

Family-coping strategies during the covid-19 pandemic in urban areas of Indonesia

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Abstract

The ongoing global pandemic of corona virus disease (COVID-19) has put downward economic pressure, especially in urban communities. Large-scale social distancing policies have had a direct impact on job opportunities, income and family expenses. This study aims to analyze the effect of the Covid-19 pandemic on family food expenditure in urban areas, as well as to analyze the types of coping strategies that urban families adapt to maintain welfare. The study was conducted through a survey of 50 married female respondents from April to June 2020 in several urban areas in Indonesia, including The Greater Jakarta, West Java, Yogyakarta, Central Java, East Java, South Sumatra, and East Kalimantan. Data were analyzed using descriptive analysis and the Spearman correlation test. The findings indicate that throughout the time, rice consumption among urban families is relatively stable. The reduction in frequency is carried out for animal and vegetable protein, vegetables, fruits, and milk, while for instant noodles there is a slight increase. Of the three types of coping strategies implemented, the strategy for reducing non-food expenditure (41.86%) has the highest value compared to the strategy for reducing food expenditure (34.37%) and the strategy for increasing income (15.60%). The Spearman test results indicate that family characteristics that significantly influence family coping strategies are the location of residence, wife's education, husband's education, wife's income, and husband's income.

Keywords: Covid19, Expenditure, Food, Nonfood, Income, Coping strategy

1. Introduction

The Covid 19 pandemic declared by the United Nations in March 2020 has had a tremendous impact on the whole world, including Indonesia. The situation directly impacts the economic pressure on families, both in urban and rural areas. The pressure is due to changes in family's employment status due to the temporary closure of companies, decreasing demand for goods and services, and government policies to limit physical interactions. The burden has brought direct impacts on family food security. According to Siche (2020), there are three most vulnerable groups to the impact of the pandemic, including low-income groups, farmers, and children. People in urban areas highly rely on food supplies from rural areas. It is estimated that 80 % of the food supply in urban areas comes from places away the city center (LIPI, 2020). Large-scale social restrictions, especially in Java, will limit food delivery due to the complex food supply chain from farmers to consumers (Chen, Brahma, Mackay, Cao, & Aliakbarian, 2020). This situation significantly affects the food distribution system which

causes the prices of several food commodities in urban areas to increase. In addition, the reduction in export and import trade activities has also contributed to higher prices for several food commodities.

Distortion in the employment status in urban areas has also resulted in a shift in demand for food and non-food (FAO, 2020a). The reduction in physical contact has even led to a much lower demand for non-food needs, especially services (FAO, 2020b). Also, families in urban areas have limited land to fulfill their own food compared to rural families who can still use their yards around the house to grow vegetables or other food crops. These conditions make urban families encounter worse economic pressure during the pandemic and the extension in the long term will worsen the family states of well-being. This study aims to analyze the effect of the Covid-19 pandemic on family food expenditure in urban areas, as well as to analyze the types of coping strategies that families choose to maintain their welfare. Respondents in this study were married women who either worked or not and lived in urban areas in several regions in Indonesia. Increased participation of working women can increase family income, especially when there is economic pressure (Puspitawati, Putri, Titipani, & Khasanah, 2019). Research on family coping strategies during the Covid-19 pandemic is still very limited. Several existing studies include Kurniawati, Erviana, & Desstya (2020) on urban family food security strategies during the pandemic, Fahrezi, Wibowo, Irfan, & Humaedi (2020), Marliani, Nasrudin, Rahmawati, & Ramdani (2020) which focuses on coping strategies for social stress and psychology during a pandemic, and Ramdhani & Kiswanto (2020) which focuses on career adaptation. To the authors' knowledge, there is no single study which has examined the coping strategies of the family on the dimensions of food, non-food expenditure, and increased income. It is expected that this study can contribute to the literature by providing preliminary information on adaptation strategies for urban families to economic stresses during a pandemic.

2. Literature review

A coping strategy is an individual or group effort to reduce or tolerate the pressure or problem at hand (Milyawati & Hastuti, 2009; Johan, Muflikhati, & Mukhti, 2013). The common pressure encountered that needed a coping strategy is economic pressure. The burden can be in the form of a decrease in income as well as a change in disadvantageous employment status, economic difficulties and tensions (Voydanoff & Majka, 1988; Elder Jr, Conger, Foster, & Ardel, 1992). Job instability has offered more pressure on families (Sunarti, 2012). There are two types of coping strategies that families usually adapt including reducing expenses or

increasing income (Kabbaro, Hartoyo, & Yuliati, 2014). Expenditure reduction strategies are considered easier and more likely to be carried out when there is family economic pressure (Rosidah, Hartoyo, & Muflikhati, 2012; Johan, Muflikhati, & Mukhti, 2013; Kabbaro, Hartoyo, & Yuliati, 2014; Harjanto & Handoyo, 2019). It is because an income-generating strategy requires special human resources and networking that cannot be gained by all families in times of economic stress.

The study by Kabbaro, Hartoyo, & Yuliati (2014) reveals that common strategies adapted by family to reduce expenditures are buying cheaper types of food, reducing the frequency and quantity of food consumed, buying cheaper types of medicines, delaying treatment, reducing the frequency of purchasing clothes or reducing the purchase of household furniture. The strategy to reduce food expenditure is more important than the non-food expenditure strategy (Herawati, Tyas, & Trijayanti, 2017; Astutik, Sulistyowati, & Meidianti, 2019). The action is mostly carried out by families from low-income groups (Mutiarra, Syarief, Tanziha, & Sukandar, 2008). The most often used in the food dimension is to reduce the consumption of animal based protein and the frequency of food consumption, while in the non-food dimension, large number of families do not make changes in spending on education (Herawati, Tyas, & Trijayanti, 2017).

3. Methods

This study performs survey of 50 married female respondents from April to June 2020 in several urban areas in Indonesia, including The Greater Jakarta, West Java, Yogyakarta, Central Java, East Java, South Sumatra, and East Kalimantan. The selection of respondents was carried out purposively by considering job representation, a representation of 5 provinces in Java, 1 province of the western part of Indonesia and 1 province of the eastern part of Indonesia. Data collection was carried out by filling in a closed questionnaire consisting of items regarding family characteristics, information on food expenditure before and after the pandemic using a Likert scale of 1 to 6 (1= every day; 2= 4-6 days/week; 3= 1 -3 days/week; 4= 1-3 days/month; 5= > 3 days/month; 6= never), as well as family coping strategies in the dimensions of food, non-food and increased income using a Likert scale of 1 to 4 (1= never; 2= rarely; 3= often; 4= very often). Data analysis was carried out descriptively on family characteristics and changes in family food expenditure before and after the pandemic. The family coping strategy is analyzed by calculating the coping strategy index with the following formulation.

Coping strategy index = $(\text{Actual score} - \text{Minimum value}) / (\text{Maximum value} - \text{Minimum value}) * 100$

Where:

Actual score = value given by respondents
 Minimum value = the lowest value of all respondents
 Maximum value = the highest value of all respondents

The index value ranges from 0 to 100 % and it is further categorized based on the class interval following Astuti, Hartoyo, & Muflikhati (2016) of the lower category (index 0 % - 33.3 %), the moderate category (33.4 % - 66.6 %), and the high category (66.7 % - 100 %). To analyze the relationship between family characteristics and the choice of coping strategy chosen, the Spearman correlation test was performed. The family characteristics consisted of the location of residence (1= The Greater Jakarta; 0= Outside The Greater Jakarta), the wife's education (1= Primary/middle/ high school; 2= Bachelor; 3= Master; 4= Doctorate), husband's education (1= Primary/middle/high school; 2= Bachelor; 3= Master; 4= Doctorate); wife's job (1= civil servants; 2= employees of state-owned enterprises/private employees; 3= lecturers/teachers/freelancers; 4= self-employed; 5= laborers/online motorcycle drivers; 6= not working), husband's job (1= civil servants; 2= employees of state-owned enterprises/private employees; 3= lecturers/teachers/freelancers; 4= self-employed; 5= laborers/online motorcycle drivers; 6= not working), wife's income during the pandemic (1= no income at all; 2= greatly reduced; 3= reduced; 4= constant; 5= increased), and husband's income during the pandemic (1= no income at all; 2= greatly reduced; 3= reduced; 4= constant; 5= increased). The coping strategy is divided into a coping strategy by reducing food expenditure, a strategy to reduce non-food expenditure, and a strategy to increase income.

4. Results and discussion

4.1 Overview of household characteristics

A total of 38 respondents was located in The Greater Jakarta and the rest of 12 respondents located in other cities in Indonesia. All respondents were over 26 years of age, 8 people with primary/middle/high school education, 15 people with bachelor degrees, 15 people with master degrees, and 12 people with doctorate degrees. The average number of family members was 3.72. Prior the pandemic, 15 respondents worked as civil servants, 7 people as lecturers or teachers, 2 people as online motorcycle drivers, 5 people as entrepreneurs, 14 people as state-

owned, private, or non-governmental organization employees, 6 people as housewives with working husbands, and 1 laborer. During the pandemic, job changes only applied to online motorcycle taxi drivers, private employees, and entrepreneurs that becoming unemployed at all and turning themselves into freelancers.

4.2 Changes in household expenditure during pandemic

The prices of basic needs during the pandemic were reported to be high. Among those that experienced increases consisted of sugar, chilies, shallots, garlic, chicken, beef and cooking oil. One of the causes is due to food distribution constraints (Katadata, 2020). Some urban families adapt by reducing the frequency of rice consumption, especially in those that consume 1-3 days/week. However, families who regularly consume rice every day have not changed their consumption patterns during the pandemic. It becomes a signal that rice consumption is relatively stable. In contrast to rice consumption, the frequency of instant noodle consumption has increased slightly. Besides, families also reduce the frequency of consumption of animal-based proteins, plant-based proteins, vegetables, fruits, and milk.

Table 1. Percentage of family according to their frequency of food consumption prior and during the pandemic

Type of food	Frequency of consumption prior to pandemic (%)						Frequency of consumption during pandemic (%)					
	1	2	3	4	5	6	1	2	3	4	5	6
Rice	90	8	2	-	-	-	90	8	-	2	-	-
Instant noodle	4	2	24	42	22	6	10	2	30	32	20	6
Animal-based proteins	62	16	14		4	4	56	16	20		4	4
Plant-based proteins	62	18	20	-	-	-	58	20	20	2	-	-
Vegetables and fruits	72	12	14	2	-	-	68	18	8	6	-	-
Milk	38	6	26	14	6	10	36	8	22	14	12	8

Note: 1= every day; 2= 4-6 day/week; 3= 1-3 day/week; 4= 1-3 day/month; 5= more than 3 day/month; 6= never

4.3 Family coping strategies to maintain socioeconomic welfare

The family coping strategy in this study is divided into 3 strategies for reducing food expenditure, reducing non-food expenditure, and increasing income. The results were then converted into indices and grouped into 3 intensity categories, followed Astuti, Hartoyo, & Muflikhati (2016), namely the low category (0 % - 33.3 %), moderate category (33.4 % - 66.6 %), and high category (66.7 % - 100 %). The results in table 2 indicate that the average index in the food expenditure strategy was 34.37 %, while the non-food expenditure strategy was

41.86 %. It suggests that the coping strategies carried out by families in urban areas, both in the food and non-food dimensions are classified as moderate. The average index value in the non-food dimension was higher than that of food, indicating that families made more adjustments to non-food expenditure during the pandemic. All strategies in the food dimension are categorized in the moderate and low categories (< 60 %), except for the strategy of prioritizing food for children with an index of 71.34 %, while the lowest average index belongs to the strategy of reducing the amount of rice consumption. This result supports the results of changes in household expenditure in Table 1 where there was no significant change in rice consumption before and during the pandemic. These results are consistent with Jones (1995), Taniguchi & Chern (2000), Minot & Goletti (2000), Isvilanonda & Kongrith (2008) that the elasticity of demand for rice tends to be inelastic. For the non-food dimension, the highest average index value is carried through reducing the cost of dining out by 79.34 %, while the lowest is through reducing the cost by dropping children out of school (4.67 %). This result is in accordance with the study of Herawati, Tyas, & Trijayanti (2017) which stated that most families do not make changes in education expenditure due to economic pressures.

Table 2. The average indices of reducing food and non-food expenditure strategies

Strategies	Average indices (%)
Strategy to reduce food expenditure	34,37
Reducing the food purchasing (quantity and quality)	30,67
Buying cheaper food	45,34
Reducing the amount of rice consumption	12,67
Reducing the frequency of rice consumption	14
Reducing the amount of consumption of instant noodles	52,67
Reducing the frequency of consumption of instant noodles	56,67
Reducing the amount of animal-based proteins consumption	29,34
Reducing the frequency of animal-based proteins consumption	28,67
Reducing the amount of plant-based proteins consumption	17,34
Reducing the frequency of plant-based proteins consumption	18
Reducing the amount of vegetable and fruit consumption	16
Reducing the frequency of vegetable and fruit consumption	16
Reducing the amount of milk/tea/coffee/sugar consumption	38
Reducing the frequency of milk/tea/coffee/sugar consumption	35,34
Reducing the amount of cigarette consumption	55,34
Reducing the frequency of cigarette consumption	54
Replacing rice with other, cheaper staples	14
Buying food brands with cheaper ones	35,34
Reducing the variety of food consumed	37,34
Prioritize food for children	71,34
Reducing meal frequency	22
Reducing the number of cigarettes	56

Strategy to reduce non-food expenditure	41,86
Replacing expensive drugs with cheap ones	32,67
Using traditional medicines	58
Choosing an inexpensive place of treatment	32
Postpone to make medical appointments	26,67
Children quit from school	4,67
Children quit additional tutoring	18
Stop buying stationery and children's books	15,34
Reducing electricity/water/telephone usage	36,67
Reducing the quantity of clothes purchased	63,34
Changing the brand of clothing purchased with the cheaper ones	50,67
Reducing the frequency of clothes purchased	65,34
Reducing the quantity of household needs purchased (soap, shampoo, toothpaste, and cosmetics)	33,34
Replacing brands of household needs purchased (soap, shampoo, toothpaste, and cosmetics) with cheaper brands	35,34
Reducing the frequency of household needs purchased (soap, shampoo, toothpaste, and cosmetics)	32
Reducing the quantity of household furniture purchased	56,67
Replace the quality of household furniture purchased with inferior ones	38
Reducing the frequency of household furniture purchased	59,34
Reducing recreation costs	69,34
Reducing the cost of dining out	79,34
Reducing the cost of gasoline	52
Reducing the purchase of internet data packages	34,67
Unsubscribe from TV cable/internet	22
Reduce savings	47,34

The dimension of increasing family income has an average index value of 15.60 % and it is the lowest compared to the other two dimensions of food and non-food. The strategy with the highest index is to use family savings (49.34 %), while the lowest is to propose debts to neighbors (4.67 %). These results indicate that more families use coping strategies by reducing non-food expenditure compared to strategies for reducing food expenditure and increasing income. The result is inconsistent with the study of Herawati, Tyas, & Trijayanti (2017), Inayah (2018), and Astutik, Sulistyowati, & Meidianti (2019) who stated that in the circumstances of economic pressure, families tend to adopt coping strategies by reducing their food expenditures.

Table 3. The average indices of increasing family income strategies

Strategies	Average indices (%)
Owing money to the family	14,67
Owing money to the neighbor	4,67
Owing money to the moneylenders	5,34

Owing money to the nearby stores	5,34
Owing money to cooperatives/community financial institutions	9,34
Receiving financial assistance from social or government agencies	7,34
Applying savings	49,34
Converting items into cash to pawn loans	13,34
Selling goods and assets to meet daily needs	18
Finding another job	21,34
Quitting installments	13,34
Renting out a house to increase cash availability	10
Utilizing empty land to grow food crops	33,34
Raising poultry or fish	14
Switching jobs	14,67
Average	15,60

4.4 The relationship between family characteristics and coping strategies to maintain welfare

Table 4 expresses the relationship between family characteristics and the choice of coping strategies during the pandemic. The characteristics of the family consist of the location where the family lives, the wife's education, the husband's education, the wife's job, the husband's job, the wife's income, and the husband's income, while the coping strategy options consist of strategies for reducing food expenditures, strategies for reducing non-food expenditures, and strategies for increasing income. The Spearman correlation test results suggested that family characteristics that significantly influence family coping strategies are the location of residence, wife's education, husband's education, wife's income, and husband's income. The location of family residences in The Greater Jakarta will increase the likelihood of the family pursuing coping strategies. The the wife and husband's education has a negative correlation with coping strategy options. The income of the wife and husband do not significantly affect the coping strategy for reducing food, but both significantly affect the strategy for reducing non-food expenditure and increasing income by the negative coefficient signs.

Table 4. Spearman correlation distribution of family characteristics with the choice of family coping strategies

Variables	Strategy for reducing food expenditures	Strategy for reducing non-food expenditures	Strategy for increasing income
Location	0,236***	0,308*	0,344*
Wife's education	-0,351*	-0,313*	-0,358*
Husband's education	-0,342*	-0,313*	-0,191*
Wife's job	0,140	-0,044	0,032
Husband's job	0,212	0,153	0,129
Wife's income	-0,100	-0,314*	-0,273*

Husband's income	-0,215	-0,527**	-0,412**
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*significant at 1 % alpha (2-tailed); **significant at 5 % alpha (2-tailed); ***significant at 10% alpha (2-tailed)

5. Conclusions

The results of this study suggest that during the pandemic, rice consumption in urban families was relatively stable, but consumption of instant noodles increased slightly. The family reduces the frequency of consumption of animal-based and plant protein, vegetables, fruits, and milk. The coping strategy that is mostly adopted by families is a strategy to reduce non-food expenditure (41.86 %), especially in terms of reducing the cost of dining out with an index of 79.34 %. The Spearman correlation test result reveals that family characteristics that significantly influence family coping strategies are the location of residence, wife's education, husband's education, wife's income, and husband's income. Further research is expected to increase sample coverage to rural areas. In addition, at the time this research was conducted, the Covid-19 pandemic was still in its early stages of spreading, thus there could be possible recondition in the long term.

References

- Astuti, T. W. H., Hartoyo, H., & Muflikhati, I. (2016). Tekanan ekonomi dan strategi koping keluarga petani di daerah rawan banjir. *Jurnal Ilmu Keluarga & Konsumen*, 9(1), 43-52.
- Astutik, J., Sulistyowati, T., & Meidianti, E. (2019). Strategi survival perempuan penyandang disabilitas sebagai kepala keluarga (*Study* pada perempuan penyandang disabilitas di Desa Kabuh, Kecamatan Kabuh, Kabupaten Jombang). *Jurnal Perempuan dan Anak (JPA)*, 2(2).
- Chen, S., Brahma, S., Mackay, J., Cao, C., & Aliakbarian, B. (2020). The role of smart packaging system in food supply chain. *Journal of Food Science*, 85(3), 517-525.
- Elder Jr, G. H., Conger, R. D., Foster, E. M., & Ardelt, M. (1992). Families under economic pressure. *Journal of Family issues*, 13(1), 5-37.
- Fahrezi, M., Wibowo, H., Irfan, M., & Humaedi, S. (2020). Peran pekerja sosial dalam meningkatkan kemampuan coping stres masyarakat. *Focus: Jurnal Pekerjaan Sosial*, 3(1), 53-60.
- FAO - Food and Agriculture Organization. (2020a). FAO Director-General urges G20 to ensure that food value chains are not disrupted during COVID-19 pandemic. <http://www.fao.org/news/story/en/item/1268254/icode/> (15 August 2020).
- FAO - Food and Agriculture Organization. (2020b). Q&A: COVID-19 pandemic - impact on food and agriculture. <http://www.fao.org/2019-ncov/q-and-a/en/> (15 August 2020).
- Harjanto, N., & Handoyo, P. (2019). Strategi adaptif keluarga miskin *big family* di Surabaya. *Paradigma*, 7(3).
- Herawati, T., Tyas, F. P. S., & Trijayanti, L. (2017). Tekanan ekonomi, strategi koping, dan ketahanan keluarga yang menikah usia muda. *Jurnal Ilmu Keluarga & Konsumen*, 10(3), 181-191.
- Inayah, W. (2018). Pengaruh tekanan ekonomi dan strategi koping terhadap kesejahteraan keluarga di perkotaan kota Bogor, Jawa Barat. Skripsi. Institut Pertanian Bogor.

- Isvilanonda, S., & Kongrith, W. (2008). Thai household's rice consumption and its demand elasticity. *ASEAN Economic Bulletin*, 25(3), 271-282.
- Johan, I. R., Muflikhati, I., & Mukhti, D. S. (2013). Gaya hidup, manajemen keuangan, strategi koping, dan kesejahteraan keluarga nelayan. *Jurnal Ilmu Keluarga & Konsumen*, 6(1), 30-39.
- Jones, C. (1995). Rice price stabilisation in Indonesia: an economic assessment of the changes in risk bearing. *Bulletin of Indonesian Economic Studies*, 31(1), 109-128.
- Kabbaro, H., Hartoyo, H., & Yuliati, L. N. (2014). Modal Sosial, Strategi Koping Ekonomi, dan Kesejahteraan Objektif Keluarga dengan Perempuan Sebagai Kepala Keluarga. *Jurnal Ilmu Keluarga & Konsumen*, 7(3), 164-173.
- Katadata. (2020). Di tengah pandemic corona, harga pangan di Jakarta masih stabil tinggi. <https://katadata.co.id/ekarina/berita/5e9a41f60273b/di-tengah-pandemi-corona-harga-pangan-di-jakarta-masih-stabil-tinggi> (10 Agustus 2020).
- Kurniawati, W., Erviana, L., & Desstyia, A. (2020). Solusi Ketahanan Pangan Rumah Tangga Perkotaan Saat Pandemi Covid-19. *Malay Local Wisdom in the Period and After the Plague*, 95.
- LIPI. (2020). Ketahanan pangan dan ironi petani di tengah pandemic Covid-19. <https://kependudukan.lipi.go.id/id/berita/53-mencatatcovid19/879-ketahanan-pangan-dan-ironi-petani-di-tengah-pandemi-covid-19> (20 August 2020).
- Marliani, R., Nasrudin, E., Rahmawati, R., & Ramdani, Z. (2020). Regulasi emosi, stres, dan kesejahteraan psikologis: Studi pada ibu work from home dalam menghadapi pandemi COVID-19. *Karya Tulis Ilmiah LP2M UIN SGD Bandung*.
- Milyawati, L., & Hastuti, D. (2009). Dukungan keluarga, pengetahuan, dan persepsi ibu serta hubungannya dengan strategi koping ibu pada anak dengan gangguan autism spectrum disorder (ASD). *Jurnal Ilmu Keluarga & Konsumen*, 2(2), 137-142.
- Minot, N., & Goletti, F. (2000). *Rice market liberalization and poverty in Viet Nam* (Vol. 114). Intl Food Policy Res Inst.
- Mutiara, E., Syarief, H., Tanziha, I., & Sukandar, D. (2008). Analisis strategi food coping keluarga dan penentuan indikator kelaparan. *Media Gizi dan Keluarga*, 32(1).
- Puspitawati, H., Putri, A. C. J., Titipani, A., & Khasanah, M. N. (2019). Kontribusi Ekonomi Perempuan, Tekanan Ekonomi dan Kesejahteraan Keluarga pada Keluarga Nelayan dan Buruh Tani Bawang Merah. *Jurnal Ilmu Keluarga & Konsumen*, 12(2), 87-99.
- Ramdhani, R. N., & Kiswanto, A. (2020). Urgensi Adaptabilitas dan Resiliensi Karier pada Masa Pandemi. *Indonesian Journal of Educational Counseling*, 4(2), 95-106.
- Rosidah, U., Hartoyo, H., & Muflikhati, I. (2012). Kajian strategi koping dan perilaku investasi anak pada keluarga buruh pemetik melati gambir. *Jurnal Ilmu Keluarga & Konsumen*, 5(1), 77-87.
- Siche, R. (2020). What is the impact of COVID-19 disease on agriculture?. *Scientia Agropecuaria*, 11(1), 3-6.
- Sunarti, E. (2012). Tekanan ekonomi dan kesejahteraan objektif keluarga di perdesaan dan perkotaan. *Retrieved from http://repository.ipb.ac.id/handle/123456789/72280*.
- Taniguchi, K., & Chern, W. S. (2000). *Income elasticity of rice demand in japan and its implications: cross-sectional data analysis* (No. 372-2016-19373).
- Voydanoff, P. E., & Majka, L. C. (1988). *Families and economic distress: Coping strategies and social policy*. Sage Publications, Inc.