

The Impact of the COVID-19 Pandemic on Food Security at the Household Level: Cross-Sectional Survey in Jakarta and Depok, Indonesia

Ahmad Syafiq*, Sandra Fikawati

Department of Public Health Nutrition, Faculty of Public Health, University of Indonesia,
Depok 16424, Indonesia

ABSTRACT

This study aimed to describe when the effects of the pandemic on food security started to be felt by families in Jakarta (urban area) and Depok (semi-urban area). A cross-sectional survey was conducted among 517 respondents. Data were collected using an online questionnaire. The study revealed that effects of economic decline, reduced purchasing power, and increased food prices occurred early during the pandemic. Those living in semi-urban areas were affected earlier than those living in urban areas. However, more semi-urban families perceived that they were prepared to face food shortage during the pandemic. It is recommended to consider these results for public health nutrition program in food security and disaster.

Keywords: COVID-19 pandemic, food security, semi-urban population, urban population

INTRODUCTION

A multi-year COVID-19 pandemic experienced by almost the entire world population has destroyed many fundamental aspects of life, including food security, and affected families (United Nations Children's Fund (UNICEF) 2020). Urban and semi-urban families might have different exposures and experiences regarding the impact of economic and financial disruptions due to pandemic. On this basis, this study tried to understand when the impact of the pandemic on certain aspects of food security started to be felt by families in both urban and semi-urban areas.

METHODS

This was a cross-sectional study conducted in Jakarta and Depok on October–December 2020, representing urban and semi-urban areas, respectively. Purposive sampling was employed, and a total of 517 respondents were obtained through both social media advertisement and assistance from health post or *posyandu* cadres (in three health posts in Jakarta and nine health posts in Depok). Details of the methodology have been explained elsewhere (Syafiq *et al.* 2023). Data were analyzed to compare differences in the proportion (unpaired t-test) of people in urban versus semi-urban areas in terms of when the

effects of the pandemic were felt. Reduction in food purchases, impact of rising food prices, and impact of economic decline were three aspects that were compared in this manuscript. All variables were collected via online questionnaires ($p < 0.05$).

RESULTS AND DISCUSSION

The impact of pandemic on food security started early for both groups of families. The effect of economic decline due to pandemic (Figure 1) started earlier (March 2020) for more respondents living in semi-urban area than those living in urban area (April 2020). Thus, the effect of economic decline was felt early after pandemic in the form of reduced purchasing power and food price increase, which also occurred early at the beginning of pandemic period (Figure 2 and 3).

More of those living in semi-urban areas were affected earlier than those living in urban areas (statistically significant at $p = 0.036$ for reduced purchasing power). However, in terms of resilience, as reflected by food insecurity at the household level, as published in Syafiq *et al.* (2023), urban families (68.2%) had a higher proportion of food insecurity than semi-urban families (61.8%). Combining these results, it could be an indication of "later hit but prolonged effect" for urban families and "early hit and

*Corresponding Author: tel: +628129602420, email: asq69@yahoo.co.uk

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p=0.036

Figure 1. Percentage of respondents who started experiencing the effects of economic decline by month



p=0.036

Figure 2. Percentage of respondents who started experiencing reduction in food purchases by month



p=0.079

Figure 3. Percentage of respondents who started experiencing rising food prices by month

adaptation" for semi-urban families. In the longer term, any coping adaptation related to food consumption would have a negative impact on nutritional status (Das *et al.* 2020). In addition, compared to urban families, more semi-urban families perceived themselves as prepared to face food shortages during the pandemic (Table 1). This may reflect greater cash dependency and weaker social networks as characteristics of urban areas, as well as other social, economic and cultural differences between these two groups (Ruel & Garrett 2004).

Table 1. Comparison of levels of preparedness for food shortages

Level of preparedness	Urban (%)	Semi-urban (%)
Not prepared at all	4.65	2.70
Not prepared	17.05	17.76
Somewhat prepared	50.78	41.70
Prepared	20.93	27.03
Very well prepared	6.59	10.81

p=0.032

CONCLUSION

Those living in semi-urban areas were affected earlier than those living in urban areas. However, compared to urban families, more semi-urban families perceived that they were prepared to face food shortage during pandemic. It is recommended to consider these results for public health nutrition program in food security and disaster.

DECLARATION OF CONFLICT OF INTERESTS

The authors have no conflicts of interest to declare.

REFERENCES

- Das S, Rasul MG, Hossain MS, Khan A, Alam MA, Ahmed T, Clemens J. 2020. Acute food insecurity and short-term coping strategies of urban and rural households of Bangladesh during the lockdown period of COVID-19 pandemic of 2020: Report of a cross-sectional survey. *BMJ Open* 2020;10:e043365. <https://doi.org/10.1136/bmjopen-2020-043365>
- Ruel MT, Garrett JL. 2004. Features of urban food and nutrition security and considerations for successful urban programming. *electronic Journal of Agricultural and Development Economics* 1(2):242–271.
- Syafiq A, Fikawati S, Gemily SC. 2023. Household food security during the COVID-19 pandemic in urban and semi-urban areas in Indonesia. *J Health Popul Nutr* 41:4. <https://doi.org/10.1186/s41043-022-00285-y>
- [UNICEF] United Nations Children's Fund. 2020. Policy Brief: The Impact of COVID-19 on Food Security and Nutrition. San Fransisco (US): United Nation.