

Contextual Factors of Posyandu on Cadre Performance in Providing Maternal and Child Health Service in Surakarta, Central Java

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ABSTRACT

Background: Cadre performance is an indicator of the success of the Posyandu program in maternal and child health services. Individual and social factors can influence the performance of cadres in providing health services. The purpose of this study was to determine factors affecting cadre performance in Surakarta, Central Java.

Subjects and Method: This was an analytic observational study with a cross sectional design. The study was conducted on 25 integrated health services (posyandu) in Surakarta, Central Java, from June to July 2019. A sample of 200 cadres was selected by simple random sampling. The dependent variable was cadre performance. The independent variables were age, marital status, education, work, tenure, training, knowledge, and information. The data were collected by questionnaire and analyzed by a multilevel logistic regression run on Stata 13.

Results: Good cadre performance increased with age ≥ 39 years ($b = 1.70$; 95% CI= 0.67 to 2.74; $p = 0.035$), education \geq senior high school ($b = 2.69$; 95% CI= 1.10 to 4.28; $p = 0.030$), working at home ($b = 1.87$; 95% CI= 0.81 to 2.93;

$p = 0.024$), tenure > 3 years ($b = 2.39$; 95% CI= 1.21 to 3.56; $p = 0.009$), had trained ($b = 1.94$; 95% CI= 0.86 to 3.01; $p = 0.021$), married ($b = 1.68$; 95% CI= 0.75 to 2.60; $p = 0.021$), good knowledge ($b = 2.17$; 95% CI= 0.95 to 3.40; $p = 0.023$), and good information ($b = 1.50$; 95% CI= 0.36 to 2.63; $p = 0.091$). Posyandu had strong contextual effect on cadre performance with intraclass correlation (ICC)= 53.22%.

Conclusion: Good cadre performance increases with age ≥ 39 years, education \geq senior high school, working at home, tenure > 3 years, had trained, married, good knowledge, and good information. Posyandu has strong contextual effect on cadre performance.

Keywords: work performance, maternal and child health, health services, cadre

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BACKGROUND

The role of cadres in the implementation of Posyandu is very large because in addition to providing health information to the community as well as community mobilizers to come to Posyandu and carry out clean and healthy living behavior (PHBS) (Ministry of Health, 2017).

The benefits of Posyandu for cadres are getting various health information first and more complete, contributing significantly in the growth and development of children under five and maternal health, increasing self-image in the eyes of the community as a trusted person in the health field, being a role model because it has served for the growth of

children and maternal health (Ministry of Health, 2012).

One effort to improve maternal and child health services is Posyandu cadre factors, such as the level of education, knowledge about posyandu, and training that have been attended by cadres. Posyandu as Indonesia's soft power in global health diplomacy and overall able to provide good services in maternal and child health. The role of cadres will determine the success of Posyandu in providing maternal and child health services (Hidayat et al., 2017). The risk of maternal mortality can be reduced by empowering the community one of them with Posyandu activities (Kusuma et al., 2016).

Posyandu in Indonesia has become a center for programs to improve maternal and child health services. Posyandu activities involve the role of the community and health workers who are given responsibility by the Puskesmas to monitor every Posyandu activity. Posyandu makes it easy for the community to monitor maternal health and child development (Susanto et al., 2017). Posyandu Contextual Influence is the influence of all aspects that exist in Posyandu activities. Posyandu is a routine monthly activity carried out by the community for health activities (Sinta et al., 2017).

Cadres have the main role to carry out Posyandu services, including supporting family planning services, MCH, immunization, nutrition, and prevention of diarrhea, inviting mothers to come on the day of Posyandu activities and supporting other health efforts in accordance with existing problems (Anwar et al., 2010).

Cadres have an important role in maternal and child health. Maternal and child health monitoring is carried out by cadres during Posyandu activities. The influence of cadre performance is very large in supporting public health, especially on maternal and child health (Kane et al., 2016).

Posyandu cadres have an important role in implementing activities both before, during and after the opening day of Posyandu. Good cadre performance can be influenced by individual factors and community factors (Rakhmahayu et al., 2019). Each Posyandu cadre has different characteristics (Limato et al., 2018).

SUBJECTS AND METHOD

1. Study Design

This was an analytic observational study with a cross sectional design. The study was carried out in Surakarta, Central Java, from June to July 2019.

2. Population and Sample

The population in this study were posyandu cadres in Surakarta, Central Java. A sample of 200 cadres was selected by simple random sampling. Posyandu was selected by stratified random sampling.

3. Study Variables

The dependent variable in this study is the performance of cadres in maternal and child health services. The independent variables in this study are age, education, marital status, employment, years of service, training, knowledge, and information.

4. Operational Definition of Variables

Education was the last level of education taken by cadres based on their last diploma. The data were collected by questionnaire. The measurement scale was categorical, coded 0 for <senior high school and 1 for ≥senior high school.

Marital status was a description of social status regarding personal relationships with members of the opposite sex as stated in the family card. The data were collected by questionnaire. The measurement scale was categorical, coded 0 for unmarried and 1 for married.

Occupation was an activity carried out by cadres to support their lives and family life. The measuring instrument used was a ques-

tionnaire. The data were collected by questionnaire. The measurement scale was categorical, coded 0 for working outside the house and 1 for working at home.

Tenure was length of time of cadres work as cadres in Posyandu. The data were collected by questionnaire. The measurement scale was continuous, but it was transformed into dichotomous, coded 0 for <3 years and 1 for ≥3 years.

Training was a special education that has been followed by cadres who are related to maternal and child health services in the Posyandu. The measuring instrument used was a questionnaire. The data were collected by questionnaire. The measurement scale was categorical, coded 0 for no and 1 for yes.

Knowledge was everything that cadres know about the main tasks, functions and roles of Posyandu cadres. The data were collected by questionnaire. The measurement scale was continuous, but it was transformed into dichotomous, coded 0 for poor knowledge and 1 for good knowledge.

Information was a message conveyed by cadres through pictures, videos or leaflets in accordance with the knowledge possessed by the cadre. The data were collected by questionnaire. The measurement scale was continuous, but it was transformed into dichotomous, coded 0 for poor information and 1 for good information.

Work performance was the result or overall success rate of cadres during a certain period in carrying out their duties as Posyandu cadres. The data were collected by questionnaire. The measurement scale was continuous, but it was transformed into dichotomous, coded 0 for poor performance and 1 for good performance.

5. Research Ethic

This study was conducted based on research ethics, namely informed consent, anonymity, confidentiality, and research ethics. Research ethics was obtained from Research Ethics

Committee of Dr. Moewardi Hospital, Surakarta, Central Java, Indonesia, No. 859/VII/HREC/2019.

RESULTS

1. Sample Characteristics

Table 1 described sample characteristics for continuous data.

2. Univariate analysis

Table 2 shows the performance variables in the study is divided into good performance (median score) and underperformance (<median score). A median score for the performance variable is 8. Based on the results of the study, it is obtained 120 cadres (60.0%) with good performance and 80 cadres (40.0%) with poor performance. The cadre age in this study was divided into cadre age ≥39 years (≥median) and cadre age <39 years (<median). The median score for the cadre age variable is 39 years. Based on the research results, 113 cadres (56.5%) with ≥38 years of age and 87 cadres (43.5%) with age <38 years. Cadre education in this study was divided into low education (elementary, junior high school) and higher education (senior high school and college). Based on the research results, it is known that cadres with low education are 92 cadres (46.0%) and cadres with higher education are 108 (54.0%) cadres.

Job variables in this study were divided into working inside the house and working outside the home. Based on the research results, it is known that 106 cadres (53.0%) work inside the house as housewives and 94 cadres (47.0%) work outside the home.

The cadre working period in this study is divided into work experience > 3 years and work experience ≤3 years. Based on the study results, 113 cadres (56.5%) with work experience > 3 years and 87 cadres (43.5%) with work experience of 3 years.

The cadre marriage status in this study was divided into married cadres and

unmarried cadres. Based on the results of the study, it is known that 134 cadres (67.0%) were married and 66 cadres (33.0%) with a history of not being married. The training variables in this study were divided into cadres who had attended training and cadres who had never attended training. Based on the research results, 113 cadres (56.5%) had attended training and 87 cadres (43.5%) had never participated in training.

Knowledge variables in this study, subjects were divided into cadres with good knowledge (median) and cadres with less knowledge (<median). A median score for cadre knowledge is 5. Based on the results of the study known as many as 117 cadres (58.5%) with good knowledge and 83 cadres (41.5%) with less knowledge. Based on the results of the study, it is known that 113 cadres (56.5%) had good information and 87 subjects (43.5%) had less information.

3. The result of multilevel analysis

Table 3 showed the results of multiple logistic multilevel regression.

Table 3 showed that good cadre performance in providing maternal and child health services increased with the age of cadres ≥ 39 years old (b=1.70; 95% CI= 0.67 to 2.74; p=0.035), education \geq senior high school (b= 2.69; 95% CI= 1.10 to 4.28; p= 0.030), working at home (b= 1.87; 95% CI= 0.81 to 2.93; p=0.024), tenure >3 years (b= 2.39; 95% CI= 1.21 to 3.56; p= 0.009), training (b= 1.94; 95% CI= 0.86 to 3.01; p= 0.021), married (b= 1.68; 95% CI= 0.75 to 2.60; p= 0.021), good knowledge (b= 2.17; 95% CI= 0.95 to 3.40; p= 0.023), and good information (b= 1.50; 95% CI= 0.36 to 2.63; p= 0.091). Posyandu has a strong contextual effect on cadre performance with an intra-class correlation (ICC)= 53.22%.

Table 1. Sample characteristics (continuous data)

Variable	n	Mean	SD	Min.	Max.
Age	200	38.28	7.25	26	55
Experience	200	5.16	2.90	1	12
Knowledge	200	4.99	2.20	0	10
Information	200	5.89	1.67	2	9
Performance	200	8.29	2.42	2	16

Table 2. Description of the characteristics of the categorical data sample

Variables	n	%
Cadre's Performance		
Good	120	60.0
Poor	80	40.0
Age		
≥ 39 years old	113	56.5
< 39 years old	87	43.5
Education		
<Senior high school	92	46.0
\geq Senior high school	108	54.0
Employment		
Work outside home	94	47.0
Work at home	106	53.0
Tenure		
>3 years	113	56.5
≤ 3 years	87	43.5

Marital status		
Married	134	67.0
Single	66	33.0
Training		
Yes	113	56.5
No	87	43.5
Knowledge		
Good	117	58.5
Poor	83	41.5
Information		
Good	113	56.5
Lack	87	43.5

Table 3. Multilevel logistic regression analysis of Posyandu contextual influence on cadre performance in maternal and child health services

Independent Variable	b	95% CI		p
		Lower Limit	Upper Limit	
Fixed effect				
Age (≥39 years old)	1.70	0.67	2.74	0.035
Education (≥HS)	2.69	1.10	4.28	0.030
Employment (at home)	1.87	0.81	2.93	0.024
Tenure (>3 years)	2.39	1.21	3.56	0.009
Training (yes)	1.94	0.86	3.01	0.021
Marital status (married)	1.68	0.75	2.60	0.021
Knowledge (good)	2.17	0.95	3.40	0.023
Information (good)	1.50	0.36	2.63	0.091
Random effect				
Posyandu				
Var (constants)	3.74	1.27	11.00	
Log likelihood=	-43.15			
LR Test vs Logistic Regression	p= 0.001			
ICC =	53.22%			

DISCUSSION

1. The effect of age on cadre performance in maternal and child health services

A person's age in carrying out their duties as a Posyandu cadre influenced their performance in providing maternal and child health services. Older cadres have more confidence in carrying out their duties as health cadres (Rodríguez-Cifuentes et al., 2018). Good confidence can improve the performance of cadres and contribute greatly to Posyandu activities.

A person's age has a positive influence in improving their performance. Older workers have the motivation and work discipline

that have been formed so that they were able to carry out their duties properly. Older workers felt that they have more responsibility so they try to carry out their tasks well (Antara et al., 2018).

2. The effect of education on cadre performance in maternal and child health services

Education was a factor that reflects a person's ability to be able to complete a job. Taking a certain level of education causes a person to have knowledge so that he/she was able and capable to carry out his/her duties properly. Therefore, education would affect the performance of cadres in providing maternal

and child health services (Lolita et al., 2019).

Motivation and work discipline can be determined from a person's level of education. People with higher education have greater motivation to always develop their knowledge. Education can also shape a person's character to get used to completing tasks well and achieve satisfaction at work (Hotchkiss et al., 2015). Cadre's education would be influential in providing maternal and child health services. Cadres with high education were able to carry out good management. The higher a person's education, the more things he/ she got and learned, so that it would have an impact on the surrounding community.

2. The effect of employment on cadre performance in maternal and child health services

Cadre's employment was an activity that was carried out by cadres every day outside of it, not as a Posyandu cadre. Cadres who have permanent jobs or work outside the home tend to be busier and less focused in carrying out their duties as a Posyandu cadre. Cadres who work at home take care of the household have a better performance compared to cadres who work outside the home (Kusuma et al., 2016).

Cadres who have work outside the house would feel burdened because they have more workload. Excessive workloads made cadres feel exhausted and not optimal in carrying out their duties as a health cadre. The work of cadres outside the house would reduce the performance of cadres in providing maternal and child health services (Spook et al., 2019).

Employment was a person's activity in everyday life. The more jobs you have, the busier you would be. The work done would be optimal if someone was able to focus on one job. If a cadre concurrently worked as a worker in another agency, it would disrupt his/her performance as a Posyandu cadre (de

Jonge and Peeters, 2019).

3. The effect of tenure on cadre performance in maternal and child health services

Length of service or tenure greatly influenced the performance shown by cadres, this was in line with the theory that tenure was the length of time employed in a business/ office where tenure was an indicator in determining productivity, because would be more experienced and skilled at completing tasks entrusted to them (Hotchkiss et al., 2015).

Tenure as a posyandu cadre influenced the competence of posyandu cadres. The work period was the time span of cadres in carrying out their duties as part of Posyandu activities which were an effort of maternal and child health programs. Long tenure as health cadre was expected to be more experience and knowledge so that it was expected that health cadres can serve the community better and more professionally. Cadres who have a longer working period would have a deeper closeness with the community, because it was more widely known and has interaction in a longer time/ often in the community compared to the new work period (Nazri et al., 2016).

4. The effect of training on cadre performance in maternal and child health services

Training is a process that can systematically change a person's behavior, especially employees, to achieve the stated organizational goals. Training was related to the expertise and ability of a person in carrying out his/her work. The training has a current orientation and helps someone to achieve certain skills and abilities in order to successfully carry out the work. The training given to health cadres was able to provide high motivation to improve their performance as a health cadre in providing maternal and child health services. Training was given by trained staff from specialized institutions to improve the quality of

a health cadre (Hotchkiss et al., 2015).

5. The effect of marital status on cadre performance in maternal and child health services

Married cadres were more likely to provide better service because of their background as a mother. Cadres who were married and have children would routinely come to Posyandu to participate in weighing their children. Cadres who have been married and settled in the area would be longer cadres. Place of origin or residence supports someone's performance. Local people would have good performance and discipline in work. The results obtained in the study showed that a person has a good performance influenced by the environment and residence (Fogarty et al., 2014).

A person's character can determine good performance in doing work. The marital status of a cadre would form the character that she was a mother of children (Liang et al., 2019).

6. The effect of knowledge on cadre performance in maternal and child health services

The knowledge possessed by cadres can improve performance in providing maternal and child health services. Good knowledge made a cadre work professionally and competently. Cadres have the competence to increase along with the knowledge they have. Cadres with good knowledge would provide good service in carrying out their duties as cadres. The services provided would be in accordance with service standards and work professionally (Liang et al., 2019).

Cadre knowledge influenced cadre habits in doing their duties. Good knowledge supported a cadre in conveying various information to the public (Epstein et al., 2019).

7. The effect of information on cadre performance in maternal and child health services

Information possessed by cadres influenced

their performance in providing maternal and child health services. The more information a cadre has, the more can be conveyed to the public. Good information can give satisfaction to the community for the services provided by cadres (Whidden et al., 2018). Efforts to improve the performance of cadres need good information. With good information, it would facilitate communication between cadres and the community. The community became easier to accept what the cadres deliver (Whidden et al., 2018).

AUTHOR CONTRIBUTION

Restu Pangestuti as the main researcher collected the data, formulated the data, designed the study, and conducted a questionnaire reliability test. Yulia Lanti Retno Dewi examined the data and analyzed the data. Endang Sutisna Sulaeman advised discussion materials.

CONFLICT OF INTEREST

There was no conflict of interest in this study.

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