



**Universitas Sriwijaya**  
Faculty of Public Health

## **PROCEEDING BOOK**

**THE 3<sup>rd</sup> SRIWIJAYA INTERNATIONAL  
CONFERENCE OF PUBLIC HEALTH**

**Theme :**  
**“ The workplace Initiative : Health, Safety and  
Wellbeing Regarding COVID - 19 ”**

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**GRAND ATYASA PALEMBANG**  
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**PROCEEDING  
THE 3<sup>rd</sup> SRIWIJAYA INTERNATIONAL  
CONFERENCE ON PUBLIC HEALTH**

*The Work Place Initiative: Health, Safety and Wellbeing  
Regarding COVID-19*

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*The Work Place Initiative: Health, Safety and Wellbeing  
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# PREFACE

On behalf of the organizing committee, I am delighted to welcome you to the 3<sup>rd</sup> Sriwijaya International Conference on public Health (SICPH 2021) during 21<sup>th</sup> October 2021 at Palembang South Sumatera, Indonesia. The SICPH 2021 is international conference organized by Faculty of Public Health, Sriwijaya University (UNSRI). I would like to extend my warmest welcome to all the participants of The SICPH 2021 under the theme *“The Impact of Climate Change on Infectious Disease Transmission”*.

The SICPH 2021 consists of keynote sessions from well known expert speakers in the field of public health, and academic paper sessions (oral presentations) who are coming from several regions. This conference seeks to bring together academics, public health professionals, researchers, scientists, students and health stakeholders from a wide range of disciplines to present their latest research experience and further development in all areas of public health. We hoped that this conference will be a useful platform for researchers to present their findings in the areas on multidisciplinary related to public health and health system issues.

This conference will provide opportunities to exchange ideas, knowledge, and development of the latest research among the participants. We will publish the paper as output from the SICPH 2021 in proceeding book with ISBN and selected paper will be published in Jurnal ilmu kesehatan masyarakat- SINTA 3 (a nationally-accredited journal). The SICPH 2021 is being attended by about 50 participants. I hope you enjoy the conference.

With regard to considerable conference agenda, we greatly appreciate any support and sponsorship derived from any governmental as well as private institutions for the success of the conference. Great appreciation is also handed to organizing committee of the conference for any voluntary effort that bring to the success of the conference.

The conference committee expresses its gratitude towards all the keynote speakers, authors, reviewers, and participants for the great contribution to ensure the success of this event. Finally, I sincerely thank all the members of the organizing committee who have worked hard to prepare this conference.

**Palembang, October 2021**

**Chair,**

**Anita Camelia, SKM., MKKK.**



# PREFACE



First of all, let us thank God, the Almighty, who has given His grace and guidance so that the 3rd Sriwijaya International Conference of Public Health (SICPH) with the theme of The Workplace Initiative: Health, Safety and Wellbeing Regarding Covid:19 can be held successfully. I welcome all of you to this seminar which has received great attention not only from university, but also other communities to submit papers to be presented in this seminar. I express my highest gratitude and appreciation the presenters.

The conference is divided in two session, the first session is speeches and the second session is round table discussion. In the first session, the invited keynote speakers were Prof. Dr. Tan Malaka, MOH, DrPH, SpOk, HIU (A Professor from Medical Faculty Universitas Sriwijaya), Prof. Dr. Retneswari Masilamani (University Tunku Abdul Rahman, Malaysia), Prof.Dr.Joselito L. Gapaz MD, M.PH(University of the Philippines) and Prof. Dr Tjandra Yoga Aditama, MHA,DTM&H, DTCE,SpP(C).FIRS (Professor from Griffith University, Australia)

Of course, this conference activity would not have succeeded without the support of all parties involved, as well as the presence of all participants in all regions in Indonesia and internationally. I especially thank to all the organizing committees for their hard work, perseverance, and patience in preparing and organizing this conference so that it can go well, smoothly and successfully.

Finally, through this conference let us extend the network and cooperation among all stakeholders of the public health sector, especially in Indonesia and in the world in general, to build a better public health world in Indonesia

Thank you for participating in this conference.

**Dean of Public Health Faculty,  
Universitas Sriwijaya**

**Dr. Misnianti, S.K.M, M.K.M**

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## CORRELATION BETWEEN HOUSEHOLD EXPENDITURE AND NUTRITIONAL STATUS OF TODDLERS IN PADANG CITY DURING COVID-19 PANDEMIC

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### ABSTRACT

Stunting has been a serious problem in Padang city even before the Covid-19 pandemic. The existence of a pandemic makes the situation worsen because it brings negative impacts on various sectors, including economic. This resulting in decreased purchasing power which can also lead to some adverse effects on vulnerable groups such as children under five. This study was to determine the correlation between household expenditure and nutritional status of children under five in Padang City during the Covid-19 pandemic. This study used a cross-sectional study design with a sample of 90 children under five from three health Centres in Padang City, selected through proportional random sampling. HAZ was used to determine the nutritional status of children under five. The data were all collected through direct interviews using structured questionnaires and then analyzed using the Spearman correlation test. The result showed that the average total monthly household expenditure was Rp. 3,728,496. The analysis on children under five' nutritional status Showed that 23, 3 % of the children under five were stunted, while 76.7 % of them had normal HAZ. The Spearman correlation between household food expenditure and HAZ also showed the p value of 0.634 and r value of 0.051. This study concludes that there was no significant correlation between the household expenditure and the HAZ during the Covid-19 pandemic however household which had higher expenditure also had better HAZ.

**Keywords:** COVID-19, HAZ, household expenditure, nutritional status, children under five

### ABSTRAK

Masalah gizi sudah menjadi masalah yang serius Kota Padang sebelum pandemic Covid-19. Adanya pandemic diperkirakan semakin meningkatkan masalah gizi karena berdampak pada berbagai sektor termasuk perekonomian. Mengakibatkan penurunan daya beli, keterbatasan pangan dan pemenuhan kebutuhan gizi keluarga terutama pada balita yang merupakan kelompok rawan gizi. Penelitian ini bertujuan untuk mengetahui hubungan pengeluaran pangan rumah tangga dengan status gizi balita di Kota Padang pada masa pandemic covid-19. Penelitian menggunakan desain *Cross Sectional* study dengan sampel sebanyak 90 orang pada populasi balita di tiga puskesmas Kota Padang yang terpilih secara acak. Data diambil melalui wawancara menggunakan kuisioner terstruktur. Analisis data menggunakan korelasi spearman. Rata-rata total pengeluaran setiap bulannya Rp 3.728.496. Terdapat 23,3% balita yang stunting, sedangkan 76,7% balita memiliki status gizi normal berdasarkan HAZ. Hasil uji korelasi tidak ada hubungan yang signifikan antara pengeluaran perkapita rumah tangga dengan status gizi TB/U pada masa pandemic Covid-19 dengan p value 0,634 dan r value 0,051.

**Keywords:** COVID-19, HAZ, pengeluaran rumah tangga, status gizi, balita

## Introduction

At the end of December 2019, a novel coronavirus was discovered in Wuhan, China, that caused a disease known as Covid-19. This virus was spreading very quickly in all countries in the world, including Indonesia with the first case was found on March 2020.<sup>1</sup>

The spread of this virus has resulted in a shift of the government's focus regarding health policy. They must shift their focus into covid-19 pandemic control even though level of nutritional problems is still high in Indonesia. One of those problems is stunting. Stunting is a result of chronic malnutrition in which a person's height is below the standard age. It happens when a person HAZ is below -2 SD.<sup>2</sup> The 2018 Riskesdas data showed that mild and medium stunting case prevalence for children under five in Indonesia was 19.3% and 11.5% for severe case. It showed that in total, 30.8% children under five in Indonesia were stunted.<sup>3</sup> Padang is one of cities in Indonesia that has stunting problems. Although the prevalence was only 9.6% in 2019, it showed that there was an increase of 1.95% compared to the previous year.<sup>4</sup> The problem of stunting must be addressed immediately because it can have a negative impact on the development of children under five. Starting from growth and development problem, increased risk of infectious diseases, low productivity in the future, even causing death.<sup>5</sup>

The spread of the COVID-19 virus in Indonesia causes various impacts. Not only health impacts but also economic impacts. The government has made 6 Various efforts to suppress the spread of the virus and COVID-19 cases, including implementing a lockdown policy, large-scale social restrictions (PSBB), and the implementation of micro-scale Community Activity Restrictions (PPKM) to suppress the spread of this virus.<sup>7</sup> Those policies apparently caused the decline in economic activities, job layoffs, lower access to food, etc.<sup>6</sup> Those expected to increase nutritional problems because of the impact on the sector, including the economy, which resulted in a decrease in purchasing power, lack of food and nutritional needs families especially in infants who are prone to malnutrition.<sup>8</sup> That's why the authors interested in to study the relationship between spending per capita in households with nutritional status of children in the city of Padang on pandemic period COVID-19.

## Method

This study was part of main study entitled. This study was also passed ethical assessment from Sultan Agung University ethical committee through ethical clearance number 215/VII/2021/Komisi Bioetik. This study used a *cross sectional* study design. The respondents in this study was 90 children under five from three health centers in Padang City, namely Anak Air Health Center, Lubuk Buaya

Health Center and Seberang Padang Health Center which were selected through proportional random sampling .

The data collected in this study were collected through direct measurement and direct interviews. The collected data were data on respondent characteristics, nutritional status, and household expenditures. Household expenditures were used to determine the economic status of the household while HAZ was used to determine the nutritional status of children under five.

The statistical test started by doing normality test of the data and then the data frequency distribution test is carried out on all data with the help of SPSS application software. In addition, a correlation test was also conducted between the total household expenditure data and the nutritional status of children under five using the Spearman correlation test .

## Results

This study was conducted on 90 children under five from Anak Air Health Center , Lubuk Buaya Health Center, and Seberang Padang Health Center in Padang City. The following is the distribution of the frequency of children under five based on the characteristics of the respondents :

**Table 1. Characteristics of Respondents**

Variables	N	Percentage
Gender		
Man	37	41.1
Woman	53	58.9
Age		
0-12 months	18	20
13-24 months	27	30
25-36 months	20	22.2
37-48 months	15	16.7
49-60 months	10	11.1
Parents' job		
father :		
Does not work	3	3.3
Trader	13	14.4
Non-Farming Workers	29	32.2
Service	20	22.2
Other	25	27.8
Mother :		
Trader	3	3.3
Service	1	1.1
Housewife	79	87.8
Other	7	7.8
Big Family		
Small ( 4)	46	51.1

Intermediate (5-6)	37	41.1
Large ( $\geq 7$ )	7	7.8

This study showed that most of the respondents (58.9 %) were female. This result was inline with data from Health Department that showed most of the children under five in Padang city was female. The age group of the respondent was ranging from 0 to 60 months of age, but most of them (30%) were aged between 13 to 24 months.

Table 1 showed the family characteristics of the respondents. Almost none of the father were jobless. Most of the fathers (32.2%) were working in non farming sectors. In contrary most of the mother (87.7%) were working as housewives, so we can see that the father had the biggest role in providing for the family. This study also showed that most of the respondents (51.1%). came from small families.

**Table 2. Frequency distribution of respondents' nutritional status**

Nutritional status	N	%	Average $\pm$ SD
Very short ( $< -3$ SD)	0	0	0.7489 $\pm$ 1.389
Short ( $-3$ SD to $-2$ SD)	21	23.3	
Normal ( $-2$ SD + $3$ SD)	69	76.7	
High ( $> +3$ SD)	0	0	

The analysis on the nutritional status of respondents showed the average HAZ score of 0.7489 or categorized as normal. From the frequency distribution we could also see that most the respondents (76.7 %) had normal HAZ. However from this study it was known that Padang had a medium prevalence of stunting because 23.3% of respondents were found stunted.<sup>9</sup>

**Table 3. Household Expenditure**

Nutritional Status	(Rp/month)	Percentage
Food Expenditure	1,754,844.44	47
Non-Food Expenditure	1,973,651.33	53
<b>Total Expenditure</b>	<b>3,728,495.78</b>	<b>100</b>

Table 3 also presents the average total monthly household expenditure of Rp 3,728,495.78. Household Expenditures consist of food and non-food expenditures. The monthly



average of household expenditure was Rp 1,754,844.44 , while the monthly average non-food expenditure was Rp 1,973,651.33 . The proportion of food expenditure (47%) was lower than the proportion of non-food expenditure (53%).

In this study, a Spearman correlation test was also conducted on the total household expenditure per capita and the nutritional status of children under five. The results showed no significant correlation between both variables, it was evidenced by the p-value of 0, 634 and r value of 0.0 51 .

## **Discussion**

A total of 90 children under five from three health centers in the city of Padang were drawn to be respondents for this study . The number of respondents who were females were more than males. In a previous study also showed the number of female children under five were more than male.<sup>10</sup> Respondents studied ranged in age from 0-60 months, but most respondents were aged between 13 and 24 months.

The main job of most fathers were non peasant laborers while the mother worked as a housewife. Most of the respondents came from small families which consisted of less than 4 people. The same thing was also seen in a previous study in Padang City that most of the respondents came from small families with an average of 4 people.<sup>11</sup>

Most of the respondents had normal nutritional status, but there were still 23.3% of the respondents who were stunted. This prevalence showed a moderate public health significance and must be addressed immediately, even though the percentage of children under five who experienced stunting were lower than children with normal nutritional status.<sup>9</sup> Similar proportions were almost also obtained in the study of Eko, et al. in Padang. The study showed the percentage of children under five with normal nutrition status were 73.1% and the prevalence of stunted children were also high around 26.9%.<sup>11</sup> Covid 19 pandemic disrupt some health and nutrition services around Indonesia. Posyandu as a forum for monitoring the growth and development of toddlers on a regular basis could not run properly. As a result, parents and health workers could not monitor the growth and development of children.<sup>8</sup>

The total average household expenditure was Rp 3,728,495.78 per month, consisting of Rp 1,754,844.44 of food expenditure and Rp 1,973,651.33 of non-food expenditure. It was a great result seeing that the proportion of food expenditure found was lower than the proportion of non-food expenditure. A higher proportion of food expenditure indicates that the household is less prosperous, thus affecting the quantity and quality of food consumed.<sup>12</sup> However, this result contradicted the result of previous study where the proportion of food expenditure was usually higher that also showed the poverty experienced by household.<sup>13</sup>

The Spearman analysis on the household expenditure per capita and the nutritional status of children under five according to HAZ showed no significant correlation between those variables. It was evidenced by the p-value of the analysis that showed the value of 0.634. During the field interviews, it was known that family made the needs of children as the top priority. These including the children's nutritional and health needs even though their income had significant decreased during Covid-19 Pandemic. Parents also improved the children under five nutrition intakes to maintain their children's immune system so that they were not susceptible to disease or exposed to the corona virus. The realized that the virus was prone to attack people with low immune systems. It was also supported by the government by providing assistance in the form of cash and basic necessities in dealing with economic situations during the Covid-19 pandemic, especially for families with lower-middle income. Covid-19 Pandemic raised public awareness regarding the nutritional balance, the importance of fruit and vegetables consumptions as well as the adoption of healthy lifestyles in the household. It was important measures in order to maintain the health of the family during the Covid-19 pandemic.<sup>14</sup>

The results of this study was in line with the result of the study conducted by Eta Aprita, et al. The study also showed that the proportion of food expenditure did not have a significant correlation to the incidence of stunting. It was suspected due to the high proportion of food expenditure.<sup>13</sup> The same result was also obtained from the correlation test between food expenditure and the incidence of stunting for children under five in PKH recipient families in Palembang.<sup>15</sup> Large spending on food does not guarantee more variety in food consumption, sometimes the main change that occurs is the shift in eating habits by consuming more expensive foods.<sup>16</sup>

Results of the study contradicted with the study conducted by Dedi et al. This study showed that there was a significant result that the household food expenditure correlated to the incidence of stunting in children under five. Children who came from households with low food expenditure (<Rp 1,050,000.00) more likely to be stunting 3.75 times higher than children from households with high food expenditure ( $\geq$  Rp 1,050,000.00).<sup>17</sup>

The economy occupies the first position as the cause of the problem of malnutrition in general conditions.<sup>18</sup> Factors affecting the economic level by Supariasa namely employment, family income, wealth, spending / budget, and the price of food.<sup>19</sup> The result of previous study showed that income could influence the occurrence of stunting in children under five. The family with higher would easily meet their household necessities whereas the family with lower income would have less purchasing power that also restrict their quality and quantity of their food consumptions.<sup>20</sup>

In Arie Nugroho's study, it was found that low socio-economic status increased the risk of stunting in children aged 1 to 3 years in Tanjungkarang Barat District, Bandar Lampung City by 3.51 times. Families with higher economic status could be able to meet their nutritional needs and obtain health services. In the other hand, children under five who came from low-income families were more at

risk of stunting due to their inability to meet their nutritional requirements and their inability to consume diverse and nutritionally balanced foods in the household.<sup>21</sup>

### **Conclusion**

This study concludes that there was no significant correlation between the household expenditure and the HAZ during the Covid-19 pandemic however household which had higher expenditure also had better HAZ. These results indicate the need for an evaluation of the health and nutrition program for children under five because it is still a public nutrition problem with a moderate prevalence.

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### **Conflicts of Interest:**

The author has no conflict of interest.

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