

The Effects of Lawrence Green Behavior Theory to the Anemia Incident on Pregnant Mother

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Abstract

One of characteristics of developing country was low health problem. In Indonesia, the low condition of health was identified by the high rate of mortality on mother. According to the World Health Organization (WHO) in 2015, it has been reported that the prevalence of anemia on pregnant mother in the world was approximately 41,8%, while in 2018 it was approximately 48,9% anemia cases on pregnant mother especially in Indonesia. The general aim of this research was to analyze the effects between predisposing factors, reinforcing factors, and enabling factors which could cause the incident of anemia on pregnant mother in Indonesia. This research was quantitative research, which exerted analytic observational research design and cross sectional research method. The research population was taken from the pregnant women in their first until third trimester in regional area of Puskesmas Wonosobo and Puskesmas Bajulmati as many as 85 and 146 pregnant women, and the total sample of 85 and 146 respondents. The technique of data sampling was total sampling and multivariate analysis process. The research finding showed that the most effective variables from socio-cultural aspect and Lawrence Green behavior theory to the anemia incident on pregnant mother in Puskesmas Wonosobo were variable of knowledge with P value 0,008 and role of cadre in Puskesmas Bajulmati with p value 0,002.

Keywords: Anemia, Pregnant mother, Behavior Theory

1.0 INTRODUCTION

Based on the Indonesian demographical and Health Survey in 2017, the national mortality rate on mother is about 305 per 100.000 live births. While, in East Java, it is about 91 per 100.000 live births. Especially, the mortality rate of mother in Banyuwangi is 103 per 100.000 live births. The causal factors of mortality are postpartum, preeclampsia, or eclampsia hemorrhages, history of certain disease, sepsis, and anemia in pregnancy. Anemia is a condition when the amount of hemoglobin, hemactorin, or erythrocyte level are decreased below the normal value. On the anemia patients, it is often called as anemia or less blood, the red blood cell (hemoglobin/Hb) level is under the normal value. It may be also caused by the lack of iron for the formation of hemoglobin, for instance iron, folate, and vitamin B12. The most frequent factor of anemia is lack of iron. Anemia during pregnancy is a condition when the hemoglobin level is under 11 gr%, it is then classified as mild anemia with range 9-10 gr%, moderate anemia 7-8 gr%, and severe anemia < 7 gr%.

The pregnant mother with anemia can affect fetus death in the womb, abortion, congenital defect, low birth weight, anemia on baby born, those effects can cause mother morbidity and mortality and perinatal death in more significant value. The pregnant mother with severe anemia can increase the mother and baby morbidity and mortality risks and the higher possibility of low birth weight and premature baby. Based on the data of World Health Organization (WHO) in 2015, it has been reported that the prevalence of anemia case on pregnant mother in this world is about 41,8%. The prevalence of anemia on pregnant mother in Asia is about 48,2%. Moreover, based on the data of Basic Health Research in 2013, the rate of anemia case in Indonesia is still high, it is recorded about 37,11% anemia cases on pregnant mother. According to the data from Banyuwangi District, in 2018, it is found 22,7% anemia cases, particularly 1825 patients from the total 8056 pregnant mothers. The highest rate are in Puskesmas Wonosobo and Puskesmas Mojopanggung. The main factor of anemia during pregnancy is malnutrition especially iron which occurs because the inadequate iron intake in the food and lack of iron content in the food (Silverberg, 2012, Vir, 2011)

2.0 METHODS

This research was categorized into quantitative research which exerted analytic descriptive research method. This research employed total sampling method to collect the data. The research population were all pregnant mothers in their first until third trimester who have come to Puskesmas Wonosobo and Puskesmas Bajulmati, 85 and 146 respondents. The total sample of this research were 85 and 146 respondents. Moreover, this research used interview, observation, hemoglobin level check, LILA checkup, and documentation techniques to collect the data.

The analysis method in this research was multivariate analysis and descriptive design, frequency table, multivariate analysis was used to identify the effects of Lawrence Green behavior theory to the anemia incident on pregnant mother. The data analysis in this research was logistic regression analysis which aimed to identify predisposing factors, reinforcing factors, and enabling factors to the obedience behavior of Fe table consumption, and effects of obedience behavior of Fe tablet consumption to the anemia incident on pregnant mother.

3.0 RESULTS

The effects of predisposing factor were age, educational background, knowledge, nutritional status, parity, and socio-cultural aspect to the obedience behavior of pregnant mother to consume Fe tablet. Next, the effects of reinforcing factor were midwife role, husband role, and cadre role to the obedience behavior of pregnant mother to consume Fe tablet. While, the effects of enabling factor were KIE, Fe tablet distribution, and ANC service to the obedience behavior of pregnant mother to consume Fe tablet. Those three factors were then tested through statistic test of logistic regression.

Table 1. The Effect of Three Factors (Predisposing Factor, Reinforcing Factor, and Enabling Factor) to the Obedience Behavior of Pregnant Mother to Consume Fe Tablet in Working Area of Puskesmas Wonosobo

	B	S.E.	Wald	Df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Age	-1,618	,763	4,500	1	,034	,198	,044	,884
Educational Background	-,361	,457	,624	1	,430	,697	,285	1,707
Parity	-,921	,463	3,957	1	,047	,398	,161	,987
LILA	1,248	,835	2,233	1	,135	3,484	,678	17,906
Knowledge	1,372	,521	6,925	1	,008	3,944	1,419	10,957
Socio-Cultural	-1,422	,678	4,395	1	,036	,241	,064	,912
Midwife Role	-,795	,609	1,706	1	,192	,452	,137	1,489
Husband Role	1,872	,821	5,200	1	,023	6,502	1,301	32,496
Cadre Role	1,153	,499	5,348	1	,021	3,168	1,192	8,419
Fe Distribution	,175	,572	,093	1	,760	1,191	,388	3,655
KIE	1,753	,820	4,573	1	,032	5,772	1,158	28,783
Constant	-4,812	3,752	1,645	1	,200	,008		

On the table 1, it referred the predisposing factors of respondents in working area of Puskesmas Wonosobo to the obedience behavior of pregnant mother to consume Fe table. The factor of age referred that the significance value $0,034 < 0,05$, thus H_0 was rejected, it was indicated the effects between age and obedience behavior of Fe tablet consumption. The factor of educational background referred that the significance value $0,430 > 0,05$, thus H_0 was accepted, it was indicated no effects found between educational background and obedience behavior of Fe tablet consumption. The factor of parity referred that the significance value $0,047 < 0,05$, thus H_0 was rejected, it was indicated the effects between parity and obedience behavior of Fe tablet consumption.

The factor of nutritional status referred that the significance value $0,135 > 0,05$, thus H_0 was accepted, it was indicated no effects found between nutritional status and obedience behavior of Fe tablet consumption. The factor of knowledge referred that the significance value $0,008 < 0,05$, thus H_0 was rejected, it was indicated the effects between knowledge and obedience behavior of Fe tablet consumption. Last, the factor of socio-culture referred that the significance value $0,036 < 0,05$, thus H_0

was rejected, it was indicated the effects between knowledge and obedience behavior of Fe tablet consumption.

The reinforcing factors of respondent in working area of Puskesmas Wonosobo to the obedience behavior of pregnant mother to consume Fe tablet. The factor of midwife role referred the significance value $0,192 > 0,05$, thus H_0 was accepted, it was indicated no effects found between midwife role and obedience behavior of Fe tablet consumption. The factor of husband role referred the significance value $0,023 < 0,05$, thus H_0 was rejected, it was indicated the effects between husband role and obedience behavior of Fe tablet consumption. Last, the factor of cadre role referred the significance value $0,021 > 0,05$, thus H_0 was rejected, it was indicated the effects between cadre role and obedience behavior of Fe tablet consumption. The enabling factors of respondent in working area of Puskesmas Wonosobo to the obedience behavior of pregnant mother to consume Fe tablet. The factor of KIE referred the significance value $0,032 < 0,05$, thus H_0 was rejected, it was indicated the effects between KIE giving and obedience behavior of Fe tablet consumption. The factor of Fe tablet distribution referred the significance value $0,760 > 0,05$, thus H_0 was accepted, it was indicated no effects found between Fe tablet distribution and obedience behavior of Fe tablet consumption.

Table 2. The Effect of Three Factors (Predisposing Factor, Reinforcing Factor, and Enabling Factor) to the Obedience Behavior of Pregnant Mother to Consume Fe Tablet in Working Area of Puskesmas Bajulmati

	B	S.E.	Wald	Df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Age	1,002	,462	4,704	1	,030	2,725	1,101	6,742
Educational Background	-,643	,317	4,108	1	,043	,526	,282	,979
Parity	,666	,295	5,084	1	,024	1,946	1,091	3,470
LILA	-,551	,542	1,035	1	,309	,576	,199	1,666
Knowledge	-,334	,380	,771	1	,380	,716	,340	1,509
Socio-cultural	-,344	,411	,701	1	,402	,709	,317	1,587
Midwife Role	-,424	,399	1,126	1	,289	,654	,299	1,432
Husband Role	,936	,455	4,226	1	,040	2,549	1,045	6,220
Cadre Role	1,276	,414	9,493	1	,002	3,583	1,591	8,068
Fe Distribution	,607	,454	1,790	1	,181	1,835	,754	4,468
KIE	1,164	,524	4,931	1	,026	3,202	1,146	8,947
Constant	-6,237	2,704	5,321	1	,021	,002		

On the table 2, it defined the predisposing factors of respondent in working area of Puskesmas Bajulmati to the obedience behavior of pregnant mother to consume Fe tablet. The factor of age referred the significance value $0,030 < 0,05$, thus H_0 was rejected, it was indicated the effects between age and obedience behavior of Fe tablet consumption. The factor of educational background referred the significance value $0,043 < 0,05$, thus H_0 was rejected, it was indicated the effects between educational background and obedience behavior of Fe tablet consumption. The factor of parity referred the significance value $0,023 < 0,05$, thus H_0 was rejected, it was indicated the effects between parity and obedience behavior of Fe tablet consumption. The factor of nutritional status referred the significance value $0,309 > 0,05$, thus H_0 was accepted, it was indicated no effects found between nutritional status and obedience behavior of Fe tablet consumption. The factor of knowledge referred the significance value $0,380 > 0,05$, thus H_0 was accepted, it was indicated no effects found between knowledge and obedience behavior of Fe tablet consumption. The factor of socio-culture referred the significance value $0,402 > 0,05$, thus H_0 was accepted, it was indicated no effects found between socio-culture and obedience behavior of Fe tablet consumption.

The reinforcing factors of respondent in working area of Puskesmas Bajulmati to the obedience behavior of pregnant mother to consume Fe tablet. The factor of midwife role referred the significance value $0,289 > 0,05$, thus H_0 was accepted, it was indicated no effects found between midwife role and obedience behavior of Fe tablet consumption. The factor of husband role referred the significance value $0,040 < 0,05$, thus H_0 was rejected, it was indicated the effects between husband role and obedience

behavior of Fe tablet consumption. Last, the factor of cadre role referred the significance value $0,002 > 0,05$, thus H_0 was rejected, it was indicated the effects between cadre role and obedience behavior of Fe tablet consumption.

The enabling factors of respondents in working area of PuskesmasBajulmati to the obedience behavior of pregnant mother to consume Fe tablet. The factor of KIE giving referred the significance value $0,026 < 0,05$, thus H_0 was rejected, it was indicated the effects between KIE giving and obedience behavior of Fe tablet consumption. Next, the factor of FE tablet distribution referred the significance value $0,181 > 0,05$, thus H_0 was accepted, it was indicated no effects found between Fe tablet distribution and obedience behavior of Fe tablet consumption.

Table 3. The Effect of Obedience Behavior Factor of Pregnant Mother to Consume Fe Tablet to the Anemia Incident in Working Area of Puskesmas Wonosobo

	B	S.E.	Wald	Df	Sig.	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
Obedience Behavior	,247	,582	,181	1	,671	1,280	,410	4,003
Constant	-5,433	4,060	1,791	1	,181	,004		

On the table 3, it explained the obedience behavior factor of pregnant mother to the anemia case in working area of PuskesmasWonosobo referred the significance value $0,671 > 0,05$, thus H_0 was accepted, it was indicated no effects found between obedience behavior to consume Fe tablet and anemia incident. Table 4. The Effect of Obedience Behavior Factor of Pregnant Mother to Consume Fe Tablet to the Anemia Incident in Working Area of Puskesmas Bajulmati

	B	S.E.	Wald	Df	Sig.	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
Obedience Behavior	,499	,445	1,254	1	,263	1,647	,688	3,942
Constant	-6,879	2,763	6,199	1	,013	,001		

On the table 4, it clarified the obedience behavior of pregnant mother to consume Fe tablet to the anemia case in working area of Puskesmas Bajulmati referred the significance value $0,263 > 0,05$, thus H_0 was accepted, it was indicated no effects found between obedience behavior to consume Fe tablet and anemia incident.

4.0 DISCUSSION

Based on the predisposing factors, this research finding referred that both public health center areas have indicated the effect of mother’s age to the obedience behavior of pregnant mother to consume Fe tablet. The older age level would determine the individual maturity and strength to think and work. The more mature of respondent age would affect the respondent to be able to take decision to comply with Fe tablet consumption. Further, this research finding showed there were no effects found between education and obedience behavior of pregnant mother to consume Fe tablet in working area of Puskesmas Wonosobo. While, in the area of Puskesmas Bajulmati, the effects were found between education and obedience behavior to consume Fe tablet. The public knowledge on health issue would affect to maintain and protect them from all sorts of health threats, because the knowledge was a description of how far the society know and understand the factor to prevent the incident of anemia during pregnancy was to consume Fe tablet routinely during the pregnancy.

This research result showed the effects between knowledge and obedience behavior of pregnant mother to consume Fe tablet in working area of Puskesmas Wonosobo. While, in Puskesmas Bajulmati, there were no effects found between knowledge and anemia case, which was proven by the result of statistic test. The individual knowledge has a common purpose to be able to answer the daily life problems and offer various easiness. Next, this research result referred no effects found between nutritional status and obedience behavior of pregnant mother to consume Fe tablet in working area of Puskesmas Wonosobo and Puskesmas Bajulmati. The need of nutrition during pregnancy in each trimester period was highly varied, the more gestational age would determine the higher nutritional need. This research finding

also showed the effects between parity and obedience behavior of pregnant mother to consume Fe tablet in working area of Puskesmas Wonosobo and Puskesmas Bajulmati. One of factors that could affect the mother to routinely consume Fe tablet was parity. The previous experience during pregnancy could be a significant lesson for the mother to consume Fe tablet routinely, so the mother and fetus health could be maintained until the postpartum. This research finding referred the effects between socio-culture and obedience behavior of pregnant mother to consume Fe tablet. The reflection from socio-cultural values was a form of local socio-culture response, when this factor was related to the individual pregnancy condition, then the effects would be clearly found in the daily life of pregnant mother.

On the result of reinforcing factors in Puskesmas Wonosobo and Puskesmas Bajulmati showed no effects found between the midwife role and obedience behavior of pregnant mother to consume Fe tablet. The lack of health officer role during counseling could affect the obedience behavior of pregnant mother to consume Fe tablet, since the aim of counseling was to build the mother awareness to routinely consume Fe tablet, so they were able to avoid from anemia. This research finding in both Puskesmas Wonosobo and Puskesmas Bajulmati referred the effects between husband role and obedience behavior of pregnant mother to consume Fe tablet. The higher level of husband role would determine the better obedience behavior of pregnant mother to consume Fe tablet. On the other hand, the lower level of husband role would decrease the obedience behavior of pregnant mother to consume Fe tablet. This research also found the effects between cadre role and obedience behavior of pregnant mother to consume Fe tablet. The inactive cadre role was caused by several factors, as limited number of cadre and they who have been recruited as the cadre were not from health experts and did not have adequate knowledge on health problems.

The result of enabling factors in Puskesmas Wonosobo and Puskesmas Bajulmati showed the effects between KIE and obedience behavior of pregnant mother to consume Fe tablet. The attempts to increase the mother obedience of Fe tablet consumption was through communication, information, and education during the patient visit in public health center, so the mother would have more knowledge about the advantage of Fe tablet. This research result explained no effects found between Fe tablet distribution and obedience behavior of pregnant mother to consume Fe tablet. The implementation of Fe tablet distribution was run optimally as the adequate availability of health officers, adequate availability of Fe tablet, and availability of operational fund to run the activity of Fe tablet distribution. However, this factor did not affect to the obedience behavior of pregnant mother to consume Fe tablet. Furthermore, this research also found the effects between ANC service and obedience behavior of pregnant mother to consume Fe tablet. Thus, the higher ANC service would increase the obedience of Fe tablet consumption, since during the checkup, the officers would not forget to remind the pregnant mother to routinely consume Fe tablet in order to prevent from anemia.

This research finding clarified no effects found between obedience behavior of pregnant mother to consume Fe tablet and anemia incident on pregnant mother. The case of anemia was affected by the level of obedience to consume Fe tablet, because the more obedient to consume Fe tablet could minimize the possibility of anemia incident.

5.0 CONCLUSIONS

The most effective variable on anemia case which related to the socio-cultural factor in Puskesmas Wonosobo was knowledge variable with P value 0,008 and cadre role in Puskesmas Bajulmati with P value 0,002. As the suggestion, the next researches are expected to examine the other variables that might affect many aspects in this research.

6.0 ETHICAL CLEARANCE

This research has undergone ethical test in ethics commission of health research of Faculty of Dentistry, University of Jember in this following registration number 803/UN25.8/KEPK/DL/2020

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