ORIGINAL ARTICLE

Nursing Assessment in Cases Due to Occupational Work in the Agricultural Area: An Analysis Factor

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ABSTRACT

Introduction: A nurse evaluation of the patient comes first in the documentation of nursing care. Depending on the patient's needs, particularly in those who have a history of working as farmers, this nursing care evaluation model may be modified. To match the nursing record, factors in nursing evaluation in situations related to agricultural employment still require a lot of investigation. Thus, the goal of this study is to examine the variables that affect nursing assessments in situations involving labor in the agricultural sector. **Methods:** This study employed a cross-sectional methodology and surveyed a sample of 40 nurses. The nurses who participated in the sampling were nurses who worked at Puskesmas and handled patient cases initially in rural regions of the Lumajang district. With the help of the statistical method instrument CFA, data were gathered and examined (confirmatory factor analysis). **Results:** There are 6 elements that have been identified as influencing nurse evaluation. Namely, demographic factors, health cultural factors, risk factors for poisoning, risk factors for contamination, risk factors for injury and risk factors for stress. In the meanwhile, 2 component factors were created based on the findings of the factor analysis, namely factors related to hazardous chemicals and variables generating trauma in nursing evaluations in agricultural regions. **Conclusion:** Nursing documentation must be developed with the work environment where the health service is located in mind. As a result, in order to provide nursing care that is focused on issues in the agricultural region, nurses who work in agricultural areas need to have understanding of nursing documentation.

Keywords: Agriculture; Documentation; Nursing Assessment

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INTRODUCTION

Nursing care is a nursing process in which there is an assessment, diagnosis, intervention, implementation and evaluation of nursing. Research conducted by Susanto (2010) regarding the application of nursing standards in Cilacap inpatient health centres concluded that the application of nursing care standards in this case including assessment standards, nursing diagnoses, interventions, implementation, evaluation and nursing documentation is not carried out properly this may be related to factors related to the application of nursing care standards. Achmadi (2015) states that the application of nursing care standards is still not optimal.

In the three-year "Nursing Now" (2018-2020) health implementation program, the AAOHN has also incorporated occupational nursing. It claims that in order to ensure the quality of workers farmer' health, it is necessary to use nurses' knowledge and abilities, particularly in the decision-making process (1). Understanding the requirements of the clients, effective nursing practice, and a holistic approach with high ethical standards are the cornerstones of OHN's work. Additionally, OHNs place a priority on environmental health, sustainability, healthy communities, and the management of chronic diseases. At every step of the nursing caregiving process, new ethical problems have arisen as a result of changes in work life and health care that is the significance of the impact if this problem is not resolved (2).

Nursing care is an indicator in determining the quality of health services carried out by nurses as caregivers with the most important aspect of nursing services in the form of nursing documentation (3). If the documentation is not carried out properly, it will cause quite a big problem. Nurses in carrying out their roles, functions and responsibilities in providing nursing care, are required to always have high

expertise and knowledge. Skills and expertise in nursing are the results of knowledge and clinical experience that have been carried out with the aim of making complex decisions and interpreting clinical situations in providing professional and quality nursing care due to changes in health needs and community demands as well as government policies related to nursing and health services (4).

In practice, nurses are also responsible for providing nursing services to all levels of society, including farmers who experience illness or work accidents in the agricultural sector. Keeping workers safe is an ongoing challenge in agricultural production (5). The mean annual incidence rate (injury/100 workers) was 6.91 for all injuries and 2.40 for serious injuries (6). Some of the most common sources of injury in the agricultural sector are machinery, animals, and falls. Sources of machine-related injuries include tractors, combiners, harvesters, planters, take-off drivelines, augers, and all-terrain vehicles (7). Agricultural communities have not received sufficient information about how human-machine interactions lead to accidents, nor have they obtained enough or developed further sustainable prevention measures (Robert & Kuedler, 2015). In addition, pesticides have become an integral part of agricultural activities worldwide(8). Acute pesticide poisoning is an important public health problem(9). In this context, the use of pesticides has come to be associated with a variety of environmental and health issues. The majority of these hazardous substances used in agriculture eventually end up in the environment (soil, water, and air) and cause environmental contamination. In developing nations as opposed to industrialized nations, there are more side effects of pesticides and their residues owing to factors including inadequate understanding of the hazards of pesticides, incorrect use of pesticides, and a lack of competent oversight and control (10).

An evaluation of the patient by a nurse is the first step in recording nursing care. The patient's demands can dictate changes to this nursing care evaluation model, particularly in cases when the patient has a history of working as a farmer. An concern that has come up in nursing assessments in an agricultural region is the possibility of occupational illnesses for farmers. To match the nursing documentation, factors in nursing evaluation in situations involving labor in the agricultural sector still need to be thoroughly investigated. The purpose of this study was to examine the variables that affect nurse assessments in situations involving farmworkers.

MATERIALS AND METHODS

This study used a cross-sectional study design. This study was conducted to analyze the factors in nursing assessment in cases due to work in the agricultural area.

Population, Samples and Sampling

In this study, the population was 40 nurses and the sampling criteria used are total sampling. The inclusion criteria are nurses were nurses who worked at the Puskesmas who did the initial handling of patient cases in agricultural areas in the Lumajang district.

Procedure

The procedure for collecting research data is explained as follows. The researcher distributed an informed consent paper to nurses who are willing to be a respondent form to the nurses in the Lumajang district. There are 40 nurses who have experience in reviewing work-related cases in the agricultural area who are willing to become respondents. The researcher met with respondents to provide a case study questionnaire as a result of work in the agricultural area. In this study, the instrument used was the Agronursing Assessment instrument obtained from interviews with nurses by the Agroners Research Group Team at the University of Jember in 2020. For the assessment of validity and reliability, SPSS version 20 has been carried out. Next, the researchers collected questionnaires and analyzed the data with the help of SPSS 20 software.

Data Analysis

Data were collected and analyzed using Statistical Method Instrument CFA (confirmatory factor analysis). A correlation test was used in the first test to determine the connection between the variables. Testing the instrument's reliability and validity is the second goal. As part of evaluating the instrument's reliability and validity, confirmatory factor analysis is used to condense data from numerous indicators into a smaller set of factors that can explain the association between the observed indicators. Considering that a factor is a construct and that a construct only has significance if it can be interpreted, the interpretation of factor names follows next. Knowing the components of a factor might help one interpret it. Interpretation is carried with with discretion.

Ethical Clearance

This research has received ethical approval from the Health Research Ethics Commission, Faculty of Dentistry, the University of Jember with an ethical approval number No.982/UN.25.8/KEPK/DL/2020 dated August 26, 2020.

RESULTS

Based on the research results, it can be seen that the univariate analysis describes demographics,

health culture assessment, poisoning risk assessment, contamination risk assessment, stress risk assessment, and injury risk assessment.

The output table I of KMO and Bartlett's Test is useful to determine the feasibility of a variable, and whether it can be processed further using this factor analysis technique or not. The trick is to look at the KMO MSA (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) value. If the KMO MSA value is greater than 0.50 then the factor analysis technique can be continued. Based on the output above, it is known that the KMO MSA value is 0.755 > 0.50 and Bartlett's Test of Sphericity (Sig.) value are 0.000 < 0.05, so the factor analysis in this study can be continued because it has met the first requirement.

This Communalities table I shows the value of the variables studied whether they are able to explain the factors or not. The variable is considered capable of explaining the factor if the Extraction value is greater than 0.50. Based on the output above, it is known that the Extraction value for all variables is greater than 0.50. Thus it can be concluded that all variables can be used to explain factors.

The Total Variance Explained table II shows the value of each variable being analyzed. In this study, there are 6 variables which mean there are 6 components that are analyzed. There are two kinds of analysis to explain a variance, namely Initial Eigenvalues and Extraction Sums of Squared Loadings. In the Initial Eigenvalues variant, it shows the formed factor. If all the factors are added up, the number of variables is equal to 6 variables. While the Extraction Sums of Squared Loading section shows the number of variations or the number of factors that can be formed, in the output results above there are 2 (two) variations of factors, namely 3.563 and 1.325.

This Component Matrix shows the correlation value or the relationship between each variable and the factors that will be formed. For example: from the output above, it can be seen in the demographic variables, namely the correlation value of this variable with factor 1 is 0.608 and the correlation

Tables of Nursing Assessment in Cases Due to Occupational Work in the Agricultural Area: An Analysis Factor

Table I : Research Component Analysis

Variable	Determine	KMO and Bartlett's Test
Demographic	.710	
Health cultural factors	.784	
Risk factors for poisoning	.938	KMO MSA .755
Risk factors for contamination	.944	Sig. .000
Risk factors for injury	.766	
Risk factors for stress	.745	

Table II : Dominant Factor Correlation Value

Variable	Component 1	Component 2
Demographic	.608	.584
Health cultural factors	.885	.028
Risk factors for poisoning	.887	-.389
Risk factors for contamination	.798	-.555
Risk factors for injury	.495	.722
Risk factors for stress	.861	.059
Extraction Sums of Squared Loadings	3.563	1.325

with factor 2 is 0.584. For other variables, the way to interpret them is the same as for demographic variables.

As a result, there are 6 factors that have been identified as factors that influence nursing assessment. Namely, demographic factors, health cultural factors, risk factors for poisoning, risk factors for contamination, risk factors for injury and risk factors for stress. Meanwhile, based on the results of factor analysis, 2 component factors were formed, namely factors due to hazardous materials and factors causing trauma in nursing assessments in agricultural areas.

Demographic variables, health culture assessment, poisoning risk assessment, contamination risk assessment and stress risk assessment have a higher correlation value in component factor 1. In the assessment variable, the risk of injury has a greater correlation value on component factor 2. By looking at the above discussion, the conclusion What we can take in this factor analysis is as follows: component 1 consists of demographic variables, health culture assessment, poisoning risk assessment, contamination risk assessment and stress risk assessment. Factor component 2 consists of assessing the risk of injury.

DISCUSSION

The agricultural industry in Indonesia is one that presents a significant danger to employees, has harsh environmental conditions, and uses and technologies in land management that are still insufficient for the level of health and safety of farmers. Ergonomic injury is one of the health and safety issues that frequently affects employees, such as farmers (11).

Global agricultural productivity has increased as a result of pesticides. However, if not used properly, they may have negative health impacts that can even be permanent as well as environmental degradation. Organophosphate pesticide exposure can happen in a number of ways, such as through contaminated food, contaminated environments and homes, agricultural activities, and closeness to agricultural fields (12). Pesticide exposure by skin has been identified as the main route that contributes the most among workers, particularly pesticide handlers who mix, load, and/or applies pesticides (13).

Among all injuries, injuries such as skin injuries, skin friction, superficial vein injuries, injuries to the toes or fingers, and muscle tension were recorded as the severity of AIS 1, whereas injuries to limbs, deep vein injuries, permanent loss of any body part, and infection of the injured limb was considered to be between the severity of AIS 2 and AIS 3 injury (14). Farmers' behavior in dealing with trauma caused by hazardous products may be improved through training programs, understanding of safe handling techniques and safety precautions, and education about the long-term effects of pesticide exposure to health and the environment (15). The primary goals of occupational health care are the advancement and maintenance of good health, the avoidance of disease and injury, protection from environmental and occupational dangers, and business profitability. Regardless of the workplace, nurses need to get high-quality education regarding the connection between work and health, but some schools lack this or only provide a limited amount of it. For students enrolled in the baccalaureate nursing degree, this report provides a cutting-edge occupational health nursing curriculum. This new curriculum's development and testing process, alignment with nursing skills, structure, and learning activities are all described (16).

The role of nurses is very important in providing health services for patients (17). Several studies that have been carried out explain that the professional behaviour of nurses is related to the patient's recovery rate (18). In the agricultural sphere, it is the management of care and nursing services in the agricultural sphere that focuses on individuals, families, groups and even communities that are holistic and comprehensive. Agronursing aims as a forum to meet the health needs of the community in the agricultural environment.

CONCLUSION

In order to provide patients with health services, nurses play a crucial role. Nursing documentation must be developed with the work environment where the health service is located in mind. Regardless of the workplace context, effective nursing care depends on quality education about the connection between work and health. As a result, in order to provide nursing care that is focused on issues in the agricultural region, nurses who work in agricultural areas need to have understanding of nursing documentation.

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