The Correlation between Food Consumption Pattern and Nutritional Status among Street Children in Shelter Home

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Abstract. Street children are the children who spend most of their time to earn for money or work at the streets and other public places. Consequently, the street children’s eating habit is not regular and it will lead to irregular food consumption pattern. Eating pattern influences one’s nutritional status. The objective of this research was to discover the correlation between food consumption pattern and nutritional status among street children in Shelter Home, Medan Maimun Sub-district. This is a quantitative research with descriptive correlational approach. The population was all street children in the shelter home, Medan Maimun Sub-district i.e. 51 children. The results of the research demonstrated that there was a positive and significant correlation between food consumption pattern and nutritional status of street children in the shelter home, Medan. Street children in shelter home, Medan mostly have poor food consumption patterns and very poor nutritional status categories. Therefore, it is expected that No-governmental Organizations such as KOPA provide socializations or counselling to the families of the street children about food consumption patterns and nutritional status so that they will have understanding of nutritious food and healthy eating pattern.

1. Introduction
Street children are a big phenomenon in Indonesia. There are several cases of oppression of street children. Oppression or exploitation is inhuman behavior and unethical use of someone for their own good and interests. Although the prohibition of exploitation of children both sexually and economically is already in the law, but in reality the exploitation of these children still often occurs, for example using children to sell newspapers, children who are still in a sling that can not be invited by their parents to asking, to become buskers at a red light, to become commercial sex workers, and to make matters worse, parents force minors to work as Female Workers (TKW) and Indonesian Workers (TKI) and many more.

The increasing number of cases of child exploitation from an economic perspective is assumed because in Law No. 23 of 2002 concerning Child Protection that has not been able to provide appropriate punishment to exploitation suspects, so that the perpetrators of child oppression from an economic perspective have no fear or even underestimate the penalties contained in the Child Protection Act (UUPA). Therefore, it is necessary to examine the penalties for child abuse in economic terms in Law No. 23 of 2002 concerning child protection [1].

The government is expected to provide a Shelter House for street children, because there are only 20% of street children in the Shelter House, if a Shelter House is made, this can prevent
unexpected events. So that the cases of oppression of street children in Indonesia will be slightly reduced.

North Sumatra Province in 2010 there were 2,267 street children, 2,099 street children occurred in 2011 and 2,948 street children occurred in 2012, whereas in 2010 in Medan there were 63 street children, in 2011 there were 75, there were 663 street children in 2012, 350 street children occurred in 2013, the data of street children has increased and also decreased every year. The total population in Medan City is 2,121,053 people, this is based on data from the North Sumatra Province Welfare and Social Service Office (Dinas Kesejahteraan dan Sosial Sumut, 2013). The increasing number of activities carried out by street children every day on the street makes it an activity, the time they spend on the streets causes their eating habits to be irregular. If this continues, this can affect the nutritional status. It is said to be ideal if a person gets enough nutrition that is in accordance with the body's needs, so it is most likely to be uprooted, both physically and brain. Poor nutrition because of the incoming nutrients that the body needs is also reduced. The body that gets nutrients in a large capacity is excessively called excess nutritional status, if this is allowed to cause health problems [2].

Maximum growth and development, children really need proportional nutrition and sufficient physical activity, and should street children at school age have good eating frequency at the time of growth, such as consuming nutritious food in order to form humans as intelligent successors. There are two factors that must be considered, including health and nutritional status. In order for a child's growth and development to be good, he must consume enough nutrients. If there is not enough nutrition, it will disrupt the process of growth and development of a child [3].

One of the habits of street children is getting up in the morning to make a living by selling newspapers, being a street singer, selling fried foods without breakfast. The food they often consume when they are on the streets together with their friends are crackers, siomay, fried foods. Some say that in one day they only eat twice, foods like meat, crabs, they rarely consume, they consume meat at the time of Eid al-Adha. If the available food ingredients are insufficient, then the level of consumption of a person's food can have a bad effect, this will cause a person's nutritional status to be bad. Whereas at the age of adolescents at this time they really need adequate nutrition for growth and development in order to become intelligent children [1].

Deficiency or excess nutrition can be influenced by dietary factors. Unhealthy food patterns will have a negative impact on the body. The results of studies in Indonesia found 50% of diseases that occur can be related to unhealthy eating patterns, including obesity 26%, anaemia 13%, and stroke 11% occur at the age of 18-24 years (MOH RI, 2012). One factor that causes less or more nutritional status at a young age is dietary factors that contain high fat, sugar, salt, but consume less fibre especially those derived from fruits and vegetables [4].

One of the health problems suffered by street children is one of the lack of nutrition, this can occur due to their irregular food consumption patterns. Malnutrition is a factor that can cause a person to contract an infectious disease, this can occur due to the weakening of the immune system that a person has. In addition, a medical history or a history of illness that has been experienced by street children can also cause nutritional status to be worse [5].

Based on a survey conducted by the Medan City Center for Child Protection and Study [6], there were a number of districts that had more than 50 children per street. The sub-district is Medan Johor, its population is 57 street children, the number of street children in Medan Ampras sub-district is 81, for Medan City there are 94 street children, and there are 103 street children in Medan Maimun sub-district, for Medan Sunggal sub-district there are 75 street children, Medan Petisah as many as 60 children and District of West Medan as many as 53 children. Based on Medan Maimun District is one of the places that has the highest population of street children. Based on observations made previously, that in Medan Maimun Sub-district precisely in Aur District is one of the places with a greater number of street children. Street children who are in Aur District, Medan Maimun Sub-district, experience problems like street children in general namely, committing criminal acts, committing violence against weaker friends and asking or robbing money by forcing and using illegal drugs [5].
2. Materials and Method
This research is a quantitative study, with a descriptive correlational research design. The study was conducted at KOPA Shelter in Medan Maimun District. The population in this study were all street children who were in KOPA Shelter Medan Maimun District as many as 103 street children. The sample is street children in Medan Maimun Sub-district Shelter who meet the inclusion criteria, namely aged 5-18 years, children on the street, street children, children from street families, children who still have parents, and children who have do not have parents who are willing to become research respondents.

There are 3 instruments used in this study, namely, respondent characteristic questionnaire, food consumption pattern questionnaire, and nutritional status questionnaire. For the food consumption pattern questionnaire, there are 19 questions that include 5 questions about the type of food, 7 questions about the amount of food consumed, and 7 questions about food frequency. In the food consumption pattern questionnaire, the Likert scale score was calculated. As for the nutritional status questionnaire which contains measurements of body weight, height, and also BMI (Body Mass Index). The tools used in the nutritional status questionnaire are the stamp and meter or microtoise scales.

Data collection is done by filling out questionnaires that have been distributed to respondents. After all the data has been collected, the researcher examines all research data, makes a code, gives a score, enters the data into the SPSS program, and cleans the data and repeats the examination of the data that has been entered into the programming. Analysis of the data to used the Spearman’s Rho correlation test.

3. Result and Discussion
The research carried out at shelter home in Medan Maimun sub-district carried out well, with the number of respondents 51 street children.

3.1 Characteristic of respondent
Most street children are respondents at the age of 10-13 years (52.9%), with gender male (72.5%), the majority of Muslim street children (92.2%), the highest level of education is elementary school (70.6%) (Table 1). Overall street children reported washing their hands before and after eating (100%), and the majority stated washing their hands with soap after urinating and defecating (84.3%).

| No | Demographic Data               | (f) | (%)  |
|----|--------------------------------|-----|------|
| 1  | Age                           |     |      |
|    | 5-9 year                      | 14  | 27.5 |
|    | 10-13 year                    | 27  | 52.9 |
|    | 14-18 year                    | 10  | 19.6 |
| 2  | Sex                           |     |      |
|    | Male                          | 37  | 72.5 |
|    | Female                        | 14  | 27.5 |
| 3  | Religion                      |     |      |
|    | Islam                         | 47  | 92.2 |
|    | Christian                     | 4   | 7.8  |
| 4  | Education                     |     |      |
|    | Primary school                | 36  | 70.6 |
|    | Junior high School            | 9   | 17.6 |
|    | High School                   | 3   | 5.9  |
|    | No School                     | 3   | 5.9  |
| 5  | wash your hands before and after eating |     |      |
|    | Yes                           | 51  | 100  |
|    | No                            | 0   | 0    |
| 6  | Wash your hands with soap after urinating and defecating |     |      |
|    | Yes                           | 43  | 84.3 |
|    | No                            | 8   | 15.7 |
3.2 Food Consumption Patterns
Base on table 2. The pattern of food consumption in street children is with the most results in the category of eating consumption that is lacking (45.1%), below the least in the category of sufficient (41.2%), and at least with a good eating pattern (13.7%).

| Food Consumption Pattern | (f) | (%) |
|--------------------------|-----|-----|
| Less                     | 23  | 45.1|
| Enough                   | 21  | 41.2|
| Good                     | 7   | 13.7|

3.3 Nutritional Status
Base on table 3. from the results of the study the nutritional status of the street children obtained most of the street children with very poor nutritional status (47.1%), with poor nutritional status (39.2%) and only (13.7%) with normal nutritional status.

| Nutritional Status          | (f) | (%) |
|-----------------------------|-----|-----|
| Less nutritional status     | 24  | 47.1|
| Poor nutritional            | 20  | 39.2|
| Normal                      | 7   | 13.7|

3.4 Correlation between Food Consumption Pattern and Nutritional Status
Table 4. base on the results of the statistical correlation analysis using the Spearman correlation test the results obtained with a p value = 0.000 (p<0.005), which means there is a correlation between food consumption patterns with nutritional status in street children at Shelter Home, Medan.

| Variabel 1 | Variabel 2 | r    | p-value |
|------------|------------|------|---------|
| Food Consumption Pattern | Nutritional status | 0.974 | 0.000  |

4. Discussion
The results showed that street children with less food consumption patterns and quite a little difference, based on interviews conducted by researchers on several respondents stated that street children rarely eat breakfast, this is due to their erratic activities, they must rush every morning hurry to go to school so they do not have time for breakfast, then after school they are immediately on the streets doing work as shoeshine boys, selling fried snacks, becoming buskers, and others.

Street children aged 5-18 years, they prefer to buy food on the roadside such as dumplings, meatball noodles, fried foods, and sweet foods like sweet cakes sold on the streets. Even though at their age they should consume enough and nutritious food for their growth and development process. However, they still reject mixed food and vegetables such as mixed food such as rice cake, lodeh vegetables, and others. The results of this research are consistent with the results of Ref. [7] which says that age is one of the factors related to food consumption patterns. This research was also strengthened by the writer [2] that the higher the age, the nutrients needed would increase.
Ref. [8] states that there are two factors that can influence food consumption patterns, namely internal and external factors, including internal factors, namely Body Mass Index, age, gender, nutritional knowledge, beliefs, values and norms, physiological needs of the body, self-concept, self-image, health or illness that has ever been experienced. External factors consist of 1) family income, 2) livelihood, 3) level of parental learning, 4) role of parents, 5) peers, 6) media influence and others [8]. The results of research from Ref. [9] show that there is a correlation between food consumption patterns with education, knowledge, family income, and also the number of members in the family. Ref. [10] shows that there is a significant correlation between mother’s learning and family income with children’s food consumption patterns.

The results of research from Ref. [11] proportional eating consumption patterns can affect the nutritional status of school-age children, and vice versa if eating patterns are not good, can cause excess nutrition or even decrease [12]. This research is strengthened by the results of Tahir’s (2013) research which says that eating consumption has an effect on the nutritional status of children [13].

Based on the research results obtained that the nutritional status of street children in the Shelter House in Medan Maimun District shows that there is the most in the category of very poor nutritional status as many as (47.1%), the category of under nutrition as much as (39.2%) and the normal nutrition category as many as (13.7%). Poor nutritional status because the type and portion of nutrients that enter the body do not match what is needed by the body. One sign of malnutrition is slow growth which is characterized by excess fat loss both in children and adults [14].

Street children who are at the age of 5 years to 18 years, at this age the child will experience growth slowly and gross and fine motor skills already look mature. The character and level of independence will increase. This can happen because of the effects of the number of meals and types of food consumed and the way they consume them. At the start of being educated behavior of willing or unwilling towards certain foods, other factors that can affect food consumption are the environment and family behaviour. Fathers and mothers should provide guidance on quality food of good quality for consumption by children, because at their age the need for nutrients increases because they are at the range of the growth process. Consumption of foods with good nutrition is important for the body such as carbohydrates, fats, proteins, vitamins, minerals, and water so that nutritional needs are met, then a person must have these nutrients so that growth and development take place well [15].

The age of children is closely related to nutritional status, because their age is not good at regulating food and the level of health awareness is still very minimal. There are several components that can affect a person’s nutritional status, namely, 1) food security, is the ability of the family to meet the food needs of all family members with adequate portions and good quality, 2) The pattern of students is so that the child can pass the process of falling or growth and development to the maximum, both psychologically, socially or physically parents must be able to provide time, attention and support for children, 3) Environmental sanitation and health care facilities are the clean water that has been provided and health care facilities that are provided can be reached for all families, 4) Level of education, the higher the level of education, knowledge and skills are likely to be better consumption of family food, 5) family income, low income makes the lower classes of society difficulty in meeting food needs [16].

Based on the Spearman’s Rho correlation test results obtained correlation coefficient ($\tau = 0.974$) with a significant level of p-value of 0.000 less than $\alpha 0.05$. The results obtained indicate that there is a very significant relationship between the relationship of food consumption patterns with the nutritional status of street children at “Rumah Singgah”, Medan with the strength of a strong and positive relationship. This indicates that the better the consumption patterns of street children eating at Medan Maimun Sub-District Shelter, the better the nutritional status. Vice versa, the less consumption patterns of street children eating at Medan Maimun Sub-District Shelter, the less nutritional status.

Most of the nutritional status of respondents is influenced by many components one of which is the pattern of eating consumption. [17] This incident was reinforced by an article by the Department of Nutrition and Public Health FKM UI (2012) which said that the component that could affect the nutritional status is the diet consumed, if in daily consumption the food consumption patterns are not
varied, this can lead to imbalance in intake and nutrient requirements needed for a healthier and more fertile life. Vitamins, water, carbohydrates, and protein (vegetable and animal) are the main food ingredients that must be present when consuming food. Also in adolescents in terms of eating they are too picky so they are not controlled what they eat. This is in line with research conducted by Ref. [18] stating there is a significant influence between dietary patterns on nutritional status.

Factors that can affect nutritional status directly according to Ref. [19] are health status and food consumption. Food consumption patterns must consider the quantity of nutrients consumed and the recommended nutritional requirements. Based on the results of Re. [20] that there is a correlation between energy intake and nutritional status ($p = 0.000$), meaning that if intake is minimal then it has high expectations for being in a nutritional status. Research from Ref. [21] suggests that there is a correlation between morning eating patterns and nutritional status of students in grades 3, 4, and 5, a lack of food intake can cause the nutrients needed by the body to be fulfilled, this can cause nutritional status to be deficient.

There is a significant correlation between food consumption patterns and nutritional status [22]. This correlation can be seen if the consumption patterns of students are not good then they will have high hopes to have nutritional status of being thin. This research is in line with research conducted by Ref.[23] in Cameroon which suggests that there is a significant correlation between diet and nutritional status. Other research in America also suggests that there is a correlation between consumption patterns with nutritional status in adolescent students with a sample of 48 respondents. Correlation test uses Chi Square and Spearman analysis.

Ref. [24] showed that there was no relationship between diet and nutritional status [24]. This is in line with the research by Ref. [25] that the reason for the absence of a relationship between diet and nutritional status is due to the fact that nutritional status is multifactorial and diet is only one of many factors. The cause of the results of this study may be different because the place where researchers conduct research and the number of populations studied is different. In addition, in assessing nutritional status, the method can not only be determined by BMI (Body Mass Index) but also can be assessed by anthropometry, clinical, and also based on laboratory tests.

5. Conclusion
The pattern of food consumption of street children with 51 respondents is mostly in the poor category (45.1%), while for the most nutritional status is in the very poor category (47.1). The results of the analysis obtained a significant correlation with the positive direction between the two variables with the results ($r$) 0.974 with a significant level ($p = 0.000$) meaning that the better the pattern of food consumption in street children, the better the nutritional status, and vice versa, if the pattern of food consumption in bad street children it can affect the nutritional status. Street children in Medan Maimun Sub-District Shelter are expected to get attention to their food consumption patterns so that the nutrients that enter the body are fulfilled, so that it will reduce the impact of malnutrition status in Indonesia, especially in Medan City. Because food consumption patterns are one of the factors that can affect a person's nutritional status.

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