

VALIDITY AND RELIABILITY OF NURSE PERFORMANCE ASSESSMENT QUESTIONNAIRE IN HOSPITALS AN ADAPTATION OF THE BERKOW ET AL QUESTIONNAIRE

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ARTICLE INFO

Artikel history

Submitted : 18 mey 2026

Accepted : 07 june 2026

Publish : 30 june 2026

Keywords:

Performance appraisal;

Nursing Performance,

ABSTRACT

Nurse performance appraisal is an essential aspect for enhancing the quality of nursing services in hospitals. In addition, it is a reference tool used by nursing managers to effectively monitor human resources and productivity. Several reports have shown that failure to prioritize performance appraisal can lead to a scenario where nurses work below the standard competence levels. This study was carried out using a quantitative analysis design, and statistical questionnaire validity and reliability tests were conducted. In addition, data collection was carried out in December 2023 prospectively on 46 nurses. Validity test results of nurse performance appraisal questionnaire showed that the questions were valid and could be used in conducting investigations with a correlation value of 0.05. Based on the findings, all 35 questions showed an r-count value of > 0.290 and Cronbach's alpha value of 0.731 with a significant level of 5%, indicating their reliability. Questionnaire evaluating the performance of implementing nurses in hospitals adopted from Berkow et al. was declared valid and reliable.

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INTRODUCTION

Performance is the result of effectively executing duties and responsibilities in line with the vision, mission, and goals of organizations (Suwarno, 2023). In the context of nursing, nurse performance is a description of nurses' knowledge and skills in implementing nursing care across various activities and actions (Ghasemi et al., 2022). Several studies showed that it was affected by several variables, such as organizational factors, including workload, availability of resources, and management support (Wijaya & Suwandana, 2022) In addition, other influential factors included income/salary, supervision, career development, work motivation, and job satisfaction (Irianto, 2020).

According to previous studies, performance appraisal holds significant value for organizations, offering a multitude of benefits. These benefits include enhanced performance and improved work output due to constructive feedback received through the appraisal evaluation. Performance appraisal has also been reported to play an essential role in facilitating the compensation and remuneration system, ensuring proper career position

placement, meeting training and development needs for employees, establishing basic career path system arrangements, detecting deviations in the staffing process, inaccurate human resources information, inappropriate job design, external challenges, and providing fair employment opportunities. However, the presence of errors during the process can lead to adverse consequences for both organizations and employees. These errors can cause a decline in the overall quality and productivity of organizations, affecting employees by fostering job dissatisfaction that significantly affects the service process (Saputra et al., 2019). An effective method for assessing nurse performance comprises the use of questionnaire, which serves as an instrumental tool for evaluating various aspects.

Questionnaire is an acceptable measuring instrument in accordance with established standards, particularly when it has been subjected to data validity and reliability tests (Acuña Mora et al., 2022). Several studies reported that validity and reliability of data collection instrument or meters for study variables were affected by various factors (Miftahul Janna, 2021a). Validity of an instrument can be proven through various types of evidence, including content, construct, and criterion validity. In addition, the primary objective of validity test is to assess the accuracy of measurements, while reliability test aims to determine the trustworthiness and consistency of instruments. A previous study revealed that standardized and reliable instruments must be subjected to testing before each use. This is because each subject, location, and time can produce different results (Quintão et al., 2020).

Studies on nurse performance appraisal in hospital have been a recurrent focus, with numerous questionnaires employed for assessing performance. However, in this study, a comprehensive questionnaire with more specific content has been adopted (Berkowitz et al., 2016). The instrument was adopted to conduct assessments with a more refined approach to the implementation of nursing care for patient. This newly developed questionnaire comprises 6 key indicators for assessing nurse performance, including communication, clinical knowledge, critical thinking, task management, professionalism, and technical skills (Berkow, 2009). The most powerful reason for choosing this questionnaire is because it does not only assess work routines, but also contains indicators that measure critical thinking and decision-making skills. Therefore, this study aims to develop an instrument adopted from Berkow et al. by conducting validity and reliability tests. In addition, this study aims to ensure that the 36 competency items in this instrument such as critical thinking, prioritization and patient safety are indeed relevant to the operational standards of work in West Sumatra hospitals in Indonesia

METHODS

Types of Research

This study was carried out with a quantitative analysis design, where the adoption of questionnaire was in line with Berkow et al. Furthermore, validity and reliability of questionnaire were tested statistically.

Lokasi dan Waktu Penelitian

Data collection was then carried out in December 2023 prospectively on 46 nurses at hospital X in West Sumatra Province, Indonesia.

Population and Sample

Prospectively on 46 nurses at hospital X in West Sumatra Province, Indonesia. The inclusion criteria in this study are: Nurses who are willing to be respondents, nurses who have worked for more than 5 years in research hospitals, nurses with nurse education.

The probability sampling method, particularly stratified random sampling, was used in this study through the application of the lottery method. Furthermore, this method provided equal opportunities for each element or member of the population to be selected as samples.

Stages of Data Collection

The process comprised dividing the population into strata, selecting simple random samples from each stratum based on Table 1, questionnaire used contained questions about nursing performance appraisal adopted from Berkow et al.

Table 1

No	Question Item	Valuation			
		Excellent	Good	Less	Very Lacking
1	Ability to provide education to patients				
2	Ability to communicate well to doctors				
3	Adherence to the law of nursing practice				
4	Understanding the implementation of pharmacy in patient therapy				
5	Ability to interpret tasks assigned by other professions				
6	Understanding the methodology of improving service quality				
7	Ability to detect unsafe actions carried out by themselves				
8	Ability to interpret data on <i>the tutoring</i> (list) patient status				
9	Ability to follow <i>up</i> patients well				
10	Ability to take initiative				
11	Ability to complete individual tasks in the expected time period.				
12	Ability to stay focused while taking on multiple responsibilities				
13	Ability to respect diversity of cultural perspectives				
14	Ability to work together in a team				
15	Ability to accept criticism				
16	Mastery of information technology (computers, electronic medical records, etc.)				
17	Ability to document patient examination data				
18	Ability to carry out clinical nursing procedures				
19	Ability to provide advocacy for patients				
20	Ability to create good communication with patients				
21	Ability to anticipate risks				
22	Ability to work independently				
23	Ability to determine task priorities				
24	Ability to delegate tasks to others				
25	Ability to use clinical tools or technology (which can be used by nurses, such as: <i>syringe pumps, medical monitors, etc.</i>)				
26	Ability to communicate well to other professions in the team				
27	Ability to make decisions based on nursing process				
28	Ability to conduct initial examinations of				

No	Question Item	Valuation			
		Excellent	Good	Less	Very Lacking
	patients (including previous disease history, physical examination and vital signs)				
29	Ability to understand <i>evidence-based practice</i>				
30	Trustworthy in action				
31	Ability to understand the pathophysiological condition of the patient				
32	The ability to realize when there is a change in patient status				
33	Ability to serve patients professionally				
34	Ability to provide therapeutic drugs to patients (in the <i>Unit Doses Dispensing</i> (UDD) system)				
35	Ability to provide solutions to a problem				

Each question in questionnaire was given to 46 respondents who were implementing nurses in hospital. This questionnaire was carried out by scoring each respondent's answer with an assessment system that had been set with a Likert scale (1-4), consisting of very good score 4, good score 3, less score 2, and less score 1. In addition, Likert scale was a tool to measure the number of declarative statements related to individuals' attitude, character, and perception of a certain condition formed in the form of a variable score of 4 or more Likert-type items.

Data Analysis

In this validity test, the value of the Pearson coefficient was used whose decision was taken from the comparison between the value of the calculated Pearson coefficient (r-calculate) with the value of the table Pearson coefficient (r-table). Reliability tests could be measured by several formulas, including brown spearman. This study conducted an ethical feasibility test at the ethics committee of the Faculty of Health Sciences, University of Indonesia, with reference number: KET-254 / UN2. F12. D1/PPM.00.02/2022.

RESULT

The initial stage of this study was carried out by preparing questions that had been adopted from Berkow et al. In addition, questionnaire consisted of 35 questions about how to measure nurse performance in hospital. Validity of each questionnaire item was tested using the product moment correlation method between the score of each questionnaire item and the total score (the sum of each questionnaire score), followed by reliability tests using Cronbach's alpha.

Table 2. The correlation value of each question item

Code	r-table	r-count	Information
P1	0,291	0,336	Valid
p2	0,291	0,940	Valid
P3	0,291	0,398	Valid
P4	0,291	0,355	Valid
P5	0,291	0,336	Valid
P6	0,291	0,355	Valid
P7	0,291	0,940	Valid
P8	0,291	0,398	Valid
P9	0,291	0,299	Valid
P10	0,291	0,940	Valid
P11	0,291	0,355	Valid
P12	0,291	0,398	Valid
P13	0,291	0,689	Valid

Code	r-table	r-count	Information
P14	0,291	0,336	Valid
P15	0,291	0,299	Valid
P16	0,291	0,355	Valid
P17	0,291	0,299	Valid
P18	0,291	0,299	Valid
P19	0,291	0,376	Valid
P20	0,291	0,299	Valid
P21	0,291	0,940	Valid
P22	0,291	0,398	Valid
P23	0,291	0, 355	Valid
P24	0,291	0,299	Valid
P25	0,291	0,940	Valid
P26	0,291	0,336	Valid
P27	0,291	0,398	Valid
P28	0,291	0,299	Valid
P29	0,291	0,398	Valid
P30	0,291	0,366	Valid
P31	0,291	0,299	Valid
P32	0,291	0,398	Valid
P33	0,291	0,940	Valid
P34	0,291	0,355	Valid
P35	0,291	0,398	Valid

Based on validity test results in Table 2 with the variable of nurse performance assessment in hospital, questions regarding nurse performance appraisal were declared valid and could be used in conducting a study with a correlation value of 0.05. This was based on 35 questions showing an r-count value of > 0.290 . Validity test was a method of measurement that aimed to assess the precision and accuracy of a measuring instrument 8.

Table 3. Reliability Value

Question items	Cronbach's alpha	Information
Nurse performance appraisal	0,891	Reliable

Based on reliability statistics presented in Table 3, the value of Cronbach's alpha of question items is 0.891 with a significant level of 5%, indicating that all question items on the performance appraisal instrument were declared reliable.

DISCUSSION

1. Instruments

The main instrument in this study was questionnaire guidelines. To facilitate data collection in the field, the study team was guided by questionnaire guidelines. In addition, questions on nurse performance appraisal questionnaire had different answer choices, including very good, good, less, and very less. The questions were made in an objective form with consideration to make it easier for respondents. Likert scale could be used to provide answers to a problem asked, with answer choices of good, good, less, and very less, which were given scores of 4, 3, 2, and 1. According to previous studies, Likert scale could also be employed to measure individuals' attitude, opinion, performance, and perception of symptoms or problems that existed in society or were experienced (Jailani et al., 2022).

2. **Validity**

Based on validity test results in Table 3, questions regarding nurse performance appraisal were valid and could be used in conducting studies with a correlation value greater than 0.05. When the value was $r\text{-count} > r\text{-table}$, then the question item on questionnaire was valid (S. Osmanović Zajić & Ž. Maksimović, 2021). In addition, reliability test was used to assess the consistency level of questionnaire. Reliability test used in this study was the internal consistency technique with Cronbach's alpha method. Questionnaire was stated to be reliable when the Cronbach's alpha score > 0.60 . Based on validity test results in Table 2, nurse performance assessment question was declared valid and could be used in conducting studies with a correlation value greater than 0.05.

3. **Reliability**

Reliability of the instrument could be tested with several reliability tests. Some reliability tests of an instrument that could be used included test-retest, equivalent, and internal consistency. Internal consistency had several different test techniques, including split half, KR 20, KR 21, and Cronbach's alpha tests. However, this study used Cronbach's alpha, which was a measure of reliability that ranged from zero to one. Reliability level of Cronbach's alpha value > 0.40 - 0.60 could be stated to be quite reliable or reliable (Dyah, 2021). When a variable showed a value of > 0.60 , it could be concluded that the variable was reliable or consistent in measuring.

Table 3 showed Reliability Statistics section, where Cronbach's alpha= 0.891 was greater than $r\text{-table}$ (0.6) with a significance level of 5%. Cronbach's alpha value > 0.40 - 0.60 was considered to be quite reliable or consistent, indicating that questionnaire was proven to be reliable. When the value obtained was greater than $r\text{-table}$ with a significance level of 5%, then questionnaire had a good level of reliability, and questionnaire results could be trusted.

CONCLUSION

In conclusion, the assessment of the performance of implementing nurses in hospital adopted from Berkow et al. could be declared valid and reliable.

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