



A qualitative comparative study: Coping strategies among food secure and insecure pregnant mothers during the COVID-19 pandemic in Serang District

Studi perbandingan kualitatif: Koping strategi diantara ibu hamil yang tahan dan rawan pangan selama pandemi COVID-19 di Kabupaten Serang

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Abstract

The COVID-19 pandemic exacerbated the food security dimension, from the macro to micro level. Households dealt with the crisis by implementing coping strategies led by mothers. Consequently, these impacted their health and nutrition status, notably during pregnancy. This unfavorable condition was due to their primary role in maintaining household food security. This study aimed to explore the perceptions of pregnant mothers of food security and insecurity about their household coping strategies. This study used phenomenology with purposive sampling, with 33 informants (21 pregnant mothers and 12 other informants) in Serang district from May to October 2022. In-depth interviews (IDIs) were used during data collection, and the transcripts were verbatim. Respectively, the data was analyzed using thematic coding with N-Vivo 12 Plus and Microsoft Excel. Result, twenty-one pregnant mothers from food-secure (n=7) and insecure (n=14) households revealed adopting the food-focused coping strategies: rationing, scratching, seeking, and sharing. Non-focused on food: sought new job and side hustle, sold assets, borrowed money. Differentiation was the barter which the food insecure family solely adopted. Conclusion, both food-secure and insecure households implemented 2 types of coping strategies, while the severe coping strategies were implemented by food insecure pregnant mothers.

Keywords: COVID-19, food security, household, food focused, non-food focused

Abstrak

Pandemi COVID-19 memperburuk kondisi ketahanan pangan, dari tingkat makro hingga mikro. Rumah tangga menghadapi krisis dengan menerapkan strategi koping, yang dipilih oleh ibu. Akibatnya, akan berdampak pada status kesehatan dan gizi, terutama pada masa kehamilan. Sebaliknya, kondisi ini merugikan, dikarenakan peran mereka sangat penting dalam menjaga ketahanan pangan keluarga. Tujuan penelitian ini mengeksplorasi persepsi ibu hamil yang berasal dari keluarga tahan dan rawan pangan tentang strategi koping. Metode, studi ini menggunakan fenomenologi dengan total 33 informan yang dipilih secara purposif (21 ibu hamil dan 12 informan lainnya) di Kabupaten Serang, yang dilaksanakan pada Mei hingga Oktober 2022. Pengumpulan data melalui wawancara mendalam dan dilanjutkan transkrip verbatim. Secara berurutan, analisa koding tematik dengan N-Vivo 12 dan Microsoft Excel. Hasil, total 21 ibu hamil yang terlibat studi ini berasal dari keluarga tahan (n=7) dan rawan (n=14) pangan. Mereka menyatakan strategi berfokus pangan: penjataan, menghemat; mencari, membagi pangan. Strategi berfokus non-pangan: mencari pekerjaan pengganti dan tambahan, menjual aset dan meminjam uang. Perbedaan koping yang hanya diimplementasikan ibu hamil rawan pangan ialah barter. Kesimpulan, ibu hamil dari keluarga rawan maupun tahan pangan menerapkan 2 tipe strategi

pangan, namun strategi koping paling berat diterapkan oleh ibu hamil dari keluarga rawan pangan.

Kata Kunci: COVID-19, berpusat pangan, ketahanan pangan, rumah tangga, tidak berpusat pangan

Introduction

The COVID-19 Pandemic has affected global food security, including that in Indonesia. It also exacerbated the macro-until the micro-economy condition at the whole community level through spiked food prices, laid-off, lowered employee earnings, and increased poverty, notably in rural areas (FAO, IFAD, UNICEF, 2021). Consequently, food security dimensions, such as access, availability, utilization, and stability, were disrupted (Guiné et al., 2021). Households should implement coping strategies to fulfill their necessities, notably food (Chaudhuri et al., 2021). Despite implementing coping, the vulnerable group, including the pregnant mother, would be more impacted amid the food crisis due to the tendency to prioritize decreasing food (quantity and variety) and the discrimination of distributed food compared to other household members (Ahoya et al., 2022). A previous study revealed the important factor in maintaining a healthy pregnancy: households should be provided with proper food both in quantity and quality (Zinga et al., 2022). Conversely, adverse pregnancy outcomes may occur if these requirements are not fulfilled.

These conditions led to unfavorable conditions for pregnant mothers, who played a primary role in maintaining household food security and managing all aspects to fulfill the needs of the family (CARE, 2020). In addition, during pregnancy, mothers are vulnerable to food insecurity conditions, such as chronic energy deficiency (DEC) and Iron Deficiency Anemia (IDA) due to increasing nutritional requirements (Ecker & Van, 2017). Hence, these conditions would hinder the growth and development phase within the first 1000 years, contributing to stunting risk (Moafi et al., 2018).

Banten is a province in Indonesia with many *Tingkat Pengangguaran Terbuka* (TPT). Serang is one of the districts in Banten and ranks third in the poverty rate (BPS, 2021). These conditions tend to influence the risk of household food insecurity and stunting (Etana & Tolossa, 2019; Sleet, 2020). Likewise, Serang District was chosen as the stunting focus area

because it suffered from various health problems wherein the prevalence was higher than in the previous year, such as DEC and low birth weight (LBW), in which food security is a nutrition-sensitive intervention focusing on pregnant mothers (Kemenkes RI, 2021; Pemkab. Serang, 2021).

Previous studies have used online, broad-scope, and quantitative methods to assess coping strategies during the COVID-19 Pandemic. Thus, it was referred to depict the condition in an urban rather than a rural area and was filled by the husband as the head of the household (Putri et al., 2021). This study used a qualitative approach, notably phenomenology, to fill in the research gap from the previous study. To our knowledge, studies on coping strategies during the COVID-19 pandemic have not yet been conducted in the Serang District, particularly involving households with pregnant mothers as the "gatekeepers," who had the major responsibility to maintain household food security and were the most affected by food insecurity. Qualitative research was suitable for a deep understanding of the different perceptions of pregnant mothers who suffered from different household food security statuses. It would depict their situations in a naturalistic and realistic setting, helping us understand their coping strategies during COVID-19 (Chakona & Shackleton, 2017; Sugiyono, 2014).

Methods

This comparative study was conducted in some villages in Serang District from May to October 2022. The personal protective equipment was used following the COVID-19 health protocol during data collection (*Gugus Tugas Percepatan Penanganan COVID-19*, 2020). During the selection process, the researcher performed the COVID-19 screening.

The main informants were pregnant mothers domiciled in the Serang District in 2020 and registered at health service facilities. The proponents were their husbands, parents, and community health volunteers. The key

informants were village midwives who were purposively selected. These informants supported the trustworthiness of the qualitative research through triangulation with multiple source informants (Sugiyono, 2014).

In-depth interviews (IDIs) using semi-structured questionnaire guidelines were conducted to interview key informants. Before conducting the data collection, we pretested the guidelines for four people (two pregnant mothers, one husband, and one village midwife) at the stunting focus area that had similar characteristics to the study area to evaluate the transition of every question, the eligibility question with the field context, and the duration of the interview. The number of pretesting respondents fulfilled the minimum number of pretesting in the qualitative research, which was 3-6 persons (Howard, 2018).

Total informants were 33 persons (21 pregnant mothers, 1 husband, 1 mother-in-law, 2 mothers, 4 community health volunteers, 4 village midwives) rely on the aim of the research, the maximum variation of informant characteristics (education, age, occupation, gestational age, type of the family, and birth order) and the data saturation (Utarini, 2020).

The household food security status assessment was performed using the Food Insecurity Experience Scale, Survey Module (FIES-SM)(FAO, 2020). The eligibility of the participants was based on the inclusion and exclusion criteria. Before data collection, the researcher confirmed the informants through the Community Health Volunteer to ask about their willingness to participate in the IDI session. A voice recorder and camera were used to document the data through interviews before informed consent was obtained.

The data transcript was verbatim and analyzed using N-Vivo (Version 12 Plus) QSR International Pty Ltd. (2018) for Windows and Microsoft Excel. Microsoft Excel, used to tabulate the results of the research coding, checked the similarity and distinction within and between food security group status (Nurbaya, 2017). Starting from the 1st level (open coding), 2nd level (axial coding), 3rd level (emerging theme from the emerging categories on the previous level) (Tolley et al., 2016).

This study was approved by the FKUI Ethical Committee on May 23rd, 2022 (no: KET-497/UN2.F1/ETIK/PPM.00.02/022) and

permitted by the Health Office of Serang District on May 30th, 2022 (No: 870/2024/SDK/2022).

Result and Discussion

Informants Characteristic

There were 21 pregnant mothers as the main informants who came from food-secure (7) and insecure (14) households, with a range of age was 20-35 years old, and the food-secure pregnant mothers had a higher monthly income (\geq Rp 4,152,887) than food insecure pregnant mothers ($<$ Rp 4,152,887). The educational attainment of food-secure mothers was high (senior high school bachelor's degree), while food insecurity was low (elementary school or junior high school). Most of both food-secure and insecure mothers live with their extended family, have the 2nd trimester of pregnancy, and have a birth order more than 1 time.

Food-Focused Coping Strategies

Based on our findings, all pregnant mothers with food security status revealed that they implemented coping strategies. Table 1 depicts the four coping strategies focused on the food that implemented them. The distinction was the barter, which the food-insecure pregnant mother implemented. Based on our findings, food-secure households face more constraints on food access during the pandemic than the pre-covid condition. The yearly income of food-secure households was categorized as middle (Rp 60.000.000–Rp 120.000.000); as such, they were still vulnerable to inflation impact on the volatility purchasing power during the COVID-19 Pandemic (Deloitte Southeast Asia, 2015; ILO, 2022). Nevertheless, their impact would be lighter than that of food-insecure pregnant mothers who had a monthly income lower than the maximum regional wage (ILO, 2022; UNICEF et al., 2022). The choice of coping strategies relied on pregnant mothers, as their task in the household was to manage their income and maintain food security. Accompanied by their husband as the main breadwinner (Harris-Fry et al., 2022). In the extended family, the older adult would do the same to ensure that other members keep feeding. This finding was consistent with previous qualitative research findings in Bangladesh that the vital role of the mother-in-law is to be involved in decision-

making within the household, including choosing to skip mealtime. Other members could keep taking the meal (Pike et al., 2021). Additionally, the aging process, for instance,

decreasing gut mobility and gastrointestinal tract disturbance, lowers food appetite. Furthermore, they tend to skip mealtimes (Adriani & Wiratmadi, 2012).

Table 1. The similarities and differences of coping strategy focused food

Type Of Coping	Similarities	Differences	
Sub/Categories: Food Focused		Food Secure	Food Insecure
Food Rationing	<ul style="list-style-type: none">- Skip mealtimes and prioritize children, which spouses and mothers conducted.- Diminish meal portion size	-	<ul style="list-style-type: none">- Skip mealtime in a day and just drink mineral water- Husband alleviates his meal frequency and portion it to his pregnant wife
Food Stretching	<ul style="list-style-type: none">- Purchased less expensive food, lower quality food, preserved food, and frozen food- Purchased in a small amount	Bought cheaper food in the last week of the month when money was almost finished	Eating less preference food
Food seeking	<ul style="list-style-type: none">- Purchased food by credit- Borrowed money from relatives	-	<ul style="list-style-type: none">- Sent their children to their relative- Use the formal assistance
Food sharing	Shared food within big families and neighborhood	-	Shared food related to the work-relation

Food-insecure pregnant mothers face unfavorable facts because of their unstable income. Additionally, with the broader number of household members and minimal contribution to the food budget, pregnant mothers and whole family members should skip mealtime for an entire day. This finding was also revealed by a recent qualitative study in South Africa that low education levels contribute to households' adverse coping strategy decisions (Militao et al., 2022). This study also found a unique pattern of the importance of nutritional knowledge among spouses to switch the usual coping strategy by the man to prioritize their wives during pregnancy. The previous findings emphasized that the sacrifice of food tends to be adopted first by women, who had a lower contribution to income than men in the household (ADB, 2013). The role of nutrition knowledge, notably the increase in the nutritional requirement amid the husband, influenced their decision to sacrifice mealtime and prioritize their wife. This is linked to the actualization of knowledge in terms of practice (Notoatmodjo, 2011).

Hereafter, the coping strategy that directly impacted the quality and quantity of food secure and insecure pregnant mothers was decreasing the variety of food wherein the severity condition, for instance, lack of the source, increased food price faced by the food insecure status than food security. Therefore, they could not access a greater variety of food types and were merely stagnant to purchase cheaper food with the same ingredients, low-quality food such as salted fish frozen food in a small amount, and not based on their food preference. This result resembled the previous qualitative study wherein mothers purchased the same ingredients for a week due to money constraints during rising food prices (Van Der Velde et al., 2019). Food-secure pregnant mothers had other options to keep purchasing a greater variety of foods at cheaper prices by surveying several food stores to compare the prices before deciding to purchase in July 2022, such as beef meat, fish, egg, and fruit. This is in line with previous research that the shifting of the purchasing method during the food price hike to keep access to the same variety of foods (Dickler, 2023; Zinga et al., 2022). Food-secure

pregnant mothers also purchase cheaper food but not as frequently as food-insecure mothers, notably at the end of the month, to stretch their money until the next month (Nielsen et al, 2015).

The rural community had many solidarity values among families and neighborhoods, including informal network social support. This support helped food-secure and insecure pregnant mothers during money hardships, such as sharing food, begging for food, purchasing food on credit, and taking loans (O'Connell & Brannen, 2021; Soheli et al., 2022). The strong relationship between family and neighborhood, facing the same hardship of the rising food prices and financial constraints, made the responsibility to help each other (Nederveld et al., 2021; Shorthouse, 2013). Besides this assistance, pregnant mothers with food insecurity were relying on formal assistance from the government such as *Bantuan Pangan Non-Tunai* (BPNT), *Program Keluarga Harapan* (PKH) notably staple food (rice), and animal-based food source to fulfill the variety of foods (Hastuti et al., 2020; TNP2K & Australia Government, 2020). Nevertheless, they still face food shortages because of their high number of household members. As such, all household members would utilize food, and consequently, the food stock rapidly ran out (Bayu & Handoyo, 2016). Additionally, the irregular schedule of aids affected the severity of food insecurity in pregnant mothers.

Likewise, food insecure pregnant mothers were implementing barter and reciprocal food exchanges during the dry season and crises impacted by the COVID-19 Pandemic in addition to seeking formal and informal network social support. This type of coping was merely found in homogeneous characteristics, for instance, the main occupation of smallholder farmers. Previous qualitative studies in several districts among smallholder farmers found that to reduce severity due to the dry season, they implemented various types of strategies besides depending on social assistance from the government (Hamado et al., 2019; Amul, 2022). They took these copings due to the amount of the assistance fund being too small and high household expenditures, particularly those with school-age children. This aligns with the findings of the UNICEF report (UNICEF, 2020). Besides these reasons, they learned from their

tradition that it is a common practice done by the previous "generation" that is the habit of this community also played a key role (Igwe et al., 2020).

Non-food Focused Coping Strategies

Our findings revealed that four types of coping strategies focused on non-food, which nevertheless directly or indirectly influenced the well-being of the household and the health of the pregnant mothers (Table 2). First, it seeks new jobs and additional work to generate money. Previous studies, both quantitative and qualitative, found this common coping strategy when the household lost their previous job and increased the money expenses to fulfill necessities during the COVID-19 Pandemic (Palma & Araos, 2021; Putri et al., 2021). The findings of these studies resemble ours, which was a household with broader assets (poultry livestock, land, savings, jewelry, and vehicles); higher level education attainment was more resistant to the income shock for utilizing their assets amid the crisis. The outstanding finding, the distinction between food-secure and food-insecure mothers, was utilizing these assets. Among the husbands of pregnant mothers with food-secure status, the head of the household played a prominent role in exploiting these assets to open a new business to obtain continuous income. This relies on the availability of assets and analysis of the business sector implemented by the household. A previous study revealed that higher education (senior high school bachelor's degree) had an analytical level of thinking about managing their assets as a new business (Hurst & Lusardi, 2011). Differentiation from food insecure pregnant mothers utilize their assets for short-term necessities, such as fulfilling their basic needs.

Consequently, this condition would exacerbate their conditions when their savings assets run out, and the household is prone to ruin in severe poverty than previous conditions (Sa'diyah & Arianti, 2012). Pregnant mothers who were food secure and insecure had limited expenditure on goods and health services. Food-insecure pregnant mothers restricted their expenses and prioritized prominent things such as food and children's necessities. Previous studies also revealed a similar finding wherein, besides

fulfilling food necessities as the basic needs, others were restricted due to the alteration of

the priority in terms of purchasing (Mahmud & Riley, 2021).

Table 2. The similarities and differences of coping strategy non-focused food

Type Of Coping	Similarities	Differences	
Sub/Categories: Non-Food Focused		Food Secure	Food Insecure
Seek new job and side hustle	<ul style="list-style-type: none">- The pregnant mother did the side hustle- Husband looking for a job and side hustle	-	<ul style="list-style-type: none">- Father-in-law: residential area cleaner- Mother-in-law: being a seasonal farmer- Pregnant Mother's Mother: Village food peddler
Sold assets	<ul style="list-style-type: none">- Sold car, jewelry- Sold egg and rice if the crop abundance	-	-
Borrowed money	Borrowed money from the roving bank (informal bank)	-	-
Limited expenditure on service and good	-	<ul style="list-style-type: none">- Limited the purchased snack- made the food list	<ul style="list-style-type: none">- Restricted to medical check- Restricted the purchased goods

Additionally, pregnant mothers should restrict their expenditure on health service utilization while suffering from illness because they need to prioritize their children's necessities and purchase food. Recent qualitative research found the same pattern: pregnant mothers would neglect routine check-ups in Antenatal Care (ANC) due to financial constraints. Consequently, this directly influences the health status of the pregnant mother and fetus (Ochieng & Odhiambo, 2019). Pregnant mothers with food security status rely on limiting expenditures, such as snacks, and could prioritize using that money to purchase fruit. Mothers prepared a food list before purchasing food. The type of food purchased depended on the mother's choice. Here they are the main decision-makers for purchasing food. As such, she can decide and fulfill their food preferences (Renzella et al., 2020). The food list was one of the financial management implemented by the household to limit their expenditure merely on their priority rather than unplanned necessities. Hence, they were more prone to financial shocks due to the mitigation of the prediction of consumptive activity (Gundersen & Garasky, 2012; Dimitri & Rogus, 2014).

Households that do not have assets seek new jobs to replace their lost jobs. Those who had the work should seek additional hustle due

to the perceived instability of work in the informal sector and higher expenditure to conform to necessities. A previous study in D.I. Yogyakarta found the same result wherein an informal worker who had not been laid off sought the side hustle. The employee laid off would seek a new job due to work termination during the COVID-19 Pandemic (Pitoyo et al., 2021).

However, the implementation of social restrictions during the COVID-19 Pandemic, age, and low skill, which relies on the construction and daily labor among the heads of households with food insecure status, made it difficult for them to acquire the proper occupation (Pitoyo et al., 2021). Furthermore, pregnant mothers and other household members, including their parents-in-law, should work to obtain additional income from both the nuclear and extended families. Informal social support such as family, work relations, and neighborhoods contributed to new job accessibility. This finding is in line with previous qualitative research in several countries that the social support network would assist and help others through work vacancy information and utilize the skill of the household to acquire the job (Igwe et al., 2020). They added to the cooking skills of the pregnant mother and their mothers to utilize their money for household income (Harsanyana, 2019).

The last coping strategy adopted by food-secure and insecure mothers was taking a loan from a roving bank (informal bank). The distinction between them is that the food secure took a loan to open a new business due to a lack of assistance from the informal and formal social network, shifting the role as the main breadwinner in the household and living in the nuclear family with three children. Conversely, food-insecure pregnant mothers took loans because of the higher expenditure on their children's necessities and the broader number of household members. Both pregnant mothers chose the roving bank because of its accessibility to administration requirements and distance. Moreover, borrowed money is rapidly disbursed (Fahrudin et al., 2023). The habit of borrowing money from the roving bank would negatively impact them; for instance, they would prefer to get the money from the loan rather than look for a job. This habit will indirectly add to the household's expenditure due to interest and the prolonged repayment duration (Fahrudin et al., 2023; Mukhtaliana, 2020).

Conclusion

This study concluded that pregnant mothers from food-secure and insecure households experienced decreased purchasing power due to income shocks, job loss, and rising food prices during the COVID-19 pandemic. To cope with this, they used various strategies, including rationing and stretching food, which negatively affected their nutritional status. The limited health service utilization among food-insecure pregnant mothers also affected their health.

This study suggests local governments should strengthen financial training for young spouses and pregnant mothers. Likewise, nutrition education in the primary health center needs to involve the husbands and other household members who have decision-making authority so that food priority, notably food, can be given to pregnant mothers under any circumstances.

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