

Improvement on Human Resource Planning Capacity of a Hospital in Karangasem Through *Workload Indicators of Staffing Need* Software Application Training

N. M. S. Nopiyani¹, I K. Suarjana¹, P. P. Januraga¹, P. Muliawan¹

¹Community Health Study Program, Faculty of Medicine, Universitas Udayana, sri.nopiyani@unud.ac.id

¹Community Health Study Program, Faculty of Medicine, Universitas Udayana, ketut.suarjana@rocketmail.com

¹Community Health Study Program, Faculty of Medicine, Universitas Udayana, januraga@unud.ac.id

¹Community Health Study Program, Faculty of Medicine, Universitas Udayana, partha_muliawan@yahoo.com

Abstract The Workload Indicators of Staffing Need (WISN) software application training aims to improve the knowledge and skill of Karangasem Regional Public Hospital (RSUD Karangasem) staff in undertaking workload-based human resources planning analysis using WISN software. The training was conducted in 24 September 2016 at RSUD Karangasem. Fifty seven managerial staff of RSUD Karangasem participated in the training. The training consist of WISN software installation, presentation, discussion, and practices on how to use WISN software. The trainees were asked to fill in pretest and posttest questionnaires. The test scores were analyzed statistically using paired t-test. There was knowledge improvement of 6,21 after the training with p value < 0.001. All trainees were also able to conduct analysis using WISN software under the guidance of the trainers. The training has been well performed and successfully improved the knowledge and skill of RSUD Karangasem staff in applying WISN method. They stated their willingness to apply WISN method to their institution. However, further technical guidance is required to set up the system for the implementation of WISN method on human resource planning in RSUD Karangasem.

Keywords: *training, WISN, human resources planning, Karangasem Regional Public Hospital*

I. INTRODUCTION

Hospital is one of the important elements of the National Health System. Hospital is an advance health care facility which refers to individual health efforts in order to get a patient cured and for the patient to recover from illness. It is a complex, labor intensive, and capital-intensive institution. It is also influenced by dynamic internal and external environment. Karangasem Regional Public Hospital (RSUD Karangasem) is a Government Hospital (type C) which becomes the health care referral center of the people in Karangasem Regency. At the time of the National Health Insurance, it is expected that RSUD Karangasem is able to play optimal role in providing secondary health service so that the people in Karangasem can access the health service they need.

In order to be able to provide quality health services, adequate human resources in terms of quantity, quality, and distribution are needed. It is assumed that scarce human resource planning becomes one of the factors that contributes to the inadequate human resource within the health sector in Indonesia (Bappenas 2005).

The interview with the Head of Nursing Department of RSUD Karangasem shows that there is constraint in providing services within the inpatient care facility, namely the completeness of nursing practices documentation is not optimal yet. One of the factors that is assumed to be the cause of the inadequate services is the high workload of nurses in the hospital, however, the number of nurses working in RSUD Karangasem is already in compliance with the provision under the regulation of the Minister of Health. During this time the human resource planning in RSUD Karangasem is based on the regulation of

the Ministry of Health No. 262/MenKes/per/VII/1997 which is looking at the number of health workers needed for type C hospital. The weakness of such method is that it cannot accommodate the variations that create the differences in demand for services such as morbidity pattern, accessibility, and the economic levels of the society (WHO, 2010).

By considering the number of health workers based on the type of the facility then there is a possibility that the number of human resources needed to provide health care in RSUD Karangasem is less or more than the current number available in that hospital. The decision of the Minister of Health Number 81 Year 2004 regarding the Guidelines for Human Resources Planning has recommended several methods to calculate the number of human resources needed in a hospital and one of those methods is Workload Indicators of Staffing Needs (WISN) (Department of Health Affairs of Republic of Indonesia, 2004). The advantage of WISN method compared to other methods is that it can accommodate the variation needs of human resource based on the health care facility type and the local variation that influence them (WHO, 2010). However, in spite of the advantage of WISN method, it is rarely used in human resource planning in Indonesia. This method has not also been applied for human resource planning in RSUD Karangasem since nobody know how to apply the WISN software.

II. PROBLEM SOLVING METHOD

Human resource planning which is not based on workload calculation may result in improper number of human resource required compared to real situation. In order to improve the quality of human resource planning in RSUD Karangasem, WISN software application training was given to the managerial staff of RSUD Karangasem who are responsible for the planning. During the training preparation, communication and coordination between the organizing committee and the Head of Education and Training Department of RSUD Karangasem were established. Moreover, the committee also prepared the training materials and logistics.

All participants were requested to bring laptop to the training so that they could practice using WISN software through their laptop directly. Before the training started, the software was installed on each of the participants' laptop. They were also requested to fill in a pretest questionnaire which consists of 15 questions to find out their knowledge level prior to having the training.

The training activity consisted of material presentation on WISN method and how to use WISN software and then followed by discussion and training in using the software. During the training session, the participants were trained by the organizing committee that acted as the trainer to solve sample case of human resource planning. Participants learned how to identify data needed from the said sample of case, they learned how to input the data into the right component and to get analysis result of the software. After that, the participants learned how to read and to interpret the result and finally prepared a follow-up plan of the result. At the end of the training, participants were requested to fill in posttest questionnaire with the same questions as the pre-test questionnaire. The pre and posttest results were analysed statistically using paired t-test in order to find out whether there is any difference in participants' knowledge before and after the training.

III. RESULTS AND DISCUSSION

The training had been conducted on 24 September 2016 at the third-floor meeting room of RSUD Karangasem. There were 57 people who joined the training. They were staff of human resource management, head of departments and of rooms in RSUD Karangasem. The training was opened by the Director of RSUD Karangasem. After the opening, it was followed by the pretest questionnaire. Most of the participants never heard about WISN software. The training lasted for six hours and the majority of participants took part in full training. They were all enthralled by the training. The questions addressed were about technical use of WISN software, the use of WISN method to analyze the need of human resource for structural and managerial position, and the preparation needed to apply the WISN method in the hospital. Following the introduction on WISN method and presentation on how to use the WISN software, the participants practiced how to use the software, guided by the outreach workers. During the practice session, the hospital services data were provided to the participants to be input into the WISN software for further analysis. The trainees had different ability to understand the material given, therefore the trainers had to provide those who had difficulty to understand it with intensive guidance. All participants were able to do the analysis of the needs of human resource with the guidance of the trainers. And at the end of the training, all participants were requested to fill in the posttest questionnaire.



Figure 1. WISN training in RSUD Karangasem



At the last session of the training, the participants were asked regarding the possibility to implement this method in their institution. All participants stated that WISN method is likely to implement, however, it will need thorough preparation and further technical guidance. All participants were provided with training materials comprised introduction to WISN method and software manual that were saved in flash disks. Those can be used as guidance for using and disseminating the software to all staff within their working unit.

Not all participants filled in the pretest and posttest questionnaires. Some of them came after the training started because they have to keep doing the health care activities in the hospital. The questionnaires that had been filled in by 33 participants were analyzed using paired t-test in order to find out whether there is any difference in participants' knowledge before and after the training.

Table 1. Paired-sample t-test results on the pretest and posttest scores

Knowledge Score	Average	Average Difference	Confidence Interval 95%	p Score
Before training	7,36	6,21	4,94 –7,48	< 0,001
After training	13,58			

The analysis result of pre and posttest score in **Table 1** shows that after the participants followed the training there is improvement in participants' knowledge score average for 6.21 with p value < 0.0001. It indicates that the training was effective enough to improve participants' knowledge in relation human resource planning with WISN method.

The initiation of WISN software needs mutual agreement either in each internal service unit or between units of service in RSUD Karangasem regarding the types of activities which will be considered in WISN analysis for each health worker category and time standard in doing activity. In addition, RSUD Karangasem needs to create system in order to ensure the availability and completeness of the services statistical data needed. Eventually, WISN implementation in RSUD Karangasem is determined by the commitment of the hospital to make changes.

IV. CONCLUSION

The outreach program in the form of WISN software application training in RSUD Karangasem has been well performed and effectively improved the participants' knowledge and skill in analyzing the needs of the human resource by using WISN software.

V. SUGGESTION

A follow-up to the training and a technical guidance are needed in order to facilitate RSUD Karangasem in initiating the use of WISN software to assist the hospital's human resource planning.

ACKNOWLEDGMENT

The WISN software application training, as part of an outreach program, could be organized due to the

financial support given by the Institute for Research and Community Service of Universitas Udayana. Abundance of gratitude is also conveyed to the staff of RSUD Karangasem for their participation in the training.

REFERENCES

- [1] Bappenas (2005) *Kajian Perencanaan Tenaga Kesehatan*, Jakarta.
- [2] Depkes RI (2004) *Keputusan Menteri Kesehatan Republik Indonesia Nomor 81/Menkes/SK/I/2004 Tentang Pedoman Penyusunan Perencanaan Sumber Daya Manusia Kesehatan di Tingkat Propinsi, Kabupaten/Kota Serta Rumah Sakit* Jakarta: Departemen Kesehatan Republik Indonesia.
- [3] Dinkes Karangasem (2014) *Profil Kesehatan Kabupaten Karangasem Tahun 2014*. Karangasem: Dinas Kesehatan Kabupaten Karangasem.
- [4] Kemkes RI (2014). *Peraturan Menteri Kesehatan Republik Indonesia Nomor 75 Tahun 2014 Tentang Pusat Kesehatan Masyarakat*. Kementerian Kesehatan Republik Indonesia.
- [5] WHO (2010) *Applying the WISN in Practice: Case Studies from Indonesia, Mozambique and Uganda*, Geneva: World Health Organization.