

Relationship of Competency of Midwife with Management Management of Newbirth Asphyxia in the RegionService Work Health Deli Serdang

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ABSTRACT

Competence is a skill based on skills and knowledge supported by work attitude and its application in performing tasks. Newborn asphyxia management is a midwifery service that must be performed by a competent midwife who requires mastery of knowledge, attitudes and skills in critical situations. This research is an observational survey that aims to analyze the relationship of midwives competence (knowledge and attitude) to management of newborn asphyxia management. Population in this research is all village midwife who is in working area of Deli Serdang Health Office which amounts to 68 people. And the entire population is sampled in this study (Total Sampling). Data collection through interviews, questionnaires and observations. Data analysis was done by Chi-Square Test at 95% confidence level. The results showed that there was a significant correlation between midwives knowledge ($P = 0.000$) with management of newborn asphyxia management. And there is a relationship of midwife attitude ($P = 0.047$) with management of newborn asphyxia management. The knowledge variable that has the greatest relation to management of newborn asphyxia management compared with midwife attitude variable with Exp (B) value = 16.2. Important conclusions and implications in this study is that it can be assumed that the education and training of management of newborn asphyxia is very supportive in the effort of improving the competence of village midwife in the work area of Deli Serdang Health Department so that the given midwifery service is qualified and the infant mortality due to asphyxia can be prevented.

Keywords: Competence, Knowledge, Attitude, Management of Newborn Asphyxia Management

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INTRODUCTION

Asphyxia is a newborn emergency in the form of respiratory depression that continues to cause various complications. In addition, asphyxia is a cause of mortality and morbidity, and most often occurs in the period immediately after birth and creates a need for resuscitation and immediate intervention to minimize mortality and morbidity (Maryunani A, et al, 2010).

According to a report by the *World Health Organization (WHO)* in 2000, the infant mortality rate (IMR) in the world was 54 per 1000 live births and in 2006 it was 49 per 1000 live births. (Wijaya, 2010).

Based on the results of the 2012 Indonesian Demographic and Health Survey (IDHS), the *Neonatal Mortality Rate (NMR)* in 2012 was 19 per 1000 live births, a decrease from 20 per 1000 live births in 2007 and 23 per 1000 live births based on the results IDHS 2002. Attention to efforts to reduce the *neonatal mortality rate* (age under 28 days) is important because neonatal mortality contributes to 56% of infant mortality. (Indonesian Health Profile, 2013).

The infant mortality rate in Indonesia is still high compared to other developing countries. *Infant Mortality Rate (IMR)* is the number of infant deaths (under 1 year of age) in a period of time (generally 1 year) divided by the total number of live births. This figure is an indicator of the nation's health status. This high infant mortality rate can be an indication that *maternal and neonatal services* are not good, therefore efforts are needed to reduce the infant mortality rate (Saragih, 2011).

Based on the Health Profile Report of North Sumatra Province (2012), the Infant Mortality Rate (IMR) is only 7.6/1,000 live births (KH). Based on the results of Basic Health Research (Riskesmas) in 2007 showed that the most common causes of death in the 0-6 day old group were dominated by respiratory disorders (35.9%), prematurity (32.4%) and sepsis (12%).

The main problem that causes death in infants and toddlers is in the *neonatal period* (newborns aged 0-28 days). According to the results of Riskesmas 2007 showed that 78.5% of neonatal deaths occurred at the age of 0 - 6 days. Complications that are the most common cause of death are asphyxia, low birth weight babies and infections. (Ministry of Health, RI, 2013).

According to the Decree of the Minister of Health of the Republic of Indonesia No. mor: 938 / Menkes / SK / VIII / 2 007 concerning Standards of Midwifery Care , it clarifies that the midwife is one of the health workers who has an important and strategic position especially in decreasing MMR and IMR. Midwives provide continuous and comprehensive midwifery services , focusing on prevention , promotion based on partnerships and community empowerment together with other health workers to always be ready to serve anyone who needs it.

According to Boulter, Dalziel, and Hill (2003) in Sutrisno (2012), competence is a basic characteristic of a person that allows him to provide superior performance in certain jobs, roles, or situations. Skills are things that people can be good at. Knowledge is what a person knows about a topic. Social role is the image shown by someone in public. Social roles represent what that person considers important. Social roles reflect that person's values.

Mulyasa (2003) in Sutrisno (2012) suggests that competence is a combination of knowledge, skills, values, and attitudes that are reflected in the habits of thinking and acting. Competence is an ability based on skills and knowledge that is supported by work attitude and its application in carrying out tasks and work in the workplace that refers to the specified work requirements.

Based on the research of Djaja, S, et al, on the success of Newborn Asphyxia Management Training for Midwives in Villages in Cirebon Regency in 2005, that training on newborn asphyxia management for midwives can reduce the Neonatal Mortality Rate of 12.6 per 1000 live births to 8, 6 per 1000 live births, the program also has another positive effect for village midwives, namely an increase in the quality of delivery assistance services and newborn care by village midwives.

Based on research by Yanti.I (2012), to prevent and reduce newborn deaths due to asphyxia, childbirth must be carried out by health workers who have the ability and skills to manage newborn asphyxia according to the standard or quality of health services. The results of the bivariate analysis showed that there was a significant relationship between management training and midwifery skills, education, years of service and multivariate analysis showed that there was a significant relationship between asphyxia management training and midwifery skills with the conclusion that asphyxia management training will affect the skills of midwives in providing care for newborns. who have asphyxia. Several factors that affect the skills of midwives in providing treatment for asphyxia in newborns are the midwife's education and tenure.

Based on the author's preliminary study at the Aceh Health Office on the Number of Infant Mortality in Aceh Province 2011-2013, there were 826 infants (0-1 years) died in 2011. That number increased to 982 infants in 2012 and increased to 1,241 infants in 2013 30% of these babies died from asphyxia, 25% of low birth weight (LBW) and 10% due to congenital abnormalities.

While in 2013; Researchers obtained data from the Maternal and Child Health (KIA) Department of Health Deli Serdang, the number of neonatal deaths caused by asphyxia was 7 cases, Low Birth Weight (LBW) 12 cases, 1 case congenital abnormalities and 1 case other with 3,128 births. , in 2020 there was an increase where; the number of births was 3,344 babies, neonatal deaths were 33 cases, with asphyxia 14 cases, LBW 13 cases, meningitis 1 case, dehydration 1 case and congenital abnormalities 2 cases.

Meanwhile, data from the Deli Serdang Health Office in 2020; Of the 68 village midwives in Deli Serdang, only 20 midwives (29.41%) have attended the Newborn Asphyxia Management training. The results of researcher interviews with eight village midwives in the work area of the Deli Serdang Health Service, researchers asked the village midwives several things about the knowledge and attitudes of midwives about the management of newborn asphyxia, the results obtained that 50% of midwives still did not answer correctly, as well as about skills / application of management skills for newborn asphyxia management is still lacking this is due to the fact that there are still many midwives who have not had the opportunity to take part in the newborn asphyxia management training.

One of the causes of high infant mortality cases due to asphyxia is the lack of knowledge, attitudes and skills of midwives in handling asphyxia in newborns. To reduce the mortality rate , quality *antenatal* care, normal delivery care and neonatal health services are needed by competent midwives, especially those with knowledge, attitudes and skills in the management of asphyxia in newborns. (Ministry of Health, RI, 2011)

Based on the things mentioned above, the writer is interested in conducting research on the relationship between the competence of midwives and the management of newborn asphyxia in the work area of the Deli Serdang Health Service.

METHODS

This type of research is an observational survey study to analyze the relationship between the competence of midwives and the management of newborn asphyxia. The study was carried out in the working area of the Deli Serdang Health Office, with the consideration that there were still relatively many village midwives who had not attended the newborn asphyxia management training, only 20 (29.41%) village midwives had attended the training. This research was conducted in August 2020. The population in this study were all village midwives in the working area of the Deli Serdang Health Service, totaling 68 people, while the sample in this study was the entire population (Total Sampling).

RESULTS AND DISCUSSION

Table 1 Frequency Distribution of Respondents' Characteristics in the Deli Serdang Health Office Work Area in 2020

Characteristics	Total (n)	Percentage (%)
Age :		
a. 28 Years	33	48.5
b. > 28 Years	35	51.5
Total	68	100
Working Period :		
a. 5 Years	24	35.3
b. > 5 Years	44	64.7
Total	68	100

Participate in Newborn Asphyxia Management training :		
a. Once	20	29.4
b. Never	48	70.6
Total	68	100

Based on table 1, it is known that most of the respondents are aged >28 years, namely 51.5%, while the least respondents are in the age group 28 years, namely 48.5%. From the measurement results, most of the respondents with a working period of > 5 years are 64.7% and the respondent's tenure is at least 5 years, which is 35.3%. This means that village midwives who are assigned to the work area of the Deli Serdang Health Office are generally >28 years old and have a working period of >5 years. In general, respondents have never attended training on Management of Newborn Asphyxia Management, namely 70.6% while the rest have attended training on Management of Newborn Asphyxia Management 29.4%. This means that most of the village midwives who work in the Deli Serdang Health Service work area have never attended training on the Management of Newborn Asphyxia Management.

Table 2 Frequency Distribution by Category Midwives Knowledge about Management of Newborn Asphyxia in the Deli Serdang Health Service Work Area in 2020

Knowledge	Total (n)	Percentage (%)
a. Well	26	38.2
b. Enough	38	55.9
c. Not enough	4	5.9
Total	68	100.0

From table 2 above, we can see that the percentage of respondents' knowledge about the management of newborn asphyxia is sufficient, namely 55.9%.

Table 3 Frequency Distribution by Category Attitudes of Midwives regarding Management of Newborn Asphyxia in the Work Area of the Deli Serdang Health Service in 2020

Attitude	Total (n)	Percentage (%)
a. Positive	35	51.5
b. Negative	33	48.5
Total	68	100.0

Based on table 3 above, we can see that the percentage of respondents' attitudes about the management of newborn asphyxia management, the majority showed a positive attitude, namely 51.5% while negative 48.5%.

Table 4 Distribution of Frequency Based on Management of Newborn Asphyxia in the Deli Serdang Health Service Work Area in 2020

Asphyxia Management	Total (n)	Percentage (%)
a. Competent	30	44.1
b. Incompetent	38	55.9
Total	68	100.0

In table 4 above, we can see that the Management of Newborn Asphyxia can be categorized into 2 categories, namely competent if the steps are done correctly, right without hesitation and in the order of 80-100%, less competent if the steps are done or not done or observers helped remind <80% the results showed that the category of competent midwives was 30 people (44.1%), while 38 people (55.9%) village midwives were still in the category of not being competent in the management of newborn asphyxia management.

Table 5 Characteristics of Respondents with Management of Newborn Asphyxia in the Work Area of the Health Service Deli Serdang 2020

Characteristics	Newborn Asphyxia Management				Amount	
	Competent		Incompetent		n	%
	n	%	n	%		
Age :						
a. 28 Years	12	36.4	21	63.6	33	100
b. > 28 Years	18	51.4	17	48.6	35	100
Amount	30	44.1	38	55.9	68	100
Years of service :						
a. 5 Years	5	20.8	19	79.2	24	100
b. > 5 Years	25	56.8	19	43.2	44	100
Amount	30	44.1	38	55.9	68	100
Participate in Newborn Asphyxia Management training						
a. Once	17	85.0	3	15.0	20	100
b. Never	13	27.1	35	72.9	48	100
Amount	30	44.1	38	55.9	68	100

Based on table 5, it can be seen that the results of the analysis of the characteristics of the respondents with the management of newborn asphyxia were found that of the 35 respondents aged > 28 years, 51.4% were competent. Of the 44 respondents who worked > 5 years 56.8% were competent. And of the 48 respondents who have never attended training in newborn asphyxia management, 35 people, 72.9%, the majority have not been competent in the management of newborn asphyxia.

Table 6 Relationship of Midwife Knowledge with Management of Newborn Asphyxia in the Work Area of the Deli Serdang Health Service in 2020

Knowledge	Newborn Asphyxia Management				Amount		□
	Competent		Incompetent		%		
	Jlh	%	Jlh	%	Jlh	%	
Well	22	84.6	4	15.4	26	100	0.000
Enough	7	18.4	31	81.6	38	100	
Not enough	1	25	3	75	4	100	
Amount	30	44.1	38	55.9	68	100	

In table 6 we can see that of the 26 respondents with good knowledge category, 22 people (84.6%) were competent in the management of newborn asphyxia. Of the 38 respondents with

sufficient knowledge category 31 people (81.6%) and incompetent in the management of newborn asphyxia management, while of the 4 respondents with poor knowledge category 3 people (75%) were incompetent in the management of newborn asphyxia management. The results of statistical tests using the *chi-square test* showed that the knowledge variable had a value of $= 0.000 < 0.05$, meaning that the knowledge variable had a significant correlation (relationship) with the management of newborn asphyxia in the Deli Serdang Health Service work area.

Table 7 The Relationship between Midwives' Attitudes and Management of Newborn Asphyxia in the Deli Serdang Health Service Work Area in 2020

Attitude	Newborn Asphyxia Management				Amount		□
	Competent		Incompetent		%		
	Jlh	%	Jlh	%	Jlh	%	
Positive	20	57.1	15	42.9	35	100	0.047
Negative	10	30.3	23	69.7	33	100	
Amount	30	44.1	38	55.9	68	100	

In table 7 we can see that of the 35 respondents who had a positive attitude, 20 people (57.1%) were competent in the management of newborn asphyxia. Of the 33 respondents who had a negative attitude 23 people (69.7%) were incompetent in the management of newborn asphyxia. The results of statistical tests with the *chi-square test* showed that the attitude variable had a value of $= 0.047 < 0.05$, meaning that the attitude variable had a significant correlation (relationship) with the management of newborn asphyxia in the Deli Serdang Health Service work area.

Table 8 Relationship of Midwife Competence with Management of Newborn Asphyxia in the Deli Serdang Health Service Work Area in 2020

Independent Variable	B	SE	Wald	df	Sig.	Exp (B)	95% CI for EXP (B)	
							Lower	Upper
1 Knowledge	2,783	.665	17,519	1	.000	16,173	4.393	59,540
Attitude	1.321	.661	3.997	1	.046	3.746	1.026	13,673
Constant	-6.244	1,664	14,090	1	.000	.002		

In table 8 it can be seen that the results of the analysis show that the Exp (B) value of the knowledge variable is 16.2, meaning that midwives who have knowledge are 16 times more competent than midwives who have sufficient and less knowledge, while the analysis of the attitude variable is 3, 7 means that midwives who have a positive attitude are more competent by 4 times more skilled than midwives who have a negative attitude. In this case, it means that knowledge is the most related to the management of newborn asphyxia management.

Discussion

In this discussion, the dependent variable (management of newborn asphyxia) and independent variables that have a correlation (relationship) on the competence of midwives in the management of newborn asphyxia management are discussed, namely knowledge and attitudes.

1. Characteristics of Respondents to the Management of Newborn Asphyxia Management

The results in the cross table show that the respondents who are competent about the management of newborn asphyxia are aged > 28 years, namely 51.4%, this indicates that competent midwives are of productive age, and the category of working period that is dominantly competent is > 5 years, which is 56.8%, while for midwives who have never attended training in the management

of newborn asphyxia management, the majority are incompetent, namely 72.9%, this means that asphyxia management training will affect the management of midwives in handling asphyxia in newborns.

Management is closely related to the characteristics of the individual itself, based on the more skilled age is the productive age, the productive age can increase enthusiasm, motivation and high ability compared to the young age, based on the more competent working period is the working period > 5 years. This can happen considering that the period of service can be related to work experience which of course plays a dominant role in the midwife in carrying out her daily work, but that does not mean that the experience possessed by the midwife can always be used in carrying out her duties, this is always influenced by changes and ongoing developments. Even midwives with a lot of experience still need additional education and training. Increased competence can be done through training, continuous training will further hone one's abilities to become more skilled.

The results of this study are in accordance with the results of research by Yanti.I (2012) regarding the evaluation of newborn asphyxia management training for midwives in the city of Palangkaraya. Several factors that affect the skills of midwives in providing treatment for asphyxia in newborns are the midwife's education and tenure.

2. Newborn Asphyxia Management Management

Based on the results of the study, most of the village midwives' competencies regarding the management of newborn asphyxia were in the incompetent category (55.9%), the rest were in the competent category (44.1%). In this case the midwife who is incompetent in taking action in accordance with the management of newborn asphyxia management is due to not knowing effective and efficient standard steps in accordance with the midwife's authority, and some village midwives in the work area of the Deli Serdang Health Service have never attended asphyxia management training. newborn baby. Referring to the results of this study, it was shown that the competence of midwives regarding the management of newborn asphyxia plays a role in increasing the number of neonatal deaths (*neonatal mortality rate, NMR*).

This is in line with the results of research by Yanti.I (2012), to prevent and reduce newborn deaths due to asphyxia, childbirth must be carried out by health workers who have the ability and skills to manage newborn asphyxia according to the standard or quality of health services. Where several factors that affect the skills of midwives in providing treatment for asphyxia in newborns are the education and working period of the midwife. With the conclusion that asphyxia management training will affect the skills of midwives in providing treatment for newborns with asphyxia.

Mulyasa (2003) in Sutrisno (2012) suggests that competence is a combination of knowledge, skills, values and attitudes that are reflected in the habits of thinking and acting. Competence is an ability based on skills and knowledge that is supported by work attitude and its application in carrying out tasks and work in the workplace that refers to the work requirements set.

According to Boulutzer, Dalziel, and Hill (2003) in Sutrisno (2012), competence is a basic characteristic of a person that allows him to provide superior performance in certain jobs, roles, or situations.

The researcher assumes that a midwife is required to use her abilities in providing health services, so that it can have a positive impact in accordance with her field of knowledge. For this reason, we need midwives who have professional quality who can provide midwifery services on the problem of newborn asphyxia effectively and efficiently and with quality which can ultimately help reduce the increase in neonatal mortality caused by newborn asphyxia.

a. Knowledge of Midwives about Management of Newborn Asphyxia in the Work Area of the Deli Serdang Health Service

Research results show that knowledge Midwives in the work area of the Deli Serdang Health Service are classified as: in category enough (55.9%), good (38.25) and less (5.9%). Data obtained the could concluded that knowledge midwife about management management asphyxia baby new born

in category enough . Many factors influence _ knowledge Among other ; education , resources information and environment . This thing emphasized by Notoatmodjo (2003), which states : that knowledge is results know , after people do sensing to something object , and part big knowledge that obtained through eyes and ears . Besides that there is other influencing factors to knowledge someone , that is, who comes from from education , experience , relationship social and mass media exposure like magazines , TV and books .

Education level somebody will take effect in give response to something is coming from outside . Educated person tall will give more response _ rational to information that comes and thinks what is the possible profit will they earn from idea that . Besides that , experience midwife obtained _ from environment life in the process of development , for example often follow educational activities _ such as seminars and training (Sukmadinata , 2009).

b. Attitudes of Midwives with Management of Newborn Asphyxia in the Work Area of the Deli Serdang Health Service

Based on the results of the study, it was found that from 68 respondents, 35 village midwives (51.5%) had a positive attitude towards the management of newborn asphyxia and 33 village midwives (48.5%) had a negative attitude. This means that the midwife has the right beliefs, beliefs, emotions and actions and has a positive attitude about the principles of management of newborn asphyxia management.

This is in accordance with the theory put forward by Notoatmojo (2003), which states that attitude is a readiness or willingness to act, and is not a specific motive. Attitude is not yet an action or activity but is a predisposition to the action of a behavior which is a readiness to react to objects in a certain environment as an appreciation of the object. (Dewi, 2010).

c. The Relationship between the Knowledge of the Village Midwife and the Management of Newborn Asphyxia in the Work Area of the Deli Serdang Health Service

Knowledge is the accumulation of the results of the educational process both formally and non-formally that contributes to someone in problem solving, creativity, including doing or completing work. With broad knowledge and higher education, it is hoped that a midwife will be able to carry out her duties well and productively, which is oriented towards intelligence, thinking power and mastery of knowledge.

From table 4.8. it was found that from 26 respondents with good knowledge category as many as 22 people (84.6%) and competent in the management of newborn asphyxia management. Of the 38 respondents with sufficient knowledge category, 31 people (81.6%) were incompetent in the management of newborn asphyxia, while of the 4 respondents with poor knowledge category, 3 people (75%) were incompetent in the management of newborn asphyxia. This illustrates that most of the village midwives already have good knowledge about the management of newborn asphyxia which is an important element in the basic concept of midwifery.

The results of the bivariate analysis with the *chi-square test* obtained the probability value () = $0.000 < 0.05$ and the multivariate analysis with logistic regression test obtained the value of $\text{Exp}(B) = 16,173$ means that midwives who have knowledge, are more competent by 16 times more skilled than midwives who have sufficient and less knowledge.

The results of this study are in line with research conducted by Sudiro, et al (2012) that knowledge is related to the performance of village midwives in handling neonatal asphyxia with a value of $= 0.001$ and the results of multivariate analysis $\text{Exp}(B) = 7.723$.

In the management of newborn asphyxia management, knowledge competence is the main thing as the first parameter in handling the incidence of asphyxia in newborns. Theoretical and pathophysiological knowledge about asphyxia in newborns is very helpful in carrying out the management of asphyxia in newborns. A midwife not only knows about newborn asphyxia, but also has to understand and be able to properly implement the newborn asphyxia management procedure that will be carried out. Increased knowledge competence is needed in order to help improve the

behavior (attitudes) and actions (skills) of midwives, these knowledge competencies can be increased through education and training. Education and training are very important things for a midwife so that her knowledge is always increased and tested.

According to Hutapea P and Thoha N (2010), *knowledge competencies* and *skills* tend to be more real and are on the surface as one of the characteristics possessed by humans, knowledge and skill competencies are relatively easy to develop so that training programs are an effective way to both guarantee the level of human resource capability. While motives, self-concept and self-characteristics are more hidden and quite difficult to assess and develop because they are at the central point of one's personality.

d. The Relationship between the Attitude of the Village Midwife and the Management of Newborn Asphyxia in the Work Area of the Deli Serdang Health Service

Attitude has a relationship with the ability of midwives in performing midwifery actions on newborns. Statistically, this study stated that there was a significant relationship between midwives' attitudes towards the management of newborn asphyxia in the Deli Serdang Health Office working area.

Of the 35 respondents who had a positive attitude, 20 people (57.1%) were competent in the management of newborn asphyxia management. Of the 33 respondents who had a negative attitude, 23 people (69.7%) were incompetent in the management of newborn asphyxia, this means that most of the village midwives in the Deli Serdang Health Office work area have confidence, trust, emotional and correct actions and have a positive attitude. on the management of newborn asphyxia.

The results of the bivariate analysis with the *chi-square test* obtained the probability value (p) = $0.047 < 0.05$ and multivariate analysis with the logistic regression test, the value of $\text{Exp}(B)$ is 3.746, meaning that midwives who have a positive attitude are 4 times more competent than midwives who have a negative attitude.

This is in line with research conducted by Sudiro, et al (2012) in the treatment of neonatal asphyxia, the role of midwives is needed to help reduce infant mortality, that there is a relationship between attitude and the performance of village midwives in handling neonatal asphyxia. And in line with research by Rostiana (2011) that there is a significant influence between attitudes and the performance of village midwives in providing midwifery services.

According to L. Green (1980) in (Notoatmodjo, 2009), besides being influenced by attitudes, practice is also based on other predisposing factors, namely knowledge, beliefs, beliefs and values. Supporting factors include health facilities and facilities and driving factors include attitudes and behavior of health workers, such as the Health Office. A person's attitude greatly influences the actions to be taken.

A positive attitude in carrying out the task tends to improve the quality of neonatal services, and vice versa, a negative attitude tends to reduce the quality of service. Attitudes clearly show reactions to certain stimuli in everyday life. Improving knowledge and attitudes can be done through education, training, courses, seminars and so on, in determining a complete attitude, knowledge plays a very important role, good knowledge will make a person more positive in doing a job and making a decision. Someone who has a positive attitude will respond quickly and do a good job and be responsible for his professional duties.

CONCLUSION

1. Knowledge and attitudes are part of the midwife's competence in the management of newborn asphyxia. Of these two variables, most of the village midwives were knowledgeable and had a positive attitude, but there were still many who were not competent with the management of newborn asphyxia.
2. Bivariate test results (*chi-square*); Knowledge ($=0.000$) and attitude ($=0.047$) were significantly related to the management of newborn asphyxia in the Deli Serdang Health Office working area.
3. In the Multivariate Test (*Multiple Logistic Regression*) , the more dominant knowledge (Exp(B) 16,173) was significantly related to the management of newborn asphyxia in the Deli Serdang Health Office working area.

Thank-you note

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