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Stress, family support, and spiritual adaptation as predictors of the quality of life of pregnant women during the covid-19 pandemic

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A B S T R A C T

Objective: To determine the predictor factors of the quality of life of pregnant women during the COVID-19 pandemic. The COVID-19 pandemic affects the quality of life of pregnant women. Quality of life is determined by stress, family support and spiritual adaptation. Methods: This study used a cross-sectional study design. A total of 300 pregnant women were recruited using proportional sampling methods. The study participants completed questionnaire of World Health Organization Quality of Life (WHOQOL-BREF) 2004 to identify their quality of life, Perceived Stress Scale (PSS) to measure perceived stress, Perceived Social Support Family (PSS-Fa) to assess their family support, and Spiritual Perspective Scale (SPS) to determine their spiritual adaptation, respectively. Data were analysed statistically using Multiple regression and Pearson correlation. Result: More than half of the participants reported Good Quality of Life (QoL) (50.3%), and faced stress (62,3%), high family support (53%), high spiritual adaptation (61,3%). Stress, family support, and spiritual adaptation were found to be statistically significantly related to Quality of Life (QoL) (p-value$_{1,2,3}$=0.000); r1=0.472, r2=0.446, and r3=0.605, respectively). Conclusion: Maintain a good quality of life of pregnant women is very important and it is affected by stress, family support and spiritual adaptation. Spiritual adaptation found to be the most affecting predictors of QoL among pregnant mother during COVID-19 pandemic.

Kata kunci:

Kualitas Hidup
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A B S T R A K

Tujuan: Untuk mengetahui faktor prediktor kualitas hidup ibu hamil di masa pandemi COVID-19. Pandemi COVID-19 mempengaruhi kualitas hidup ibu hamil. Kualitas hidup ditentukan oleh stres, dukungan keluarga dan adaptasi spiritual. Metode: Penelitian ini menggunakan desain cross sectional study. Sebanyak 300 ibu hamil direkrut menggunakan metode proporsional sampling. Peserta studi menyelesaikan kuesioner Kualitas Hidup Organisasi Kesehatan Dunia (WHOQOL-BREF) 2004 untuk mengidentifikasi kualitas hidup mereka, Perceived Stress Scale (PSS) untuk mengukur stres yang dirasakan, Perceived Social Support Family (PSS-Fa) untuk menilai dukungan keluarga mereka, dan Spiritual Perspective Scale (SPS) untuk menentukan adaptasi spiritual mereka, masing-masing. Data dianalisis secara statistik menggunakan regresi berganda dan korelasi Pearson. Hasil: Lebih dari setengah peserta melaporkan Kualitas Hidup yang Baik (QoL) (50,3%), dan menghadapi stres (62,3%), dukungan keluarga yang tinggi (53%), adaptasi spiritual yang tinggi (61,3%). Stres, dukungan keluarga, dan adaptasi spiritual ditemukan secara statistik terkait secara signifikan dengan Kualitas Hidup (QoL) (p-value1,2,3=0,000); r1=0,472, r2=0,446, dan r3=0,605, masing-masing). Kesimpulan: Menjaga kualitas

hidup ibu hamil yang baik sangat penting dan dipengaruhi oleh stres, dukungan keluarga dan adaptasi spiritual. Adaptasi spiritual ditemukan sebagai prediktor QoL yang paling mempengaruhi di antara ibu hamil selama pandemi COVID-19.

INTRODUCTION

Pregnancy is a moment in a woman's life that causes physiological and psychological changes and requires an adaptation process because they are influenced by hormonal and mechanical factors (Syarif, S., Ahmad, M., Manapa, E. S., Bahar, B., & Usman, 2020). Although considered as temporary, these changes affected their quality of life. It is important to evaluate the quality of life of pregnant women as a parameter for assessing the quality of services provided to them(Durá-Ferrandis, E., Mandelblatt, J. S., Clapp, J., Luta, G., Faul, L., Kimmick, G., ... & Hurria, 2017). One main goal of Antenatal Care (ANC) is to improve the quality of life of pregnant women.

Several factors are found to be related to the quality of life of pregnant women such as physical conditions during pregnancy, social support from family, stress and coping towards stress(Gul, B., Riaz, M. A., Batool, N., Yasmin, H., & Riaz, 2018). Several studies have linked stress with a lower quality of life for pregnant women. The prevalence of maternal stress in the UK ranges from 33% to 37% and 5% to 7% in Sweden. An American study reported that 78% of pregnant women had low or moderate stress levels and 6% of them had high stress levels. Nearly 36.1% of pregnant women in Canada experience some level of stress during pregnancy (Preis, H., Mahaffey, B., Heiselman, C., & Lobel, 2020).

The COVID-19 pandemic has brought many changes in health, including pregnancy. Pregnancy is a condition that is susceptible to the risk of being infected by a virus. This of course causes stress specifically for pregnant women (Moyer, C. A., Compton, S. D., Kaselitz, E., & Muzik, 2020). Research in Italy found an increase in stress and a decrease in the quality of life of pregnant women during the COVID-19 pandemic. This study found that 97.9% of pregnant women had high stress levels and were afraid of contracting COVID-19 and 52.3% showed physical symptoms due to stress (Colli, C., Penengo, C., Garzitto, M., Driul, L., Sala, A., Degano, M., ... & Balestrieri, 2021). During the COVID-19 pandemic, they cannot visit health services, they isolate themselves from their extended family for fear of contracting the virus and restrict themselves from leaving the house. This triggers higher levels of stress during pregnancy during the COVID-19 pandemic (Nodoushan, R. J., Alimoradi, H., & Nazari, 2020).

Social support given to pregnant women can reduce negative emotions. This makes the psychological support of pregnant women improve during their pregnancy (Gul, B., Riaz, M. A., Batool, N., Yasmin, H., & Riaz, 2018). Social support increases the ability of pregnant women to manage stress, provide the necessary assistance and provide appropriate information about the knowledge needed during their pregnancy. This will certainly have an impact on improving the quality of life of pregnant women (Kim, 2021).

Spiritual approach is one of the suggested methods in dealing with negative emotion. A good spiritual condition will help individuals adapt to negative emotional conditions (Z, & Avianti, 2017). Previous research found a positive relationship between spiritual conditions and lower levels of stress. Indonesia as a country with the largest Muslim population in the world famous for its high spiritual values (Nodoushan, R. J., Alimoradi, H., & Nazari, 2020). This is certainly very helpful for mothers in dealing with stress that occurs during pregnancy, especially during the COVID-19 pandemic. The belief that everything has been determined by God can give peace to pregnant women. Spiritual activity can relax emotional tension. This certainly provides many benefits in dealing with the COVID-19 pandemic (Panzini, R. G., Mosqueiro, B. P., Zimpel, R. R., Bandeira, D. R., Rocha, N. S., & Fleck, 2017).

The purpose of this study was to analyze the relationship between stress, social support and spiritual conditions on the quality of life of pregnant women in Indonesia during the COVID-19 pandemic.

METHOD

Design, Population and Sample

This study used a cross-sectional study approach conducted from July to October 2021. Sample are 300 pregnant mothers who visited antenatal care (ANC) to the Public Health Centre in Padang, Indonesia. Pregnant women with high-risk pregnancy or have psychiatric disorders are excluded from the study. The sample size was calculated using a single population proportion formula taking into account a 95% confidence interval, 5% margin of error, and 50% estimated proportion. Thus, the calculated sample was allocated proportionally to the first 15 health facilities located in Padang City according to the ANC record. The respondents who met the inclusion criteria were entered sequentially until the desired number was reached. Ethical clearance obtained from the ethics committee of the Faculty of Medicine, Andalas University with No. 511/UN.16.2/KEP-FK/2021

Instruments

Data were collected using questionnaires at the respondents' ANC examination. The questionnaire contains socio-demographic and health characteristics. Perceived Stress Scale (PSS) was used to measure perceived stress. The PSS is a 10-item self-report questionnaire that measures a person's evaluation of a stressful situation during the last month of their life. Perceived social support family (PSS-Fa) was used to measure family social status. This questionnaire consists of 20 questions about family support which have been translated into Indonesian. The spiritual adaptation of pregnant women was measured using a spiritual perspective scale (SPS). This questionnaire measures the individual's spiritual beliefs and the individual's involvement in spiritual activities. Quality of life questionnaire using World Health Organization Quality of Life (WHOQOL-BREF) 2004 which

consists of 24 questions to assess quality of life through the domains of physical, psychological, social relations and the environment. All questions are based on a Likert scale.

Statistical analysis

SPSS version 24.0 (IBM, Armonk) was used for data analysis. Frequency and related percentages are used to represent categorical variables. Multiple regression was performed and Pearson correlation (r) was used to determine the direction and strength of the relationship between variables. The coefficient of determination (R2) was calculated to express the model.

RESULTS AND DISCUSSION

The relationship between stress and quality of life is shown table 1. The value is 0.687. The percentage of the influence of the stress variable on the quality of life is 47.2% with an R Square of 0.472. Stress significantly affects quality of life with p value = 0.000. There is a positive effect of stress on the quality of life with a constant value of 0.540. This means pregnant women who face stress improve their quality of life by 71.8%.

Table 1. Multiple Regression Between Factors Affecting Quality of Life of Pregnant Women

Variable	B	β	R^2	p
Stress	0.718	0.687	0.472	0.000
Family Support	0.673	0.668	0.446	0.000
Spiritual	0.804	0.778	0.605	0.000

*p< 0.05, significant correlation
B= partial regression coefficient
β = standardized regression coefficient

The value of the correlation of family support with quality of life is 0.668. The percentage of the influence of the family support variable on the quality of life is 44.6% with an R Square of 0.446. Family support significantly affects the quality of life with p value = 0.000. There is a positive effect of family support on the quality of life with a constant value of 0.736. This means the pregnant women with high family support were most likely to have a better quality of life (67.3%) compared to the lower family support.

Spiritual adaptation and quality of life is correlated by 0.778. The percentage of the influence of the spiritual adaptation variable on the quality of life is 60.5% with an R Square of 0.605. Spiritual adaptation significantly affects the quality of life with p value = 0.000. There is a positive effect of family support on the quality of life with a constant value of 0.341. It means the higher the spiritual adaptation was most likely leading to the better quality of life with 80.4%

Only 50.3% of pregnant women in the study population have a good quality of life, and one of the predictors is the level of stress. Based on the current study results, more than half of pregnant women experience high stress (62.3%). This is in line with the research of Nodoushan et al (2020) in Iran, that stress in pregnant women increases during the COVID-19 pandemic (Nodoushan, R. J., Alimoradi, H., & Nazari, 2020). The results of the study found that 54% of pregnant women were in high stress. The COVID-19 pandemic increases stress for pregnant women due to fear of contracting COVID-19. This apprehension is because they are worried about their health and the fetus they are carrying (Preis, H., Mahaffey, B., Heiselman, C., & Lobel, 2020).

Individual coping really determines how pregnant women manage their stress. The current study found stress affects the quality of life (p value = 0.000). Based on research by Kleiveland (2015), stress has a negative relationship with quality of life in individuals with low coherence levels (Roming, S., & Howard, 2019). But in the high level of individual coherence, the relationship between stress and quality of life can be positive. This means that coherence is one of the moderating variables which make stress improve the quality of life (Dardas, L. A., & Ahmad, 2015) . The results of the study in the city of Padang obtained the value of R Square = 0.472. This result is in line with research by Dardas et al (2015) who found that stress and quality of life of parents with autistic children have a positive relationship with R Square = 0.370. In this study, stress can improve the quality of life in parents who have positive coping (Roming, S., & Howard, 2019). Coping plays an important role in managing stress so that stress provides benefits in improving the quality of life (Biggs, A., Brough, P., & Drummond, 2017). Stress makes individuals bring out their best ability in overcoming problems. This is what makes stress beneficial for some individuals (Goletzke, J., Kocalevent, R. D., Hansen, G., Rose, M., Becher, H., Hecher, K., ... & Diemert, 2017).

Fear of COVID-19 transmission makes pregnant mothers in Padang regularly visit public health centers to seek ANC services. Various information needed in dealing with pregnancy will be gathered along with the COVID-19 pandemic (Monk et al., 2013). According to Preis et al (2020) (Preis, H., Mahaffey, B., Heiselman, C., & Lobel, 2020), one form of good coping is regularly visiting health facilities (Woods et al., 2011). In addition to getting information, pregnant women also get social support from health workers. In the city of Padang, during the COVID-19 pandemic pregnant women can also get telemedicine services (Syarif, S., Ahmad, M., Manapa, E. S., Bahar, B., & Usman, 2020). This certainly makes it easier to monitor the condition of the pregnant woman. For those who need further services, health workers can provide home care visits(Wu, H., Sun, W., Huang, X., Yu, S., Wang, H., Bi, X., ... & Ming,
2020).

Family support is also important in improving the quality of life of pregnant women (Salonen et al., 2014). Based on the result of the current study, more than half (53%) of pregnant women in Padang have high family support, and affects the quality of life with p = 0.000 and R square 0.446. Family support contributes 44.6% in improving the quality of life. Increased family support will be followed by an increase in quality of life 67.3%. Sahin et al (2019) also conducted the same study and obtained R square 0.221 and p value = 0.001 means that family support for the pregnant mothers can increase 22.1% of the quality of life (Sahin, B. M., & Kabakci, 2021). Other studies have also found that social support is one of the long-term predictors of survival in breast cancer patients. According to Wen et al (2017), family support affects the quality of life of ovarian cancer patients with p value = 0.031(Wen, Q., Shao, Z., Zhang, P., Zhu, T., Li, D., & Wang, 2017).

Family support can also reduce negative emotions (Bodaghi, E., Alipour, F., Bodaghi, M., Nori, R., Peiman, N., & Saeidpour, 2017). Emotional support is a very consistent protective factor against depression in adults compared to instrumental support. Emotional support, such as having someone to lean on, attempts to directly reduce negative

emotions associated with a distressing situation (Biggs, A., Brough, P., & Drummond, 2017). Meanwhile, instrumental support is like having someone to help you technically with the difficulties you are experiencing. During the COVID-19 pandemic, there are some regulations from the government to control the spreading of the diseases, one of them is the restriction to go out and this applied to all the citizens including pregnant women (Hosseinzadeh-Shanjani, Z., Hajimiri, K., Rostami, B., Ramazani, S., & Dadashi, 2020). Pregnancy women especially are forbidden to do activities outside the home. The current study respondent spent most of their time in their house, this also because most of them (72.3%) are housewives. Family support, both emotional, instrumental and educational, needed during pregnancy is obtained from the nuclear family and extended family.

The culture of the people in Padang is living as a big family, including the nuclear family and extended family life, this makes support for pregnant women greater. Interestingly, in Padang City, the support is not only provided by the family, but also by health workers at the health services. The current study results show that almost all the respondents (94.7%) had regular ANC visits. This provides mutually reinforcing benefits with the support provided by the family. One form of support provided by the family is accompanying pregnant women to carry out ANC visits (Tadesse, 2020).

Spiritual adaptation is no less important in improving the quality of life. Spiritual adaptation is one form of coping for pregnant women in improving their quality of life. All the current study respondents (100%) are Muslim. The study result found there was a significant relationship between spiritual adaptation and quality of life (p=0.000) and it is contributing 60.5% in improving the quality of life of pregnant women. Spiritual adaptation consists of belief in the existence of God, this belief makes pregnant women believe that the process of pregnancy is a good and charity that will be rewarded by God. The process of spiritual adaptation is reflected by spiritual behaviour such as praying, and reading scriptures. Based on research by Abolghasem et al (2017), there was a significant difference in the quality of life in heart failure patients who were given religious therapy compared to the group that did not receive the therapy with $p = 0.01$ ($p < 0.05$) (Abolghasem-Gorji, H., Bathaei, S. A., Shakeri, K., Heidari, M., & Asayesh, 2017). The same study was also obtained from the research of Natour et al (2017), where there is a positive correlation between spirituality and the quality of life of Jordanian women diagnosed with breast cancer with values of $r = 0.63$ and $p = 0.000$ (Al-Natour, A., Al Momani, S. M., & Qandil, 2017).

Happiness is related to frequency and presence in religion which stimulates their believer to be happy. Religion can lead people to find a purpose in life that promotes well-being. Evidence of a significant positive relationship between quality of life and spiritual well-being is widely found in chronic disease studies. Religion advises that there is a reward for all events in the world if humans are doing good and patient. Thus, this belief gives patients hope for good retribution in the future (Binaei, N., Moeini, M., Sadeghi, M., Najafi, M., & Mohagheghian, 2016).

Religion also guides humans to be patient in dealing with unpleasant situations. Through the good value of religion, it is a way to cope with stress that can improve the quality of life. The current study took place in Padang, Sumatera Barat, Indonesia, a province with the largest Muslim population in Indonesia. The Muslim community in Padang carries out religious activities well. Based on the questionnaire filled out by respondents, pregnant women in Padang are accustomed to practicing worship as Muslims such as praying. This was also done during the COVID-19 pandemic. Even though they cannot visit places of worship, they have large families who are obedient to worship. This becomes social support in carrying out religious activities.

The spiritual dimension depends on three components: (a) the need to find meaning and fulfillment in life; (b) the need to hope and have the will to live, and (c) the need to have faith in oneself, in others, or in God. To find meaning in life is one of the key objectives of religion, avoiding feelings of emptiness and hopelessness (Roming, S., & Howard, 2019). Unknown spiritual suffering is often associated with failed treatment plans for physically handicapped rehabilitation. In a study of 10 women with cancer and five men with acquired immunodeficiency syndrome, those who had found meaning for their disease also had a better quality of life (Counted, V., Possamai, A., & Meade, 2018).

LIMITATION OF THE STUDY

This study implemented in all Public Health Center in Padang City, which could not ensure the similar result will be obtained from another region in Indonesia.

CONCLUSIONS AND SUGGESTIONS

Stress, family support and spiritual adaptation affect the quality of life of pregnant women in Padang during the COVID-19 pandemic. The most influencing variable is spiritual adaptation. Further research is needed to determine a model of spiritual adaptation that can be used to improve the quality of life of pregnant women all over the world. This model will be potential enough in maintaining the quality of life of pregnant women even during the pandemic because the pandemic itself will persist in the future.

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ETHICAL CONSIDERATIONS

This study was approved by the Health Research Ethics Committee Universitas Andalas No. 511/UN.16.2/KEP-FK/ 2021

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Conflict of interest

The authors declare that this study has no conflict of interest.

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