HOUSEHOLD SOCIO-ECONOMIC STATUS ON MATERNAL HEALTH STATUS AT THE TIME OF CHILDBIRTH IN NORTH CENTRAL TIMOR

Sirilius Seran, Maria Yanti Akoit and Marce Sherly Kase

Department of Business and Economics
University of Timor

ABSTRACT

The number of maternal mortality during childbirth is influenced by education, occupation, income, number of children, and the frequency of prenatal visits. The relationship between these variables can be directly or indirectly related to the health of the mother during childbirth. The prenatal visit frequency can act as an intermediate variable that links other variables to the mother's health status during childbirth. This study aims to; 1) determine the direct and indirect relationship between variables, 2) determine the effective contribution of each independent variable to the mother's health during childbirth. The data for this study came from 251 mothers who had given birth. The path analysis from the complete model shows that partial income has a negative but Sign (0.000) relationship with the mother's health condition, whereas other variables do not. However, simultaneously the five variables have a Sign (0.000) relationship with the mother's health during the delivery. The complete model suggested an R-Square value of 0.152. The largest effective contribution to maternal health status comes from income with 13%, following the frequency of prenatal visit: 1.0%, the lowest contribution comes from husband's education: 0.1%.

KEYWORDS: childbirth, education, health, income, occupation, pregnancy

1. INTRODUCTION

Economic growth reflects the economic progress achieved by a country, the higher the growth, the more advanced the country is. A great economic growth happens when the growth is followed by a decrease in poverty in the population, it occurs when the distribution of national income is more evenly spread out among the population. The distribution of national income in Indonesia has become more even in the last 9 (nine) years, as indicated by a decrease in Gini coefficient Ratio (GR), as well as a decrease in poverty (Fig 1).
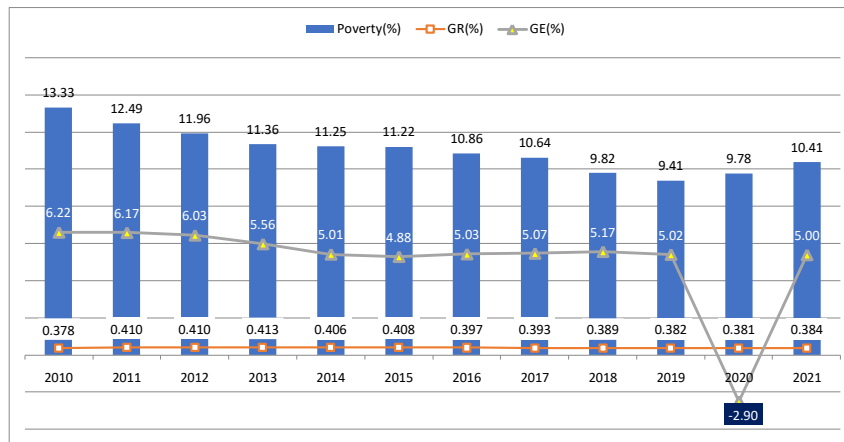
Fig. 1. Economic growth, GR, and population poverty
Source: Beritaresmi statistic-Profil Kemiskina di Indonesia No. 53/07/Th.XXIV.15 Juli 2021.

Poverty has been proven to limit the ability of pregnant mothers to afford the necessary care for the baby. Pregnant women who are classified as poor have difficulty meeting their needs to take care of the baby they are carrying. These women also do not have access to nutritious food, not only for themselves and their babies. In addition, due to the limited income, they can't afford to do a routine prenatal check-up as often as they should, even though they are aware of the importance of it. The combination of all these factors could lead to maternal mortality during childbirth.

Death (mortality) is a state in which all traces of life as we know it vanish for all time. These include the ability to breathe, the pounding pulse, the ability to move, and the heartbeat. Other circumstance where the disappearance of these signs are only temporary (not permanent), cannot be classified as death, as it is classified as near death. In 2015, in Indonesia 305 women died during childbirth, this number was higher than the target number that was given by the UN which was 102 per 100,000 live births. The maternal mortality rate in East Nusa Tenggara is also high, at 303 per 100,000 live births, this is more than the national rate of 228 in 2007.

Several factors contributing to maternal mortality during childbirth are the social and economic factors of the community, namely education, occupation, income, number of biological children, and the frequency of prenatal visit. Education can broaden the insight of a better life, influencing the behavior of people/households in decision making. For an instance, those with higher education will have access to better jobs, especially in the formal sector. It is suggested that by 2021, Indonesia will have 38,777,600 workers working in agriculture, forestry, and fisheries. Out of this number, 83.22% graduated from middle school or lower, 15.08% have high school diploma, and only 1.70% with a completed tertiary background are interested in working in this sector.

The type of one's occupation can give an illustration of the amount of income that a person has. Alsulami (2018), in his research in Saudi Arabia, found that the specialization of workers in

engineering, management, and other service fields earns a relatively higher income than those who are less educated. Generally, at the start of one's career, they will earn less money, however, it will continue to increase until it reaches its highest point as they get older and become more productive. Eventually, the income will decrease as they become less productive until they reach retirement age (Graph 1.2).
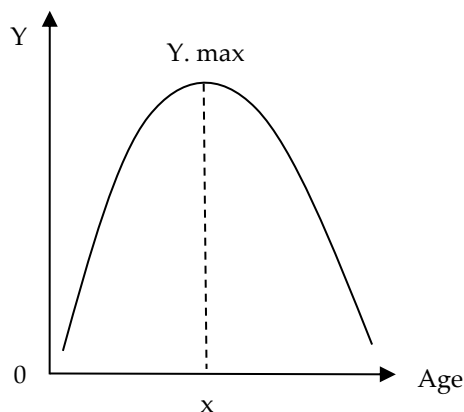
Note: Y = Income, Y. max = Income maximum, X = Age group

Those with high income have relatively greater access to better health resources, such as a better chance at doing routine prenatal visits, and have access to more nutritious food and beverages, thus, making them remain healthy before and after giving birth. In contrast, mothers with relatively low socio-economics status will have difficulty meeting the needs of maintaining the health of their babies and themselves. This ultimately causes the risk of maternal death during childbirth to be relatively higher.

In general, the main concern of this research is whether social and economic factors have a direct and indirect relationship to the health status of the mother during childbirth. On the other hand, the focus of this study is to determine the direct and indirect relationship between household socioeconomic status on the health of the mother during childbirth.

2 METHODS, DATA, VARIABLES

2.1 Methods
The population sample used in this study was 900 people, consisting of all mothers who gave birth in several health institutions (Kefamenanu General Hospital, Leona Hospital, and several health centres) in Kefamenanu City. We chose the determination table based on the number of population and a certain alpha level to determine the method of sampling for this study (Seran, 2012). Based on the alpha value of 5%, the sample size obtained was 251 mothers who have given birth. The reason we chose probability sampling to determine the respondents is that the characteristics of each respondent in the population are relatively homogeneous.

2.2 Data & Variables

Data is an accumulation of information sourced from agencies to the corresponding respondents. The data can be categorical or non-category data. For analysis purposes, non-categorical data will eventually be modified into categorical data.

The variables in this study are: 1) education, 2) occupation, 3) income, 4) the number of biological children, 5) prenatal visit frequency, and 6) maternal health condition during childbirth. The first five variables mentioned act as independent variables (X). These five variables, theoretically and empirically are related therefore, they will have two purposes, they can be either independent variables (X), or dependent variables (Y). The prenatal visit frequency variable acts as an intermediate variable to connect the relationship of other independent variables (X) on the health condition of the mother during childbirth (Y). The relationship between these variables is shown in the table below (Table 2.1).

Table 2.1 Treatment of Data and Variable in Research

Variable	Category	Data Scale	Data Type	Source
Husband's Education (X1)	1. $\leq$ Middle School 2. High School 3. University	Ordinal	Qualitative	Primary
Husband's Occupation (X2)	1. Agriculture 2. Civil Servant 3. Others	Nominal	Qualitative	Primary
Husband's Income (X3)	1. Low 2. Middle 3. High	Interval	Quantitative	Primary
Number of Biological Children (X4)		Ratio	Quantitative	Primary
Prenatal Visit Frequency (X5)		Ratio	Quantitative	Primary
Maternal Health Status (Y)	1. Healthy (1) 2. Passed Away (0)	Nominal	Qualitative	Primary

2.3 Methods of Analysis and Modeling

The analysis techniques for the study are classified into two groups: 1) descriptive analysis, which describes the relationship between variables in a descriptive way using graphs or tables, and 2) inferential analysis. The final result of this analysis is to establish the relationship between research variables. The suitable technique analysis for this case is the path analysis technique. The formal model for this can be seen below.

Formal Model

$X2 = P21X1 + ei.1$

$X3 = P31X1 + P32X2 + ei.2$

$X4 = P41X1 + P42X2 + P43X3 + ei.3$

$X5 = P51X1 + P52X2 + P53X3 + P54X4 + ei.4$

$Y = PY1X1 + PY2X2 + PY3X3 + PY4X4 + PY5X5 + ei.5$

2.4 Fulfilment of Classical Assumption

There are four types of classical assumption that are being explored, they are: 1) normality, 2) linear relationship, 3) multicollinearity, 4) autocorrelation test. The normality of data can be examined by comparing the Asymp value with the alpha value of 0.005. The results explain that the Asymp value for the dependent variable (Y) for each independent variable (X) exceeds the alpha 0.005, this concludes that all of the variables do meet the normality (Table 2.2).

Table 2.2 Research Data Normality Test Results

Independent Variable	Significance (2-tailed)	Alpha (0.005)	Condition	Conclusion
Y*X1	0.862	0.005	0.862> 0.005	Normality
Y*X2	0.782	0.005	0.782> 0.005	Normality
Y*X3	0.639	0.005	0.639> 0.005	Normality
Y*X4	0.662	0.005	0.662> 0.005	Normality
Y*X5	0.526	0.005	0.526> 0.005	Normality

The linearity aspect is counted by comparing the sign deviation from linearity value with the alpha of 0.005. The outcome of this suggests that the linearity element in this study is fulfilled (Table 2.3).

Table 2.3 Research Data Linearity Test Results

Independent Variable	Significance (2-tailed)	Alpha (0.005)	Condition	Conclusion
Y*X1	0.084	0.005	0.084> 0.005	Linearity
Y*X2	0.083	0.005	0.083> 0.005	Linearity
Y*X3	0.875	0.005	0.875> 0.005	Linearity
Y*X4	0.820	0.005	0.820> 0.005	Linearity
Y*X5	0.065	0.005	0.065> 0.005	Linearity

In path analysis, the absence of multicollinearity aspect among the independent variables (Y) is required. We can confirm this by comparing the Sign value with the alpha value. If the Sign value is greater than the alpha of 0.005, means that it does not meet the multicollinearity element. This, means the research data do not meet the multicollinearity aspect (Table 2.4).

Table 2.4 The Research Data Multicollinearity Test Result

Independent Variable	Significance 2-(tailed)	Alpha (0.005)	Condition	Conclusion
X1-X2	0.060	0.005	0.060> 0.005	Non-multicollinearity
X1-X3	0.072	0.005	0.072> 0.005	Non-multicollinearity
X1-X4	0.650	0.005	0.650> 0.005	Non-multicollinearity
X1-X5	0.173	0.005	0.173> 0.005	Non-multicollinearity
X2-X3	0.053	0.005	0.053> 0.005	Non-multicollinearity
X2-X4	0.550	0.005	0.550> 0.005	Non-multicollinearity
X2-X5	0.813	0.005	0.813> 0.005	Non-multicollinearity
X3-X4	0.920	0.005	0.920> 0.005	Non-multicollinearity

| X3-X5 | 0.670 | 0.005 | 0.670> 0.005 | Non-multicollinearity |
| X4-X5 | 0.116 | 0.005 | 0.116> 0.005 | Non-multicollinearity |

The research data obtained were confirmed to not contain autocorrelation elements either, this is shown by the Darbin-Watson value of 2.040 which is greater than the alpha of 0.005.

3 RESULTS
3.1 Descriptive Analysis Results
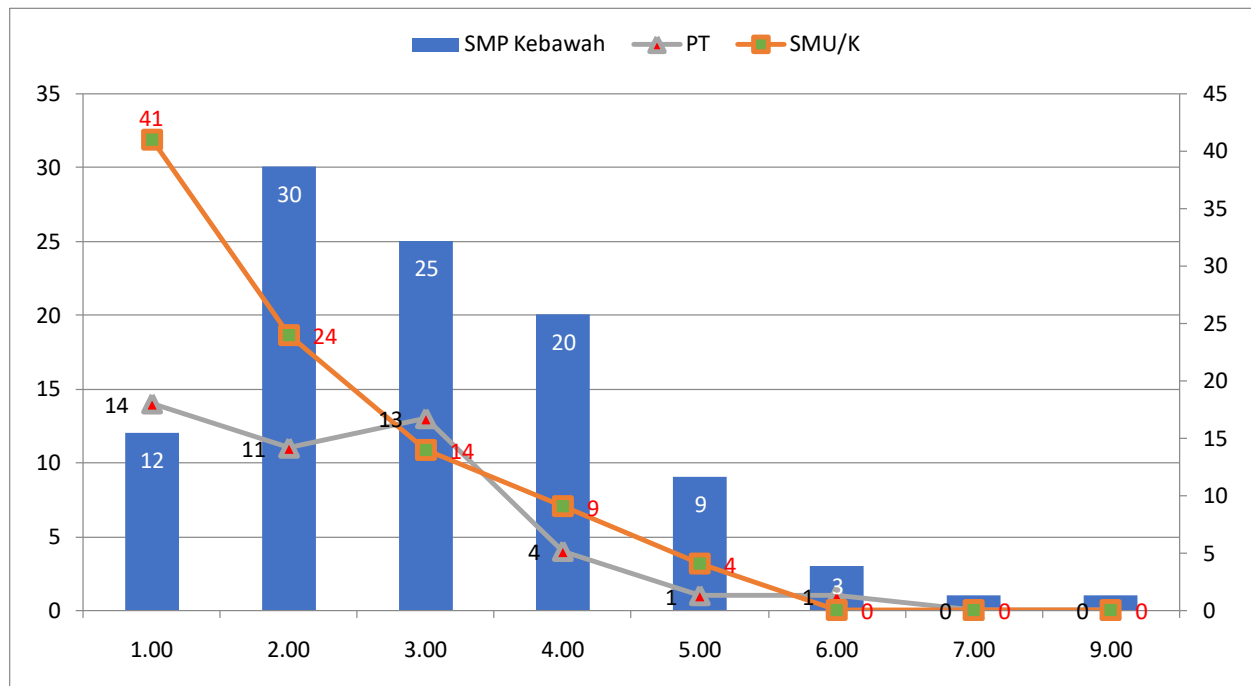### 3.1.1 The Relationship between Education and Type of Occupation
Education can play an important for a person when it comes to choosing the type of occupation. The result of this study explores the fact that from 102 respondents, 40.20% of them that have middle school degree or lower chose to work in agriculture. The other 57% of them chose to work in the private sector and the remaining 3% worked for the government as civil servants. On contrary, out of 44 respondents with bachelor's degree or diploma, none of them worked in agriculture, but 12 (27%) people worked as civil servants and the other 32 (73%) people worked in the private sector. In comparison with respondents with high school diploma, out of 91 people, 24 (26.37%) of them worked as farmers, while 58 (63.74%) of them worked in the private sector and the last 9 (9.89%) people chose to be civil servants.

3.1.2 The Relationship between Education and Income
Education can also increase one's productivity, which in turn affects the amount of income one earns. Out of 229 respondents, there are 214 people with low income, 10 people with medium income and 5 people with high income. From 214 respondents with low income, 96 (44.86%) people who have graduated from middle school, followed by 78 (36.45%) people with high school diploma, and then 40 (18.69%) people with a bachelor's degree. By looking at 10 people with medium income, 7 of them have high school diploma and followed by 2 people with college degree, and the last 1 person graduated from middle school. Meanwhile, for the respondents with high income, 1 person is a university graduate, and the remaining 4 people have high school diploma.

3.1.3 The Relationship between Education and the Desired Number of Children
The number of children a family wants to have is also influenced by the education factor. Those who are highly educated proven to want fewer children in their marriage compared to those who have a low educational background. Based on the findings in this paper, the respondents who graduated from middle and high school have a relatively larger number of biological children than those who have a college degree. There are 2 respondents with middle school diploma who have 7 and 9 biological children. While 13 respondents with higher education had 3 children and 2 children. For the rest 11 and 14 respondents only had 1 child (Graph 3.1).
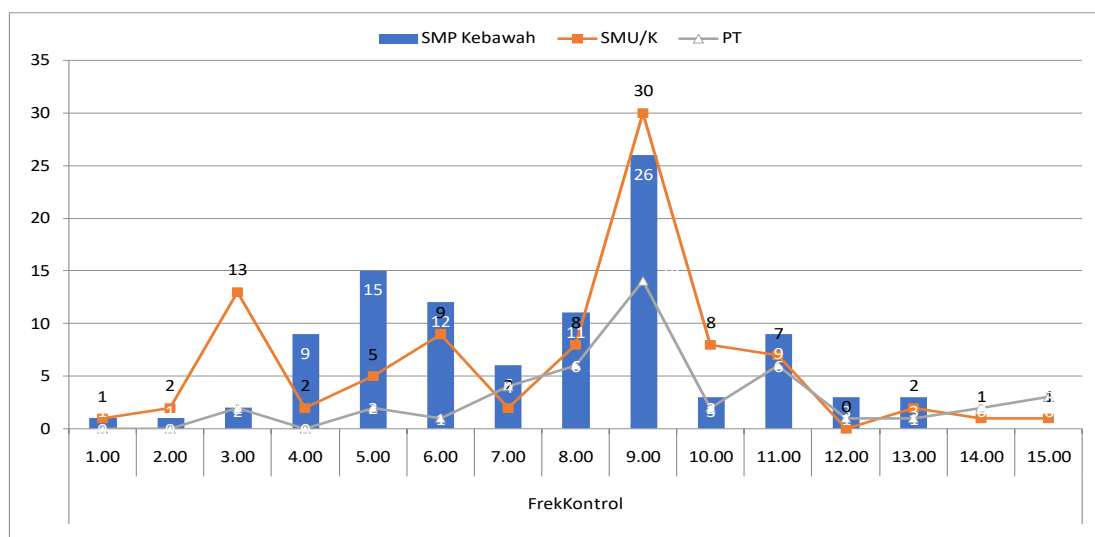
Graph 3.1 The Number of Biological Children Based on Husband's Level of Education
Note: SMP Kebawah = Lower than Middle School, PT = University, SMU/K = High School

3.1.4 The Relationship between Education and the Prenatal Visit Frequency

By analyzing graph 3.2, we can see that education does not have a substantial influence on prenatal visit frequency. Pregnant women with lower educational background (lower than middle school), only did the routine check-up about 3 to 8 times. This research also found that 30 mothers who had graduated high school, were doing prenatal visit about 9 times, followed up by 26 mothers with middle school background. Furthermore, from 229 respondents only 14 mothers with college degree were doing the routine visit more than 9 times (Graph 3.2).
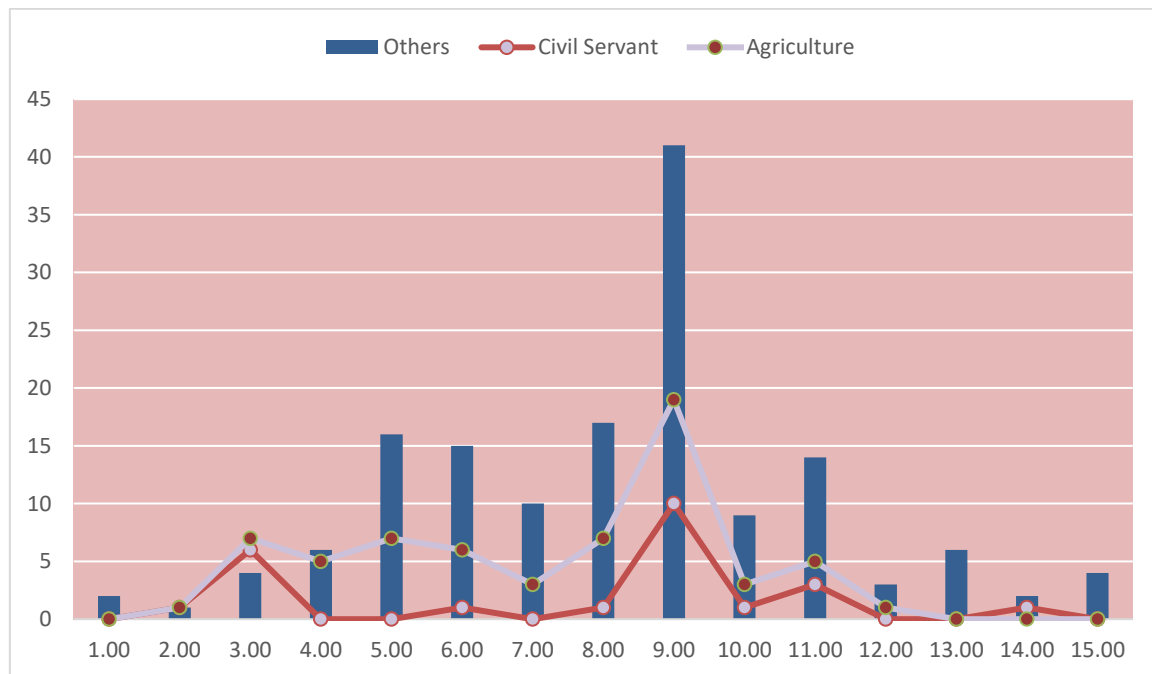
Graph 3.2 Prenatal Visit Frequency Based on the Husband's Level of Education

Note: SMP Kebawah = Lower than middle school, SMU/K = High School, PT = University

3.1.5 The Relationship between Prenatal Visit Frequency and Husband's Occupation

The 3.3 graph below, describes the impact of the husband's type of occupation on the frequency of prenatal visit done by the mother. Women whose husbands worked in the private sector were doing the prenatal visit more frequently than others, starting from the first visit to the fifteenth visit. Moreover, wives whose husbands worked as farmers are in the second place, while women whose husbands were civil servants were doing the prenatal visit less than others. (Graph 3.3)

Graph 3.3 Prenatal Visit Frequency Based on Husband's Occupation

3.1.6 Maternal Health Status during Childbirth

Table 3.2 shows that out of the 239 respondents, 2 mothers, one with a high school diploma and the other had a college degree, had died when giving birth. However, the other 237 mothers who didn't die during childbirth were: 103 (43.46%) mothers who had graduated from middle school (or lower), 90 (37.97%) mothers with high school diploma and 44 (18.56%) mothers who had graduated college. (Table 3.1)

Table 3.1 Maternal Health Status during Childbirth Based on Husband's Education

Husband's Education		Stakesibu		Total
		Deceased	Healthy	
EducH	Lower than Middle School	0	103	103
	High School	2	90	92
	University	0	44	44
Total		2	237	239

Source: Primary Data

3.1.7 Number of Biological Children and Husband's Income

The amount of a household's income also have a descriptive influence on the number of biological children, the relationship between these two factors is negative. Those with lower income tend to have a relatively high number of children in the family. There were 15 respondents (parents) with low income who have 5 biological children, the other 4 parents have 6 biological children. There was even one low-income family that had 9 biological children. On the contrary, parents with high income tend to have a relatively small number of biological children. With only 3 parents having 2 children, and 2 parents with 3 and 4 children. (Graph 3.4)
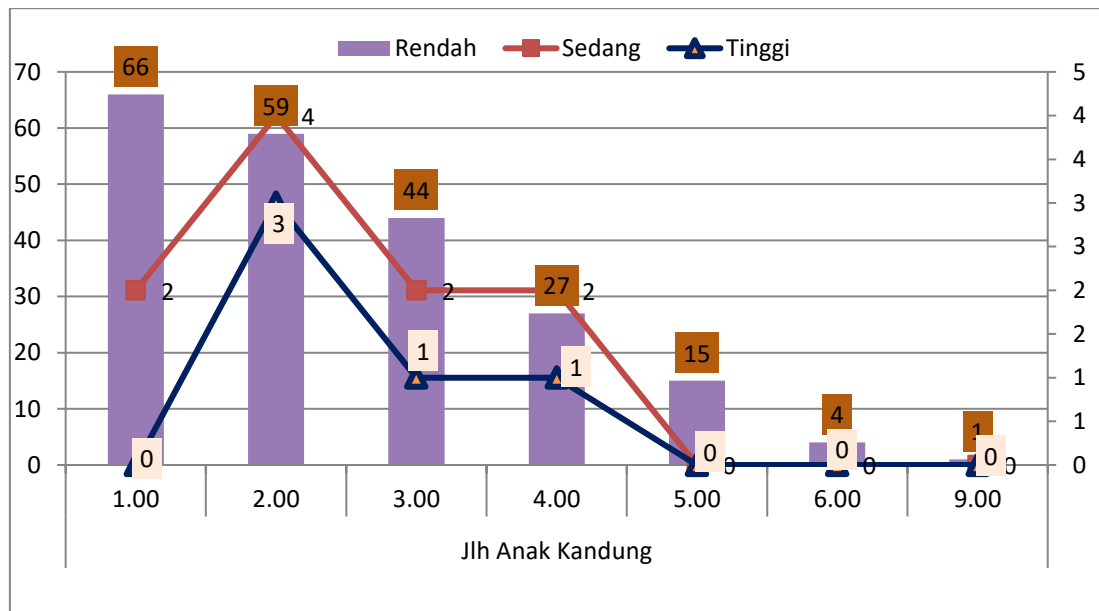
Graph 3.4 The Number of Biological Children Based on Husband Income
Note: Rendah = Low, Sedang = Middle, Tinggi = High

3.1.8 The Amount of Income and Maternal Health Status

Income reflects the ability of one household to afford better care for their unborn baby. The needed care can be varied from providing a high quality of nutritious food and beverage that meet the health standards, to doing routine prenatal visit to monitor the baby's health. Theoretically, there is a positive

relationship between income and the baby's health. This study suggests that from 233 respondents there were 2 (0.86%) mothers who had died during childbirth, even though the two mothers each was in the income (husband) range of medium and high. (Table 3.2)

**Table 3.2 Maternal Health Status Based on Husband Income**

IncomeH	Stakesibu		Total
	Deceased	Healthy	
Low	0	218	218
Medium	1	9	10
High	1	4	5
Total	2	231	233

Source: Primary Data

Thus, the number of mothers who remained healthy at the time of delivery was 231 (99.14%) people, 218 (94.37%) of whom are low-income mothers, followed by 9 (3.89%) medium-income mothers, and 4 (1.73%) high-income workers.

3.1.9 The Prenatal Visit and The Baby's Health Status

The prenatal visit to the doctor is a way to monitor the development of a baby's growth during pregnancy. By looking at the check-up result we can determine the health of the baby and a medical intervention could be done if needed. As shown in graph 3.5, out of 248 mothers who had done prenatal visit during pregnancy, only 2 (0.81%) of them died during labor, and the rest 246 (99.19%) of them were healthy and survived childbirth. We also can see that those 2 women who had died, each of them had done 2 and 5 times prenatal checkups during their pregnancy. (Graph 3.5)
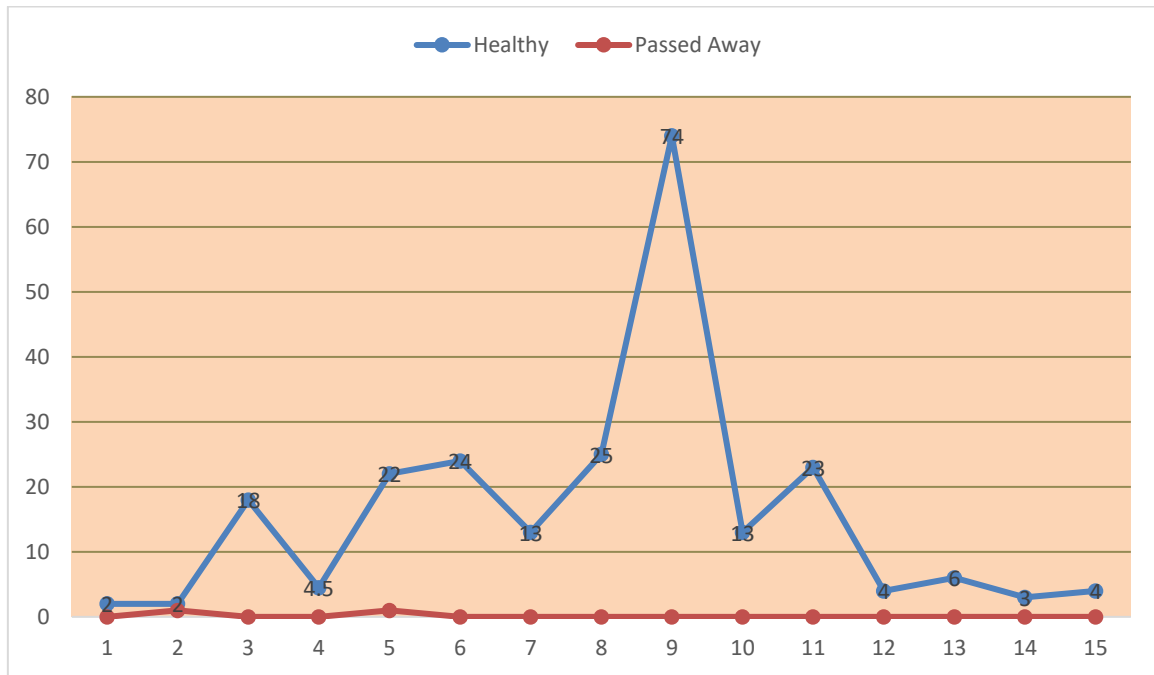
Graph 3.5 Mother's Health Status Based on the Frequency of Prenatal Visit

3.2 The Result of Inferential Analysis

Table 3.3 Summary of Path Analysis Result: Empirical Model

|	Formal Model	Path Coefficient	Residue	Coef. Reg	R-Square	F.Sign
I	$X2 = P21X1 + ei.1$	$0.227X1^{**}$	*0.974 ei.1*	0.227	0.051	0.000
II	$X3 = P31X1 + P32X2 + ei.2$	$0.163X1^{**}$ $0.162X2^{**}$	*0.979 ei.2*	0.204	0.042	0.001
III	$X4 = 41X1 + P42X2 + P43X3 + ei.3$	$-0.2-1X1^{**}$ $-0.197X2^{**}$ $0.006X3$	*0.951 ei.3*	0.310	0.096	0.000
IV	$X5 = P51X1 + P52X2 + P53X3 + P54X4 + ei.4$	$0.215X1^{**}$ $-0.008X2$ $-0.271X3^{**}$ $-0.019X4$	*0.945 ei.4*	0.327	0.107	0.000
V	$Y = PY1X1+PY2X2+PY3X3 + PY4X4 + PY5X5 + ei.5$	$-0.018X1$ $0.037X2$ $-0.354X3^{**}$ $-0.060X4$ $0.065X5$	*0.921 ei.5*	0.390	0.152	0.000

4 DISCUSSIONS

4.1 Hypothesis and Discussion

4.1.1 The Relationship between Education and Type of Occupation

Education is usually used to better one's skills and improve one's abilities. People with a high formal educational background, college graduates, for example, tend to choose the type of jobs that require a certain set of skills. This paper proves that the relationship between education and type of occupation is positive but very weak. As seen by the path coefficient value of 0.227 that is the same as its regression (r) coefficient value. Even though the relationship is considered as weak, it produces the Sign. value of 0.000, which is smaller than the alpha value of 0.005. Thus, hypothesis-1 (H-1), is accepted. The influence or contribution it has on the husband's type of occupation is small, which is only 5.10% (R^2).

Suryono, Panji and Agus Joko Pitoyo (2013) found a similar case, using the data from Indonesia's National Labor Force Survey (SAKERNAS), found that 57.58% of Banten Province population who are in the productive age (>15) who had graduated college, chose to work in the professional and technician field. Only 0.34% of them had the interest to work as a farmer. In contrast, only 0.90% of those who graduated from elementary school, for example, worked in the professional fields, but more than 30.82% chose to work in the farming sector (Suryono, 2013) (Graph 3.6).
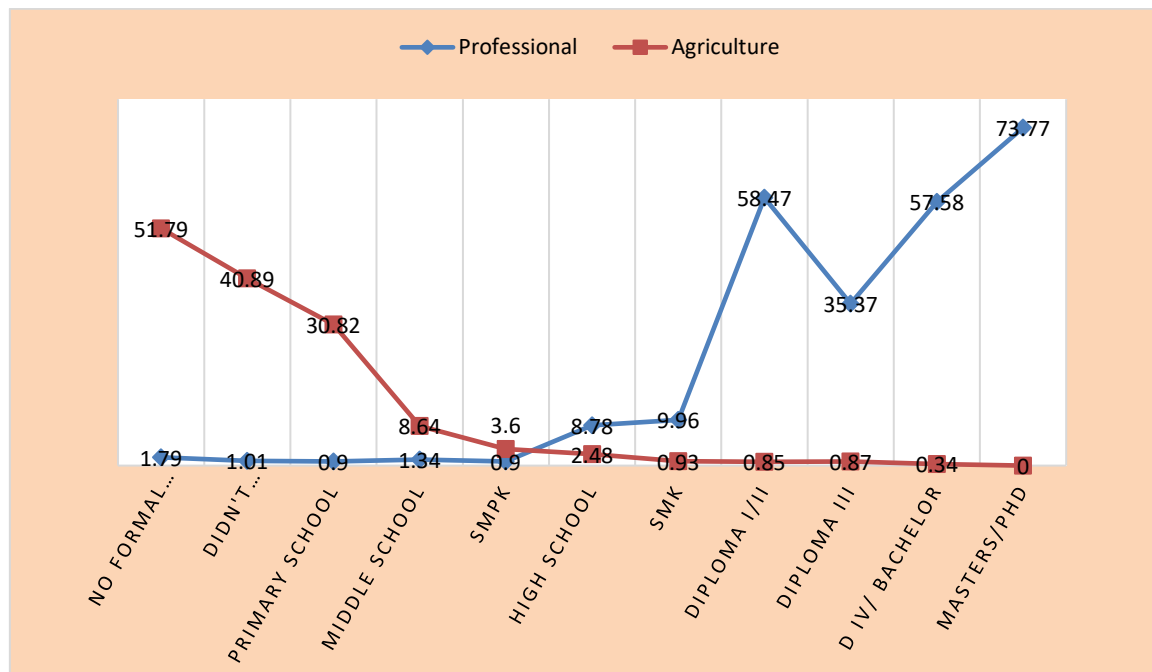
Source: Suryono, 2013

Graph 3.6 The Relationship between Husband's Education and Husband's Occupation

4.1.2 The Relationship between Education, Type of Occupation on Income

Income is a remuneration that is given to the working-age group for their contribution to the factors production. The amount of income a person receives is not only determined by the number of working hours devoted to production but also depends on the quality of labor and productivity. The quality of the workforce can be measured by the level of formal level of education that a person has completed. In general, it can be said that the higher the education, the greater the quality of the workforce, which in turn, will increase productivity that will lead to more income being given to a person.

Alsulami (2018), explained that in the U.S, workers with bachelor's degree earn a total income of $2.27 million during their lifetime. This number was low in comparison to workers with master's degree who earn $2,67 million, and workers with doctoral degree who earn $3,25 million or professional degree with $3.65 million income. Hawkes and Mehmet Ugur (2012) in their studies, found evidence of a stable empirical relationship between education and economic growth in lower-income countries (LIC). This research also finds a similar case where education has a positive Sign relationship with income. It produces a coefficient path value (positive) of 0.163, with the Sign value of 0.001, this value is smaller than alpha 0.005, which makes the second hypothesis (H-2), acceptable.

Alsulami (2018), also discovered that workers with a degree in engineering, management, or STEM majors had income that was relatively higher than workers with other college degrees. On the flip side, workers in the private sector, service industry, and agriculture earn different amounts of income. Suryono (2013), using the Sakerna data of 2010, elaborates that occupations that rely on certain problem-solving skillsets are high in demand because they usually offer a high salary compared to jobs in agriculture. This study suggests a Sign negative relationship between income and type of occupation. It generates a coefficient path value of 0.162 and a Sign value of 0.004, both values are lower than the alpha value of 0.005. In turn, makes the hypothesis sixth (H-6) acceptable. The value of these two models creates a regression coefficient value of 0.204, this can be classified as a weak relationship, with a simultaneous significance value of 0,042, therefore, simultaneously, education and type of occupation do not have a Sign relationship with income. Nevertheless, the said variables gave 4.2% contribution to income.
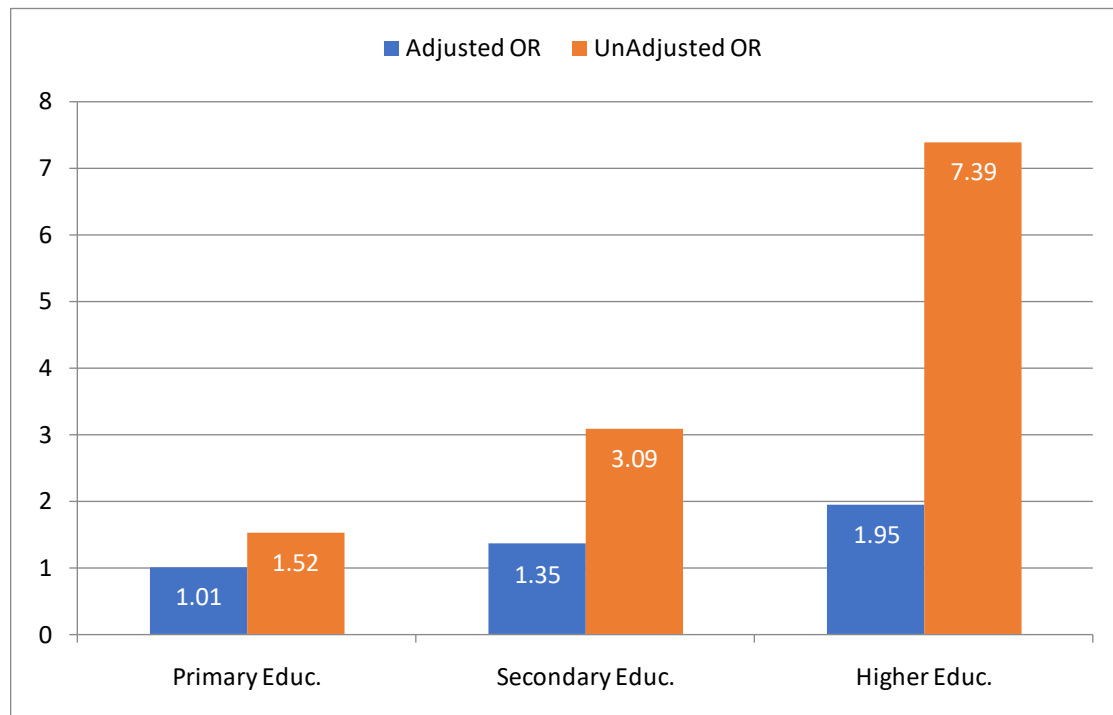
4.1.3 The Relationship between Education, Type of Occupation and Income on Number of Biological Children

Education can broaden ones knowledge which will change their perspectives on certain matters. Those who are highly educate hold a different look on how many children they'd want in a marriage compared to those who are less educated. Both wife and husband need to agree on how many children they'd want in their marriage. Husbands who are less educated will have a different view on the value of a child from husbands with high education. On average, birth rate in urban areas is relatively lower than in rural areas, one of the cause factors of this is education. The result of this study also finds that the higher the education the less children they'd desire. The path coefficient value between husband's education and the number of biological children is 0.201, and the Sign value is 0.003, meaning that

the third hypothesis (H-3), is accepted. The seventh hypothesis (H-7) suggests that the Sign relationship between type of education and the number of biological children is also accepted, marked by the Sign value of 0.003, a value that is less than alpha 0.005, which means that those working as civil servants, or in the private sector desire less children. In contrast, income has a positive relationship with the number of children, the path coefficient value resulting in 0.006, but this is not Sign, because of the Sign value of 0.926 exceeds the alpha value of 0.005. Thus, the tenth hypothesis (H-10), is rejected. However, simultaneously these three variables (education, type of occupation, and income on number of biological children) have a Sign relationship with a value of 0.000, which is smaller than the alpha value of 0.005. The path coefficient value is 0.310, resulting in a determinant coefficient value (R2) of 0.096 or 9.6%.

4.1.4 The Relationship between Education, Type of Occupation, Income and Number of Biological Children on Prenatal Visit Frequency

Husbands who are highly educated will be more knowledgeable than husbands who are less educated. Both husband and the wife will decide if a routine prenatal visit is something they wish to do. It has been proven that the relationship between husband's education and the prenatal visit frequency of the wife is positive. Farida Iya, et al. (2019) in their research prove that the relationship between husband's support on the wife giving birth is Sign (0.000) with coefficient parameter of 0.623. Additionally, the study discovers a similar case in which the husband's education has a positive and Sign relationship with the frequency of wife's prenatal visit. The coefficient parameter value is 0.214, and the Sign value is 0.002, which is smaller than the alpha value of 0.005. This means that as the husband's education level gets higher, the wife's prenatal visit frequency increases by 0.215. Thus the 4th hypothesis (H-4) is accepted. This contradicts what was discovered in Nepal, where it was stated that highly educated husbands were unconcerned about their wives' wellbeing during pregnancy and labor and that there were even husbands who were unaware of the complication risk that could occur during pregnancy or labor (Agushybana, 2016). Using the data from Indonesia's Demographic and Health Survey (2012), we could see that wives with highly educated husbands are more likely to have complication during pregnancy and labor. (Graph 3.8)

Source: Agushybana, 2016
Graph 3.8 The Relationship between Husband's Education and the Risk of Complication of Pregnancy and Childbirth
Note: ref.: not of husband education

Husbands support during pregnancy is influenced by their education and the income. This study finds that a negative but Sign (0.000) relationship between husband's income and the frequency of prenatal visit, this makes the eleventh hypothesis (H-11), acceptable. The coefficient parameter value that was generated was -0.271, illustrates that as the income increases, the frequency of prenatal visit decreases by 0.271. This negative relationship could be explained by the fact that there were more respondents with low income than those with middle and high income (Graph 3.8), making the data retrieved less diverse. In contrast to what Sudirman et al. (2019) discovered, they revealed that the relationship between the two factors is positive with the coefficient parameter value of 0.203, Sign value of 0.005 and an alpha of 0.005.
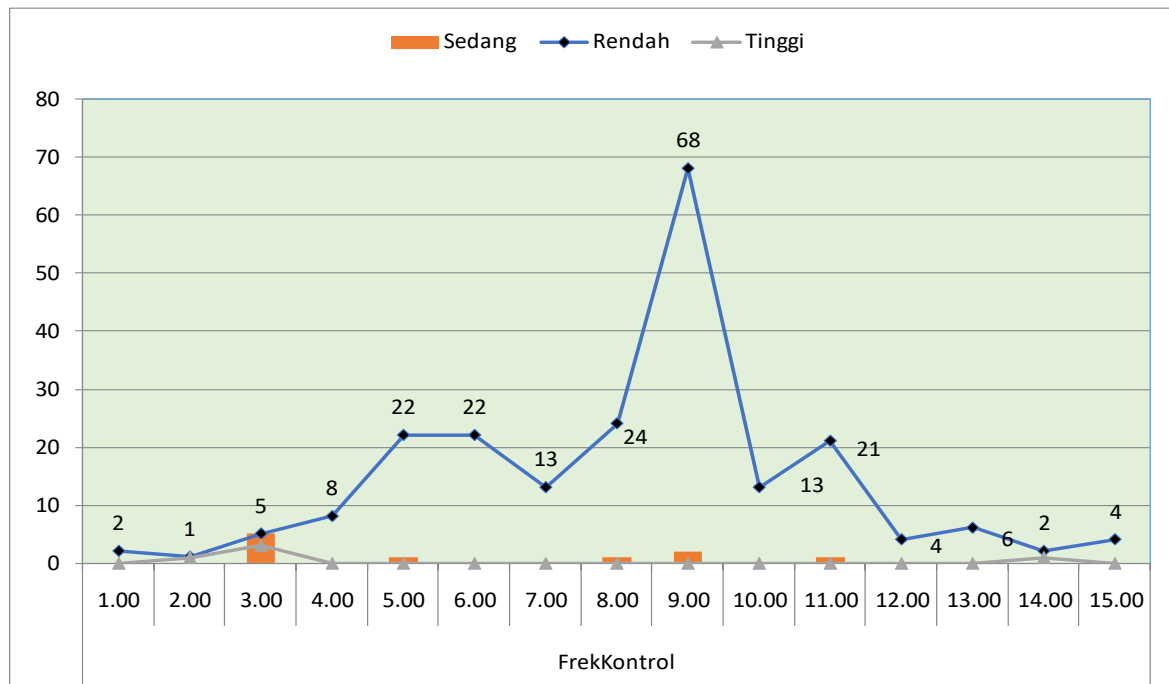
Graph 3.8 The Relationship between Husband's Income and Prenatal Visit Frequency
Note: Sedang = Middle, Rendah = Low, Tinggi = High

The occupation of the husband also influences the frequency of prenatal visit. A descriptive analysis illustrates that wives whose husbands who work in a private sector, did a more routine prenatal visit. Meanwhile, wives whose husbands work as civil servants, made fewer of prenatal visits than wives whose husbands work in agriculture. Inferential analysis revealed that there is no significance to the relationship between husband's type of work and the frequency of prenatal visit. The coefficient value was -0.008 (Sig. 0.991), meaning the eighth hypothesis (H-8) is rejected. The negative in coefficient value indicates that the type of work that to relies on the brain is more concerned with the wife's prenatal visit frequency.

The number of dependent children is another factor that may influence the frequency of the wife's prenatal visit. The more children means bigger dependents. This condition can have negative impact on the wife's health during her pregnancy (Sudirman et al. 2019). They found the coefficient value was -0.076, but it is not Significance (Sign. 0.277). The same case also was found in this study, the Sign value was 0.776, and the coefficient value of -0.019. This means that thirteenth hypothesis (H-13), is rejected.

Although not all independent variables(X) have a Sign relationship with prenatal visit frequency, simultaneously they produce Significant value (0.000) and the r value of 0.327 (weak relationship), resulting in a contribution value of 10.70 percent for all independent variables (X) to prenatal visit frequency (Y).

4.1.5 The Relationship between Education, Type of Occupation, Income, Number of Biological Children, and Prenatal Visit Frequency on the Mother's Health During Childbirth

The five independent variables (X) referred to in this section, simultaneously have a Sign relationship with maternal health. The Sign value is 0.000, resulting in a regression coefficient (r) of 0.390, while the value of the determinant coefficient (R^2) is 0.152. This means that 15.20 percent from maternal health rate during labor is determined by the five independent variables that are shown in the model. However, when they were partially regressed, out of the five independent variables, only income has a Sign (0.000) relationship with maternal health during childbirth, therefore, the fifth hypothesis (H-5), is accepted. The relationship is negative (-0.354). However, the negative value does not mean that the higher the husband's level of education the poorer the wife's health. This condition occurs because of the number of respondents with husbands who graduated junior high and high school is larger than respondents whose husbands had graduated university (Table 4.2). 193 or 80.75 percent of them have graduated junior high and high school, while 19.25 percent had a university degree. Agushybana (2016), found a similar case in Nepal, the husbands were not aware of the complication problems that had occurred on their wives during pregnancy.

A job usually can reflects the amount of income one receives. Workers in science and technology fields including management receive a relatively high income compared to those in agriculture, private sector, or in the government (civil servant) (Alsulami, 2018). Agushybana (2016), using Indonesia's Demographic and Health Survey's data (2012) it was discovered that 98.8 percent wives with working husbands had complication illness during pregnancy and labor, while only 1.1 percent of wives with unemployed husbands had it. Using logistics analysist, it was found that wives with working husbands were 1.46 (OR Unadjusted) and 1.29 (OR Adjusted) more likely to develop complication during pregnancy and labor than those whose husbands were unemployed. This illustrates that husbands were not interested in their wives health during pregnancy and labor. Furthermore, it shows how there is a positive relationship between maternal health status and husband's occupation, though it is not Significance. This produces a coefficient parameter value of 0.037 with a Sign value of 0.573, thus, the ninth hypothesis (H-9) is rejected.

The wife's health status from pregnancy to labor can only be monitored by routine prenatal check-ups, this is crucial in determining the health of the mother and the baby. Those with high paying jobs have a better chance in maintaining the mother's health status during pregnancy. Even though this study produces a negative coefficient parameter (income), the relationship is Significance, making the twelfth hypothesis (H-12) acceptable.

In theory, income is not only used for savings and investments, but it is also used for daily food consumption for the pregnant mother and the baby. The amount of money spent on consumption in a single household is proportional to the number its dependents. Using ceteris paribus law, there is a positive relationship between the two, the greater the number of dependents, the greater the expenditure on consumption, which has the potential to reduce spending on maternal health issues during

childbirth. This study found something similar that the number of dependents has the potential to risk the mother's health during childbirth. It produces coefficient parameter value of -0.060 for the number of dependents, but this relationship is not Significant because the Sign value is 0.360, which exceeds alpha value of 0.005, and thus hypothesis fourteenth (H-14) is rejected.

The more prenatal visits that are executed, the sooner we will know about the baby's health development. Descriptively, this study finds that wives who had done the most prenatal visits, had husbands who had low income jobs, this number was followed by middle income husbands, and high income husbands (Graph 4.8). When the prenatal visit frequency variable is being regressed with maternal health status during childbirth, we'd get a coefficient parameter value of 0.065. Suggested that the more the practice is being done, the more they can maintain the mother's health until childbirth. With that being said, this relationship is not Sign (0.325). Therefore, hypothesis fifteenth (H-15) cannot be accepted.

4.2 The Direct and Indirect Relationship

Table 3.4 Direct and Indirect Relationship between Independent Variables (X) and Dependent Variables (Y)

No	Variable	HL	HTL	Total
1	Husband Education (X1)	-0.018	0.014	-0.004
2	Husband Occupation (X2)	0.037	0.001	0.038
3	Husband Income (X3)	-0.354	-0.018	-0.372
4	Number of Biological Children (X4)	-0.060	0.001	-0.-
5	Prenatal Visit Frequency (X5)	0.065	-	

Note: HL = Direct Relationship, HTL= Indirect Relationship

The first four variables mentioned (variables X1-X4) have direct relationship and indirect relationship with dependent variable (Y/ the wife's health status on the time of birth), meanwhile the fifth variable which is an independent variable (prenatal visit frequency) only has a direct relationship with dependent variable (Y).

The main occupation variable (X2) and the frequency of prenatal visits variable (X5) have higher coefficient values than the other three independent variables (X5). The lowest coefficient value comes from husband education (X1), followed by the number of biological children, and frequency of prenatal visit. On the other hand, the highest coefficient value comes from indirect relationship, where husband education is the biggest contributor, followed by husband occupation and the number of biological children. The lowest contribution is from the husband's income variable, which is only 0.018. (Table 3.4)

4.3 The Effective Contribution

The effective contribution value is used to determine the amount of contribution each of independent variable (X) gives in producing the value of dependent variable (Y). Table 5 showcases that from 15.20 percent of the value of mother's health during childbirth (Y), 13.30 percent is influenced by husband's occupation, followed by 1 percent of frequency of prenatal visit, and the lowest contribution of 0.01 percent, comes from husband's education. (Table 3.5)

Table 3.5 The Effective Correlation of Each Independent Variables (X) has on Dependent Variable (Y)

No	Variable	Standardized Coefficients Beta	Correlation Coefficient PM	Effective Contribution	Contribution Rank
1	Husband Education (X1)	-0.018	-0.028	0.001	V
2	Husband Occupation (X2)	0.037	0.101	0.004	III
3	Husband Income (X3)	-0.354	-0.377	0.133	I
4	Number of Biological Children (X4)	-0.060	-0.071	0.004	IV
5	Prenatal Visit Frequency (X5)	0.065	0.155	0.010	II
	Total contribution (= R-Square)			0.152	

Note: Effective contribution value is obtained by multiplying the standardized value of coeff. Beta and the coeff. moment product correlation

5. CONCLUSION

Based on the empirical findings discussed in previous chapters, the following conclusions can be drawn:

1. The independent variable that gives the biggest contribution to the mother's health status during childbirth is the husband's income

2. The independent variable that gives the smallest contribution is the level of formal education achieved by the husband

3. The number of biological children is not significantly influenced by income but by husband's education and their occupation

4. The wife's prenatal visit frequency is significantly influenced by husband's education and income

5. Simultaneously, husband's income is the only variable that is significantly influence the mother's health status during childbirth.

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