



Research Article

Assessment Of Personnel Needs For Inpatient Nurses At RSI A.Yani Surabaya Using The WISN Method

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ABSTRACT

Nursing staff is a priority in providing services to patients. If the number of nurses and patients is not balanced, this will result in workload problems and the lack of staff will result in less than optimal service to patients. In this study, the method used to calculate staffing needs was WISN (Workload Indicators of Staffing Need) for Mekkah inpatient nurses (adult inpatients). The WISN method has five stages: finding available work time, finding work units and human resources categories, making work load standards, making allowance standards, and calculating labor requirements for each work unit. The aim is to analyze the need for nursing staff based on the workload in the Mekkah inpatient unit (adult inpatient unit). The time motion study method is to be able to understand more deeply the phenomena that occur and are felt by the informants through observations and interviews. The results of research on staff requirements using the WISN method were 35 nurses with real conditions of 20 nurses so there was a shortage of 10 nurses.

Keywords: WISN, nursing, workload, labor needs

INTRODUCTION

Health workers have a strategic role in service health. Health workers' role in increasing awareness, will and ability life Healthy for everyone to make it happen degrees optimal health. Government Keep going strive for energy health available in a way adequate Good from side quantity, type and quality distributed in a way evenly (Sari *et al.*, 2021). Not yet fulfilled needs to Health workers at the health center nor House Sick become a point critical for Indonesia in face challenge transition demographics. At the moment amount Health workers in Indonesia still experience lack. Problem lack of Health workers happen Because maldistribution power health. The type and quantity of Health workers every year Keep going increase However needs and equality are not yet fulfilled (Sukmawarni *et al.*, 2022).

According to National Statistics Agency (2022), that Amount Health workers in Indonesia 1.4 million people in 2022. Proportion Health workers the most that is power nursing a total of 563 thousand people furthermore followed by the midwife with number of 336 thousand people. The Ministry of Health Regulation No. 15 out of 2022 (Ministry of Health of the Republic of Indonesia,



2022) states that 351,225 nurses are the health professionals with the greatest amount of power throughout House Sick. Amount nurse No evenly throughout Indonesia, yes province left behind with amount nurse A little that is NTT, Maluku and Papua provinces.

Planning power nursing until now Still become problems in various ways: House Sick. Problem the including: lack quantity, type of energy, competence (knowledge, skills, attitudes and values) and abilities funding House weak pain so that No can fulfill and maintain source existing power (Malasari *et al.*, 2021). Number and qualifications source Power man customized with results analysis burdening work, needs, and abilities of Hospital services (RI Ministry of Health, 2020).

Through SDI (Human Resources) planning, needs organization towards good SDI in terms of quantity nor the quality can prepared and anticipated more beginning so that prevent problem excess employee or nonconformity competence between available employees with competencies required by the job/organization (Setianto, 2016; Rahma, *et al.*, 2016). A.Yani Islamic Hospital Surabaya is a type B hospital and is successful reach accreditation Plenary. One standard from Accreditation is how the Hospital does contained SDI management in pattern energy. Various profession that manages a good hospital from medical, paramedic, personnel health other and non-health workers who do work administration and work to support others and all That must calculated the number of SDIs to match their needs (Setianto *et al.*, 2022).

Utilizing the WISN (Workload Indicators of Staffing Need) Method to calculate power consumption in accordance with Ministry of Health Decree No. 33 of 2015 regarding Guidelines The process of calculating the amount of health human resources needed based on the workload that each category of health human resources in each work unit in the facility providing health services uses to draft health HR planning ((Menteri Kesehatan Republik Indonesia, 2015)). Overindulgence technique This is simple to use, comprehensive, realistic, and technically simple to implement (Safitri *et al.*, 2022).

Calculation burden Work approach Real conditions expected can count need from nurse at the hospital. This matter related with impact negative that would be prevented that is occurrence of Medical errors due to competence, low level of nursing or Because burden high work (Jose, 2016). Other impacts are expected is increase quality service from officer health in hospitals with still notice of *Patient Safety* as fundamental in-home service Sick. (Dubois *et al.*, 2013) . Besides that calculation burden Work nurses can detect and anticipate experienced nurse *Burn out* as you can threaten giving quality service with put forward *Patient safety*. Well-being from Officer Health No just seen from remuneration received but seen from burden work (Purwaningsih *et al.*, 2017). The workload is not taken into account can risky happen *burnout* so that risk incidents in patients increase (World Health Organization, 2010).

The most important reason for using the needs calculation method based on workload (WISN) is that it is an indicator that shows the magnitude of the need for personnel in health facilities based on workload, so that allocation/relocation of personnel will be easier and more rational. The advantages of this method are that it is easy to operate, easy to use, technically easy to implement, comprehensive and realistic (Malasari *et al.*, 2021). Calculations using the WISN method also produce WISN ratio values. The WISN ratio is an indicator related to workload. A ratio of 1 (one) means that there is a match between the amount of available personnel and the workload. The ratio value is obtained from the quotient between the amounts

This is what is encouraging: P2RS (Hospital Planning and Development) section of RSI A.Yani Surabaya would like to apply method calculation need power more nursing in accordance with characteristics. Until moment This ratio adequacy nurse Still capable of handling patients in

the nursing unit stays Because amount patient take care ongoing stay No too many and levels dependency patient to nurse Still low. During development building increase amount capacity place sleep is necessary exists calculation amount nurse take care stay . If amount MRS patients together and have level high dependency to nurse so nurse will feel burden high work. Research purposes is analyze need power nurse in care stay Mecca (care stay adult) is appropriate with WISN method.

METHODS

The type of research used is to study qualitative. Researchers use method *time motion study* for can understand more deeply about phenomena that occur and are felt by informants (Fardiansyah *et al.*, 2022). Study this using primary and secondary data. Study This carried out at RSI A.Yani Surabaya in the city Surabaya. Study conducted 1 week in September 2023. The population is all nurses on care stay Mecca morning, afternoon and night shifts. The sample was 8 nurses take care stay Mecca which represents the morning, afternoon and night shifts. Every nurse observed as much at once, namely in morning, afternoon and evening *shifts* with consideration adequacy and suitability so that information expected can dug in a way deep.

Steps taken in the research This is observation introduction, determination amount observation, determination of time observation, determination of work activities, work sampling observations, allowance determination and determination of HR needs with the method *Workload Indicator Staff Need (WISN)* (Maulana, 2017). Calculation need power nurse done with enter primary data viz amount time for every pattern activity from observation *work sampling* and secondary data to in formula *Workload Indicator Staff Need (WISN)*. According to Shipp (1998) step calculation power based on this WISN includes 5, namely:

1. Define the time Work available,

the aim is to obtain effective working for 1 year for each category of HR working in a unit or hospital institution.

With the formula:

$$\text{Working time Available} = (A - (B + C + D + E)) \times F$$

Information:

A= Potential workdays in a given year

B= Annual Leave

C= Training and Education in Compliance with Hospital Rules

D= National Holiday

E= Absence Work Because illness, permission and so on.

F= Working time in One day

2. Determine work unit and HR categories

3. Making standards workload

The workload standard for each HR category is the volume or quantity of work for a single year (Purwaningsih *et al.*, 2017). The Standard Workload Main activities are planned according to the amount of time needed to do them on average and the amount of work time that each unit has available (Farida Gustini, 2019)..

The formula is Standard burden work = $\frac{\text{Available Working Time}}{\text{Average Time Per Main Activity}}$

Necessary data among others:

- a. Available time
- b. Structure Chart Organization
- c. Activity main (description activity as well as not quite enough responsibility for each HR category)
- d. Average time For finish type activity principal
- e. Standard profession
- f. Set time based on agreement

4. Develop allowance standard.

The aim is for the obtained factors leeway for every HR category to include type activities and needs time requirements for completing an activity that are not directly related or influenced by tall low quality or amount activity principal/service (Ratnawati & Fayasari, 2023).

Drafting standard leeway can be held through observations and interviews about:

- a. Activities that are not related direct with service to the patient
- b. Frequency of each activity factor in unit day, week and month
- c. Average time required For finish activity

$$\text{Standard leeway} = \frac{\text{Average Time Per Allowance Factor}}{\text{Available Time}}$$

5. Counting needs power per unit of work

The aim is to obtain the number and type/category of human resources required to organize effort health mandatory and effortful development during the period 1 year (Ministry of Health, 2004).

$$\text{Formula : Need Energy} = \frac{\text{Main Activity Quantity} + \text{Allowance Standard}}{\text{Workload Standard}}$$

Necessary data:

- a. Available time
- b. Standard burden Work
- c. Standard Leeway
- d. Quantity of activity principal for each work unit for 1 year

RESULTS AND DISCUSSION

After the primary data results observation *work sampling* and secondary data from the study, a number of documents were collected, below These are characteristics informants who participated as well in the study.

Table 1. Amount Informants and Respondents As Observation Material

Information	R. Mecca
Number of Respondents	8 people
Gender	100% female
Education	75% are DIII Nursing and 25% are Bachelor of Nursing.
Employment status	100% permanent employee status
Years of service	12.5% in less than 1 year, 75% between 1-5 years and 12.5% over 5 years.

Five steps method calculation based on WISN, among others: namely 1) time Work available set based on many day work, leave, education and training, days holiday national, absence work and time Work Health workers during One year, 2) determine work units and categories source Power calculated humans, 3) compose standard burden work, 4) arrange standard leeway, 5) counting need power each unit work (World Health Organization, 2010).

1. Working time available

Available working hours consists of 3 shifts with the morning shift allocated from 07.00-14.00, afternoon shift from 14.00-21.00 while the night shift from 21.00-07.00 days next. Furthermore, entered into formula for calculating the number of employees from the *Workload Indicators of Staff Need (WISN)*.

WISN method

$$\begin{aligned} \text{WKT} &= (A-(B+C+D+E)) \times F \\ &= (300-(12+3+14+2)) \times 8 \\ &= 269 \times 8 \text{ hours} \times 60 \text{ minutes} \\ &= 129,120 \text{ minutes / year} \end{aligned}$$

Information:

WKT = Working Time Available

A = Possible working days in a year

B = Annual leave

C = Education & Traintion

D = National of Holiday

E = Absence from Work

F = Working hours in one day

Based on formula above, then obtained time work provided for all staff in the Mecca room at Surabaya Islamic Hospital are from day Work during One year reduced day paid leave annual To use education and training in accordance policy Community Health Center, day designated National holidays government, absence Work personnel in time One years and multiplied by the length of time Work one day at the Community Health Center, the results obtained amounting to 129,120 Minutes/person/ year In case This will calculated based on observation and examination inspection patient by force health Nurse or doctor Because in third scope Work found nonconformity with Minister of Health Regulation number 75 of 2014 which is already customized with limitation problem. The workload standard is the volume/ quantity of workload for one year per HR category. Workload Standard For a main activity are prepared based on the time required for completing it (average time) and time work available to each of them (Sari *et al.*, 2021).

2. Define work units and categories to source Power man

Researchers share activity nursing to 5 ie activity nursing straight away, not direct, productive others, personal and non-productive. Because of observation done every 10 minutes for 7 days observation

Table 2. Determining Work Units and Categories Human Resources

Activity	Frequency in unit minutes	Percentage
Activity Nursing Direct	3,300	33.98%

Activity nursing No direct	4,760	47.42%
Activity productive other	360	3.62%
Activity personal	660	6.55 %
Non-productive activities	1,000	8.43%
TOTAL	10,080	100%

3. Setting standards burden Work

Standard burden work calculated of the time average in accordance with observations made and guidelines evaluation performance nurse (Cania, 2019).

Table 3. Developing Workload Standards

Activity	Average time (minutes)	Standard burden Work
Nursing direct	127	470,427
Nursing No direct	145.3	2,084,365

4. Setting Standards leniency

Determine factor leeway furthermore compile standard leeway that is other activities that do not relate direct but still beneficial for existing employees/activities productive others (Zulham Andi, 2017).

Table 4. Developing Standards Allowance

No	HR Category	Looseness factor	Average time (minutes)	Frequency	Amount (minutes/year)	Standard Leeway
1	Head room	Follow regular meetings	30	12	360	0.003
	Amount					0.003
		Follow regular/non-routine meetings	30	150 (3x a week)	4500	0.035
		Briefing	5	50	250	0.002
	All Nurse			2x(morning+afternoon)		
2	Room Mecca	Meeting evaluation / committee monthly	120	12	1440	0.011
		Follow training	120	12	1440	0.011
		Discussion Work	5	14,200	71,000`	0.550
	Amount					0.609
	Total					0.612

Based on the table above, meaning standard 0.612 power slack.

5. Count Per Unit Power Requirements Work

Requirements Per Unit of Work in calculations HR needs are needed source of data obtained from steps previous and quantity of activity principal in each work unit during period time one (Yulaika, 2018). Data obtained from steps previously such as activity data service raw stay in a standard Makkah room burden work, standard leeway is data for calculation of HR needs in each work unit or work sub unit storage record medical. Required data sources For calculating human

resources per work unit is one of them is Quantity Activity Principal things to do in a storage unit record medical is as follows:

Table 5. Counting Per Unit Power Requirements Work

Activity	Quantity of Activity Per year	Standard burden Work	HR needs
Nursing direct	243,175	482,048	14.34
Nursing No direct	332,990	2,084,365	20.34
Standard Leeway			0.61
Total needs power with WISN			35.29

So it's calculating need energy in Mecca with WISN method amounted to 35.29 nurses rounded up to 35 nurses and added 1 head room so a total of 36 nurses. When This amount employee take care Mecca's inpatient capacity is 20 nurses so less energy a total of 15 nurses.

CONCLUSION

Based on the findings of the analysis (1), the Minister of Health's Decree No. 81/Menkes/SK/I/2004 states that a nurse's available working time is 1712 hours, or 102,720 minutes, each year, or 214 days. This indicates that Mecca inpatient nurses work more hours than what is deemed effective. (2) Direct nursing or not When comparing productive, personal, and non-productive activities, nursing tasks take the longest (3) Indirect nursing Activities make up a larger percentage of activities than indirect nursing activities. (4) The WISN approach estimates that 35 nurses are needed, but the real number is just 20, which is still a relatively small number even if the BOR is 80%.

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