Analysis of Related Factors with The Performance of the Midwife in the Handling of Neonatoric Asphycia in the Area of the Health Service of Magelang Regency

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ABSTRACT

The infant mortality rate in the Magelang Regency Health Office area will increase in 2020-2022 from 6.34/1000 KH to 7.38/1000 KH with details of the cause of death due to asphyxia neonatorum 27%. In handling neonatal asphyxia, the role of village midwives is needed to help reduce infant mortality. This study aims to determine the factors that influence the performance of midwives in the service of neonatal asphyxia in the Health Office of Magelang Regency. The type of research used is observational which is analytic in nature with a cross sectional approach. Data collection was carried out by interviews using a structured questionnaire that had been tested for validity and reliability. Sixty-five respondents were selected purposively with inclusion and exclusion criteria. The analysis used is the Chi Square test and multiple logistic regression. The results of the bivariate analysis showed that knowledge (p = 0.001), attitude (p = 0.0001), motivation (p = 0.0001), perceptions of supervision (p = 0.0001) were related to the performance of village midwives. Multivariate analysis showed that there was a joint relationship between knowledge (Exp.(B) 7.723) and motivation (Exp.(B) 8.324) and the performance of village midwives in handling neonatal asphyxia. The Health Service needs to provide technical guidance on a regular basis in the management of neonatal asphyxia and increase motivation by giving awards to midwives who work well in the service of neonatal asphyxia.

INTRODUCTION

Results of the 2007 Indonesian Demographic and Health Survey (IDHS) IMR 34/1,000 live births (Indonesia, 2019). Based on the Health Profile of Central Java Province, the IMR in 2008 was 9.17 per 1000 live births, while in 2009 it was 10.37 per 1000 live births with the biggest cause of death being LBW 31%, congenital abnormalities 9% and neonatal asphyxia 6%, disease others 54% (Dinas Kesehatan Provinsi Jawa Tengah, 2019). According to *the World Health Organization* (2006), every year 120 million babies are born in the world, approximately 3.6 million out of 120 million babies born experience asphyxia neonatorum and nearly 1 million of these babies die, overall, 4 million babies are stillborn, and 4 million others died within 30 days (late neonatal). Every 5 minutes, one neonate dies (Moshiro, Mdoe and Perlman, 2019). The causes of death were low birth weight (29%), asphyxia (27%), other diseases (44%) (Dinas Kesehatan Provinsi Jawa Tengah, 2019).

The most common causes of neonatal death are newborn asphyxia, *prematurity/* low birth weight babies and infections. Neonatal asphyxia is an emergency for newborns in the form of respiratory depression that continues to cause various complications (Moshiro, Mdoe and Perlman, 2019). Therefore, asphyxia

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requires immediate intervention and resuscitation to minimize mortality and morbidity (Murniati, Taherong and Syatirah, 2021).

Treatment for asphyxia neonatorum is basically resuscitation, which is an effort to open the airway, try to get air (oxygen) into the baby's body by means of respiratory resuscitation and cardiac resuscitation until the baby can breathe spontaneously and his heart beats spontaneously regularly (Portiarabella, Wardhana and Pratiningrum, 2021). The type of action taken depends on the degree of severity of asphyxia suffered, because the basis for asphyxia is impaired gas exchange (Kumalasari and Rusella, 2022). One of the factors that influence the quality of handling asphyxia neonatorum in the public of center (*puskesmas)* area is the service provided by midwives, especially in this case the village midwife (Handriani, 2020). The good performance of village midwives in improving the management of newborn asphyxia will have an impact on reducing infant mortality with asphyxia, especially in reducing IMR, so that babies and children can grow optimally (Razak, 2021).

Based on a preliminary study at the public of center (*puskesmas)* in the Magelang District Health Office, it turned out that the management of neonatal asphyxia was not carried out completely, such as the equipment was not complete and met the requirements, did not cut the umbilical cord quickly when the newborn was not breathing or was gasping for breath and was not ready (Florencia *et al.*, 2022). family to refer the baby with the mother and not ventilate at intervals of every 30 seconds if the baby does not breathe spontaneously after 2-3 minutes of resuscitation (Dg Taha, Herini and Ismail, 2017).

Based on interviews with village midwives, it was revealed that there was no updated knowledge about asphyxia management so that it had an impact on the level of knowledge and skills that were felt to be lacking, besides that midwives revealed that there were still midwives who had not attended asphyxia management training, policies implemented by the Health Office Magelang Regency, out of 444 midwives in public of center (*puskesmas)* who have received neonatal asphyxia training, there are 209 midwives (47.07%), a coordination meeting is held once a month between the District Health Office and the coordinating midwife. existing procedures (Marwiyah, 2016).

The success of services for handling neonatal asphyxia is very dependent on the performance of the village midwife. Based on some of the problems above, the authors are interested in researching the analysis of factors related to the performance of village midwives in services for handling asphyxia neonatorum in the Magelang District Health Office area.

METHOD

The type of research used is observational which is analytic in nature with a *cross sectional approach*. Data collection was carried out by interviews using a structured questionnaire that had been tested for

validity and reliability. The population is all village midwives in Magelang Regency. Sixty-five respondents were selected purposively *with* inclusion and exclusion criteria. The analysis used is the *Chi Square test* and multiple logistic regression. Collecting data in this study using an instrument, namely a questionnaire containing a list of questions about factors related to midwives which include knowledge, motivation, resource support and perceptions of supervision.

RESULT

Description of Respondent Characteristics.

The research data used in this research is primary data obtained using a list of questions (questionnaires) that have been distributed directly. The average age of the respondents was 35 years with a standard deviation of 6.97, the youngest being 23 years and the oldest being 54 years.

Table 1. Distribution of Education Level Characteristics

Characteristics of Respondents	Amount	Percentage
Level of education		
1. DIII	63	96.9%
2. DIV	2	3.1%

Most of the respondents' education level was Diploma III in Midwifery (96.9%).

Bivariate Analysis.

Relationship Analysis.

To find out the relationship between the independent variables: knowledge, attitude, motivation, resource support, perception of supervision and the dependent variable: the performance of the village midwife, *Chi-Square* analysis was used because both the independent variables and the dependent variables were not normally distributed.

Relationship between Knowledge and Performance of Village Midwives

Table 2. Cross-tabulation of knowledge and performance of village midwives

Knowledge	Village Midwife Performance					
	Not enough		Good		Total	
	f	%	f	%	f	%
Not enough	34	72,3	13	27,7	47	100
Good	5	27,7	13	72,3	18	100
Amount	39	100	26	100	65	100

$X^2 = 8.993$, *p- value* = 0.001

Table 2 shows that the performance of village midwives with poor knowledge (72.3%) is greater than the performance of village midwives with good knowledge (27.7%). From the results of the analysis with the *Chi Square Test (continuity correction)* $X^2 = 8.993$ with *p-value* = 0.001 (p <0.05) means that it can be concluded that there is a relationship between knowledge variables and midwives' performance variables in handling neonatal asphyxia.

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Correlation between Attitudes and Performance of Village Midwives in Handling Asphyxia Neonatorum.

Table 3. Cross-tabulation of midwives' attitudes and performance of village midwives

| Attitude | Village Midwife Performance | | | | | |
| | Not enough | | Good | | Total | |
	F	%	f	%	f	%
Not enough	29	80.6	7	19,4	36	100
Good	10	34.5	19	65.5	29	100
Amount	39	100	26	100	65	100

$X^2 = 12.351$, *p- value = 0.0001*

Table 3 shows that the performance of village midwives with less attitude (80.6%) is greater than the performance of midwives with less good attitude (34.5%). From the results of the analysis with the *Chi Square Test (continuity correction)* $X^2 = 12.351$ with *p-value = 0.0001* (p <0.05) means that it can be concluded that there is a relationship between attitude variables and the performance of midwives in the implementation of neonatal asphyxia management.

Correlation between Motivation and Performance of Village Midwives in Handling Asphyxia Neonatorum.

Table 4. Cross-tabulation of midwives' motivation and performance of village midwives

| Motivation | Village Midwife Performance | | | | | |
| | Not enough | | Good | | Total | |
	F	%	f	%	f	%
Not enough	27	81.8	6	18,2	33	100
Good	12	37.5	20	62.5	32	100
Amount	39	100	26	100	65	100

$X^2 = 11.513$, *p- value = 0.0001*

Table 4 shows that the performance of village midwives with less motivation (81.8%) is greater than the performance of midwives with less motivation (37.5%). From the results of the analysis with the *Chi Square Test (continuity correction)* $X^2 = 11.513$ with *p-value = 0.0001* (p <0.05) means that it can be concluded that there is a relationship between motivational variables and the performance of midwives in the implementation of neonatal asphyxia management.

Relationship between Resource Support (funds, facilities, infrastructure) and Village Midwife Performance in Handling Asphyxia Neonatorum.

Table 5. Cross Tabulation of Support Resources (funds, facilities, infrastructure) with Midwife Performance

| Resource Support | Village Midwife Performance | | | | | |
| | Not enough | | Good | | Total | |
	f	%	f	%	f	%
Not enough	8	61.5	5	38.5	13	100
Good	31	59,6	21	40,4	52	100
Amount	39	100	26	100	65	100

$X^2 = 0.0001$, *p- value = 0.899*

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Table 5 shows that the performance of village midwives who lack the support of resources (61.5%) is greater than the performance of village midwives who lack the support of good resources (59.6%). From the results of the analysis with the *Chi Square Test (continuity correction)* $X^2 = 0.0001$ with *p-value = 0.899 (p > 0.05)* means that it can be concluded that there is no relationship between the variable resource support and the performance of midwives in the implementation of neonatal asphyxia management.

Relationship between Perception of Supervision Variables and Performance of Village Midwives in Health.

Table 6. Cross-tabulation of Perceptions of Supervision and Performance of Village Midwives in Health in Magelang Regency

| Supervision perception | Village Midwife Performance | | | | | |
| | Not enough | | Good | | Total | |
	F	%	f	%	f	%
Not enough	26	83.9	5	16,1	31	100
Good	13	38,2	21	61.8	34	100
Amount	39	100	26	100	65	100

$X^2 = 12.234$, *p- value = 0.0001*

Table 6. shows that the performance of midwives with poor perceptions of less supervision (83.9%) is greater than the performance of midwives with poor perceptions of good supervision (38.2%). On the other hand, the performance of good midwives with perceptions of poor supervision (16.1%) is smaller than the performance of good midwives with good perceptions of good supervision (61.8%). This shows a tendency that respondents' perceptions of supervision affect the performance of respondents in the implementation of health services. From the results of the analysis with the *Chi Square Test (continuity correction)* $X^2 = 12.234$ with *p-value = 0.0001 (p <0.05)* means that it can be concluded that there is a relationship between the variable perception of supervision and the performance of midwives in implementing health services in general and handling neonatal asphyxia in particular.

Recapitulation of Bivariate Relations of Independent Variables and Dependent Variables.

Table 7. Recapitulation of Bivariate Statistical Analysis Results Variable Relations Independent with Dependent Variable t (Performance of Village Midwife) with *Chi Test Square* at α 5%

No.	Free Variables	*Continuity Correction (X^2)*	Significance	Information
1.	Knowledge	8,993	0.001	There is a relationship
2.	Attitude	12,351	0.0001	There is a relationship
3.	Motivation	11,513	0.0001	There is a relationship
4.	Resource support	0.0001	0.899	No connection
5.	Supervision perception	12,234	0.0001	There is a relationship

Analysis of the Relationship between the Independent Variable and the Dependent Variable (Midwife Performance) Based on Logistic Regression Analysis. Summary of Bivariate Logistic Regression Analysis between independent variables and dependent variables with $p \leq 0.05$.

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Table 8. Recapitulation of Bivariate Analysis Between Knowledge, Attitudes, Motivation, Perceptions of Supervision with the Performance of Midwives.

Variable	B	SE	*Wald*	Df	*p-values*	*Exp* . B	Exp. B *Lower*	*Upper*
Knowledge	1917	.619	9,588	1	002	6,800	2021	22,881
Attitude	2063	.574	12,901	1	.000	7,871	2,553	24,267
Motivation	2015	.581	12046	1	001	7,500	2,404	23,401
Supervision perception	2.128	.602	12,477	1	.000	8,400	2,579	27,361

Table 8 shows that the results of the bivariate analysis of the variables of knowledge, attitudes, motivation, perceptions of supervision on the performance of midwives all have a *p-value <0.25,* so that all variables can be continued into multivariate analysis.

Logistic Regression Multivariate Analysis

Table 9. Results of Multivariate Statistical Analysis of Relationships with Variables Free with Dependent Variables with Multiple Logistic Regression Test at α 5%

Variable	B	SE	Wald	Df	*p-values*	Exp. B	Exp. B Lower	Upper
Knowledge	2044	.715	8.173	1	.004	7,723	1902	31,364
Motivation	2.119	.653	10,543	1	001	8,324	2.316	29,916
Constant	-6,320	1,589	15,822	1	.000	002		

Table 9. shows that only knowledge and motivation variables have a *p-value <0.05*, namely knowledge with *a p-value of* 0.004, Exp.(B) value of 7.723 and motivation *p-value of* 0.001, Exp.(B) value of 8.324. In conclusion, there is a relationship between knowledge and motivation with the performance of midwives in services for treating neonatal asphyxia. Based on the value of Exp (B), which has the greatest relationship is the variable motivation with Exp (B) 8.324 which is then followed by the knowledge variable with Exp (B) 7.723.

DISCUSSION

Knowledge level

The level of knowledge about asphyxia neonatorum in respondents is less (72.3%) compared to respondents who have a good level of knowledge (27.7%). In this study, most of the respondents were 96.9% having D III Midwifery education and respondents who had attended APN training 38.5% / management of neonatal asphyxia 61.5%. This does not support the knowledge of the respondents so that most of the respondents have less knowledge (Rustan, 2022).

Knowledge is needed in completing a job so that the respondent's knowledge about neonatal asphyxia (definition and causes) and its handling must be mastered if you want to complete the job properly. Knowledge is strongly influenced by the intensity of attention and perception of objects. However, it turns out that there are still respondents who have deficiencies in mastering several topics of knowledge

that support the implementation of the management of neonatal asphyxia. Thus it is necessary to increase the knowledge of midwives in handling neonatal asphyxia (Murniati, Taherong and Syatirah, 2021).

Attitude

Most of the respondents had a less attitude (55.4%) towards the Asphyxia Neonatorum Handling Services while there were those who had a good attitude (44.6%). This can be supported by the theory that attitude is an evaluative statement of a person towards a certain object, certain person or certain event, attitude is also a reflection of one's feelings towards something. Meanwhile, a person's attitude in responding to problems is influenced by a person's personality (Fattuoni *et al.*, 2015). Attitude is a mental readiness, which is learned and organized through experience, and has a certain influence on the way a person responds to other people. objects and situations related to them (Rustan, 2022).

Motivation

Respondents who had less motivation were 50.8% while those who had good motivation for the implementation of neonatal asphyxia management were 49.2%. There are quite a number of respondents who have less motivation, so this requires a deeper study, considering that the success of a program is largely determined by the motivation of the program actors themselves (Nufra and Ananda, 2021).

Motivation has a fundamental meaning as an initiative to drive one's behaviour optimally, this is because motivation is an internal, psychological and human mental condition such as various desires, hopes, needs, drives and preferences that encourage individuals to work to achieve satisfaction or reduce imbalances (Nufra and Ananda, 2021).

Support

Respondents who think that the support of good resources is 80% more than the number of respondents who think that the support of resources is lacking, namely 20%. This is supported by the results of observations with a checklist of 65 respondents who have infrastructure facilities of more than 70% and meet the standards that have been set even though most of the midwives buy themselves not help from institutions (Alfitri, Bakhtiar and Ngo, 2021).

Supervision

Most of the respondents had a good perception, namely 52.3% of the supervision carried out by superiors, but there were still 47.7% of respondents who had the perception that supervisory supervision in general was still lacking. A person's perception will greatly influence his behavior (Ye, Wang and Sun, 2022). Experience affects one's perception. This should make the attention of the Health Office to further improve routine supervision activities (Rustan, 2022).

Performance

In terms of performance, most of the respondents (60.0%) had poor performance, but there were still respondents (40.0%) who had good performance in handling neonatal asphyxia. The coordinating midwife must increase the knowledge and motivation of the midwife so that the handling of neonatal asphyxia can be more optimal (Arta Mutiara, Fitri Apriyanti, 2020).

Performance appraisal is the most trusted tool for coordinating midwives in controlling human resources and productivity (Kartika Sari, Sincihu and Ruddy, 2018). The performance appraisal process can be carried out effectively in directing employee behavior in order to produce nursing services in high quality and volume (Admasu *et al.*, 2022). Coordinating midwives can use the performance appraisal process to set the direction of work in selecting, training, career planning guidance, and awarding competent midwives. Performance is a combination of ability and effort to produce what is done (Walas *et al.*, 2020).

CONCLUSION

Based on the results of the research and discussion, it can be concluded that the average age of the respondents is 38 years with a standard deviation of 6.97, the youngest is 23 years and the oldest is 54 years. Most of the respondents (96.9%) had the last Diploma III in Midwifery. Most of the respondents (72.3%) had insufficient knowledge about the handling of neonatal asphyxia, 55.4% had a lack of attitude, 50.8% had less motivation. The support of resources (funds, facilities, infrastructure) is mostly good (80%), 52.3% of respondents have a good perception of supervision. Most of the respondents (60%) had poor performance in handling neonatal asphyxia. There is a positive relationship between knowledge, attitudes, motivation, perceptions of supervision and the performance of midwives in handling neonatal asphyxia.

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