

Mother's well-being to the rescue of future generation's health

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Abstract. Children are important asset for a country's future and development. Their health and well-being matter in determining their productivity in the future. However, obesity rates amongst children in Indonesia is on the rise. Ministry of Health in Indonesia reported the highest national prevalence of obesity occurred in children aged 5-12 years (18.8%), followed by groups 13-15 years (10.8 %), and 16-18 years (7.3%). Obesity itself is caused by increased intake of sugar and fat that are mostly found in prepared food and junk food as well as low physical activity. Accordingly, prepared food consumption is on the rise as well due to the modern fast-paced lives these days. Using data from Indonesian Family Life Survey wave 5, this paper aims to find association between family's characteristics and children's health status. The result shows economic class have no significant effect on children's health status. On the other hand, mother's years of schooling, mother's health, fast food consumption and father's smoking behaviour have a significant association on children's health. The outcome of mother's well-being give positive effect on children's health since they are traditionally the caregiver of the family, hence with better well-being, they are able to create better environment for the children.

1 Introduction

Children are important asset for a country's future and development. In the past years, children have begun to be recognized for the future roles in creating families and powering the workforce [1]. As health is considered as one of the factors that influence human capital, children's health is important in determining their productivity starting from their early life until they grow up because healthy children are more likely to be healthy adults. However, children often face diseases that are overlooked by the society. For example are the cases of overweight and obesity among children in Indonesia. The Basic Health National Survey 2013 stated that the prevalence of obesity among children slightly increased from 9.2% in 2010 to 10.8%. 'Chubby' children are mostly considered cute by the adults around them where in fact childhood obesity and overweight need to be put into account seriously as they are associated with serious health problems and the risk of premature illness including cardiovascular diseases, breathing problems such as asthma, and disability. Moreover,

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obesity is also related to lower self-esteem and psychological problems like anxiety and depression among the children.

Every characteristics of the surroundings in which children are recognized, born and raised contribute to their risk of becoming overweight or obese – starting from pregnancy. Lack of information by the parents about nutrition, poor availability and affordability of healthy foods contribute greatly to the problem. Parents need to choose wisely and critically starting from the food consumption and nutrition in-take for their children because food preferences are established in early life. Feeding children with fast food or ready to eat meal that are high in sugar and fat is a fatal mistake that a parent can make for childhood obesity. A study in Luxemburg found that even by controlling age, socio-economic status, and lifestyle factors, an increase of ready-to-eat meals consumption is found to be associated with higher risk of obesity due to higher energy intake but poor compliance with national nutritional recommendations [2]. This type of meal have rarely any nutrients in it and more likely to contain high level of fats and calories.

A previous study stated that adult family members who have greater exposure on news stories, media campaigns and personal interactions and discussion about ready to eat meals and fast food are more likely to limit their children's consumption of the food [3]. The authors believe that education plays a role in those factors, as the tool in making people more aware and understand better regarding the surroundings. Education takes part in determining people's food choices where higher-educated households are more likely to purchase more healthful foods. Grossman also reported that higher education have direct impact on health behaviour because better-educated individuals are more efficient in using a given set of health inputs due to their better abilities in acquiring and processing health information [4].

However, ready-made meals itself are result from socioeconomic and lifestyle changes due to the modern fast-paced lives these days. Consumption for prepared meals are popular among nuclear families where both of the parents are working because they have less time to prepare meals at home [5]. This is due to the number of people participating in school is rising across the globe and more parents, mostly mothers are having double roles; at home and at workplace. Women who initially are the caretaker of the family, supporting emotionally and mentally by giving the best care to the family have widened their responsibilities in the work place as well. With more of them participating in the labour market, their time spend for the family is reduced and these prepared meals are believed to be more efficient for daily use in a hectic schedule of a working parent or perhaps a busy child to keep their stomach filled without taking into account of the nutrients.

This paper aims to see not only on the association between prepared food consumption and children's health status, but also the effect of parents' years of schooling on children's health. Obesity is considered as a type of malnutrition and erasing all kinds of malnutrition is a part of Sustainable Development Goal. This finding shall prove whether mother's well-being is one of the main factors in increasing children's health hence their presence will be the key role in achieving the goal. In other words, the findings shall confirms the importance of women's education and sustainability of the future generation's health.

2 Data

This research collects data from Indonesia Family Life Survey wave 5 (IFLS 5) which was conducted between the year 2014 until 2015. It is based on a sample of households representing about 83% of Indonesian population living in 13 out of 35 provinces in Indonesia. On wave 5, IFLS succeed to interview 16,204 households, 50,148 individuals and another 2,662 individuals who died since IFLS4 that had exit interviews with a proxy who knew them well.

The unit analysis in this study is the health status of children between the age of 7 and 15. The development of food preferences highly depends on biological and environmental influences. Since, children in Indonesia mostly starts schooling at the age of 7, around this time they will be exposed to new environments and get introduced to new type of food. Moreover, with more activities outside home, they are more likely to get prepared food to be consumed throughout the day.

3 Research method

The model used to find association between children’s health status and frequency of prepared food consumption, as well as parents’ years of schooling is by using *multinomial logistic regression*. Rather than using children’s BMI to capture obesity among children in the study, the author used children’s health condition instead due to limitation of the data. The children’s health status as dependent variable is divided into three categories; good health status, fair health status and poor health status. Poor health status is used as the reference category. The definition of prepared food or ready-to-eat meals in this study include fast food, instant noodles, friend and sweet snacks such as chocolate and *bakwan* as these type of snacks are very famous and very easy to find in Indonesia. However, since about 70% of the total households consume these type of food within a week, this study will use the frequency of the consumption by dividing it into two categories; consumption above and below 3 times within a week.

Prepared food consumption in the household is the variable of interest because this study aims to confirm whether prepared food in-take will lower individual’s health condition as stated in previous study that ready-made meal consumption is found to contribute to excess energy in-take and poor nutritional quality of diet [2]. Parents’ years of schooling is also an important variable as it is most likely to determine the family’s lifestyle. There are number of evidence that shows positive association between education and healthier behaviour where higher educated individuals are more likely to induce healthier lifestyle through lower probability of smoking and more likely to exercise [6]. Since children live under the supervision of the parents, the education that parents obtain have high chance to be transferred to the children’s behaviour and lifestyle by caring, raising and daily interactions. Mother’s health status is analysed as well as they tend to be the caregiver of the family, thus their health status matters to the family’s condition.

Table 1. Estimation results.

Dependent Variable: Child's health status
Base Outcome: Poor health status

Independent Variables	Fair Health Status		Good Health Status	
	Coeff	RRR	Coeff	RRR
<i>Variables of Interest</i>				
Frequency of prepared food consumption	-0.114*** 0.0185	0.892*** 0.0165	-0.077*** 0.019	0.825*** 0.0177
Mother's years of schooling	0.037*** 0.005	1.038*** 0.005	0.0526*** 0.005	1.054*** 0.005
Father's years of schooling	-0.109* 0.005 -0.015*	0.989* 0.005 0.984*	0.001* 0.006 -0.098**	1.011* 0.0061 0.906**

Father's smoking behaviour	0.044	0.043	0.0458	0.0415
Mother's health	-0.162	0.984	0.319***	1.376***
	0.030	0.0297	0.0313	0.0432
Number of siblings	-2.58**	0.0755**	-2.529**	0.0797**
	1.015	0.767	10.158	0.0809
Sick days	-0.797***	0.450***	-0.910***	0.402***
	0.0251	0.011	0.0266	0.010
	-3.39e- 09***	1	-2.23e- 08***	1
Household expenditure	7.50e-09	7.50e-09	7.71e-09	7.72e-09
Age	-0.005	0.994	0.0212**	1.021**
	0.009	0.008	0.009	0.0092

4 Estimation result and discussion

Most of the mothers and fathers included in the study have completed 12 years of schooling. As for mothers, 44% have 'working' as their primary activity which indicates that there are many nuclear families with both parents working. In fact, labour force participation rate among women increases higher in term of percentage compared to men and women's participation in the formal sector increases in the last few years [7]. With wider responsibilities at home and at work, the likelihood for consuming prepared food in the family is rather high as these type of food are more convenient.

Table one displays the result of the estimation results of the independent variables on children's health status. The result for frequency of prepared food consumption shows a significant and negative association on child's health status. Higher frequency of prepared food consumption is found to lower children's health status. A child is 0.89 times less likely to have fair health status compared to poor health status when he consumes prepared food. Furthermore, he is 0.92 times less likely to be in good health status to poor health status if he consumes ready-made meals more than three times a week. This finding confirms the statement that prepared food is not healthy for body due to their lack of nutrients and high of sugar, fat and calories. Moreover, fast food are less healthy due to poor hygiene during preparation and storage that causes contamination on the food itself which is risky for health. A previous study in Bangladesh also showed that there is a positive correlation between frequency of consumption of fast food and body mass index where an increased odds of being obese among students who consume fast food regularly [5]. Hence, consuming prepared food rise the likelihood of children to experience obesity and unhealthy condition when they get older and have lower health condition that can influence their productivity in the future.

Regarding parents' years of schooling, it gives out different effect on children's health status. Mother's years of schooling shows significant and positive association on children's health status, even though the relative risk ratio is very close to one which suggests there is only little difference in each group. A child is only 1.04 times more likely to be in the fair health status compared to poor when his mother's years of schooling increases by one unit. The small difference in the association between mother's years of schooling and children's health may be mediated by their own health that is explained in the other variable. In contrast, father's years of schooling shows different effect on children's health status where it gives negative association on children's fair health status and positive association on children's good health status even though it is only significant on 10% level. The risk ratio itself is very

close to 1 meaning that the incidence in each group is the same. Father in the household have a role in supporting the family financially which makes them work and rarely spend time at home, therefore father's education may influence the health status of their children in different ways that are not explained by the variables in the model. However, father's smoking behaviour gives an effect to children's health condition. A child is 0.9 times less likely to be in good health status if his father smokes. Being exposed to this type of pollution at home will lead to higher risk of unhealthy state for the children because even though fathers may spend less time at home or rarely smoke around the children, the toxins are carried on clothes, hair and skin that can be inhaled by the children.

Moving on, the result shows that mother's health condition plays an important role in increasing the likelihood of the children's good health status. A child is 1.37 times more likely to be in a good health compared to poor health if his mother is healthy. A mother tend to be the care taker of the household and spend more time at home compared to the father, making them more aware of the family's situation and needs [8], [9]. A woman's influential company in the house is particularly an important role in raising family as their likelihood to take care of the situation at home highly moulds the family's lifestyle starting from as little as the meals served on family dinners, hygienic matters of the house, individual chores and responsibilities on a daily basis. This gives women a greater responsibility of adapting a positive lifestyle herself as her ways of living will be imitated by her family. In order to adapt the healthy lifestyle, woman needs education. The education a mother obtains can be useful in maintaining the family's lifestyle because it can be transferred through different channels such as knowledge, exposure to information, higher income and bargaining power within the family. Education allows women to think critically and openly when they are exposed to information regarding health and process it better. Once they are aware of the importance of health, the likelihood of applying those information when taking care of herself and the family is high since women in general are inherited with nurturance characteristics.

Additionally education is said to be one of the most effective and powerful, major investments in empowering women. Although, the effect of women empowerment can only be felt indirectly through different channels such as employment and wage, where a woman is aware of her worth. The reason behind this is because when women have access to earnings, their bargaining power within household increases and they would then have a greater say in decisions related to their health, their children and other family matters [10]. Hence theoretically, with higher education attainment, not only will a woman be more aware of health issues, but her words will be taken into accounts during family discussions. This is important because as stated before that mothers spend more time at home compared to men, they are grant with better understanding regarding the family or household's needs, and their ability to make decision at home would be helpful for the family's well-being. With the theory holds, mother's education is important in determining the family's outcome.

5 Conclusions

Higher frequency of consuming prepared food, including instant noodles, fast food, fried and sweet snacks shows a decreasing effect of the health status among the children aged 7 until 15 years old. Parents who have full responsibility in taking care of the children hold important role in influencing and determining the children's consumption. Even though there is a rise in percentage of working parents in Indonesia associated with higher participation in school, the effect of parents' years of schooling still shows a positive and significant association on children's health status. The education parents obtain will not only help them get better jobs that may make them spend less time at home, but it will also enable them to take care of the family in a more of efficient and careful way. Through higher education, individuals are better in acquiring and processing health information and access in which they can apply

while building and taking care of the family. Therefore, this findings prove that mother's education is an important key to achieve one of the Sustainable Development Goals; health and well-being as it can help them to create healthier and better environment for the children to develop in the future.

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