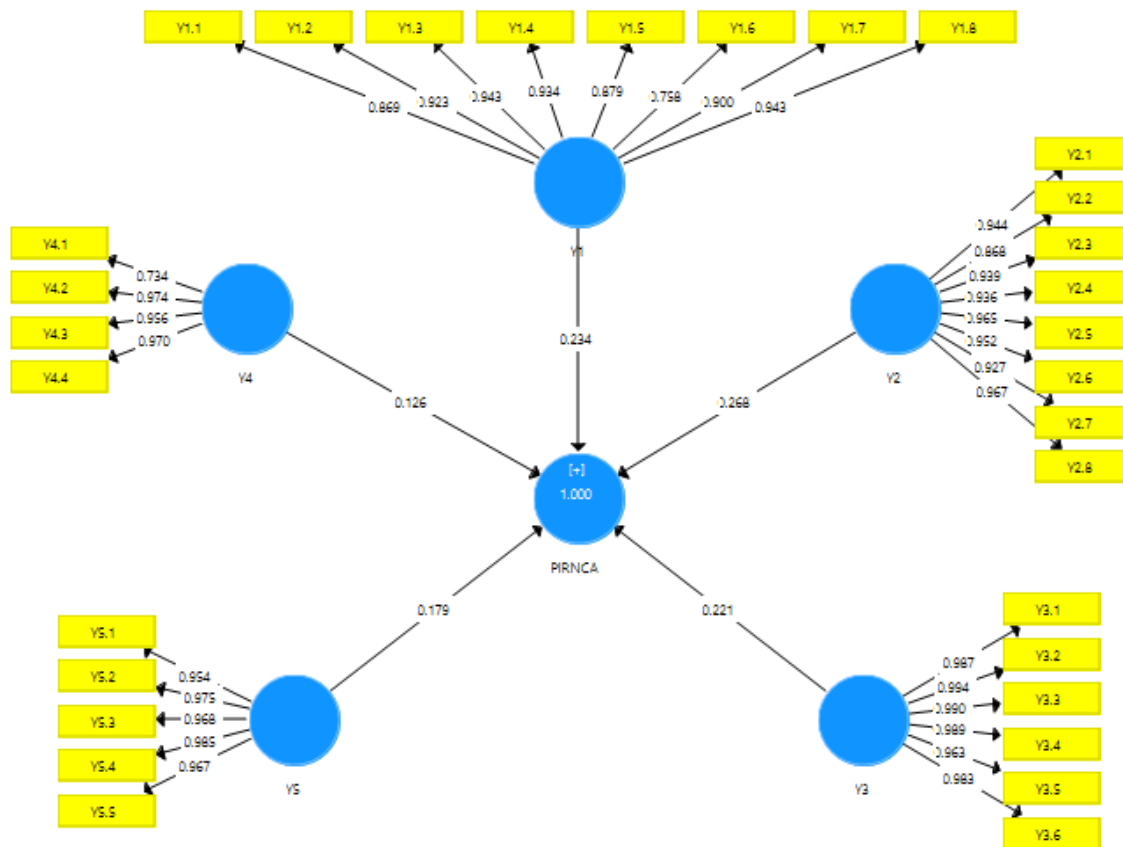
Figure 1. Path diagram for the Perceived Implicit Rationing of Nursing Care (PIRNCA)

Note:

Y	Perceived Implicit Rationing of Nursing Care (PIRNCA)
Y1	Assistance with physical care
Y2	Monitoring-Safety-support
Y3	Documentation-Supervision
Y4	Communication
Y5	Implementation of the prescribed treatment plan

Table 3. Results of outer loadings and construct reliability and validity

Contracts	Items	Mean	SD	Outer loading	Construct reliability and validity			
					Cronbach's alpha	Rho_A	Composite reliability	Average variance extracted (AVE)
Assistance with physical care (Y1)	Y1.1	1.820	0.898	0.869	0.964	0.968	0.970	0.801
	Y1.2	1.653	0.868	0.923				
	Y1.3	1.623	0,859	0.943				
	Y1.4	1.689	0.826	0.934				
	Y1.5	1.599	0.883	0.879				
	Y1.6	1.976	0.915	0.758				
	Y1.7	1.653	0.861	0.900				
	Y1.8	1.593	0.829	0.943				
Monitoring-Safety-support (Y2)	Y2.1	1.521	0.854	0.944	0.980	0.981	0.983	0.879
	Y2.2	1.653	0.882	0.868				
	Y2.3	1.653	0.827	0.939				
	Y2.4	1.653	0.813	0.936				
	Y2.5	1.479	0.818	0.965				
	Y2.6	1.485	0.825	0.952				
	Y2.7	1.581	0.829	0.927				
	Y2.8	1.479	0.818	0.967				
Documentation-Supervision (Y3)	Y3.1	1.443	0.816	0.987	0.994	0.994	0.995	0.969
	Y3.2	1.449	0.816	0.994				
	Y3.3	1.473	0.816	0.990				
	Y3.4	1.467	0.825	0.989				
	Y3.5	1.521	0.832	0.963				
	Y3.6	1.485	0.818	0.983				
Communication (Y4)	Y4.1	1.880	1.002	0.734	0.931	0.958	0.953	0.836
	Y4.2	1.455	0.817	0.974				
	Y4.3	1.474	0.833	0.956				
	Y4.4	1.443	0.816	0.970				
Implementation of the prescribed treatment plan (Y5)	Y5.1	1.569	0.837	0.954	0.984	0.985	0.988	0.941
	Y5.2	1.485	0.825	0.975				
	Y5.3	1.539	0.824	0.968				
	Y5.4	1.485	0.818	0.985				
	Y5.5	1.443	0.816	0.967				

Discussion

The most prevalent issue with nursing care is a lack of promptness. This is the nursing strategy most frequently overlooked (5). Research shows that rationing of nursing care is a severe problem in several countries, namely the UK and Sweden (8), Korea (16), and all European hospitals (17). These countries are highly developed and have much higher healthcare costs than Indonesia. It also suggests that problems with resource allocation or staff shortages may be less severe there than in Indonesia. Therefore, developing an Indonesian version of the PIRNCA questionnaire is necessary to investigate and measure problems related to the rationing of nursing care in Indonesia. For this purpose, the PIRNCA questionnaire in the Slovak Republic by Kalánková was adapted (11) because it is a valid and reliable instrument for evaluating the level of rationing of nursing care in the relevant validation studies.

In Kalánková studies, respondents' mean score was 1.30 to 2.16 (SD= 0.52 to SD=97) (12). In this study, the mean score of the respondents was 1.443 to 1.976 (SD= 0.813 to SD= 1.002), where the results of this study produced a very similar score indicating that there was a rationing of nursing care in the 'rare' category. The Cronbach's alpha for the entire scale was > 0.7 on each dimension, namely physical care= 0.964; monitoring-safety-support=

0.980; documentation-supervision = 0.994; communication= 0.931; and implementation of the specified treatment plan= 0.984. This indicates high and similar values reported by the original authors (11). These results confirm that there is credibility in the Indonesian version of the PIRNCA questionnaire on the problem of rationing of nursing care in Indonesian hospitals.

The main thing that can be concluded from this research is that PIRNCA is a beneficial instrument for monitoring problems related to rationing in nursing care, including identifying nursing care actions that are often omitted. Expanding knowledge pertaining to the area of rationing in nursing care, PIRNCA can support the efforts of nurse managers in facilitating the nursing care process. It is hoped that the PIRCNA instrument will be useful in reducing the unintended negative effects of untreated care on both patients and nursing practitioners.

The use of different approaches in exploring the factor structure and reliability of the instrument reveals the highly acceptable psychometric properties of this PIRNCA instrument. Since this approach has not been used in studies using the PIRNCA instrument, especially in the Indonesian version, we strongly recommend its application in further examination of this measurement tool in different settings.

Conclusion

This study is the first to translate and validate the PIRNCA questionnaire in Indonesian nurses. Our results show that the Indonesian version of the PIRNCA questionnaire is a reliable and valid instrument for monitoring the level of nursing care rationing in Indonesian hospital wards. The validation and adaptation of the PIRNCA instrument is the first step in assessing the rationing of nursing care in Indonesian hospitals.

Limitations

This study has several potential methodological limitations to mention. The main limitation is that this study was conducted in only two regional government hospitals. Thus, it is not easy to generalize the findings to Indonesia's nursing population. Therefore, our results should be interpreted with caution. Finally, another limitation must be considered the relatively small sample size. However, the sample size was calculated, and it was similar to the original validation study.

Recommendations

The main practical implication of the results of this study is that PIRNCA is a very useful instrument for monitoring the level of rationing of nursing care, including identifying nursing actions that are often abandoned. Knowledge of the contents of this instrument can assist nurse managers in taking action and decisions to improve the nursing care process. It is hoped that the PIRNCA instrument will be useful in minimizing negative patient and nurse outcomes by knowing what actions are allocated so that errors occur in nursing care. We recommend further research on nursing care rationing. This will be possible among Indonesian nurses. Rationing of nursing care occurs due to a shortage of nurses. That is why it is so important to be able to continue research in this area.

Acknowledgments

Conflict of Interest

The authors declare no potential conflicts of interest concerning this article's research, authorship, and/or publication.

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