Workload Analysis of Registration Personnel and Medical Records: Approach Method Workload Indicators of Staffing Need

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A B S T R A C T

The quality of Human Resources is very influential on performance in an organization in general and work units in particular. Each work unit requires a workforce under its main tasks and functions with the number of workers according to the standard. This study aims to analyze the Workload Analysis of Registration and Medical Record Workers with the Workload Indicators of Staffing Need (WISN) approach. The research method uses a mix method approach. This research was carried out in the second trimester of 2022 at the registration and medical record unit at R. Ali Manshur Hospital Tuban. There were five research samples, namely the Director (interview), HR Manager (1 person), Casemix Team (1 person), Head of Registration and Medical Records Unit (2 people), and Implementers in the registration and medical record unit (5 people). In conducting qualitative data analysis to understand the data obtained, it is necessary to use a thematic analysis. The steps that will be carried out in the study include Observation (Observation), Interviews with personnel in each shift, and Viewing documents. The results of the study indicate that the need for personnel for registration is four and four for the medical record unit

Kata kunci:

Metode Indikator Beban Kerja Kebutuhan
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A B S T R A K

Kualitas Sumber Daya Manusia sangat berpengaruh pada kinerja dalam suatu organisasi pada umumnya dan unit kerja pada khususnya. Setiap unit kerja membutuhkan tenaga kerja yang sesuai dengan tugas pokok dan fungsinya dengan jumlah tenaga sesuai standar. Tujuan penelitian ini menganalisis Analisis Beban Kerja Tenaga Pendaftaran dan Rekam Medik dengan pendekatan Workload indicators of Staffing Need (WISN). Metode penelitian menggunakan pendekatan mix method. Penelitian ini dilaksanakan pada tribulan dua tahun 2022 di Unit pendaftaran dan rekam medik RSUD R. Ali Manshur Tuban. Sampel penelitian berjumlah lima, yaitu Direktur (wawancara), Manager SDM (1 orang), Tim Casemix (1 orang), Kepala Unit Pendaftaran dan rekam medis (2 orang) dan Pelaksana di unit pendaftaran dan rekam medis (5 orang). Dalam melakukan analisis data kualitatif untuk memahami data yang didapatkan maka perlu menggunakan tematik analisis. Langkah-langkah yang akan dilakukan dalam penelitian meliputi Pengamatan (Observasi), Wawancara kepada personal di tiap shif dan Melihat dokumen. Hasil penelitian menunjukkan bahwa kebutuhan tenaga untuk pendafataran sebanyak empat 4 orang dan untuk unit rekam medis sebanyak enam.

INTRODUCTION

Globally Human Resources play an important role in building community resilience and developing health systems with an adequate level, equitable distribution to provide and ensure optimal and quality health services (WHO, 2016) to the community and is one of the main components influencing effectiveness and efficiency of health systems in each country.

In developing countries including Indonesia, facing the need for health workers to meet the demand for quality health services causes pressure on managers to allocate their human resources effectively. Today health care managers worldwide are faced with increasing challenges, related to inadequate resources between responding to demand and unequal distribution in urban and rural areas (WHO, 2010).

The World Health Organization developed the Employment Needs Workload Indicator in the late 1990s in an effort to address health challenges related to human resources. The WISN method is based on the workload of health workers, with activity standards applied to each component of the workload. The advantage of the WISN method shown in several studies is that it is based on calculations on actual work which has made it a more objective tool in determining the amount of resources required (Nguyen et al., 2022). The quality of Human Resources is very influential on performance in an organization in general and work units in particular. Each work unit requires a workforce that is in accordance with its main tasks and functions with the number of workers according to the standard. The provisions on the number of workers to be distributed in a unit become the standard basis for making human resource planning (Wardanis, 2018)

To ensure the achievement of health development goals, it is necessary to support a strong National Health System. Based on Law no. 36 of 2009 article 168 that to carry out effective and efficient health efforts requires skilled, trained health workers and qualified health support personnel. At the hospital, the registration and medical record administrative service officer is the one who provides patient documents when the patient wants to seek treatment. It has a very important role and is one of the vital units in hospital service management. The responsibilities of the registration and medical record unit include managing the contents of the medical record including the completeness of the contents, policies, storage, destruction and confidentiality, ownership, utilization and organization (Kemenkes, 2013).

According to Permenkes No. 55 of 2013 one of the duties of registration staff and medical records in hospitals is to register and record in the medical record. Patient service in the registration and medical record unit at R. Ali Manshur Hospital is still not up to standard, both from the time specified in the quality indicators of the registration unit and medical records as well as the neatness of its administration. The registration and medical record unit at R. Ali Manshur Hospital has 7 staff, including 4 at registration and 3 medical records. The average number of patients every month in the first semester of 2021 served at registration is approximately 747 patients consisting of inpatients and outpatients.

Minister of Health Regulation No. 55 of 2013 that a medical recorder is a person who has passed the education of medical records and health information in accordance with the provisions of the legislation. Medical records as a source of information to increase efficiency require professional management to meet all needs from various aspects; administration, law, finance, research, education, documentation, and public health. Medical record service is one of the medical support services.

Workload analysis is a management technique that is carried out systematically to obtain information about the level of effectiveness and efficiency of the organization's work based on the volume of work in accordance with the Minister of Administrative Reform Regulation No. 1 of 2020. Based on the Decree of the Minister of Health of the Republic of Indonesia Number 81/Menkes/SK/I/2004, it is stated that workload analysis is an effort to calculate the workload on a work unit by adding up all workloads and then dividing by individual work capacity per unit of time.

Of the many cases related to registration and medical records, where are the obstacles in the service. Based on the above analysis, it may be due to excessive workload or lack of medical record personnel. So as the Management team at R. Ali Manshur Hospital, it was intrigued to know how to calculate the manpower requirements for each service unit. Currently, the focus of the calculation is on registration units and actual medical records in accordance with the current situation.

One method for measuring the workload of health workers, with activity standards applied to each component of the workload. WISN provides two types of results, namely differences and ratios. The difference between the actual and calculated number of health workers indicates the level of shortage or excess of personnel for a certain category of personnel. The concrete ratio of the required amount of power is a parameter of the pressure of the workload being faced. Health human resource managers who are responsible for making better HR-related decisions can use the WISN method as a basis for calculation (WHO, 2010). The advantage of the WISN method shown in several studies is that it is based on calculations on actual work which has made it a more objective tool in determining the amount of resources required.

The registration and medical record units in hospitals play a very important role in providing services that are full of duties and functions. Therefore, the readiness of competent and standard health human resources in terms of quality or quantity is an important emphasis in health human resource planning. (Ministry of Health, 2004). In terms of the quantity of energy needed, it is necessary to do an in-depth calculation so that it can be seen how much power is needed according to the workload in the related unit. Availability of standardized personnel to be smooth requires clarity of the duties of each individual in which part is his responsibility. Procedure for calculating the need for health human resources using the WISN (Workload Indicator Staff Need) method. The WISN method is a human resource management instrument to find out how many health workers of a certain type are needed to cope with the workload of certain health facilities and to assess the workload pressure of health workers at the facility.

Several previous studies have been carried out to analyze WISN and are relevant to this study, such as Wardanis (2018) research which analyzed the workload of the Surabaya Surgical Hospital Medical Record Staff using the FTE (Full Time Equivalent) method which is objective. Where the end of the calculation of the need for personnel in the medical record unit is 5 people with the fact that there are 6 people, so there is an excess of 1 staff in the medical record unit. Based on the results of measuring the need for energy in the medical record unit with the FTE method in accordance with the WISN calculation.

Yulaika's research (2018), concerning Pharmaceutical Technical Personnel Planning based on Workload Analysis

using the WISN Method at RSIA KM. The calculation results obtained that the need for pharmaceutical technical personnel is 8 personnel and currently there are 4 personnel, so there is still a shortage of 4 pharmaceutical technical personnel.

Rakhmawati's research (2016) on Analysis of the Needs of Medical Record Officers Based on Workload at the Medical Record Installation of Aisyiah Muntilan Hospital using the WISN method results in a need of 6 workers consisting of 3 registration officers and 3 medical record officers while in reality there are 4 personnel at registration and 3 personnel in the medical record so there is more than 1 staff in the registration. This one employee is regulated as a data processing and reporting officer so that it does not exceed the workload borne.

Wardanis (2018), conducted a workload analysis of the Workload Indicator Staff Need (WISN) at the Medical Record Unit of the Surabaya Surgical Hospital. There are several methods that can be used to analyze the workload. One of them is Full Time Equivalent (FTE). Workload data obtained by interviews and daily logs will be analyzed and converted into the FTE index. Based on the results of the study, it is known that the workload of supervisors and medical records on the morning shift is normal, but on the day and night shifts and the helper is underloaded. The medical record personnel at the Surabaya Surgical Hospital are sufficient to handle the patient's medical record needs.

Yualika (2018) analyzes the needs and workload of pharmaceutical workers using the Employment Needs Workload Indicator (WISN) based on real time activity standards for each workload. RSIA KM has 4 pharmacies with technicians. Based on the WISN analysis, the results of the study should have a WISN ratio of 0.49 or 1.00, which means there is a shortage of pharmacists. The ideal number of pharmacists is 8.08 or 8 people. In response to this, RSIA KM recruited 4 pharmaceutical technicians. The implications for job enrichment and recruitment are discussed.

Rakhmawati and Rustiyanto (2016) identified the number of available medical record officers, identified job descriptions of medical record officers, identified obstacles that existed in the Medical Record Installation and their solutions, calculated the standard time for activities at the Medical Record Installation, calculated the need for manpower based on the workload at the Record Installation. Medical. This type of research is descriptive with a quantitative approach and cross-sectional research design. The research sample was medical record officer at Aisyiah Muntilan Hospital with a limited sample. After calculating the need for officers using the WISN formula, it turns out that there is no need for additional officers. This shows that the high workload is not due to a lack of officers but because the existing system at registration and polyclinics is not good.

Based on empirical problems and previously elaborated theories, the purpose of this study is to analyze the Workload Analysis of Registration and Medical Record Workers with the Workload Indicators of Staffing Need (WISN) approach in the registration and medical record unit of RSUD R. Ali Manshur Tuban. It is important to conduct this research to determine the need for labor in the registration and medical record unit based on workload analysis. The implications of this research will contribute significantly for the hospital to improve the quality of service.

METHOD

Metode penelitian menggunakan pendekatan mix method. Penelitian ini dilaksanakan pada tribulan dua tahun 2022 di Unit pendaftaran dan rekam medik RSUD R. Ali Manshur Tuban. Sampel penelitian berjumlah lima, yaitu Direktur (wawancara), Manager SDM (1 orang), Tim Casemix (1 orang), Kepala Unit Pendaftaran dan rekam medis (2 orang) dan Pelaksana di unit pendaftaran dan rekam medis (5 orang). Dalam melakukan analisis data kualitatif untuk memahami data yang didapatkan maka perlu menggunakan tematik analisis. Langkah-langkah yang akan dilakukan dalam penelitian meliputi Pengamatan (Observasi), Wawancara kepada personal di tiap shif dan Melihat dokumen.

RESULTS AND DISCUSSION

Table 1. Number of Personnel in the Registration and Medical Record Unit R. Ali Manshur Hospital

No	Jabatan	Pendidikan	Jenis Kelamin	Lama Kerja
1	Kepala Unit	D3 RM	Female	3
2	Staff	D3 RM	Perempuan	2
3	Staff	D3 RM	Male	1
4	Staff	S1 manajemen	Male	2
5	Staff	SMA	Male	2
6	Staff	SMA	Female	2
7	Staff	SMA	Female	1

Table 1 shows that the personnel in the registration and medical record units are 43 % with a D3 medical record background, 43% with a high school background and 14% with a bachelor's degree in management. Service activities in the registration and medical record unit at the R. Ali Manshur Hospital still complement each other, there is no detailed separation of activities per person. To measure the workload of personnel in the registration and medical record unit, one of them is by using a work sampling technique. As for the things observed in the work sampling; all activities carried out by registration staff and medical records during working hours, and the results of observations are grouped into productive activities and non-productive activities.

The WISN method as a workload indicator tool helps determine the need for energy in health facilities, so that the allocation of energy is easier and more rational. The steps for

determining the energy requirements of the WISN method are as follows:

1. Observing Available Working Time

By calculating the number of working days in a year, the formula for available working time is:

Available Working Time = {A – (B+C+D+E)} x F

Where :

A : Working Days, according to the applicable regulations at the hospital

B : Annual leave, according to the regulations of the State Civil Service Agency (12 working days)

C : Education and training, in accordance with the applicable regulations in the hospital.

D : National holidays based on a joint ministerial decision on national holidays.

E : Absence from work due to illness, absent with or without notification/permission

F : Working hours, in accordance with the applicable regulations in the hospital.

a. Working days

The number of working days per week according to hospital regulations is six working days, with a working time of 7 hours per day. If there are 365 days in a year and 1 day off every week, the number of working days in registration and medical records is 312 working days. Based on interviews with registration officers and medical records:

"... The working day is 6 days (Monday to Saturday)" (Informant 1)

"...But in us there is a pattern using the shift pattern and 6 working days. Those who use the week shift pattern continue to enter according to their shift rotation, so registration and medical records are 24 hours. While some use a six-day system so that every week or red date is a holiday." (Informant 2).

b. Annual leave

According to the regulations of the State Civil Service Agency, the annual leave of civil servants is 12 days. The results of interviews with personnel are;

"...For Civil Servants, the maximum is 12 days, while for Non PNS there are no rules." (Informant 4).

c. Education and training

The results of interviews with registration staff and medical records related to education and training are;

"...So far, no one has participated in the training, I don't know. Yesterday, I was informed about the Electronic Medical Record training from medical record staff." (Informant 2)

d. National holiday

Holidays based on the Joint Decree of the Minister of Religion, Minister of Manpower and Minister of State Apparatus Empowerment and Bureaucratic Reform No. 712 of 2021, Number 1 of 2021 and Number 3 of 2021 stipulates 15 national holidays. Interviews with personnel;

"... Forgot the number of days, but there is a circular letter every year from the regional government. I'll look at it again later." (Informant 4)

e. Absence from Work

The average absence from work due to illness, absent with reason or some without reason. The results of interviews with Focus Group Discussion participants are:

"...Because of illness, there is a family event, the wife is giving birth, there are difficulties (a family dies)." (Informants 1,3,4,5)

"...Call friends who are there to be able to replace their duties (ijolan)." (Informant 2)

From the information of the informant, communication between friends related to absence from work for continuity of service so that it continues to run.

f. Working time

Represents the number of working hours in a day in the registration and medical record unit. The results of interviews with registration staff and medical records are;

"... Monday-Thursday is seven hours, Friday is four hours and Saturday is six hours." (Informant 2)

"... If the morning shift is seven hours, the afternoon shift is seven hours and the night shift is ten hours, but in a week you can take two days off because after the night shift you are off." (Informant 1)

From the results of the interview, it was found that the average working time of registration and medical records workers was seven hours.

Table 1.2

No	Kegiatan	Volume	Keterangan
**Working Time Available in One Year**			
A	Hari Kerja Efektif	312	hari/Tahun
B	Cuti	12	hari/Tahun
C	Diklat/Pelatihan	1	hari/Tahun
D	Libur Nasional	15	hari/Tahun
E	Ketidak hadiran	6	hari/Tahun
F	Waktu Kerja	7	Jam/Hari
	Waktu Kerja Tersedia	1946	Jam/Tahun
	Hari Kerja Tersedia	278	hari/Tahun
	Total Menit	116760	Menit/Tahun

Based on formula 1.2, it is found that working time in the registration and medical record unit of RSUD R. Ali Manshur, calculated from working days for one year minus (annual leave days, training/training, national holidays, and absences) multiplied by working time a day, the result is 116,760/person/minute/year or 1,946 people/hour/year or 278 effective working days for one year.

1. Define HR Work Units and Categories

This study focuses on analyzing the need for personnel in the registration and medical record unit at R. Ali Manshur Hospital, Tuban Regency.

2. Use of Working Time Based on Work Sampling

From observations for nine working days at the Registration and Medical Record unit using the work sampling method, the following data were obtained:

Table 1.3
Measurement of the Average Productive and Non-productive Working Time of Officers
in the registration and medical record unit

No	Description of Main Activities		F	Average (minutes)	Percentage of Activities/ Year
A	**Productive Activities**				
1	Rajal Patient Registration	B	737	01:21	
		L	1084	02:04	
		IGD	1275	02:36	
2	Register patient Ranap		5960	11:03	
3	Writing Patient Identity on MAP/Cover of Medical Records		226	00:25	
4	Making outpatient SEP (BPJS PATIENT)		638	01:11	
5	Making Sep Ranap, Rajal , Hospitalization Plan (RANAP)		1095	02:02	
6	Make a SOP for a control letter if a BPJS patient needs to be re-controlled (RANAP & RAJAL)		541	01:01	
7	Indent the room to the hospital if there are inpatients		641	01:18	
8	Printing kib		220	00:24	35852
9	Writing Patient Bracelet		273	00:30	
10	Providing information to patients		4351	08:05	
11	Update the patient's room		1660	03:00	
12	Print the patient's identity on the status of the medical record		424	00:47	
13	Take the DRM in the filling room (Old Patient) and write a tracer		595	01:10	
14	Distribute DRM to the targeted police		6199	11:47	
15	Disabled the return of rm from the unit in sim rs		588	01:08	
16	Storing DRM in the filling room (Amount of RM varies)		9255	17:13	
17	Provide RM forms which when they run out (night shift for morning shift, morning shift for afternoon shift and afternoon shift for night shift etc.)		90	10:00	
	Sub Total		35852		85,58%
B	**Non-Earning Activities**				
1	Mengobrol		2692	44.52	6040
2	Wa nan		3348	55.48	
	Sub Total		6040	100	14,42%
	Total		41892		

Note: F is the frequency in seconds

Table 1.3 describes the activities and time used by registration and medical record personnel during observations using a work sampling form. The activities carried out are divided into two, namely productive activities and non-productive activities. The amount of time used by registration personnel and medical records during observations obtained data that 85.58% of the time was used for productive activities, while 14.42% of the time was used for non-productive activities.

2. Create Workload Standards

The workload of registration and medical record personnel at R. Ali Manshur Hospital consists of several activities. Standard workload is the number of measurements of available work time compared to the average time needed to complete per main activity carried out by someone in the related unit in one year. Based on observations made from 22-31 August 2022 at the registration and medical record unit at R. Ali Manshur Tuban Hospital, the data obtained are as follows:
The standard workload calculation formula is as follows:
Workload = Available time
Average productive working time

3. Develop Allowance Standards (Supporting Factors)

Table 1.4

Free time is an additional activity that is carried out regularly and is beneficial for the personnel in the unit. Based on the results of observations obtained the following data:
Standard Allowance Formula:
Allowance standard = Average time per allowance factor
Available time

4. Requirements for Registration and Medical Record Personnel at R. Ali Manshur Hospital

Observational data in the service obtained is the data used in calculating the need for registration personnel and medical records based on workload using the WISN method.
The formula for calculating the energy required is as follows:
Manpower needed = quantity of main activity+ standard allowance

Standard workload

5. Analyze and Interpret WISN results

The results of WISN were analyzed in two ways, namely looking at the difference between the number of available and needed personnel, and using the WISN ratio as a proxy measure, namely by assessing the work pressure experienced by officers in carrying out their daily work.
The difference/gap between the amount of available and required manpower can be seen in the table below:

The gap between the amount of available energy and what is needed

| Existing power	Power required	More or less	WISN Ratio	Power problem	Working Load Pressure
A	b	c (a-b)	d (a/b)	E	f
Registration	4	4	0	1	In accordance	Normal
Medical records	3	6	-3	0,5	Lack of energy	Tall

Table 1.4 shows that the WISN ratio for registration personnel is 1, which means that the required staff and existing personnel are appropriate, but for medical record personnel the WISN ratio is 0.5, meaning that the required workforce (six) is greater than the available staff (three). To meet the suitability of personnel, it is necessary to add three medical record personnel.

b) Using the WISN ratio as a proxy measure, namely assessing the work pressure experienced by officers in carrying out their daily work

Table 1.5
WISN Rasio

-1	0,5	1	1,5	2

LESS   MORE

IN ACCORDANCE
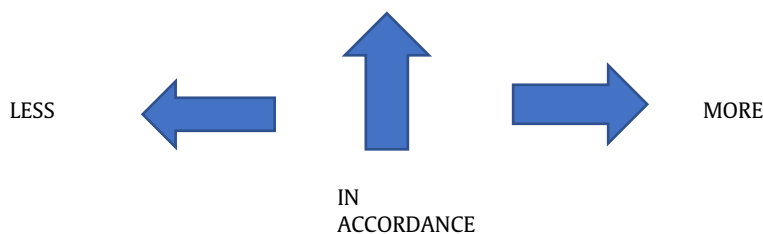
Based on Table 1.5 shows that the value of 1 is the suitability of the required energy with the available power. A small WISN ratio indicates a large workload pressure, so the amount of available manpower is smaller than the required manpower (less manpower). However, if the WISN ratio is large, it means that the workload pressure is small, so the amount of energy available is more than the required power (more power).

LIMITATION OF THE STUDY

This research is limited to one hospital with the object of analyzing the workload of registration staff and Medical Records: Approach Method Workload indicators of Staffing Need at R. Ali Manshur Hospital Tuban.

CONCLUSIONS AND SUGGESTIONS

The results showed that the need for personnel for registration was four and four for the medical record unit. Future studies can compare with other hospitals in order to get a more comprehensive picture.

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ETHICAL CONSIDERATIONS

This research has obtained an ethical approval certificate from the Health Research Ethics Commission of the University of Muhammadiyah Yogyakarta (UMY) number 309/MARS/C.6-III/VI/2022 on June 20, 2022.

Conflict of Interest Statement

Authors are requested to disclose interests that are directly or indirectly related to the work submitted for publication. Interests within the last 3 years of beginning the work (conducting the research and preparing the work for submission) should be reported. Interests outside the 3-year time frame must be disclosed if they could reasonably be perceived as influencing the submitted work. Disclosure of interests provides a complete and transparent process and helps readers form their own judgments of potential bias. This is not meant to imply that a financial relationship with an organization that sponsored the research or compensation received for consultancy work is inappropriate.

The authors whose names are listed immediately below certify that they are not involved in any organization or entity with any financial interest (such as honoraria; educational grants; participation in a speaker's bureau; membership, employment, consulting, shareholding, or equity interests of others; and expert testimony or regulatory patent licenses), or non-financial interest (such as: personal or professional relationship, affiliation, knowledge or trust) in the subject matter or material discussed in this manuscript.

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