







Family Resilience During Pandemic Based on the Existence of Pregnant Women and Family Income in Madiun, Indonesia

Eny Qurniyawati*¹, Cintika Y. Sebtalesy², Linda Andriani³, Geoffrey Ssekalembe⁴,
Nayla M. G. Nasr⁵, Fadhil M. Razzan⁶

¹Department of Epidemiology, Biostatistics, Population Study, & Health Promotion, Universitas Airlangga, Surabaya, Indonesia

²Study Program D3 Midwifery, STIKES Bhakti Husada Mulia, Madiun, Indonesia

³Unit of Epidemiologi, Sidoarjo District Health Office, Sidoarjo, Indonesia

⁴Unit of Epidemiologi, Elizabeth Glaser Pediatric AIDS Foundation, Kampala, Uganda

⁵Faculty of Public and Environmental Health, Bahri University, Khartoum, Sudan

⁶Department of Occupational Health and Safety, Universitas Airlangga, Surabaya, Indonesia

DOI: [10.24252/al-sihah.v15i2.41368](https://doi.org/10.24252/al-sihah.v15i2.41368)

Received: 18 September 2023 / In Reviewed: 12 November 2023 / Accepted: 20 December 2023 / Available online: 30 December 2023

©The Authors 2023. This is an open access article under the CC BY-NC-SA 4.0 license

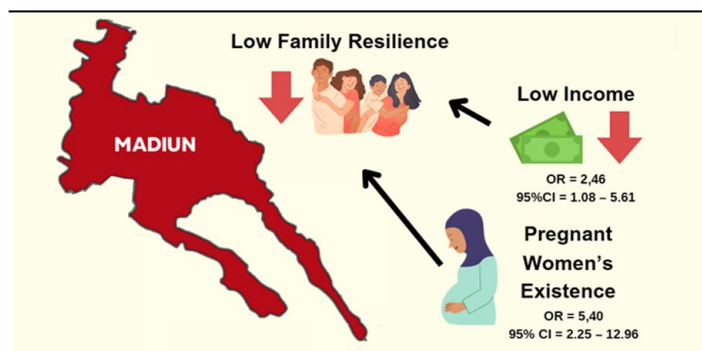
ABSTRACT

During the Covid-19 pandemic, pregnant women were reported to face a disproportionately high death rate, reaching nearly 25% of the global pregnant population. According to data from POGI (Indonesian Association of Obstetrics and Gynecology) as of April 2021, 536 pregnant women in Indonesia were exposed to Covid-19 resulting in 16 deaths. This implies an estimated mortality rate of 32 per 1000. Family with pregnant women experience more worries about the Covid-19 infection, which reduces resilience capacity. Therefore, this study aimed to examine the impact of certain factors including husband education, profession, family size, and wealth, as well as the presence of pregnant women on the resilience of family in facing the Covid-19 pandemic. A cross-sectional design and analytical observational method were used, while the samples comprised 100 households selected using g-form and accidental sampling. In addition, the data collected were analyzed with the chi-square test. The results showed that family income OR = 2.46 (95% CI = 1.08 - 5.61; p-value = 0.03) and the presence of pregnant women OR = 5.40 (95% CI = 2.25 - 12.96; p-value 0.01) had a significant relationship with family resilience. Specifically, low family resilience was related to lower income and the presence of pregnant women in the household.

ABSTRAK

Selama pandemi Covid-19, perempuan hamil dilaporkan menghadapi angka kematian yang sangat tinggi, yaitu mencapai hampir 25% dari populasi ibu hamil di seluruh dunia. Berdasarkan data POGI (Persatuan Obstetri dan Ginekologi Indonesia) per April 2021, terdapat 536 ibu hamil di Indonesia terpapar Covid-19 yang mengakibatkan 16 kematian. Hal ini menunjukkan perkiraan angka kematian sebesar 32 per 1000. Keluarga yang memiliki ibu hamil mengalami lebih banyak kekhawatiran terhadap infeksi Covid-19, sehingga mengurangi kapasitas ketahanan. Oleh karena itu, penelitian ini bertujuan untuk menguji pengaruh beberapa faktor antara lain pendidikan suami, profesi, jumlah anggota keluarga, dan kekayaan, serta keberadaan ibu hamil terhadap ketahanan keluarga dalam menghadapi pandemi Covid-19. Desain yang digunakan adalah cross-sectional dan observasi analitik, sedangkan sampelnya berjumlah 100 rumah tangga yang dipilih menggunakan g-form dan aksidental sampling. Selain itu, data yang terkumpul dianalisis dengan uji chi-square. Hasil penelitian menunjukkan bahwa pendapatan keluarga OR = 2.46 (95% CI = 1.08 - 5.61; p-value = 0.03) dan keberadaan ibu hamil OR = 5.40 (95% CI = 2.25 - 12.96; p-value 0.01) mempunyai pengaruh yang signifikan terhadap hubungannya dengan ketahanan keluarga. Secara khusus, rendahnya ketahanan keluarga berkaitan dengan rendahnya pendapatan dan kehadiran ibu hamil dalam rumah tangga.

GRAPHICAL ABSTRACT



Keyword

covid-19
pandemics
pregnant women
psychological
resilience

* Correspondence

Jl. Dr. Ir. H. Soekarno, Fakultas Kesehatan Masyarakat,
Universitas Airlangga Kampus C, Mulyorejo, Surabaya
60115, East Java, Indonesia
Email: eny.qurniyawati@fkm.unair.ac.id

INTRODUCTION

The World Health Organization (WHO) states that Covid-19 cases globally were characterized by 649,753,806 confirmed cases and 6,648,457 deaths as of December 20, 2022. In Southeast Asia, 60,721,838 confirmed cases were reported. Furthermore, Indonesia ranked second after India with confirmed cases of 6,711,703 and 160,451 deaths (WHO, 2022). About 1,297 new cases were recorded on December 20, 2022. West Java contributed the most with a total of 355, followed by DKI Jakarta, and East Java with 317 and 141 cases respectively (Rahmadania, 2022). Additional data on December 22, 2022, showed Madiun Regency in East Java ranking fifth in contributing the highest number of cases (Jatimprov, 2022). Madiun Regency is characterized by demographic conditions dominated by mountains and rural areas, leading to different challenges in dealing with the Covid-19 pandemic. Areas with difficult access and contours such as mountains are constrained by the quality of health facilities.

The widespread impact of the Covid-19 pandemic has led to heightened anxiety and increased levels of depression in society. Meanwhile, Indonesia, as one of the fourth most populous countries in the world, is expected to experience prolonged suffering resulting from the pandemic (Djalante et al., 2020). This situation also affects pregnant women who are a high-risk population group during the pandemic. The case fatality rate of the Covid-19 infection for pregnant women reaches 25%. The further impact includes serious concerns related to the health of the pregnancy and the development of the fetus in the womb (Corbett et al., 2020; Poon et al., 2020). Studies in Italy, China, Iran, and North America with high numbers of Covid-19 cases showed that compared to before the pandemic, pregnant women have significantly increased symptoms of depression and anxiety (Aghababaei et al., 2020; Jago et al., 2020; Mei

et al., 2020; Moyer et al., 2020; Preis et al., 2020; Saccone et al., 2020).

In general, the physiological changes that occur in pregnancy can increase susceptibility to infection, specifically when the cardiorespiratory system is affected. Pregnancy myths are prevalent in Indonesia according to the culture and customs of respective regions. The myths in Sumatra differ from those native to the island of Java. Moreover, cultural beliefs and knowledge often have both positive and negative impacts on maternal reproductive and child health. For instance, certain cultural prohibitions on nutritious food consumption during pregnancy can pose risks, accelerating respiratory failure (Muthoharoh, 2015). These psychological changes impact the emotional state and well-being of pregnant women not only during prenatal care but also in the postpartum period (Accortt et al., 2015; Dashraath et al., 2020; Grigoriadis et al., 2018; Li et al., 2017). Psychological changes such as anxiety, depression, and insomnia are predisposing factors that inhibit fetal growth and development in the womb, increasing the risk of miscarriage and premature birth (Mappa et al., 2020; Zhao et al., 2020). The long-term effects of untreated mental health disorders significantly impact the ability of pregnant women to take care of themselves and their fetuses during pregnancy (Cameron et al., 2020).

As the Covid-19 pandemic continues, there is a strong need for immediate mental health support for pregnant women (Khoury et al., 2021). Excessive worry among this population can cause a decline in mental health, showing the need for social support (Khoury et al., 2021). In fulfilling social support, there is a need to have family resilience. This concept refers to the ability of a family to survive and recover from adversity, as well as face various potential challenges (Walsh, 2020). As stated in a previous study, resilience during the pandemic

may reduce anxiety and depression-related concerns (Barzilay et al., 2020).

The level of family resilience is determined by various vulnerability factors including the age of family members, level of education, pre-existing mental health conditions, and economic situation. Other factors such as quarantine experiences and fear of infection may significantly impact family resilience (Gayatri & Irawaty, 2021). However, understanding of family resilience in relation to the presence of pregnant women during the Covid-19 pandemic remains limited.

A study conducted in the Minangkabau area showed that family resilience was at a moderate level (73%) and the most significant variable with the largest contribution was resources (Nasa et al., 2022). One of the factors that substantially affect family resilience is the difficulty in obtaining the same income as before the pandemic (Sabariman & Susanti, 2021). Social support in the form of instrumental, self-esteem and belonging also have a significant effect (Herdianto & Kusumiati, 2022). The presence of pregnant women can also cause a decline in the level of family resilience. Based on the results of a previous study, 55% of pregnant women felt anxious and did not know how to prepare for pregnancy and childbirth. However, the counseling conducted increased this figure to 80% showcasing the positive impact of intervention in enhancing preparedness (Atok et al., 2022). Pregnant women have a high level of resilience which can also affect family. Therefore, this study aimed to examine the impact of certain factors including husband education, profession, family size, and wealth as well as the presence of pregnant women on the ability of family to deal with the Covid-19 pandemic.

METHODS

This study used an analytic observational method with a cross-sectional design. The objective was to examine factors affecting family resilience, hence, data collection was only carried out once. Analytic observational investigations are conducted to explain a situation or phenomenon while the cross-sectional design shows that the study was performed at only one time. The location for the study was Madiun Regency, Indonesia, lasting from April to July 2021. The population comprised all families in Madiun Regency, Indonesia, totaling 259,505 family heads. The samples were selected using the accidental non-probability sampling method. The inclusion criteria included families who have or do not have pregnant women, while the exclusion criterion was the history or presence of mental disorders. Data collection was carried out with a g-form link and based on the Slovin formula, the sample size comprised 100 respondents.

The resilience variable was measured with the Walsh Family Resilience Questionnaire (WRFQ) instrument. The higher the score obtained by the participant, the greater the family resilience. The measurement method used a questionnaire with the results divided into two categories, namely high and low.

The concept of family resilience proposed by Walsh is based on previous qualitative studies. Sixbey (2005) developed a quantitative instrument to measure family resilience based on three key processes. These three key processes each have sub-components namely: family beliefs (giving meaning to crises, positive outlook, transcending, and spirituality); organizational patterns (flexibility, connectedness, and socio-economic resources), and communication processes (clarity, expression of emotions, and collaborative problem solving). Families that have shared value systems and beliefs tend to be better at overcoming obsta-

Table 1*Family Resilience Category*

Total Score	Category*	N	%	Mean (%)	Std. (%)	Deviation
177 – 212	High	46	46	176.52		19.14
140 – 176	Low	54	54			

Note: *= There are 2 categories of resilience based on the scores obtained by respondent; N= Population; % = Percentage; STD; Standard Deviation

cles. Shared beliefs in values such as honesty, cooperation, and mutual support can form a strong foundation for resilience. Furthermore, organizational patterns in the form of flexible and adaptive structures also increase resilience. Family with less rigid hierarchies and the ability to change their internal structures quickly tend to adapt more easily to external changes. Transparent communication creates trust among individuals or organizational members, enabling better coping with uncertainty and improved responses to difficult situations.

The WRFQ measuring instrument was then adapted to the Indonesian context. A reliability test was conducted with Cronbach's alpha, while validity was tested using the construct validity method. Based on the test carried out on 173 students of the University of Indonesia, the reliability and validity coefficient were $\alpha = 0.868$ and $r = 0.851$ respectively. This measuring instrument consisted of several statements with answer choices in the form of a Likert scale. There were four answer choices, namely STS (very unsuitable), TS (unsuitable), S (suitable), and SS (very suitable). The answers were then coded in the form of numbers, namely STS = 1, TS = 2, S = 3, and SS = 4. The higher the score obtained by the participant, the greater the family resilience.

Univariate analysis was used to describe the characteristics of each variable, by compiling a frequency distribution table, as well as measures of data centering and distribution to provide an overview of the results. Analysis was carried out with SPSS using chi-square to

determine the relationship between characteristics including husband education, job, family income, family size, as well as the presence of pregnant women with family resilience during the Covid-19 pandemic. The presence of a relationship between the independent and dependent variables was indicated by p-values <0.05 . Moreover, this study obtained ethical approval from the Health Research Ethics Committee of the Indonesian Institute of Health Sciences STRADA with number 2302/KEPK/III/2021.

RESULTS

Based on Table 1, the lowest family resilience score was 140 while the highest was 212, with an average of 176.52, and a standard deviation of 19.14. Furthermore, family resilience score was divided into 2 categories, namely high at 46 % and low at 54 %. Table 2 shows the relationship between husband education level and family resilience level. The data showed that husbands with higher education had greater levels of family resilience, reaching 58.30%, while those with medium and low education levels had low resilience at 57.10% and 61.50% respectively. The results showed no relationship between husband education and family resilience (p-value = 0.36).

Table 2 provides an overview of the relationship between the type of husband job and the level of family resilience. Husbands who worked as civil servants and those who were self-employed had high levels of family resilience with percentages of 58.80% and 55. % respectively. Meanwhile, those with private

Table 2*Relationship between Characteristics and Presence of Pregnant Women and Family Resilience*

Variable	Resilience		p-value	OR (95%CI)
	High (%)	Low (%)		
Husband Education			0.36	
High	14 (58.30)	10 (41.70)		
Moderate	27 (42.90)	36 (57.10)		
Low	5 (38.50)	8 (61.50)		
Husband Job			0.42	
Civil Servant	10 (58.80)	7 (41.20)		
Private	20 (40.00)	30 (60.00)		
Self-Employed	11 (55.00)	9 (45.00)		
Other	5 (38.50)	8 (61.50)		
Family Income*			0.03*	2.46 (1.08 – 5.61)
> regional minimum wage	32 (55.20)	26 (44.80)		
≤ regional minimum wage	14 (33.30)	28 (66.70)		
Family Size			0.18	
Less (≤ 3)	22 (40.00)	33 (60.00)		
More (> 3)	24 (53.30)	21 (46.70)		
Presence of Pregnant Mothers *			0.00*	5.40 (2.25 – 12.96)
No	35 (63.60)	20 (36.40)		
Yes	11 (24.40)	34 (75.60)		

Note: * = $P \leq 0,05$; OR=Odds Ratio; CI=Confidence Interval; %=Percentage

and other unspecified occupations had low family resilience at 60 % and 61.50%. The results showed no relationship between husband occupation and family resilience (p-value = 0.42).

Table 2 shows the relationship between family income and the level of family resilience. Based on the results, families with income above the regional minimum wage had a high level of resilience, reaching 55.20%. On the other hand, those with income below the regional minimum wage had lower resilience at 66.70%. The results showed a relationship between family income and resilience OR = 2.46 (95%CI = 1.08 - 5.61; p-value = 0.03). Table 2 also shows the relationship between family size and resilience. Based on the results, small-sized families (≤ 3) had low resilience at 60 %, while those with a larger number (>3) showed higher resilience at 53.30%. This study found no relationship between family size and resilience (p-value = 0.18). The relationship between the presence of pregnant women and the level of family resilience is depicted in Table 2. Based

on the results, families without pregnant women tend to have a higher level of family resilience, reaching 63.60%. On the other hand, those who had pregnant women had a low level of family resilience, exceeding 75.60%. This study found a significant relationship between the presence of pregnant women and family resilience OR = 5.40 (95%CI = 2.25 - 12.96; p-value = 0.000092).

DISCUSSION

The Covid-19 pandemic, with its associated challenges including financial insecurity, caregiving burdens, and the stress of restrictions such as crowding and changes in routine, poses an acute threat to the well-being of mothers and the family. These long-standing difficulties have a significant impact on the stability and functioning of the family system (Prime et al., 2020). This study examined the form of resilience in the family during the Covid-19 pandemic in relation to the presence of pregnant women.

The characteristics of humans who

have a high level of resilience include being adaptable and socializing well. In addition, these individuals also have good thinking skills and often get support from the social environment. Typically, resilient individuals have one or even more related talents or strengths that contribute to resilience. These strengths include self-confidence in the ability to make decisions, as well as spirituality or religiosity. Family represents one of the resilience units that feel the direct impact of the pandemic (Utami, 2017).

Based on the results, there was no significant relationship between husband education and family resilience (p -value = 0.36). Previous studies reported contrasting results (Chen & Bonanno, 2020; Gayatri & Irawaty, 2021; Masten & Motti-Stefanidi, 2020) suggesting that education affected a positive mindset creating healthy relationships, good communication, and social support. These attributes significantly impact adaptive coping in responding to crises and difficulties together. The resulting impact of the Covid-19 pandemic has created high levels of life stress and mental disorders caused by various factors such as demands for needs, limited employment opportunities, and limitations in the use of technology. Poor mental health in pregnant women may be associated with an increased risk of low-birth-weight babies. Mental disorders and stress can affect diet and nutrition, which in turn influence fetal growth. Furthermore, high levels of stress or mental disorders potentially increase the risk of premature birth. Stress can trigger the release of hormones, such as cortisol, which in high doses induce uterine contractions and cause premature birth. Based on the results, the higher the education level of parents, the greater the ability to manage their emotions which contributes to increased personality maturity. Higher education also contributes to a positive mindset, reflected in responses to various situations and conditions with a broad mind. These factors ultimately have a positive

impact on increasing family resilience (Fuller & Huseth-Zosel, 2021; Kimhi et al., 2020; Miller et al., 2020).

The results showed no relationship between husband job and family resilience in facing the Covid-19 pandemic. This was in contrast to previous studies stating that the pandemic significantly affected employment status, putting individuals at risk of lower well-being (Coulombe et al., 2020). This situation affects stress levels, consequently impacting the overall level of family resilience. The pandemic has led to a significant number of families experiencing a sense of loss due to job displacement, negatively affecting the level of resilience (Lian & Yoon, 2020; Walsh, 2020). The relationship between husband occupation and family resilience was not proven. This was because despite the majority of respondents being self-employed, family resilience was predominantly in the low category. This contradicts the trend observed in businesses that require personal contact and cannot transition to remote work, leading to closure and adjustment to digitalization (Martin et al., 2022; Montenovo et al., 2022).

This study also examined the relationship between family income and resilience. Based on the results, family income was related to resilience with OR = 2.46. This means that families with income below the regional minimum wage (<6 million) had a 2.46 times chance of having low resilience compared to those with income above the minimum wage. Similarly, Verger et al. (2021) stated that the economic hardships experienced by individuals and families during the Covid-19 pandemic were closely related to higher levels of depression and the struggles faced in coping with the ensuing uncertainties. Chen and Bonanno (2020) added that the ability to carry out financial management was significantly related to the level of family resilience. According to another study,

there is a strong negative correlation between economic pressure and the level of family resilience. The higher the economic pressure faced, the lower the level of resilience (Sunarti et al., 2020). Family with a stable and adequate income can fulfill their needs in unstable situations during the Covid-19 pandemic, thereby maintaining resilience (Miller et al., 2020).

Family size was also thought to be related to family resilience but this study found a contrasting result with p -value = 0.18. This result was not in line with a study conducted in Tunisia where families with no or few children had high resilience compared to those with many children (Kamel & Hentati, 2021). Another study carried out in the United States also proved that the number of children present influenced family resilience (Eales et al., 2021). Studies in Italy and the Netherlands showed that the number of children living at home was also associated with higher levels of parental stress, impacting family resilience. Family size affects childcare and healthcare issues (Cusinato et al., 2020; Yerkes et al., 2020). This study did not establish a connection between large family size and resilience, possibly because the majority were earning above the regional minimum wage, hence, the family can overcome problems in childcare and health care. These results were consistent with studies conducted in Spain and the Netherlands stating that the number of children in a household was not related to parental well-being (Seiz, 2021; Yerkes et al., 2020).

This study found that families with pregnant women had 5.40 times higher odds of low family resilience compared to those without pregnant women. This is because pregnant women are considered more vulnerable to various problems and stress. Pregnancy-related anxiety and stress symptoms reportedly increased during the Covid-19 pandemic (Boekhorst et al., 2021; Hessami et al., 2020;

Lebel et al., 2020; Wu et al., 2020). Pregnant women responded to the pandemic with concerns related to fear of disease spread, negative effects on fetal health, fear of losing loved ones, financial worries, loss of social contacts, support, preparedness, and uncertainty (Atmuri et al., 2022; Cherak et al., 2018; Wang et al., 2021).

Families with pregnant women have increased worries, specifically about pregnancy and infant care (Corbett et al., 2020; Khaliq & Phoswa, 2020). As stated in a previous study, caregiving burdens add to the consequences that impact family resilience (Prime et al., 2020). In families with pregnant women, there is sensitivity to stressors due to economic instability, poor mental health, and social injustice due to the Covid-19 pandemic (Liu et al., 2021).

Resilience refers to how families adjust to challenges and overcome difficulties such as stress, crisis, and threats during difficult times (Walsh, 2020). High family resilience during the pandemic may reduce anxiety and depression-related concerns (Barzilay et al., 2020). This trait is built when family members spend more time together, support each other, and face difficulties together. In the presence of pregnant women, factors including the mental health of the spouse, availability of social networks, as well as togetherness of family and friends bolster the resilience of pregnant women and the reduction of emotional stress (Zou et al., 2022). Information on the level of family resilience in relation to the presence of pregnant women is limited, as the majority of studies often delve into other variables with a broad discussion. Similarly, the scope of this study was limited to pregnant women in the Madiun Regency area, acknowledging that differences in the location may yield divergent results.

CONCLUSION

In conclusion, the Covid-19 pandemic has put extreme pressure on many aspects of life, including family well-being. In this context, family resilience becomes an important element in maintaining stability during a time of crisis. This study was conducted to identify factors influencing the level of family resilience during the Covid-19 pandemic. The results showed that family resilience tended to decrease with low income. The presence of pregnant women in the family was identified as a significant factor, while husband education, occupation, and family size had no significant association.

As a recommendation, policymakers should pay more attention to families with low-income and pregnant women. Efforts should be made to increase the resilience of this family to the Covid-19 pandemic. More intensive social, economic, and health support can assist in better facing various challenges presented by the pandemic. Future studies are recommended to explore different locations, comparing the level of family resilience based on the presence of pregnant women between one region and another. Increased awareness and prioritization of family resilience can contribute significantly to the development of effective and sustainable public health policies

ACKNOWLEDGEMENT

The authors would like to thank to Madiun District Health Office in East Java for giving permission to collect data and also to the respondents who have contributed to this study.

FUNDING

This research was conducted without obtaining any other sources of financing other than self-financing.

AUTHORS' CONTRIBUTIONS

Eny Qurniyawati designed and formulated concept, wrote and revised manuscript, collected and analyzed the data. Cintika Y. Sebtalesty formulated the concept, enrolled participants, acquired and analyzed the data. Linda A. Nayla, Mohamed G. N. Fadhil, Muhammad R. wrote, reviewed, and revised the manuscript. Geoffrey Ssekalembe revised and analyzed the data. All authors read and approved the final manuscript.

AUTHORS' INFORMATION

Eny Qurniyawati is a lecturer and researcher from Department of Epidemiology, Biostatistics, Population Study and Health Promotion, Public Health Faculty, Universitas Airlangga, Surabaya, Indonesia. Cintika Yorinda Sebtalesty is a lecturer from STIKES Bhakti Husada Mulia, Madiun, Indonesia. Linda Andriani is a government employees from Sidoarjo District Health Office, East Java, Indonesia. Geoffrey Ssekalembe is a practitioner from Elizabeth Glaser Pediatric AIDS Foundation, Uganda. Nayla Mohamed Gomaa Nasr is a lecturer from Faculty of public and environmental health, Bahri University, Khartoum, Sudan. Fadhil Muhammad Razzan is a student from Public Health Faculty, Universitas Airlangga, Surabaya, Indonesia

COMPETING INTERESTS

The authors confirm that all of the text, figures, and tables in the submitted manuscript work are original work created by the authors and that there are no competing professional, financial, or personal interests from other parties.

REFERENCES

- Accortt, E. E., Cheadle, A. C. D., & Dunkel Schetter, C. (2015). Prenatal depression and adverse birth outcomes: an updated systematic review. *Maternal and Child Health Journal*, *19*(6), 1306–1337. <https://doi.org/10.1007/s10995-014-1637-2>
- Aghababaei, S., Bashirian, S., Soltanian, A., Refaei, M., Omid, T., Ghelichkhani, S., & Soltani, F. (2020). Perceived risk and protective behaviors regarding COVID-19 among Iranian pregnant women. *Middle East Fertility Society Journal*, *25*(1), 1–9. <https://doi.org/10.1186/s43043-020-00038-z>
- Atmuri, K., Sarkar, M., Obudu, E., & Kumar, A. (2022). Perspectives of pregnant women during the COVID-19 pandemic: A qualitative study. *Women and Birth*, *35*(3), 280–288. <https://doi.org/10.1016/j.wombi.2021.03.008>
- Barzilay, R., Moore, T. M., Greenberg, D. M., DiDomenico, G. E., Brown, L. A., White, L. K., Gur, R. C., & Gur, R. E. (2020). Resilience, COVID-19-related stress, anxiety and depression during the pandemic in a large population enriched for healthcare providers. *Translational Psychiatry*, *10*(1), 1–8. <https://doi.org/10.1038/s41398-020-00982-4>
- Boekhorst, M. G. B. M., Muskens, L., Hulsbosch, L. P., Van Deun, K., Bergink, V., Pop, V. J. M., & van den Heuvel, M. I. (2021). The COVID-19 outbreak increases maternal stress during pregnancy, but not the risk for postpartum depression. *Archives of Women's Mental Health*, *24*(6), 1037–1043. <https://doi.org/10.1007/s00737-021-01104-9>
- Cameron, E. E., Joyce, K. M., Delaquis, C. P., Reynolds, K., Protudjer, J. L. P., & Roos, L. E. (2020). Maternal psychological distress & mental health service use during the COVID-19 pandemic. *Journal of Affective Disorders*, *276*, 765–774. <https://doi.org/10.1016/j.jad.2020.07.081>
- Chen, S., & Bonanno, G. A. (2020). Psychological adjustment during the global outbreak of COVID-19: A resilience perspective. *Psychological Trauma: Theory, Research, Practice, and Policy*, *12*(S1), S51. <https://psycnet.apa.org/doi/10.1037/tra0000685>
- Cherak, S. J., Giesbrecht, G. F., Metcalfe, A., Ronksley, P. E., & Malebranche, M. E. (2018). The effect of gestational period on the association between maternal prenatal sali-

- vary cortisol and birth weight: A systematic review and meta-analysis. *Psychoneuroendocrinology*, *94*, 49–62. <https://doi.org/10.1016/j.psychneuen.2018.04.023>
- Corbett, G. A., Milne, S. J., Hehir, M. P., Lindow, S. W., & O'connell, M. P. (2020). Health anxiety and behavioural changes of pregnant women during the COVID-19 pandemic. *European Journal of Obstetrics, Gynecology, and Reproductive Biology*, *249*, 96. <https://doi.org/10.1016%2Fj.ejogrb.2020.04.022>
- Coulombe, S., Pacheco, T., Cox, E., Khalil, C., Doucerain, M. M., Auger, E., & Meunier, S. (2020). Risk and resilience factors during the COVID-19 pandemic: a snapshot of the experiences of Canadian workers early on in the crisis. *Frontiers in Psychology*, *11*, 3225. <https://doi.org/10.3389/fpsyg.2020.580702>
- Cusinato, M., Iannatone, S., Spoto, A., Poli, M., Moretti, C., Gatta, M., & Miscioscia, M. (2020). Stress, Resilience, and Well-Being in Italian Children and Their Parents during the COVID-19 Pandemic. *International Journal of Environmental Research and Public Health*, *17*(22), 8297. <https://doi.org/10.3390/ijerph17228297>
- Dashraath, P., Wong, J. L. J., Lim, M. X. K., Lim, L. M., Li, S., Biswas, A., Choolani, M., Mattar, C., & Su, L. L. (2020). Coronavirus disease 2019 (COVID-19) pandemic and pregnancy. *American Journal of Obstetrics and Gynecology*, *222*(6), 521–531. <https://doi.org/10.1016/j.ajog.2020.03.021>
- Djalante, R., Lassa, J., Setiamarga, D., Sudjatma, A., Indrawan, M., Haryanto, B., Mahfud, C., Sinapoy, M. S., Djalante, S., & Rafliana, I. (2020). Review and analysis of current responses to COVID-19 in Indonesia: Period of January to March 2020. *Progress in Disaster Science*, *6*, 100091. <https://doi.org/10.1016/j.pdisas.2020.100091>
- Eales, L., Ferguson, G. M., Gillespie, S., Smoyer, S., & Carlson, S. M. (2021). Family Resilience and Psychological Distress in the COVID-19 Pandemic: A Mixed Methods Study. *Developmental Psychology*. <https://psycnet.apa.org/doi/10.1037/dev0001221>
- Fuller, H. R., & Huseth-Zosel, A. (2021). Lessons in resilience: initial coping among older adults during the COVID-19 pandemic. *The Gerontologist*, *61*(1), 114–125. <https://doi.org/10.1093/geront/gnaa170>
- Gayatri, M., & Irawaty, D. K. (2021). Family Resilience during COVID-19 Pandemic: A Literature Review. *The Family Journal*, *10664807211023876*. <https://doi.org/10.1177/10664807211023876>
- Grigoriadis, S., Graves, L., Peer, M., Mamisashvili, L., Tomlinson, G., Vigod, S. N., Dennis, C.-L., Steiner, M., Brown, C., & Cheung, A. (2018). Maternal anxiety during pregnancy and the association with adverse perinatal outcomes: systematic review and meta-analysis. *The Journal of Clinical Psychiatry*, *79*(5), 813. <https://doi.org/10.4088/JCP.17r12011>
- Hessami, K., Romanelli, C., Chiurazzi, M., & Cozzolino, M. (2020). COVID-19 pandemic and maternal mental health: a systematic review and meta-analysis. *The Journal of Maternal-Fetal & Neonatal Medicine*, *1–8*. <https://doi.org/10.1080/14767058.2020.1843155>
- Jago, C. A., Singh, S. S., & Moretti, F. (2020). Coronavirus disease 2019 (COVID-19) and pregnancy: combating isolation to improve outcomes. *Obstetrics & Gynecology*, *136*(1), 33–36. <https://doi.org/10.1097/aog.00000000000003946>
- Jatimprov. (2022). *Dashboard COVID-19 Jawa Timur*. <https://infocovid19.jatimprov.go.id/index.php/data>
- Kamel, D.-E., & Hentati, Y. (2021). Portrait of resilience among Tunisians locked down in times of COVID-19. *Traumatology*. <https://psycnet.apa.org/doi/10.1037/trm0000300>
- Khalik, O. P., & Phoswa, W. N. (2020). Is Pregnancy a Risk Factor of COVID-19? *European Journal of Obstetrics & Gynecology and Reproductive Biology*. <https://doi.org/10.1016/j.ejogrb.2020.06.058>
- Khoury, J. E., Atkinson, L., Bennett, T., Jack, S. M., & Gonzalez, A. (2021). COVID-19 and mental health during pregnancy: The importance of cognitive appraisal and social support. *Journal of Affective Disorders*, *282*, 1161–1169. <https://doi.org/https://doi.org/10.1016/j.jad.2021.01.027>
- Kimhi, S., Marciano, H., Eshel, Y., & Adini, B. (2020). Resilience and demographic characteristics predicting distress during the COVID-19 crisis. *Social Science & Medicine*, *265*, 113389. <https://doi.org/10.1016/j.socscimed.2020.113389>
- Lebel, C., MacKinnon, A., Bagshawe, M., Tomfohr-Madsen, L., & Giesbrecht, G. (2020). Elevated depression and anxiety symptoms among pregnant individuals during the COVID-19 pandemic. *Journal of Affective Disorders*, *277*, 5–13. <https://doi.org/10.1016/j.jad.2020.07.126>
- Li, R., Zhang, J., Zhou, R., Liu, J., Dai, Z., Liu, D., Wang, Y., Zhang, H., Li, Y., & Zeng, G. (2017). Sleep disturbances during pregnancy are associated with cesarean delivery and preterm birth. *The Journal of Maternal-Fetal & Neonatal Medicine*, *30*(6), 733–738. <https://doi.org/10.1080/14767058.2016.1183637>
- Lian, B., & Yoon, S.-Y. (2020). Burdens, Resilience, and Mutual Support: A Comparative Study of Families in China and South Korea Amid the COVID-19 Pandemic. *Journal of Comparative Family Studies*, *51*(3–4), 337–346. <https://doi.org/10.3138/jcfs.51.3-4.009>
- Liu, M., Neri Mini, F., Torres, C., Kwete, G. M., Boudreau, A. A., Hunter, M. L., Parra, M. Y., Lopez, W., Izen, A., & Price, S. N. (2021). Fostering Resilience in Pregnancy and Early Childhood During the COVID-19 Pandemic: The HUGS/Abrazos Program Design and Implementation. *Frontiers in Public Health*, *9*, 422. <https://doi.org/10.3389/fpubh.2021.633285>
- Mappa, I., Distefano, F. A., & Rizzo, G. (2020). Effects of coronavirus 19 pandemic on maternal anxiety during pregnancy: a prospective observational study. *Journal of Perinatal Medicine*, *48*(6), 545–550. <https://doi.org/10.1515/jpm-2020-0182>
- Martin, L., Hauret, L., & Fuhrer, C. (2022). Digitally transformed home office impacts on job satisfaction, job stress and job productivity. COVID-19 findings. *Plos One*, *17*(3), e0265131. <https://doi.org/10.1371/journal.pone.0265131>
- Masten, A. S., & Motti-Stefanidi, F. (2020). Multisystem resilience for children and youth in disaster: Reflections in the context of COVID-19. *Adversity and Resilience Science*, *1*(2), 95–106. <https://doi.org/10.1007/s42844-020-00010-w>
- Mei, H., Li, N., Li, J., Zhang, D., Cao, Z., Zhou, Y., & Cao, J. (2020). *Impact of the COVID-19 pandemic on mental health in pregnancy women: results from two cohort studies in China*. <https://doi.org/10.21203/rs.3.rs-42153/v1>
- Miller, J. J., Niu, C., & Moody, S. (2020). Child welfare workers and peritraumatic distress: The impact of COVID-19. *Children and Youth Services Review*, *119*, 105508. <https://doi.org/10.1016/j.childyouth.2020.105508>

- Montenovo, L., Jiang, X., Lozano-Rojas, F., Schmutte, I., Simon, K., Weinberg, B. A., & Wing, C. (2022). Determinants of disparities in early COVID-19 job losses. *Demography*, *59*(3), 827–855. <https://doi.org/10.1215/00703370-9961471>
- Moyer, C. A., Compton, S. D., Kaselitz, E., & Muzik, M. (2020). Pregnancy-related anxiety during COVID-19: a nationwide survey of 2740 pregnant women. *Archives of Women's Mental Health*, *23*(6), 757–765. <https://doi.org/10.1007/s00737-020-01073-5>
- Poon, L. C., Yang, H., Kapur, A., Melamed, N., Dao, B., Divakar, H., McIntyre, H. D., Kihara, A. B., Ayres-de-Campos, D., & Ferrazzi, E. M. (2020). Global interim guidance on coronavirus disease 2019 (COVID-19) during pregnancy and puerperium from FIGO and allied partners: Information for healthcare professionals. *International Journal of Gynecology & Obstetrics*, *149*(3), 273–286. <https://doi.org/10.1002/ijgo.13156>
- Preis, H., Mahaffey, B., Heiselman, C., & Lobel, M. (2020). Vulnerability and resilience to pandemic-related stress among US women pregnant at the start of the COVID-19 pandemic. *Social Science & Medicine*, *266*, 113348. <https://doi.org/10.1016/j.socscimed.2020.113348>
- Prime, H., Wade, M., & Browne, D. T. (2020). Risk and resilience in family well-being during the COVID-19 pandemic. *American Psychologist*. <https://psycnet.apa.org/doi/10.1037/amp0000660>
- Rahmadania, S. R. (2022). *Jabar Terbanyak, Ini Sebaran 1.297 Kasus COVID-19 Baru RI 20 Desember*. Detik Health. <https://health.detik.com/berita-detikhealth/d-6471844/jabar-terbanyak-ini-sebaran-1297-kasus-covid-19-baru-ri-20-desember>
- Saccone, G., Florio, A., Aiello, F., Venturella, R., De Angelis, M. C., Locci, M., Bifulco, G., Zullo, F., & Di Spiezio Sardo, A. (2020). Psychological impact of coronavirus disease 2019 in pregnant women. *American Journal of Obstetrics and Gynecology*, *223*(2), 293–295. <https://doi.org/10.1016/j.ajog.2020.05.003>
- Seiz, M. (2021). Equality in confinement: Nonnormative divisions of labor in Spanish dual-earner families during the COVID-19 lockdown. *Feminist Economics*, *27*(1–2), 345–361. <https://psycnet.apa.org/doi/10.1037/amp0000660>
- Sixbey, M. T. (2005). *Development of the family resilience assessment scale to identify family resilience constructs*. Dissertation Abstracts International, (UMI No.3204501).
- Sunarti, E., Prayitno, S. W., & Ramadhan, D. A. (2020). Family Resilience in the First Month of COVID-19 Pandemic in Indonesia. *Department of Family and Consumer Sciences, Faculty of Human Ecology, IPB University*, 1.
- Utami, C. T. (2017). Self-efficacy dan resiliensi: Sebuah tinjauan meta-analisis. *Buletin Psikologi*, *25*(1), 54–65. <https://doi.org/10.22146/buletinpsikologi.18419>
- Verger, N. B., Urbanowicz, A., Shankland, R., & McAloney-Kocaman, K. (2021). Coping in isolation: predictors of individual and household risks and resilience against the COVID-19 pandemic. *Social Sciences & Humanities Open*, *3*(1), 100123. <https://doi.org/10.1016/j.ssaoh.2021.100123>
- Walsh, F. (2020). Loss and resilience in the time of COVID-19: Meaning making, hope, and transcendence. *Family Process*, *59*(3), 898–911. <https://doi.org/10.1111/famp.12588>
- Wang, Y., Di, Y., Ye, J., & Wei, W. (2021). Study on the public psychological states and its related factors during the outbreak of coronavirus disease 2019 (COVID-19) in some regions of China. *Psychology, Health & Medicine*, *26*(1), 13–22. <https://doi.org/10.1080/13548506.2020.1746817>
- WHO. (2022). *COVID-19 Situation in the WHO South-East Asia Region; Reported COVID-19 Cases by Country and Date*. <https://who.maps.arcgis.com/apps/dashboards/73d1d3251de3435cbc0bc586230cc3ef>
- Wu, Y., Zhang, C., Liu, H., Duan, C., Li, C., Fan, J., Li, H., Chen, L., Xu, H., & Li, X. (2020). Perinatal depressive and anxiety symptoms of pregnant women during the coronavirus disease 2019 outbreak in China. *American Journal of Obstetrics and Gynecology*, *223*(2), 240–e1. <https://doi.org/10.1016/j.ajog.2020.05.009>
- Yerkes, M. A., André, S. C. H., Besamusca, J. W., Kruyen, P. M., Remery, C. L. H. S., van der Zwan, R., Beckers, D. G. J., & Geurts, S. A. E. (2020). 'Intelligent' lockdown, intelligent effects? Results from a survey on gender (in) equality in paid work, the division of childcare and household work, and quality of life among parents in the Netherlands during the Covid-19 lockdown. *PloS One*, *15*(11), e0242249. <https://doi.org/10.1371/journal.pone.0242249>
- Zhao, X., Jiang, Y., Zhao, Y., Xi, H., Liu, C., Qu, F., & Feng, X. (2020). Analysis of the susceptibility to COVID-19 in pregnancy and recommendations on potential drug screening. *European Journal of Clinical Microbiology & Infectious Diseases*, *39*(7), 1209–1220. <https://doi.org/10.1007/s10096-020-03897-6>
- Zou, H., Tao, Z., Zhou, Y., Zhang, Z., Zhang, C., Li, L., Yang, J., Wang, Y., Huang, W., & Wang, J. (2022). Perceived Stress Positively Relates to Insomnia Symptoms: The Moderation of Resilience in Chinese Pregnant Women During COVID-19. *Frontiers in Psychiatry*, *13*. <https://doi.org/10.3389/fpsy.2022.856627>