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Relationship Between Middle Workload Calculations and High Infant Mortality Rate in Primary Health Care Work Area Jember District

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ABSTRACT

The main task of the midwifery profession is to support the reduction of the Infant Mortality Rate (IMR) through quality midwifery services. The midwife's job is not only as an implementer of midwifery services, but also as a manager, researcher, and educator in the community. This study aims to determine the relationship between the workload of midwives and the infant mortality rate in the work area of the Jember District Health Center. The research method used is descriptive correlation with cross sectional time approach. The population in this study were midwives at the primary health care Jenggawah, Ajung, and Kemuningsari Kidul. The sample in this study used a total population of 35 midwives who worked in three health centers in Jember Regency. The instrument used in this study used a questionnaire and observation. Data analysis using Chi-Square statistical test. The results of the study showed that the workload was mostly in the heavy category of 19 respondents (54.3%). Most of the infant mortality rates were classified as high, 20 cases (57.1%). The results of the Chi-Square test obtained P Value = 0.000 (α: 0.05) there is a relationship between the work of midwives and the high infant mortality rate. So it can be said that there is a significant relationship between the workload of midwives and the infant mortality rate in the work area of the Jember District Health Center. Advice for midwives is the need for effective and constructive self-management, because the heavy workload of midwives can be effectively controlled and can prevent the increasing infant mortality rate.

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1. INTRODUCTION

A health service facility is a tool and/or place used to organize health service efforts, be it promotive, preventive, curative or rehabilitation carried out by the central government and regional governments and/or the community [2]. Community Health Center is a health service facility that organizes community health efforts and individual efforts at the first level, by prioritizing promotive and preventive efforts to achieve the highest degree of public health in the work area [3].

The mortality rate is one measure of the performance of a regional government in improving the welfare of the people of a region [1]. This means that the smaller the mortality rate, it can be assumed that the welfare of the community is prosperous, where people are aware of the importance of maintaining cleanliness or quality of life. And vice versa, if the mortality rate is high, it can be assumed that people's welfare is low, meaning that people are not aware of the importance of maintaining quality of life.

Data on the performance achievements of the Indonesian Ministry of Health for 2015-2017 show that there has been a decrease in the number of cases of maternal death. If in 2015 AKI reached 4,999 cases, then in 2016 it decreased slightly to 4,912 cases and in 2017 it decreased sharply to 1,712 AKI cases. Based on reports received by the Ministry of Health of the Republic of Indonesia, where maternal deaths occurred in hospitals were 77%, at homes 15.6%, on the way to health care facilities 4.1%, in other health facilities 2.5% and maternal deaths elsewhere by 0.8%. Meanwhile, the

Neonatal Mortality Rate (AKN) is 15 per 1000 KH according to the 2017 Indonesian Demographic and Health Survey (IDHS). Neonatal deaths in villages 0-1 per year are 83,447, in Community Health Center neonatal deaths 7-8 per year are 9,825 , and the neonatal mortality rate in 18 hospitals per year is 2,868 [10].

The IMR in Jember Regency in 2020 was recorded at 9.2 per 1000 live births. Based on data on the number of births and deaths under five, in the Jember Regency area during 2020, 35,463 births were reported and of these births, 338 cases of stillbirth were recorded. In 2020 (14 deaths per 1000 population) decreased compared to 2019 (17 deaths per 1000 population) with 345 deaths. In the context of equity and bringing services closer to the community to reduce morbidity and mortality, the Jember Regency Government seeks patient contact with health workers, the priority being midwives [4].

Workload can be defined as a difference between the capacity or ability of workers with the demands of workers faced. If the number of workers does not match the workload, it will result in work fatigue so that it can reduce work productivity so that it can affect the quality of hospital health services [5]. The number of tasks and responsibilities given to an employee causes the results achieved to be less than optimal because employees only have a little time to complete the task. If this happens frequently, it will have an impact on the performance of the employee itself. Subjectively, workload problems must be proven by objective workload calculations because if this problem is prioritized to be resolved even though there is no definite clarity, it will cause errors in decision making.

Previous quantitative descriptive research conducted that the standard workload for health workers at the Ciwidey Health Center is that general practitioners have a high workload, Dentists have a high workload, Dental Nurses have a high workload, Nurses have a high workload, Nutrition has a low workload, Midwives have a high workload, Pharmacists have a high workload, Sanitarians have a low workload, Medical Records have a high workload, Health Promotion has a high workload and Analyst have a moderate workload [17]. In 2015 the Ministry of Health prepared guidelines for planning the needs of health human resources using various methods, namely the Workload Analysis Method (ABK), Minimum Manpower Standards and the Population Ratio Method. ABK and Minimum Employment Standards are based on institutions while the population method is based on area. The ABK method is a method for calculating HRK needs based on the workload carried out by each type of SDMK at each health service facility according to their main tasks and functions. This method is used to calculate the needs of all types of SDMK. The importance of Human Resources needs to be realized by all levels of management because the human factor still plays an important role for the success of an organization [18].

Based on the conditions previously described, the researcher wanted to analyze the real workload conditions for midwives in the working area of the Jember District Health Center. So the purpose of this study was to determine the objective workload category of midwives in the work area of the Jember District Health Center based on the relationship between high workload and high infant mortality.

2. METHOD

This study uses a correlational descriptive research design. This type of research is observational analytic with a cross sectional approach. The research locations covered 3 work areas consisting of the Jenggawah Community Health Center, the Ajung Health Center, and the Kemuning Kidul Health Center. The population in this study were all midwives in the three working areas of the Community Health Center, totaling 35 people. The sampling technique in this study is Total Sampling. Then the number of samples in the study were 35 respondents. The variables used in this study include available working time, workload components and time norms, workload standards, supporting task standards. The instruments used in this study used observation and documentation sheets. Observation sheets are used for performance variables, while documentation is related to main tasks and functions, time norms and the number of midwives at the Community Health Center. The data collection sheet contains personal identification and information on the midwife's Registration

Certificate which is used to support analysis and discussion. This researcher uses the chi square correlation test with the help of SPSS software.

3. RESULTS AND DISCUSSION

This section will present the results of data collection conducted in September 2022. The number of respondents was 35 midwives working at the Jember District Health Center (Jenggawah Health Center, Ajung Health Center, and Kemuning Kidul Health Center). In this chapter the data obtained will be presented in the form of tables and narratives:

Table 1. Characteristics of Respondents by Age as Midwives in the Work Area of the Jember District Health Center

Variable	Amount (n)	Percentage (%)
Age		
a. <40 year	17	48,6%
b. ≥40 year	18	51,4%
Total	35	100%

Based on table 1, it is known that most of the respondents were aged ≥40 years, namely 18 people (51.4%) compared to the number of respondents aged <40 years, namely 17 people (48.6%). The age factor affects the level of fatigue. The older a person is, the physical factors will decrease, and the problems they face will become more complex, thus affecting a person's level of adaptation in the work environment and increasing mental complaints. A person's age will affect the condition, ability, and capacity of the body in carrying out its activities. The aging process causes changes in human organs, the cardiovascular system, hormones, and others. Older age also affects a person's health condition. Fatigue in a person can also occur from a history of diseases that contribute to fatigue such as diabetes mellitus. This further adds to complaints of fatigue [14].

Table 2. Characteristics of Respondents According to Work Period as a Midwife in the Work Area of the Health Center in Jember Regency

Variable	Amount (n)	Percentage (%)
Working Period as a Midwife		
a. <17 year	13	37,1%
b. ≥17 year	22	62,9%
Total	35	100%

Based on table 2, it is known that a small number of respondents had a working period of <17 years, namely 13 people (37.1%) compared to the number of respondents with a working period of ≥17 years, namely 22 people (62.9%). Based on research by Nisa' (2013), length of work affects complaints of work fatigue. The average length of service as a midwife at the Community Health Center is ≥ 17 years, so it is likely that you will feel bored with the same routine for years. A monotonous atmosphere will accumulate into boredom and affect the level of fatigue. Fatigue increases with problems outside of work such as family problems. Especially if you are already married, it will add to your own burden both mentally and physically because the problems you face are not only about work but all household matters [11].

Table 3. Results of the Calculation of Workload Analysis for Midwives in the Work Area of the Health Center in Jember Regency

Variable	Amount (n)	Percentage (%)
Workload		
a. Heavy	19	54,3%
b. Currently	16	45,7%
c. Low	0	0%
Total	35	100%

Based on table 3 it is known that the majority of respondents have a heavy workload, namely 19 people (54.3%) compared to the moderate workload, which is 16 people (45.7%). Everyone's mental workload level varies according to their respective mental abilities in dealing with work demands. The heavy workload felt by the majority of respondents could be due to the dual assignments at the Community Health Center [13]. The workload referred to in this study is psychological/mental workload so that it is the workload felt by midwives in carrying out their duties. There are multiple tasks due to the limited number of staff, while the Community Health Center has to run so many health programs [5]. Another condition is the large number of patients who must be served every day and the existence of various reports that must be completed both daily and monthly as well as other activities inside and outside the Community Health Center building which are often scheduled at the same time. All of these conditions cause midwives to often complain of difficulty managing time and being unable to carry out all of their duties to the fullest

Table 4. Results of the Analysis of Infant Mortality Rates in the Work Area of the Health Center in Jember Regency

Variable	Amount (n)	Percentage (%)
Infant Mortality Rate		
a. Low (≤12.000/1000)	15	42,9 %
b. Heavy (>12.000/1000)	20	57,1 %
Total	35	100 %

Based on table 4, it is known that the infant mortality rate for most respondents is in the high criteria, namely 20 people (57.1%) compared to the number with low criteria, namely 15 people (42.9%). Factors causing infant death are divided into 2, namely direct (endogenous) and indirect (exogenous). Endogenous infant mortality or neonatal death is caused by factors brought in by children from birth, which are obtained from their parents at the time of conception. Infant mortality comes from the condition of the baby itself, namely LBW, premature babies, and congenital abnormalities. The death of a baby born is asphyxia. Exogenous infant mortality or post-neonatal death is caused by factors related to external environmental influences [6]. One of the external environmental factors that influence post-neonatal mortality is post-neonatal care and assistance by birth attendants.

IMR is an indicator of health status in the Sustainable Development Goals (SDGs). In order to achieve the target, you must know what causes it and how to overcome it. The action taken is to carry out a Continuum of care by carrying out ongoing activities starting from before pregnancy, during pregnancy, childbirth and postpartum [7]. Components of the sustainable delivery model can be carried out by giving birth in health facilities that meet standards, guaranteeing the poor to give birth in health facilities, building a referral network between health facilities (BPS and Community Health Center) and government or private hospitals, implementing quality assurance services at the Community Health Center, running promotion strategy, running a neonatal death surveillance system, and building an accreditation system for delivery and referral service standards in health facilities [16]. So that if all of these health systems can run continuously and continue to increase the interests of patients, it is certain that the infant mortality rate will decrease in Indonesia, especially in the Jember Regency, as the research location. Midwives can work professionally and cases of infant death can be prevented.

Table 5. Analysis of the Relationship between the Calculation of Midwives' Workload and the High Infant Mortality Rate in the Work Area of the Health Center in Jember Regency

Midwife Workload	Infant Mortality Rate				Total		*P*
	Heavy		Low				
	f	%	f	%	f	%	
Heavy	15	78.9%	4	21.1%	19	100%	0.000
Currently	5	31.2%	11	68.8%	16	100%	
Low	0	0	0	0%	0	0	

Total	20	57.1%	15	42.9%	35	100%	(α < 0.05)

Based on table 5, it is known that almost all respondents who experienced heavy workload experienced a high infant mortality rate of 15 respondents (78.9%) and a low infant mortality rate of 4 respondents (21.1%). A small portion of the respondents who had a moderate workload experienced a high infant mortality rate of 5 respondents (31.2%) and most of the respondents who experienced a low infant mortality rate were 11 respondents (68.8%). The results of statistical analysis using the chi square test obtained a p value = 0.000, meaning that there is a relationship between the workload of midwives and the high infant mortality rate in the working area of the Jember District Health Center, with a value of α: 0.05. This shows that the high workload of midwives can affect the level of infant mortality.

The infant mortality rate is a priority issue in the field of maternal and child health in Indonesia. The high infant mortality rate and the slow decline in this rate indicate that maternal and child health services are urgently needed to be improved, both in terms of coverage and quality of services. Infant mortality is caused by factors from mothers who do not carry out obstetric examinations, pregnant women experience anemia, low nutritional intake during pregnancy which has an impact, one of which is babies with low birth weight. Reducing the incidence of LBW can be achieved through supervision of pregnant women by finding and improving factors that affect fetal and neonatal development [19]. In cases of infant mortality, neonatal visits and ANC service providers for pregnant women are interventions that must be prioritized to reduce infant mortality in Indonesia. Several health efforts have been made to control the risk of infant mortality, including by ensuring the availability of standard health services at newborn visits or neonatal services [8]. Providing services in neonatal visits during the period 0-28 days after birth, 1st neonatal visit is carried out at 6-48 hours after birth, 2nd neonatal visit is 3-7 days, 3rd neonatal visit is carried out on the 8th day -28 after birth, both in health facilities and home visits. The purpose of these neonatal visits is to increase access for neonates to basic health services, to find out as early as possible if there are abnormalities in the baby or experiencing problems. In carrying out neonatal visit services by midwives based on standard operating procedures that aim midwives to assist the recovery process of mothers and babies as well as early detection of treatment or referral of complications that may occur during the neonatal period. This research is in line with previous research, that as many as 8 (73%) midwives performed neonatal visit services that were not in accordance with the neonatal care service standards, seen from the absence of written records or examination results in the MCH book [10]. The impact of the standard items that have not been carried out include examination of the possibility of very serious illness or infection (can lead to infection in the form of meningitis, sepsis, and even death), jaundice examination (can cause hypoglycemia seizures which result in brain hypoxia to death) [17]. The reason for not implementing these standard items was because they were too busy with the tasks assigned by the Community Health Center and many patients were lining up because it took quite a long time to carry out examinations and records according to all existing standards. Therefore, a midwife must be required to be professional in carrying out her duties in caring for pregnant women and newborns [17]. The higher the workload of midwives, the more factors contributing to the high infant mortality rate. This can happen because workload can affect work stress which in turn will have an impact on low performance. If the workload received is too large, it will cause work stress which can affect work motivation and decrease performance. Extreme levels of workload can lead to reduced performance to the lowest level and if the demand for work continues to increase it can lead to a sustained decline in the performance of midwives. High job demands result in lower performance than workers who get lower demands, this can increase the incidence of infant mortality. So a midwife needs effective and constructive self-management in order to be able to control effectively and efficiently at work and to prevent infant mortality.

4. CONCLUSION

Based on the results of the research and discussion in this study, it was found that in the workload variable, the results showed that most of them experienced heavy workloads with a percentage of 54.3%. In the infant mortality rate variable, the results were mostly high with a

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percentage of 57.1%. So it is concluded that there is a relationship between the workload of midwives and the high infant mortality rate in the working area of the Jember District Health Center. Advice for midwives is the need for effective and constructive self-management, because the heavy workload of midwives can be effectively controlled and can prevent the increasing infant mortality rate.

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