

Path Analysis on the Effects of Motivation and Other Factors on Midwives Performance of Preeclampsia Management in Malang, East Java

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ABSTRACT

Background: The incidences of preeclampsia and eclampsia remain high worldwide. Preeclampsia and eclampsia remain a major cause (31.04%) of maternal mortality in East Java. It is essential to early detect preeclampsia in order to prevent mortality. Good performance of midwives in the management of preeclampsia may reduce maternal mortality attributable to eclampsia. It is hypothesized that motivation, leadership style, working atmosphere, incentive, skill, and training, all have impact on midwives performance. This study aimed to analyze the effects of motivation and other factors on midwives performance in preeclampsia management in Malang, East Java, using path analysis model.

Subjects and Method: This was an analytic observational study with cross sectional design. The study was conducted in Community Health Centers, Malang, East Java in September 2017. A total sample of 161 midwives were selected using total sampling technique. The endogenous variables were motivation and midwives performance. The exogenous variables were incentive, working atmosphere, leadership style, skill and training. The data were collected using a set of questionnaire and analyzed by path analysis.

Results: Midwife performance were positively affected by working atmosphere ($b = 0.11$; $SE = 0.04$; $p = 0.004$), leadership style ($b = 0.06$; $SE = 0.02$; $p = 0.004$), skill ($b = 0.24$; $SE = 0.03$; $p < 0.001$), and motivation ($b = 0.68$; $SE = 0.03$; $p < 0.001$). Motivation was positively affected by incentive ($b = 0.25$; $SE = 0.09$; $p = 0.006$), training ($b = 0.89$; $SE = 0.28$; $p = 0.001$), skill ($b = 0.39$; $SE = 0.06$; $p < 0.001$), leadership style ($b = 0.08$; $SE = 0.05$; $p = 0.110$), and working atmosphere ($b = 0.35$; $SE = 0.09$; $p < 0.001$).

Conclusion: Midwives performance are positively affected by working condition, leadership, skill, and motivation.

Keyword: preeclampsia, path analysis, motivation, midwives performance

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BACKGROUND

Pre-eclampsia and eclampsia incidence is categorized as high worldwide. As many as 861 pre-eclampsia cases were found in 96,494 pregnant women, and 862 eclampsia cases occurred in 96,497 pregnant women. The pre-eclampsia incidences in Indonesia ranges from 7% to 10% of total pregnancies. Pre-eclampsia and eclampsia incidences rank second among all cases

(Subakir, 2008).

Pre-eclampsia, eclampsia, infection, and bleeding account for 75% to 80% of all maternal death (East Java Province Health Office, 2012). In 2014, maternal mortality reached 93.52 per 100,000 live births; Kota Malang is the third largest contributor to the number of maternal death after Surabaya and Jember. The direct cause of maternal mortality in East Java in 2010 –

2012 was the increase of pre-eclampsia/ eclampsia cases, yet hemorrhage and infection cases have decreased every year. In 2012, pre-eclampsia and eclampsia became the leading cause, it accounted for 34.88% of the death (East Java Province Health Office, 2012).

Pre-eclampsia, eclampsia, infection and hemorrhage contributed to 75% to 80% of total maternal mortality (East Java Province Health Office, 2012). In 2014, pre-eclampsia/ eclampsia remained the dominant factor for maternal death in East Java (East Java Province Health Office, 2015).

According to Malang City Health Office's data, maternal death rate in the city increased from eight cases (67.96%) in 2014 to nine cases (75%) in 2016. As many as 80% of the death cause was pre-eclampsia. Maternal mortality cases caused by pre-eclampsia in Malang City increased (Malang City Health Office, 2016).

Pre-eclampsia is unpreventable; the most crucial part is how to detect the disease at its earliest. The early detection can be conducted through antenatal care as a method to monitor and support health of normal pregnant women and to prevent normal pregnancies from becoming abnormal (Rukiyah, 2015).

Community health centers are the frontline health service providers and they should be able to reach community to reduce maternal and infant death. One of the community health services is Public Health Nursing (PHN), which includes health improvement programs, disease prevention, rehabilitation and recovery. Quality of HPN should be improved so that health services, especially those provided to mothers and children, are delivered optimally. Quality of an organization is determined, among other factors, by human resources. The quality of human resources or employees is measured through their

performances or productivity. Therefore, performance of the midwives of Puskesmas when managing pre-eclampsia cases becomes one of the essential parts in the quality improvement and proportional distribution of antenatal care.

Midwives' good performance in managing pre-eclampsia will decrease maternal death caused by the condition, and it eventually will impact to maternal death reduction measures. In order to accelerate maternal death reduction, the government has established a program to assign midwives to villages or community health centers. The program's main objective is to improve quality of proportional distribution of antenatal, intranatal, and postnatal services as well as to increase public awareness on clean and healthy living behavior (Destariyani, 2011).

Some factors that influence midwives' performances are leadership, number of human resources, working atmosphere, and motivation (Kusuma, 2016). Other influencing factors, according to Geleto *et al.* (2015) are salary, lack of trainings, and working environment. According to Sulaelman (2014), motivation can be used to leverage the performance of community health centers' staff because employees' work effectiveness is affected by their motivation. According to Sedarmayanti (2009), working atmosphere or environment is one among other factors attributes to the employees' satisfaction, which eventually impacts their performances. According to Mathis & Jackson (2008), individual performance is influenced by talent, interest, characteristic, motivation, training, working atmosphere and leadership management.

Based on the description above, it is concluded that the midwives' performance is influenced by motivation, leadership style, working atmosphere, incentive, skills

and training. Therefore, the researcher will conduct determinant analysis to motivation and its impacts to the midwives' performance in high risk pregnancies early detection, particularly on the pre-eclampsia management in pregnant women.

SUBJECTS AND METHOD

This study used observational analytic method with cross sectional approach. The study was conducted in all community health centers in Malang City in September 2017.

Population in this study was all midwives working in the community health centers in Malang City. Sample of the study was 161 subjects. The sampling technique used was total sampling.

This study had seven variables which consisted of dependent and independent variables. The dependent variables were motivation and the midwives' performance. The independent variables included incentives, working atmosphere, leadership style, training, and the midwives' skills.

Operational definition of the midwives' performance variable was the midwives' work results in pre-eclampsia management in pregnant women; they were measured using questionnaires. Motivation was faith that led or encouraged the midwives' behavior or desire to perform their responsibilities, especially pre-eclampsia management.

Leadership style was specific behavior pattern shown by the head of community health centre to influence the midwives' performance. Working atmosphere was something in the working environment which is able to influence the midwives' performance in carrying out their duties, especially in pre-eclampsia management. The working atmosphere included facilities and colleagues.

Skill was the midwives' technical competencies or practices in pre-eclampsia management. Incentive was the incentive given to the midwives as a reward for their works, other than salary. Incentive was given as service fee.

Training was a number of activities to earn knowledge and learned skills that were used to manage maternal emergency, particularly pre-eclampsia.

The item-total correlation reliability test found that the measurement of variables of incentive, working atmosphere, leadership style, skill, motivation, and midwives' performance had r count ≥ 0.20 , and Cronbach's Alpha ≥ 0.70 , meaning that all questions were reliable. Data were analyzed using path analysis with AMOS 22.

RESULTS

Characteristics dimension of 161 subjects under the study were examined based on age, employment period, marital status, and employment status.

Table 1 showed that among the 161 subjects, some (87%) of them aged ≥ 30 years (87%), almost everyone (93.2%) were married, majority of the subjects (86.3%) were civil servants, and employment period of most of the subjects (55.3%) was ≥ 10 years.

The descriptive statistic results of continuing data which included incentive, working atmosphere, leadership style, skill, midwives' working motivation, and midwives' performance were presented in Table 2.

Table 1. Characteristics of the Subjects under the Study

Characteristics	Criteria	N	%
Age	< 30 years	21	13
	≥ 30 years	140	87
Employment Period	< 10 years	72	44.7
	≥ 10 years	89	55.3
Marital Status	Not married	11	6.8
	Married	150	93.2
Employment Status	Internship	22	13.7
	Civil servant	139	86.3

Table 2. Univariate Analysis of the Variables under the Study

Variables	n	Mean	SD	Min	Max
Incentive	161	2.22	1.04	0	3
Working atmosphere	161	5.75	1.97	2	8
Leadership style	161	7.19	2.51	1	10
Skill	161	6.78	2.59	0	10
Working motivation	161	6.92	2.45	1	10
Midwives' performance	161	6.99	2.58	1	10

Table 2 showed that each variable had relatively small data variance. The mean indicated average score, and standard

deviation showed how much the data were varied. The small SD score indicated representative data.

Table 3. Bivariate analysis on the influence of incentives, working atmosphere, training, skill, working motivationn towards the midwives' performance in pre-eclampsia management

Independent Variables	r	p
Incentive	0.73	< 0.001
Working atmosphere	0.92	< 0.001
Leadership style	0.78	< 0.001
Training	0.79	< 0.001
Skill	0.94	< 0.001
Working motivation	0.98	< 0.001

Table 3 showed the results of pearson product moment correlation test on incentive ($r = 0.73$, $p < 0.001$), working atmosphere ($r = 0.92$, $p < 0.001$), leadership style ($r = 0.78$, $p < 0.001$), training ($r = 0.79$, $p < 0.001$), skill ($r = 0.94$, $p < 0.001$), motivation ($r = 0.98$, $p < 0.001$) indicated strong and statsitically significant correlation of these variables with the midwives' performance

Figure 1 showed a structural model after estimation was conducted using IBM

SPS AMOS 22, so that the score was obtaines as it was described on the picture. Indicators which showed compatibility with path analysis model on Table 4 showed goodness of fit measure, and resulted CIMN fit index as many as 2.48 with $p = 0.289$; NFI= 0.99 ≥ 0.90 ; CFI 1.00 ≥ 0.95 ; RMSEA= 0.039 ≤ 0.08 . It meant that the empirical model met the set criteria and it was consistent with the empirical data.

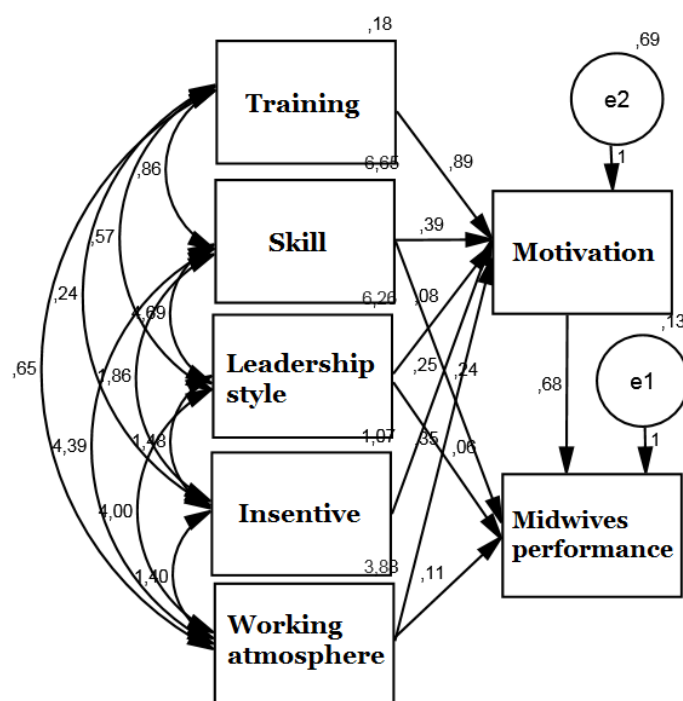


Figure 1. Path analysis structural model

Table 4. Results of the Path Analysis

Dependent Variables	Independent Variables	B*	SE	p	β**
Direct Effect					
Performance	Working atmosphere	0.11	0.04	0.004	0.08
Performance	Leadership style	0.06	0.02	0.004	0.06
Performance	Skill	0.24	0.03	<0.001	0.24
Performance	Motivation	0.68	0.03	<0.001	0.65
Indirect Effect					
Motivation	Incentive	0.25	0.09	0.006	0.11
Motivation	Skill	0.89	0.28	0.001	0.16
Motivation	Training	0.39	0.06	<0.001	0.41
Motivation	Leadership style	0.08	0.05	0.110	0.08
Motivation	Working atmosphere	0.35	0.09	<0.001	0.28
Fit model					
CMIN = 2.481 p = 0.289 (> 0.05)					
NFI = 0.99 (≥ 0.90)					
CFI = 1.00 (≥ 0.90)					
GFI = 0.99 (≥ 0.90)					
RMSEA = 0.039 (≤ 0.08)					
*: unstandardized coefficient path **: standardized coefficient path					

Table 4 indicated positive correlation between working atmosphere and performance. The higher the working atmosphere score was, the higher performance score got (b= 0.11, SE= 0.04, p= 0.004). There was positive correlation between leadership style

and performance. The higher the leadership style score was, the higher the performance got (b= 0.06, SE= 0.02, p= 0.004). Skill had positive influence towards performance. The higher the score of skill was, the performance score (b= 0.24, SE= 0.03, p<0.001).

Motivation had positive influence towards performance. The higher the motivation score was, the performance increased ($b=0.68$, $SE=0.03$, $p<0.001$).

Incentive had positive influence towards motivation. When the incentive score increased, the performance increased ($b=0.25$, $SE=0.09$, $p=0.006$). Training had positive influence towards motivation. The higher the training score was, the motivation increased ($b=0.89$, $SE=0.28$, $p=0.001$). Skill had positive influence towards motivation. The higher the skill score was, the higher the motivation got ($b=0.39$, $SE=0.06$, $p<0.001$). Leadership style had positive influence towards motivation. The higher the leadership style was, the motivation increased ($b=0.08$, $SE=0.05$, $p=0.11$). Working atmosphere had positive influence towards motivation. The higher the working atmosphere was, the higher the motivation got ($b=0.35$, $SE=0.09$, $p<0.001$).

DISCUSSION

1. The Effect of Incentives towards the Midwives' Performance in Pre-eclampsia Management

Incentive had indirect positive influence towards the midwives' performance in pre-eclampsia management through the motivation variable. Incentive was closely related to employment status; of 161 midwives, most of them (86.3%) were civil servants. Incentive is a factor that influences the improvement of individual's working motivation. Incentive is given in the form of medical fee, service fee and reward for to build career path. If the incentive, in this case is service fee, is distributed equally, the midwives becomes less motivated to work, dissatisfaction appears, and the midwives' performance deteriorates.

A study by Fauzi (2014) shows significant correlation between distributed incentives and employees' performance. The increasing employee's performance is attributable to strong working motivation which begins with appropriate distribution of financial and non-financial incentives for the employees because sufficient incentive will reduce other concentration to stuff other than the duties.

A study by Surani (2008) shows that incentive is an acknowledgement and appreciation from the management to the employees. Proportionally distributed incentive will motivate and satisfy the midwives, on the other hand disproportionate incentive will cause complaints, decline in the midwife achievement, work satisfaction, and moral.

Based on the description above, it is concluded that incentive that the midwives earn had indirect influence towards their performance improvement through the increase of the midwives' motivation.

2. The Effect of Working Atmosphere towards the Midwives' Performance in Pre-Eclampsia Management through Motivation

Analysis results showed that working atmosphere had both direct positive influence towards performance, and it also had indirect influence towards the performance through motivation.

Working atmosphere becomes the most important sub-variable of the motivation external factor that influences the employees' performance. Attention should be given to employees' working situation to keep their motivation. Working situation is influenced by facilities availability and operation, comfort and safety at working place. Well-maintained working situation will keep the employees motivated to perform their duties (Mudayana, 2010).

According to Sedarmayanti (2009), working situation or environment is one of the factors that influence employees' performance. An employee who works in a situation which support the person to work optimally will perform well, but the employee who works in a situation that does not support him/ her to work optimally will feel lazy and his/ her performance is low.

Based on the description above, it is concluded that working situation influences performance improvement both directly and indirectly through the increase of the midwives' working motivation.

3. The Effect of Leadership Style towards the Midwives' Performance in Pre-Eclampsia Management through Motivation

The analysis results showed that the leadership style had direct positive and statistically significant influence to the midwives' performance. At the same time, the leadership style also had positive indirect influence to motivation through motivation, yet this influence was not statistically significant.

Mardiana's (2014) measurement on the influence of the leadership style towards the employees' performance showed significant positive correlation. Therefore, democratic leadership style should be maintained to retain and improve employees' performance.

Mardiono (2016), in his study, stated that democratic leadership style has positive correlation with working performance. Democratic leadership is viewed to be most the most effective way to motivate subordinates because they are given autonomy to make decision and share their ideas so achieve the organization's goal.

Majority of the community health centers in Malang City have applied democratic leadership style, and so do the midwife coordinators. It is concluded that

the head of community health center's democratic leadership directly improves performance of the midwives at villages through their increased motivation in pre-eclampsia management. The democratic leadership allow sub-ordinates to share innovation, creativity, ideas and insight for the health centers' improvement, especially that related to pre-eclampsia management.

4. The Effect of Training towards the Midwives' Performance in Pre-Eclampsia Management through Motivation

The analysis result showed indirect positive influence of the midwives' performance to the pre-eclampsia management through motivation variable.

Training program strategy should ensure that the expected results of the training are the employees' capacity to perform their duties well, and the midwives receive incentive as reward for their performance. This will increase the midwives' working motivation and indicates correlation between the training program and performance. Job related training is a skill and competency development and improvement which directly impacts both individual and team performance.

A study by Harlie (212) found that motivation plays important roles in increasing the employees' motivation; motivation in the form of guidance and training drives the employees to work and attain the expected results.

The Ministry of Health Regulation No. 161/MENKES/PER/ 1/ 2010 on health registry and health workers competencies states that a health professional should receive trainings to perform well. Trainings are a part of organizations' activities conducted to obtain performance.

Based on the description above, it is concluded that trainings influence

performance enhancement through improvement of the midwives' performance.

5. The Effect of Skill towards the Midwives' Performance in Pre-Eclampsia Management through Motivation

The analysis result showed that skill has positive direct influence to the midwives' performance, and it also has indirect positive effect through motivation.

According to Sutrisno (2011), skill is the presence of knowledge in a certain environment, understanding on the problems arising in the environment and skills to solve the problems.

An incompetent person lacks skills to perform his/ her duties that bring pressure and eventually the person's motivation is low because he/ she does not have self-confident on his/ her capacity (Edison dan Anwar, 2016).

A study by Yulianti (2012) indicated that respondents who have sufficient skills tend to have good performance. The study result shows that skill supports a theory which says that one of the supporting factors that improve a midwife's performance is his/ her own skill. The higher the midwives' skills are, the better their performance get.

It is concluded that skills have direct and indirect influences to the performance improvement through the midwives' motivation strengthening.

6. The Effect of Motivation towards the Midwives' Performance in Pre-Eclampsia Management

The analysis result showed positive direct influence of motivation to the midwives' performance in pre-eclampsia management.

According to Sulaeman (2014), motivation can be used as a strategy to leverage the community health center staff's performance because their performance effectiveness depends in the employee's motivation.

A study by Yulianti (2012) showed that when the motivation is high, the community health center midwives' performance is good. This study is in line with Mulastin's (2009) which found significant correlation between motivation and the village midwives' performance in high-risk pregnancy detection in Jepara. Melianti (2012) found correlation between motivation and the village midwives' performance in high-risk pregnancy detection in the areas of Lombok Timur Health Office in 2011. A study by Destariyani (2011) found correlation of motivation and the village midwives' performance in pre-eclampsia early detection in Lebong, Bengkulu. Similarly, Kristiani (2007) found significant correlation between performance of motivation and the community health center midwives in antenatal care in Bengkulu Selatan.

Job satisfaction is in line with the way to overcome challenges in public service delivery so that the midwives have opportunities to attain better results or make achievements, the midwives should love their jobs, have responsibilities, and government provides the midwives with opportunity to develop their career, such as promotion, training, and most importantly, the midwives should receive acknowledgement from the government when performing their jobs well. The government acknowledgement can be given in the form of certificate, reward, promotion, etc.

A study by Gamayanti and Amir (2013) found factors that attribute to community health center staff's motivation, such as working situation, compensation, and relationship with coworkers. A study by Wijayanti (2012) showed positive insignificant influence of motivation towards the employees' performance; the higher the motivation is, the better the employees' performance gets. On the other hand, when

the motivation is low, the staff's performance deteriorates.

High working motivation makes people more enthusiastic to deliver the best services to achieve optimal performance. Motivation decrease is caused by some factors, such as insufficient salary, lack of acknowledgement from the managers. It is important to create conducive working relationship between the midwives and the community health center manager and staff, guidance from the midwife coordinator and the community health center manager, and acknowledgement for top achiever-midwives which is given in the form of compliment, promotion, scholarship, and additional operational fund.

Relationship between the midwives and community should be maintained well through soft skill enhancement. Good soft skill will influence the midwives acceptance in the community and it impacts on the midwives' performance improvement.

The study concludes that the village midwives' motivation improves their performance directly; by enhancing the motivation which is affected by internal and external factors, the midwives' performance in pre-eclampsia management improves.

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