Impact Of Working Mother To Children’s Health In Indonesia

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Abstract: Impact Of Working Mother To Children’s Health In Indonesia
There are still many challenges facing the field of child health in Indonesia. Children's health is crucial due to its role in Indonesia’s future economic development and growth. The objective of this research is to determine the consequence of a mother’s work status on children’s health. Other factors such as the effect of the location of residence (urban and rural) and the level of mother's education are also evaluated on children's health. This study was conducted using data obtained from IFLS 5 (Indonesia Family Life Survey 5) in 2014 with a sample size of 8,907 individuals. This study utilizes the Binary Logit regression method using STATA 14. The results indicated that the status of a mother’s work has a significant and negative effect on the level of children's health, while the mother’s education level and location of residence (urban) have a significant and positive effect on the level of children's health. This research implies the promotion of education for future improvements in child health.

Keywords: Child Health; Mother's Education Status; Mother's Work Status; Place of Residence
INTRODUCTION

Children's health is one of the many factors that reflects the degree of health in a national level. Children’s health is important because these children will be the generation that leads future economic development and growth of a nation. Therefore, child health is one of the many main problems in the Indonesian health sector. Based on these facts, child health problems are currently a priority in national development and planning (Rahmawati, 2013; Rudan et al., 2007; Travis et al., 2004).

Eliminating problems and improving child health will have a positive short-term and long-term impact. The impact comes from the increase of productivity from better education that will create effect in future endeavours such as better careers and income that will subsequently increase economic growth and reduce poverty (Nurkholis, 2016).

Regulation created by the Indonesian Minister of Health Number 25 of 2014 stipulates that every child has 3 main rights, that is to survive, grow, and develop. Children are also entitled to/have a right to protection from discrimination and violence, so it is necessary to carry out integrated, comprehensive, and sustainable child health efforts. Child health efforts are carried out from when the child started as a fetus inside the womb until the child is 18 (eighteen) years old (Kementrian Kesehatan RI, 2020, 2014). The government is trying to improve and maximize various child health services such as fetal health services in the womb, newborn health, infant, toddler, and preschool health, health for school-age children and adolescents, and child health protection through implementation of various regulation by the Minister of Health of the Republic of Indonesia mainly in regulation Number 25 of 2014 (Kementrian Kesehatan RI, 2014).

There are several factors that affect child health. One of them is mother’s working status. Currently, there are many mothers working fulltime to fulfill their family need’s. Therefore, the mother’s responsibility in childcare is usually given to caretakers or other family members. This raises the probabilities of neglected childcare due to inexperienced caretakers that lead to unfulfillment of the child’s nutritional needs. Since a child’s health is determined by its nutritional fulfillment, lower nutritional intake will lead to a less healthy child (Bumi, 2005).

Based on data obtained by the Directorate of Community Nutrition, Ministry of Health, in 2019, there were 111,827 babies who had low birth weight or 3.4%. Meanwhile, according to the results of RISKESDAS in 2018, there were 6.2% of babies born with low birth weight conditions (Kementrian Kesehatan RI, 2014). This condition is very bad and
needs serious attention from the government. There are many factors that affect babies born with an underweight condition, namely various conditions of the mother during pregnancy, teenage pregnancy, malnutrition, and pregnancy complications (Alves and Ribeiro, 2006; Bergman and Jürisoo, 1994; Das et al., 1993; Negi et al., 2006; Singh et al., 2010; Siyoum and Melese, 2019).

Another factor that affects children’s health is the location of residence. In this term, the location of residence is differentiated into rural and urban areas. According to UNICEF, it is found that children living and raised in rural areas would be less healthy due to inadequacy in health facilities, income, and infrastructure. It is also found that lower children's health is caused due by the difficulty parents faced trying to get their children to a medical check-up (Karimah et al., 2015). Graph 1 shows how access differs in urban and rural areas. Graph 1 shows that 40.79% of women who give birth in urban areas are served by doctors, while only 23.79% in rural areas. Lower access to doctors in rural areas poses a higher risk to women who have difficulty in giving birth/birth complications.

Graph 1. Birth attendant in Urban and Rural, Indonesia 2018

Source: (Ministry of Women Empowerment and Child Protection RI 2019; Ministry of Health RI 2018).

The existence of more complete health facilities and health workers will benefit the birth process and monitoring the health of infants, toddlers, and children (Alisjahbana et al., 1995; Atunah-Jay et al., 2013; Kadobera et al., 2012; Lei and Lin, 2009)
Graph 2 shows that lower access to health was an effect on insufficient health information (Berkman et al., 2011; Sherwani et al., 2007). Low early initiation of breastfeeding was the negative impact caused by low health information. Graph 2 reflects that early initiation of breastfeeding in rural area which is 54.10% is lower than in urban area which is 61.90%. Low early initiation of breastfeeding will have an impact on exclusive breastfeeding practice and the level of child health (Baker et al., 2006; Fosu-Brefo and Arthur, 2015; Khan et al., 2015; Sharma and Byrne, 2016).

Graph 2. Early Initiation rate of Breastfeeding in Urban and Rural Areas, Indonesia 2018

Source: (Ministry of Women Empowerment and Child Protection RI 2019; Ministry of Health RI 2018)

Education also played a significant role in child health. The level of the mother's education will significantly affect her knowledge in providing the necessary nutrition needed for their child. Lower education will cause less knowledge in providing the proper nutrition needed for their child. This will result in major disruption of the development and growth process in the child period of rapid growth, especially in the brain (Eka et al., 2019). In Indonesia, data from (Badan Pusat Statistik, 2019) shows that 20.74% of females (aged 15 years and older) didn’t complete elementary school; 25.79 of them graduated from elementary school; 20.94% graduated from junior high school and 32.53% of them graduated from high school or higher. The importance of Early Initiation of Breastfeeding that has an impact on child health will be effected by the mother's level of education. Graph 3 shows that higher education level of mothers in Indonesia will result in higher level of Early Initiation of Breastfeeding.
From this analysis, it is observed that the problems regarding child health in Indonesia is still prevalent and significant. Several factor arises to have an effect reducing child health such as; mother’s that allocate more of their time in child care and ensuring quality nutrition for the child; mother’s education level that will ensure proper nutrition for the child; and location of residence with various access and quality to health facilities. Therefore this research have an objective to observe and analyzed several indicator such as mother working statis, location of residence and mother’s education level and their various effect to child health by using micro data with a large sample obtained from the Indonesian Family Life Survey (IFLS).

**Graph 3. Mother’s Education and Early Initiation of Breastfeeding in Indonesia 2018**

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Breastfeeding Initiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary School</td>
<td>56.3%</td>
</tr>
<tr>
<td>Junior High School</td>
<td>58.7%</td>
</tr>
<tr>
<td>Senior High School</td>
<td>60.5%</td>
</tr>
<tr>
<td>University</td>
<td>63.1%</td>
</tr>
</tbody>
</table>

Source : (Ministry of Women Empowerment and Child Protection RI 2019; Minister of Health RI 2018)

**THEORETICAL REVIEW**

The *World Health Organization* (WHO) defines health as a state of being prosperous which includes mental, physical, and social conditions that are not only free from illness or disability but also allow individuals to live productively, socially, and economically (Erliana, 2016). Child health, in general, can be defined as children whose nutritional needs have been fulfilled properly. This implies that toddlers growing up rapidly are able to fulfill the
high nutritional intake that is essential for their growth. Conventionally, toddler health is based on height and weight.

The average growth of a toddler's weight is around two kilograms per year and about 6-8 cm per year for its height. At the age of five years old, even though the growth has become slower, in this age toddlers still require high nutritional intake due to rapid physical, intellectual, mental, and social development and growth. Thus, even at this older age, children still need special attention for nutritional adequacy (Pritasari et al., 2017). Malnutrition can impact children between the age of 6-12 years (the age group of school children). As written on (Sebatara et al., 2014) that the highest prevalence of short stature and thinness occurs in this age group; more than 1/3 (one third) or in a percentage of 35.6% of children in the school-age group in Indonesia are classified as short and this indicates the presence of chronic malnutrition.

Humans always have various activities, one of which is work. Work has many elements such as producing and carrying out social activities with the final objective to fulfill one's needs (Anshor, 2013). Currently, not only men are working but many women are also working to help fulfill their family needs, and also dealing with gender equality issues (Blair-Loy, 2009; Okin, 2015; Poduval and Poduval, 2009; Thompson, 1991). A large portion of mothers today prefer to return to work after giving birth (Grether and Wiese, 2016; Hock et al., 1984; Klerman and Leibowitz, 1999), even though they know one of the risks that they faced such as having to give the responsibility of childcare to the caregivers that imply more expenditure (nisak, 2018). Working will also have an impact on children's growth because working mothers have less time to supervise their children than stay-home mothers/housewives (Yulasri et al., 2015).

But it doesn't mean that working mothers always have a negative effect on child health, as said by (Ariyanti, 2010) Working mothers can also have a positive impact such as the child becoming more independent and adaptive while making friends. It is also found this impact appears to be more beneficial for girls than boys. Research by (Popkin et al., 1976) says that the positive but small effect of maternal work on calorie and protein intake may indicate a stronger positive income effect than the negative time effect. We mean that the independent effect of increasing income related to mother's work can lead to increased consumption of calories and protein which will have an impact on improving child nutrition.

Working mothers will have an impact on the growth of children who should indeed receive guidance from a mother. One of them is mothers who work outside the home, mothers who work outside the home of course have an impact on the development and
growth of children. Because mothers who work at home have more time to organize and supervise household matters and also their children compared to mothers who work outside the home, and mothers who work will give the responsibility of supervising children to household assistants or other families who make children's nutritional intake not monitored properly (Yuliasri, 2015)

Significant differences exists between urban and rural areas in regards to their health facilities. One such difference is in the distribution of labor and other health facilities. Data from Puskesmas located in the Mogang in 2009 recorded a 20% of families with under-fives who have been visited by health workers. However, the participation of people in Mogang in health education (provided by Puskesmas) is still significantly low due to the busyness of those who are still working as farmers (Sarumpaet et al., 2012). In research conducted by (Mexitalia et al., 2012) it is concluded that children living in urban areas obtains higher nutritional status than those in rural areas. However, children in rural areas have a higher level of physical health, activity, and quality of life than children living in urban areas. According to (Almu et al., 2018) the environment of the residence has a significant effect in regards to the level of education and health of children.

Residency is an element that must be fulfilled as a basic necessity to ensure human survival. The location of residence also has 2 main areas, namely urban and rural areas. The difference in the location of residence also makes the difference in the degree of quality of health and treatment facilities and customs. In general, rural communities are more difficult in finding treatment compared to urban communities (Comer and Mueller, 1995; Fosu, 1989; Ompad et al., 2007; Vlahov et al., 2005). This is mostly due to the strong traditions, customs, and the attitude of rural communities who still do not want to utilize health services. Individuals living in rural areas also have lower and more uncertain monthly income compared to their urban counterparts that have a steadier income (Anhar et.al., 2016).

Research by (Sakbaniyah et al, 2010) concluded that higher knowledge of mothers will raise their awareness of the importance of routine children's visits to Posyandu or health facilities. This implies that higher health knowledge can improve the level of child health in Indonesia. However, it doesn't mean that all individuals with low education always have low knowledge either. The development of knowledge isn’t only obtained through formal education, but it can also be obtained through non-formal education. Education itself is
constructed on three pillars, namely school education, family education, and community education. In research conducted by (Niska et al., 2009) it is stated otherwise.

The results of a research conducted with fisher’s exact test concluded that there is no relationship between maternal education status and the nutritional status of preschool children. However, in research conducted by (Eka et al., 2019) the results through Kendall’s tau p-value of 0.000 (p <0.05) states that there is a significant correlation/relationship between the degree of knowledge of mothers with children’s nutritional status under five in Wonorejo region.

Education at the family level have a paramount role in the formation and development of children's personality and behavior due to its nature. Generally, education at the family level is the earliest education that children get before getting into formal education (Hulukati, 2015). Formal Education describes the learning process, where the higher the education that each individual takes, the easier it will be for that individual to receive information, both from other people and from various media. This implies that higher information obtained by an individual will higher his/her probability to obtain/gain substantial knowledge about health.

METHODS

This study utilizes data from the IFLS 5 (Indonesia Family Life Survey 5) in 2014. Indonesia Family Life Survey (IFLS) data represents 83% of the population in Indonesia. The data is taken through a survey conducted on individuals and households in 13 out of 27 provinces in Indonesia every 7 years by The RAND Corporation. The number of observations used in this study amounted to 8,907 individual samples and the type of data was cross-section data. This study uses child health, work status (namely the mother of the child working or not working) location of residence (namely urban and rural areas), and mother's education.

The method used in this research is Binary Logit regression using Stata 14 software. In this regression, robustness is used to detect and solve the problem of outliers in the data to estimate parameters (Nurdin et al., 2014). The logit model has a categorical dependent variable equation such as 0 (zero) and 1 (one) resulting from a non-linear regression model (Junaidi and Jambi, 2015). This study has an econometric model which is used as follows:

\[ P(Y = 1|x) = F(\beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + u) \]
The variables are detailed as such:

\[ Y \quad = \quad \text{Child's health} \]

\[ X_1 \quad = \quad \text{Mother’s education} \]

\[ X_2 \quad = \quad \text{Location of residence} \]

\[ X_3 \quad = \quad \text{Mother’s work status} \]

\[ u \quad = \quad \text{error term} \]

Below are the categorization processes of the data used in this study based on the codebook in the Indonesia Family Life Survey 5 (IFLS5) questionnaire:

**Table 1. The categorization Processes of the IFLS Data**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Label Variable</th>
<th>Book and questionnaire section</th>
</tr>
</thead>
<tbody>
<tr>
<td>( Y )</td>
<td>Child health, where (4 5) is made 0 = Not healthy and (1 2 3) is made 1 = Health</td>
<td>Book 3b section EH (eh01)</td>
</tr>
<tr>
<td>( X_1 )</td>
<td>Mother works or not, where (2 3 5 6 7) becomes 0 = Doesn't work / not in labor force and (1 4) becomes 1 = work</td>
<td>Book K section AR (ar15c)</td>
</tr>
<tr>
<td>( X_2 )</td>
<td>Residence where 0 = Rural and 1 = Urban</td>
<td>Book K section SC (sc05)</td>
</tr>
<tr>
<td>( X_3 )</td>
<td>Mother's level of education, where 0 = Doesn't attend compulsory education, 1 = Elementary school, 2 = Junior high, 3 = Senior high, 4 = Higher education</td>
<td>Book K section AR (ar07, ar11, and ar16)</td>
</tr>
</tbody>
</table>

Source: IFLS 5, 2014/2015

**RESULTS AND DISCUSSION**

Recall that this study uses data from IFLS 5 in 2014 with 8907 samples. From these samples, several summary statistics arise that reflect the character of the samples used. Firstly, in terms of gender, the data consists of 4570 (51.3%) female and 4337 (48.7%) male correspondents. In terms of child health, data shows that 65.7% (5855) child were healthy and the rest, 34.3% (3052) are not healthy. In regards to mother education, the data shows that 51.34% (4573) of mothers only attended education up until elementary
school while 16.67% (1485) attended junior high, 22.93% (2042) attended high school and 8.82% (786) attended higher education.

Mother’s education data also show that 21 mothers or 0.24% (21) didn’t attend any compulsory education. In terms of location of residence, data shows that 39.54% (3522) of respondents live in rural areas while 60.46% (5385) respondents live in urban areas. Lastly, in terms of mother’s working status, data shows that 5966 (66.98%) of mother work while 2941 (33.02%) of mother doesn’t work.

Graph 4. Gender Distribution

Source: IFLS 5, 2014/2015

Graph 5. Child Health Distribution

Source: IFLS 5, 2014/2015
Graph 6. Mother Education

Source: IFLS 5, 2014/2015

Graph 7. Residence Type

Source: IFLS 5, 2014/2015
Before proceeding into the regression result the author would present a simple approach in comparing different independent variables towards the dependent variable (child health). In regards to the method, the data is processed, and a ratio value is created by dividing the numbers of healthy children to unhealthy children for each category/class in each variable.

Source: IFLS 5, 2014/2015
In terms of Mother’s education, the data shows that a higher mother’s education level yielded a higher ratio value. This implies that a higher mother’s education level yields higher healthy children and vice versa.

Graph 10. Healthy to Unhealthy Child Ratio by Location of Residence

Source: IFLS 5, 2014/2015

In regards to the location of residence, Graph 9 (Healthy to Unhealthy Child Ratio by Location of Residence) shows that the ratio value in the urban area (2.14) is higher than in rural areas (1.63). This shows that urban locations lead to healthier children compared to
rural areas. In terms of mother’s working status, Graph 10 (Healthy to Unhealthy Child Ratio By Mother’s Working Status) shows that working mothers (1.77) yielded a lower ratio value compared to mothers that don’t work or are not in the labor force (2.28). This implies that Mothers that don’t work will yield healthier child compared to working mother.

This study uses Stata14 software which regresses the dependent variable child health and the independent variables such as mother’s education (mothereduc), mother’s working status (motherworkstatus), and location of residence (urban). It can be seen that the model from the regression results is as follows:

\[ P(Y = 1|x) = F(\beta_0 + \beta_{mothereduc}X_1 + \beta_{urban}X_2 + \beta_{motherworkstatus}X_3 + u) \]

\[ Childhealth = 0.3941 + 0.1456mothereduc + 0.2041urban - 0.1977motherworkstatus \]

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Childhealth</td>
<td>8,907</td>
<td>0.657</td>
<td>0.475</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Mothereduc</td>
<td>8,907</td>
<td>1.888</td>
<td>1.045</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Motherworkstatus</td>
<td>8,907</td>
<td>0.670</td>
<td>0.470</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Urban</td>
<td>8,907</td>
<td>0.605</td>
<td>0.489</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Secondary data output after processing 2020; (Nadia, 2020).

The logit regression results show that there is one variable, namely, work status which reduces the possibility of better children’s health and there are two variables, namely mother’s education and place of residence (urban) which increases the likelihood of a better child’s health. All independent variables have a significant effect on the dependent variable according to the following hypothesis test:

**Hypothesis testing:**

Ho: \( \beta = 0 \) (there is no significant effect between the independent variable and the dependent variable)

Ha: \( \beta \neq 0 \) (there is a significant effect between the independent variable and the dependent variable)
Test criteria:

\[ p-value > \alpha \text{ (Ho can't be rejected)} \]

\[ p-value > \alpha \text{ (Ho rejected)} \]

**Hypothesis testing result:**

- **Mothereduc**
  0.000 < 0.05 (Ho rejected)
  With a significant level of 5%, there is a significant effect of education level of mothers on child health.

- **Urban**
  0.000 < 0.05 (Ho rejected)
  With a significant level of 5%, there is a significant effect of location of residence (urban or rural) variable to child health.

- **motherworkstatus**
  0.000 < 0.05 (Ho rejected)
  With a significant level of 5%, there is a significant effect of mother work status variable to child health.

### Table 3. Logit Regression Results

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>y1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mothereduc</td>
<td>0.0324***</td>
</tr>
<tr>
<td></td>
<td>(0.00501)</td>
</tr>
<tr>
<td>Urban</td>
<td>0.0455***</td>
</tr>
<tr>
<td></td>
<td>(0.0103)</td>
</tr>
<tr>
<td>motherworkstatus</td>
<td>-0.0440***</td>
</tr>
<tr>
<td></td>
<td>(0.0109)</td>
</tr>
</tbody>
</table>

**Observations**: 8,907

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Secondary data output after processing 2020; (Nadia, 2020).

The results of this study are the same as in the research conducted by (Numaliza et al., 2018) By using a cross-sectional approach and with the research sample of 70 people
through the purposive sampling technique, according the chi-square value that is lower than the p-value of <0.05 (<0.006<0.05) and (<0.034<0.05), this research found a relationship between mother’s knowledge and education towards child health, in this case, higher knowledge or education will increase the mother’s knowledge on the proper nutrition that their child need.

As said by (Sebataraja et al., 2014), in his research that aims to seek the relationship between socioeconomic status and the nutritional status of elementary school (SD) students. From the chi-square test, this research yielded a Chi-Square vale of 71.004 which is bigger than 7.815 with the probability value of 0.000 which is smaller than p-value of 0.05. This implies that there is a significant relationship between child’s nutrition and their family socio-economic status. Family socio-economic status will determine the degree of fulfillment on basic necessities such as food, clothes and housing. This degree of fulfillment will determine the quality of nutrition, sanitation, access to clean water and education that will effect child health. This study was conducted through the collection of questionnaires measuring children's body weight and height and analyzed using the Chi-square test.

Research conducted by (Yuliasri et al., 2015) through a total sampling technique of 38 children and Mann-Whitney Test showed that there was a difference between mothers who did not work and mothers who worked on children's health and development. Therefore, it can be concluded that the development and health of children in mothers who do not work are better. As said in research (Waqidil et al., 2016) that used the cross table significance analysis test; it was found that there was a relationship between the level of maternal education and the development of toddlers (3-5 years) in the Kadiapien Village, Bojonegoro District in 2014. Lastly, research conducted by (Waqidil et al., 2016) found that the working hours of mothers did not have a significant effect on the nutritional health of children under five, but the level of mother’s education had a significant effect on the nutritional health of children under five in Ajung Village, Ajung District, Jember Regency.

The effects of maternal employment on children are sometimes positive and sometimes negative (Youngblut et al., 1998). Parents in non-employed mother families were more satisfied with their families at 18 months than parents in employed mother families (Youngblut et al., 1994). Curiously it was also found that the infant's motor development was positively correlated with number of hours employed per week and degree of choice for the employed mother families, but negatively correlated with choice for the non-employed mother families. These results suggest that maternal employment may not be detrimental to infants born prior to term (Youngblut et al., 1991). As said by (Ariyanti, 2010), that working
mothers also have a positive impact such as the child becoming more independent and independent when looking for friends, but the impact is also more beneficial for girls compared to boys. According to (Putri et al., 2017) there is also no relationship between education, and parents' work on the nutritional status of pre-school age children.

**CONCLUSION**

Issues regarding child health are still prevalent and significant in Indonesia. Child health is important because it reflects the future quality of human resources and determines the national health level. In a nutshell, child health is affected by several factors such as the mother’s working status, mother’s education level, and location of residence, thus this research utilized those factors to analyze its impact on child health. This research uses cross-section data from IFLS 5 and used logit regression to analyze the impact of each factor. Through the model, it is found that a mother’s working status has a negative and significant impact on child health while a mother’s education level and location of residence (urban) have a positive and significant impact on child health. It is also found that a mother’s working status has the highest negative impact on the child's health while the location of residence (urban) has the highest positive impact on child health. This research implies the government can provide work time cuts for mothers who have children under five, especially newborns, in order to provide time for them to breastfeed so that the achievement of exclusive breastfeeding can be achieved so that Indonesian children remain healthy, and promotion of education for future improvements in child health.

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