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Validity and Reliability Test of COPSOQ III Questionnaire for Healthcare Workers at RSUD X Year 2025

Widya Prameswari*[1], Mila Tejamaya[2]

[1] Master of Occupational Health and Safety, Faculty of Public Health, Universitas Indonesia
[2] Department of Occupational Safety and Health, Faculty of Public Health, Universitas Indonesia

Author's Email Correspondence (*): **widyaprameswari95@gmail.com (081290713025)**

ABSTRACT

Job stress in healthcare workers can have an impact on their mental and physical health. Various factors, such as high workload, psychological pressure, and long working hours, contribute to this stress. COPSOQ III is an instrument that can be used to measure psychosocial factors in the workplace. The objective of this study was to test the validity and reliability of the COPSOQ III questionnaire on the healthcare workers at RSUD X. The study used a cross-sectional design with probability sampling method and simple random sampling technique. Validity analysis using Pearson correlation test showed that all items in the questionnaire were valid (r-count > 0.374), while reliability test with Cronbach's Alpha resulted in a value of 0.903, indicating high consistency. These results confirm that COPSOQ III can be used as a valid and reliable instrument in measuring psychosocial risk factors in the environment of healthcare workers, especially healthcare workers at RSUD X. With an accurate instrument, hospitals can identify psychosocial risk factors that affect the well-being of healthcare workers and design appropriate interventions. Recommendations for the next research are to compare the COPSOQ III with other instruments, such as the Job Content Questionnaire or Maslach Burnout Inventory, to strengthen the measurement of work stress and psychosocial well-being in healthcare workers.

Keywords *: Job stress ; Healthcare workers ; Hospital*

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INTRODUCTION

Healthcare workers is a profession that has a high level of job stress. The enormous responsibility of maintaining the safety and well-being of patients requires them to make quick and appropriate decisions in stressful emergency situations, heavy workloads, long working hours, as well as the risk of exposure to disease from patients which can be a contributing factor to stress in health workers. Job stress experienced by healthcare workers can have a negative impact on their professional performance, mental and physical health. According to the results of the Labour Force Survey (LFS) in the United Kingdom show that workers in the health sector have high levels of stress, depression, or anxiety compared to workers in other sectors (1). According to a survey conducted by Mental Health America (MHA), the prevalence of stress in healthcare workers is 91%, anxiety is 83%, and fatigue is 81% (2).

Research conducted by The National Institute Occupational Safety and Health (NIOSH) states that professions related to health services or work in hospitals have a higher risk of experiencing psychological pressure that can lead to job stress or depression (3). Several studies related to stress in healthcare workers support this statement, with the results of the study showing that the prevalence of stress in healthcare workers in North Vietnam amounted to 13,9% (4), healthcare workers in Shenzen China amounted to 33,1% (5), healthcare work in Northern Colombia (6), and health workers in Iran amounted to 40,3% (7). In Indonesia, a study conducted by Wardhana et al 2021 showed that 91.9% of healthcare workers at Wangaya Denpasar Hospital experienced moderate stress (8). Supported by research by Singal et al 2020 showing 54.3% of health employees of the North Sulawesi Provincial Eye Hospital experienced high work stress and the rest experienced low work stress (9).

The measurement of distress and psychosocial factors in the work environment in a valid and reliable manner is increasingly considered an important element in systematic occupational health and safety management. The Copenhagen Psychosocial Questionnaire (COPSOQ) III is one of the tools extensively used for research on psychosocial risk factors. COPSOQ III consists of three parts, namely: work environment, conflict and offensive behavior, and health and well-being (10). The structure of the COPSOQ III questionnaire is composed of items labeled Core, Middle, and Long. Items labeled Core must be included in all versions (short, middle, long) (11).

A validation study conducted in Australia by Rahimi et al. (2024) confirmed the reliability of COPSOQ III across multiple occupational sectors, establishing benchmarks for key psychosocial work environment factors (12). In Portugal, Pinto et al. (2024) conducted a preliminary validation of the Portuguese short version of COPSOQ III, demonstrating its effectiveness in assessing psychosocial risks in various industries (13). Their study highlighted the growing importance of evaluating psychosocial work conditions as part of sustainable workplace management. The findings reinforced COPSOQ III's applicability in identifying workplace stressors and its potential role in guiding risk management strategies to improve employee well-being.

Validity and reliability tests are carried out to ensure that the instruments used for research provide valid and reliable results. The validity and reliability tests were conducted to ensure that the instruments used for the study provided valid and reliable results. The validity and reliability test of the COPSOQ III questionnaire used to assess the psychosocial condition of healthcare workers in RSUD X. Although this instrument has been widely used in various countries, not many researches have evaluated its suitability in the context of health workers in Indonesia, especially in regional hospitals. Therefore, this study brings novelty by adapting and testing the reliability of COPSOQ III in the work environment of healthcare workers in RSUD X.

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METHODS

This research was conducted with a crosssectional approach. The population used in the study were healthcare workers consisting of general doctors, nurses, midwives, pharmaceutical workers, public health workers, environmental sanitation workers, and nutrition workers. Sampling used probability sampling method with simple random sampling technique. The research sample criteria were health workers who worked at RSUD X and were willing to be involved as respondents voluntarily. Before collecting research data, a questionnaire was made and distributed to 30 health workers at RSUD X to see the validity and reliability of the questionnaire used.The questionnaire used was Th Include previous similar studies to provide a stronger foundation and context for your research, highlighting how it builds upon or differs from existing work. Copenhagen Psychosocial Questionnaire (COPSOQ) III. The structure of the COPSOQ III is composed by items labeled CORE, MIDDLE, and LONG. The questionnaire can be short (CORE items + MIDDLE or LONG items), medium (CORE items + as many relevant MIDDLE items + LONG items as possible), and long (Core items + as many MIDDLE items + as many LONG items as possible) (11). This questionnaire consists of 62 items covering 23 dimensions of work environment. To ensure the reliability and validity of the instrument, this study employed Pearson correlation for validity testing and Cronbach's alpha analysis for reliability assessment. The validity test was conducted by comparing the r-count value with the r-table value at a 5% significant level. If the r-count value exceeded the r-table value and yielded a positive result, the question was considered valid; otherwise, it was deemed invalid (7). The Cronbach's alpha coefficient was used to evaluate the reliability of the questionnaire, where a coefficient greater than 0.7 indicated a high level of internal consistency (8).

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RESULTS

The analysis was carried out using the IBM SPSS computer program version 26. If R-count < R-table, which is 0.374, the question is invalid. But, if R-count> 0.374 then the question is valid and meets the criteria. The validity test of this research was carried out using Pearson correlation and the reliability test using Cronbach alfa.

Table 1
Validity Test Results of Questionnaire Items

Dimensions Environment Work	No	Mean	R-count	R-table	Significant
Quantitative Demands	1	2.53	0.768	0.374	Valid
	2	2.27	0.829	0.374	Valid
	3	2.37	0.809	0.374	Valid
Work Pace	4	3.30	0.917	0.374	Valid
	5	2.80	0.925	0.374	Valid
Emotional Demands	6.	2.43	0.840	0.374	Valid
	7.	1.90	0.852	0.374	Valid
	8.	2.47	0.862	0.374	Valid
Influence at Work	9.	3.27	0.773	0.374	Valid
	10.	2.73	0.767	0.374	Valid
	11.	3.10	0.729	0.374	Valid
Possibilities for Development	12.	3.73	0.717	0.374	Valid
	13.	4.10	0.851	0.374	Valid
	14.	4.00	0.882	0.374	Valid
Control over Working Time	15.	3.77	0.549	0.374	Valid
	16.	2.23	0.635	0.374	Valid
	17.	2.53	0.485	0.374	Valid
Meaning of Work	18.	4.53	0.985	0.374	Valid
	19.	4.47	0.988	0.374	Valid
Predictability	20.	3.33	0.878	0.374	Valid
	21.	3.73	0.762	0.374	Valid
Recognition	22.	3.47	0.953	0.374	Valid
	23.	3.67	0.933	0.374	Valid

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Dimensions Environment Work	No	Mean	R-count	R-table	Significant
Role Clarity	24.	4.43	0.933	0.374	Valid
	25.	4.43	0.933	0.374	Valid
Role Conflict	26.	2.70	0.930	0.374	Valid
	27.	2.70	0.930	0.374	Valid
Illegitimate Tasks	28.	2.13	1.000	0.374	Valid
Quality of Leadership	29.	3.93	0.864	0.374	Valid
	30.	3.73	0.892	0.374	Valid
	31.	3.70	0.836	0.374	Valid
Social Support from Supervisor	32.	3.53	0.939	0.374	Valid
	33.	3.53	0.944	0.374	Valid
Social Support from Colleagues	34.	3.70	0.959	0.374	Valid
	35.	3.83	0.912	0.374	Valid
	36.	3.50	0.914	0.374	Valid
Sense of Community at Work	37.	4.17	0.971	0.374	Valid
	38.	4.17	0.957	0.374	Valid
Job Insecurity	39.	2.13	0.842	0.374	Valid
	40.	2.00	0.901	0.374	Valid
	41.	2.03	0.918	0.374	Valid
Insecurity over Working Conditions	42.	2.30	0.894	0.374	Valid
	43.	2.17	0.888	0.374	Valid
	44.	2.43	0.943	0.374	Valid
Job Satisfaction	45.	3.73	0.949	0.374	Valid
	46.	3.83	0.951	0.374	Valid
	47.	3.73	0.930	0.374	Valid
Work Life Conflict	48.	2.43	0.919	0.374	Valid
	49.	2.37	0.930	0.374	Valid
Interpersonal Relationships	50.	3.63	0.890	0.374	Valid
	51.	3.57	0.800	0.374	Valid
	52.	3.33	0.913	0.374	Valid
	53.	3.37	0.932	0.374	Valid
	54.	3.23	0.926	0.374	Valid
	55.	3.43	0.906	0.374	Valid
Health	56.	4.00	1.000	0.374	Valid

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Dimensions Environment Work	No	Mean	R-count	R-table	Significant
Distress	57.	2.33	0.686	0.374	Valid
	58.	2.27	0.821	0.374	Valid
	59.	2.47	0.807	0.374	Valid
	60.	2.30	0.807	0.374	Valid
	61.	2.43	0.385	0.374	Valid
	62.	2.67	0.657	0.374	Valid

Source : Results of processing from the software program SPSS version 26, 2025

According to the analysis results in table 1 above, all question items have R-count > R-table (0.374). So it can be stated that all question items are valid and can be used as a measurement tool for distress and risk factors in the X Hospital environment.

Table 2
Results of Cronbach's Alpha Reliability Test

Cronbach's Alpha	N
0.903	30

Source : Results of processing from the software program SPSS version 26, 2025

According to table 2 above, the Cronbach's Alpha value is 0.903. The Cronbach's Alpha value is acceptable if a value close to 1 is obtained, which indicates a high level of instrument (questionnaire) reliability. So it can be stated that the COPSOQ III questionnaire has high reliability.

DISCUSSION

The validity test is carried out to show the extent to which the instruments used for research are considered accurate and relevant. Invalid instruments will produce meaningless data so that the data obtained does not present the actual conditions.

Meanwhile, the reliability test assesses the extent to which the measurement of a questionnaire is consistent and stable.

The Copenhagen Psychosocial Questionnaire Version III is an instrument used to measure psychosocial risk factors in the workplace that has been proven effective in various contexts and populations. Previous research has shown that the COPSOQ III has a clear and reliable structure, with many studies supporting its validity and reliability in various countries, including Norway (14) and Australia (12).

Research by Ose et al. showed that COPSOQ III maintains the structure that existed in the previous version, COPSOQ II, with some changes that strengthen its validity (14). In addition, research by Rahimi et al. stated that most of the measures in COPSOQ III showed high reliability coefficients, thus indicating good consistency in the population studied (12). This is very important to ensure that this instrument can be used effectively in assessing the working conditions of healthcare workers in hospitals.

In high-stress work environments such as hospitals, healthcare workers are often faced with high work demands, long working hours, as well as the risk of disease exposure and emotional impact. Therefore, instruments that are valid and reliable such as COPSOQ III are important to identify psychosocial risk factors that affect their well-being. The research conducted by Kuczynski et al (2020), indicates that instruments with validity and reliability can be used to identify psychosocial risk factors for their well-being (15). With an accurate instrument, hospital management can obtain valid data to design appropriate interventions, such as stress management programs, increased social support, or workload adjustments. This is not only to improve the well-being of the healthcare workers, but can affect the improvement of the overall quality of healthcare services (16).

The validity and reliability test can significantly assist hospital management in improving the well-being of healthcare workers by providing a structured and evidence-based approach to evaluating and improving workplace conditions. The valid and reliable

instrument ensures that the data collected on healthcare workers' well-being is accurate and consistent, which is critical for identifying areas in need of improvement and for implementing effective interventions. This assessment can guide hospital management in creating a supportive work environment that meets the specific needs of healthcare workers, ultimately leading to increased job satisfaction, reduced stress, and better patient care outcomes. This improvement in health services is consistent with motivation theory and stress management theory, which state that stress reduction can improve individual work effectiveness. According to the Job Demands-Resources (JD-R) theory, the balance between job demands and available resources is critical in influencing job performance (17).

CONCLUSIONS AND RECOMMENDATIONS

The COPSOQ III questionnaire used to measure distress risk factors is valid and reliable and can be used in healthcare workers. The high reliability and good validity results support this questionnaire to be used as a measurement tool to assess the picture of distress and risk factors in healthcare workers at the RSUD X.

Recommendations for future research, researchers suggest comparing the results of the COPSOQ III measurement with other instruments that measure distress and psychosocial risk factors, such as the Job Content Questionnaire, Effort-Reward Imbalance, Maslach Burnout Inventory, Depression Anxiety Stress Scale, etc.

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