Implementation of Green Hospital Service Nutrition through Knowledge and Training on Improving Work Ability

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Abstract

Creating a green hospital environment is a variety of maintaining environmental cleanliness, water, electricity, and green nutrition. This study determines the implementation of green hospitals by creating the quality of nutrition provided through training and training to create sustainable employability at the Arifin Nu'mang Hospital, Indonesia. This research method is quantitative, and the study uses 2 types of population, so that the authors conducted a cluster, the population this study were 27 Nutrition Installation officers using total sampling and 250 hospitalized patients in the last 3 months using simple random sampling and the final sample used was 180 with the solving formula. The results showed that the quality of nutrition services in hospitals was more supported by the increase in the work capacity of nutrition installation officers. The workability creates a high level of work awareness and responsibility, and the workability variable is a good intervening variable on the quality of nutritional services. Training needs to be improved in increasing knowledge for the sustainability of the green hospital at Arifin Nu'mang Hospital. The results of this study
contributed to the lack of a green hospital concept regarding the role of knowledge and training in improving the quality of nutritional services. Different from other research is the ability to distinguish between knowledge and training in measuring the quality of nutrition services; knowledge is a form of understanding that requires stimulation, while training is a form of action that is carried out deliberately in achieving goals.

**Keywords**

Green Hospital, Knowledge, Training, Work Ability, Quality Service Nutrition.

**Introduction**

All hospitals in Indonesia must have implemented a green hospital by 2020. The Ministry delivers that of Health of the Republic of Indonesia through the Director-General of Health Efforts. All hospitals go to the green hospital, but it is not at all ideal. The problem with this 'green hospital' is in the process. This is largely influenced by knowledge, technology, culture (Benzidia et al., 2020; Green et al., 2020; Liu et al., 2020). The concept of a standard green hospital is used for hospitals in Indonesia; the hospital not only faces demands on efficiency and quality in the realm of hospital accreditation but also excellent service that provides satisfaction in various aspects will the efforts being made to realize. A hospital with a green hospital concept is an option for hospitals with a vision of progress to become a hospital that is excellent in quality and service, including nutrition (Fleischhacker et al., 2020; Uner et al., 2020). Quality nutrition services are nutritional services starting from nutrition assessment, nutrition diagnosis, and nutritional intervention, including planning, food provision, education/nutrition counselling, and nutrition monitoring and evaluation (Uner et al., 2020). Nutrition services in the form of nutritional care services and organizing meals for patients in the hospital are very important factors in helping the healing process of the disease.

Knowledge of health workers about health problems is an important element to answer all questions and problems posed by patients; another thing that becomes a problem when the knowledge possessed by health workers is unable to solve technical problems in the hospital where they work. So the hospital needs to increase the knowledge of health workers by conducting training. The low quality of training impacts the results or the quality of service for health workers in carrying out their duties. For this reason, in increasing the capacity of health workers, it is necessary to improve human resources by increasing their capacity or quality through a training process. In general, training aims to increase the ability to improve service quality (Cancedda et al., 2018; D. K. Sharma, et al., 2021).
Arifin Nu'mang General Hospital is one of the hospitals belonging to the Sidenreng Rappang Regional Government. The workability of health workers, the hospital is more concentrated on the educational qualifications of health workers. Still, not all of the knowledge and education possessed by health workers can meet the appropriate quality service standards in the hospital. The same thing is that training has not been maximized so that it has a bad impact on the quality of service. This study reveals how much influence knowledge and training have on work ability and its impact on the quality of nutritional services at the Arifin Nu'mang General Hospital, Sidrap Regency (D.K. Sharma, et al., 2021).

Literature Review

Knowledge of Work Ability

Knowledge is the main requirement for someone who wants to properly improve his ability to complete his duties and jobs. Knowledge can be obtained through formal education or through informal activities that will lead to changes in one's mindset in a particular object. Through the knowledge possessed by a person, he has a goal he wants to achieve, but to achieve it is not easy because there must be encouragement from within him to achieve that goal. This encouragement is an ability that can maximize a person's effort by exerting all his abilities; as stated by (Yusuf et al., 2020), that ability refers to encouragement and efforts to meet and satisfy a need or to achieve a goal. Work ability is a form of a strong urge to be able and able to complete a job effectively and efficiently. Previous research results that support this research include (Zhang et al., 2015; Aryanti & Adhariani, 2020); G. A. Ogunmola et al., (2021), Yanti & Mertawati, 2020), which concluded that knowledge has a positive and significance to work ability.

Work Ability Training

This training activity is a form and process of training someone to get a new placement with the basic skills they need. As Wilson (2012); Umar et al. (2020), training is the process of training new employees or employees who will get new placements with the basic skills needed to carry out work. Silic and Lowry (2020) stated that training (training) is a learning process that involves the acquisition of skills, concepts, rules, or attitudes to improve employee performance. Workability is the output of the training results because it affects a person carrying out various kinds of work activities that he wants. This is in line with what Vroom stated in Nguyen and Nguyen (2020); Nguyen et al. (2020) that the ability to lead to processes influences individual options for the various kinds of activities they want. Thus, the training that a person follows in increasing his /
her capacity for work will certainly strengthen him/herself to do work more effectively and efficiently. Previous research results that support this research include (Hasbullah et al., 2020; Kimseng et al., 2020), concluding that there are positive and significant training on employability.

Knowledge of Quality of Nutrition Services

Knowledge is an aspect of reasoning that is managed by the human senses to remember what they have received. This is as stated by Soekidjo Notoatmodjo (2010) that knowledge is remembering something that has been previously learned, or knowledge of remembering what has been received can also be said to be a verb to measure a person's level of knowledge about what has been learned. Health workers with good knowledge in their fields will produce quality services in their workplaces; this is the hope and expectation of a hospital that wants its employees to have good knowledge and understanding in their field. Providing nutritional services to inpatients to obtain food according to their health conditions to accelerate the healing process and maintain and improve nutritional status. The targets of nutrition services are patients and families (Ministry of Health RI, 2014). Thus, a good level of knowledge of health workers will encourage an increase in the quality of services in the hospital. Previous research results that support this research include (Baber 2019; Nguyen, 2020; F. Arslan, B. et al., 2021; Khairina et al., 2020), which concluded that knowledge affects service quality.

Training on Quality of Nutrition Services

Training is a way to accelerate organizational goals (Elnaga & Imran, 2013; Zhao et al., 2014). This is in line with (Utoko et al., 2013; Hanaysha, 2016) that training is a process where people achieve certain abilities to help achieve organizational goals. Regarding the quality of nutrition services in hospitals, health workers play a major role in maintaining the quality of nutrition services in the hospitals where they work, and this does not mean that the level of education they have can know all the important aspects of nutrition services in hospitals (Flanel & Fairchild, 1995; Tappenden et al., 2014; Rosen et al., 2013).

Green Hospital

The concept of the green hospital in Indonesia refers to best practices from various countries, but no global standard determines what a green and healthy hospital should be (Barcelo, 2020; Rahman et al., 2021; Green & Colucci, 2020). The green hospital can be defined as a green and healthy hospital that promotes public health by continuously
maintaining the good quality of patient nutrition or reducing its environmental impact and ultimately eliminating its contribution to the disease burden (Azmal et al., 2014; Zhu et al., 2018; Desfiandi, A., et al., 2019). A green and healthy hospital recognizes the relationship between human health (nutrition) and the environment and demonstrates this through governance and operational strategies (Ryan-Fogarty et al., 2018; Smith, 2006).

Conceptual Framework

The relationship between variables, both directly and indirectly, can be illustrated in the conceptual framework in Figure 1, as the hypothesis has been built in the literature review.

Methodology

This research was conducted at RSUD Arifin Nu'mang Sidrap Regency, Makasar Indonesia, conducted for approximately 2 (two) months from September to October 2020. The study used 2 types, so that the authors conducted clusters to determine the right number of samples. This population includes 27 Nutrition Installation officers using total sampling and 250 hospitalized patients in the last 3 months using simple random sampling (Slovin formula). The final total sample used was 180 people. Data collection techniques through observation, interviews, questionnaires, and documentation, while data analysis uses path analysis.

Data Analysis

For path analysis, in this study, the structure 1 and structure 2 tests were carried out. Structure 1. The Effect of Knowledge (X1) and Training (X2) on Work ability (Y1).

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>9.814</td>
<td>1.986</td>
<td>4.942</td>
</tr>
<tr>
<td></td>
<td>Knowledge (X1)</td>
<td>.496</td>
<td>.080</td>
<td>.408</td>
</tr>
<tr>
<td></td>
<td>Training (X2)</td>
<td>.493</td>
<td>.093</td>
<td>.349</td>
</tr>
</tbody>
</table>

Source: Processed data, 2020

The regression coefficient value (b1) = 0.408 with a significance level of 0.000 which means significant (Sig <0.05) or the value of tcount> t table (6.198> 1.973). Thus, it is said that the Knowledge variable (X1) has a positive and significant effect on Work Ability (Y1). The magnitude of the influence of the X1 variable on Y1 can be seen in the beta standardized coefficients value of 0.408 points.
Regression coefficient value (b2) = 0.349 with a significance level of 0.000 which means significant (Sig <0.05) or the value of tcount> t table (5.297> 1.973). Thus, it is said that the Training variable (X2) has a positive and significant effect on work ability (Y1). The magnitude of the influence of the X2 variable on Y1 can be seen in the beta standardized coefficients value of 0.349 points.

**Determination Test (R2)**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. The error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.658</td>
<td>0.433</td>
<td>0.426</td>
<td>3.540</td>
</tr>
</tbody>
</table>

Source: Processed data, 2020

The value of determination (R2) shows a value of 0.433 or 43.3%. This means that 43.3% of the variation in the fluctuation of the Work ability (Y1) variable can be explained by the variation of the Knowledge (X1) and Training (X2) variables. Meanwhile, the remaining 100-43.3 = 56.7% is explained by other variables outside the model studied Structure 2 Effect of Knowledge (X1), Training (X2), and Work ability (Y1) on Quality of Nutrition Services (Y2).

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>6.764</td>
<td>1.383</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Knowledge (X1)</td>
<td>.128</td>
<td>.058</td>
<td>.152</td>
</tr>
<tr>
<td></td>
<td>Training (X2)</td>
<td>.310</td>
<td>.065</td>
<td>.318</td>
</tr>
<tr>
<td></td>
<td>Work ability (Y1)</td>
<td>.250</td>
<td>.049</td>
<td>.362</td>
</tr>
</tbody>
</table>

Source: Processed data, 2020

The regression coefficient value (b3) = 0.152 with a significance level of 0.028 which means significant (Sig <0.05) or the value of tcount> t table (2.222> 1.973). Thus, it is said that the Knowledge variable (X1) has a positive and significant effect on the Quality...
of Nutrition Services (Y2). The magnitude of the influence of the X1 variable on Y2 can be seen in the standardized coefficients beta value of 0.152 points.

The regression coefficient value (b4) = 0.318 with a significance level of 0.000 which means significant (Sig <0.05) or the value of tcount> t table (4.748> 1.973). Thus, it is said that the training variable (X2) has a positive and significant effect on the quality of nutritional services (Y2). The magnitude of the influence of the X2 variable on Y2 can be seen in the beta standardized coefficients value of 0.318 points.

The regression coefficient value (b5) = 0.362 with a significance level of 0.000 which means insignificant (Sig <0.05) or the value of tcount> t table (5.103> 1.973). Thus, it is said that the Work Ability variable (Y1) has a positive and significant effect on the Quality of Nutrition Services (Y2). The magnitude of the influence of the Y1 variable on Y2 can be seen in the beta standardized coefficients value of 0.362 points.

**Determination Test (R2)**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. The error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.705*</td>
<td>0.497</td>
<td>0.489</td>
<td>2.311</td>
</tr>
</tbody>
</table>

Source: Processed data, 2020

The value of determination (R2) shows a value of 0.497 or 49.7%. This means that 49.7% of the variation in the fluctuation of the Nutrition Service Quality (Y2) variable can be explained by the variation of the Knowledge (X1), Training (X2), and Work ability (Y1) variables. Meanwhile, other variables outside the model were studied to explain the remaining 100-49.7 = 50.3%.

**Indirect Effect**

To calculate the amount of the indirect effect, it can be calculated as follows:

1. The magnitude of the indirect effect of Knowledge (X1) on the Quality of Nutrition Services (Y2) through Work ability (Y1) ➔ X1 ➔ Y1 ➔ Y2 = (b1 x b5) = (0.408 x 0.362) = 0.147

The value of 0.147 means that the indirect effect of variable X1 on variable Y2 through variable Y1 is 0.147 points.

2. The magnitude of the indirect effect of Training (X2) on the Quality of Nutrition Services (Y2) through Work Ability (Y1) ➔ X2 ➔ Y1 ➔ Y2 = (b2 x b5) = (0.349 x 0.362) = 0.126
A value of 0.126 means that the indirect effect of variable X2 on variable Y2 through variable Y1 is 0.126 points. Based on the results of the path analysis of all independent, intervening, and dependent variables, a path analysis model can be made as follows:

![Green Hospital Evaluation of Nutrition Services](image)

**Figure 2 Full Model Path Analysis**

**Hypothesis Test Results**

**Table 6 Hypothesis test results**

<table>
<thead>
<tr>
<th>No</th>
<th>Hypothesis</th>
<th>Value</th>
<th>Sig</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Knowledge has a positive and significant effect on Work ability at the Arifin Nu'mang General Hospital, Sidrap Regency.</td>
<td>0.408</td>
<td>0.000</td>
<td>Positive and Significant</td>
</tr>
<tr>
<td>2</td>
<td>Training has a positive and significant effect on Work ability at the Arifin Nu'mang General Hospital, Sidrap Regency.</td>
<td>0.349</td>
<td>0.000</td>
<td>Positive and Significant</td>
</tr>
<tr>
<td>3</td>
<td>Knowledge has a positive and significant effect on the Quality of Nutrition Services at the General Hospital Arifin Nu'mang, Sidrap Regency.</td>
<td>0.152</td>
<td>0.028</td>
<td>Positive and Significant</td>
</tr>
<tr>
<td>4</td>
<td>Training has a positive and significant effect on the quality of nutrition services at the Arifin Nu'mang General Hospital, Sidrap Regency.</td>
<td>0.318</td>
<td>0.000</td>
<td>Positive and Significant</td>
</tr>
<tr>
<td>5</td>
<td>Work ability has a positive and significant effect on the Quality of Nutrition Services at the General Hospital Arifin Nu'mang, Sidrap Regency.</td>
<td>0.362</td>
<td>0.000</td>
<td>Positive and Significant</td>
</tr>
<tr>
<td>6</td>
<td>Knowledge has a positive and significant effect on the Quality of Nutrition Services through Work ability at the Arifin Nu'mang General Hospital, Sidrap Regency.</td>
<td>0.147</td>
<td>0.000</td>
<td>Positive and Significant</td>
</tr>
<tr>
<td>7</td>
<td>Training has a positive and significant effect on the Quality of Nutrition Services through Work ability at the Arifin Nu'mang General Hospital, Sidrap Regency.</td>
<td>0.126</td>
<td>0.000</td>
<td>Positive and Significant</td>
</tr>
</tbody>
</table>
Discussions

The Influence of Knowledge on Work ability at Arifin Nu'mang Hospital, Sidrap Regency. Positive and significant. The results of the research are supported by (Zhang et al., 2015; Aryanti & Adhariani, 2020; Yanti & Mertawati, 2020). The educational qualification level of the nutrition installation officers at the Arifin Nu'mang Hospital, Sidrap Regency, is by the placement so that they are easier to carry out their duties and functions as nutrition installation officers. Their knowledge has increased their abilities intellectually and physically.

The Effect of Training on Work ability at RSUD Arifin Nu'mang, Sidrap Regency. Positive and significant. Research results are supported by research (Hasbullah et al., 2020; Kimseng et al., 2020). The training conducted by the RSUD is carried out regularly to produce Nutrition Installation officers having a much better way of working than before; after training, it was seen that the officers could work independently and responsibly.

The Influence of Knowledge on Quality of Nutrition Services at RSUD Arifin Nu'mang, Sidrap Regency positive and significant. The research results are supported by (Baber 2019; Nguyen, 2020; Kumala, 2019; Khairina et al., 2020). The findings of the study, although the effect is not that big, the role of knowledge is prioritized by the hospital considering that knowledge is vital in quality nutritional services, the knowledge possessed by officers has led to the improvement of service quality.

Effect of Training on Quality of Nutrition Services at RSUD Arifin Nu'mang, Sidrap Regency positive and significant. The research results were supported by (Kawi et al., 2020; Aryanti & Adhariani, 2020). The better the training attended by nutrition installation officers at the Arifin Nu'mang Hospital, Sidrap Regency, the better the service quality will be. The suitability of the training material and time as a factor in the high participation of officers in training to produce quality training outcomes.

The Effect of Work ability on the Quality of Nutrition Services at the Arifin Nu'mang Regional Hospital, Sidrap Regency is positive and significant. The research results are supported by (Amin et al., 2020; Syaripudin et al., 2020). The better the work ability, the better the nutritional service quality at the Arifin Nu'mang Hospital, Sidrap Regency. The officers’ ability is intellectual knowledge, but physically, the officers can maximize it so that the planning and accuracy of nutrition services can be improved.
The Influence of Knowledge on Quality of Nutrition Services through Work ability at RSUD Arifin Nu'mang, Sidrap Regency positive and significant. The importance of knowledge for health workers cannot be separated from the importance of the hospital in encouraging the improvement of the quality of knowledge of its employees. Although knowledge can improve the work ability of the staff or staff of the Nutrition Installation at Arifin Nu'mang Hospital, Sidrap Regency, not all Nutrition Installation officers can implement their knowledge in handling or providing proper nutrition services to patients.

The Influence of Training on Quality of Nutrition Services through Work ability at RSUD Arifin Nu'mang, Sidrap Regency positive and significant. Training is very important to improve a person's ability in his job, good training by the hospital's planning or targets has been able to increase the ability of officers which then has an impact on the quality of services provided Encouraging the level of participation of officers to increase their abilities is a strategy to support the quality of human resources, especially at the Arifin Nu'mang Hospital Nutrition Installation, this should be welcomed and enthusiastically welcomed by the officers for the opportunities given.

Conclusion

Making a Green Hospital is one of the main factors that a management team needs to understand about environmental concerns, the importance of clean water, and nutrition. Paying attention to the nutrition provided is one of the goals of green hospitals. An understanding of nutrition, how nutrition is supported by the working abilities of the nurses at Arifin Nu'mang Regional Hospital, Sidrap Regency. There is still a lack of knowledge about nutrition due to a lack of knowledge, such as training. So this makes a very meaningful input to continue to make improvements and conduct training for nurses in the hospital so that the vision and mission of becoming a green hospital can be achieved.

Acknowledgement

I would like to express my gratitude to the head of the hospital, Arifin Nu'mang Hospital, Sidrap Regency, South Sulawesi, for allowing us to do research and being willing to be the informants of this research.

References


