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The Effect of Sombere Education on Stress Levels in Primigravida Pregnant Women

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Abstract

Mental health problems during pregnancy are major public health issues that require immediate attention. Anxiety and stress can have an impact on pregnancy and childbirth. This study examines the impact of Sombere education on the stress levels of pregnant women. A quasi-experimental design with a pre-test and post-test design and a control group was employed in this study. This study's sample consisted of 80 primigravida pregnant women who met the sample criteria. Purposive sampling was utilized in this study. The chi-square test and the Wilcoxon rank test were implemented to analyze the data. The findings of this study revealed that there was a difference in stress in the intervention group after treatment ($p=0.000<0.005$), as well as a difference in stress in the control group during the post-test ($p=0.001<0.005$). Sombere education has an effect on stress levels in primigravida pregnant women ($p=0.016<0.005$). The requirement Midwives provide education on maternal mental health, particularly the stress of pregnancy. In addition, midwives must conduct stress assessments or collaborate with psychologists to ensure pregnant women's mental health.

Keywords: Sombere, Emphasize, Primigravida.

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1. INTRODUCTION

Mental health issues during pregnancy are major public health issues that require immediate attention. During pregnancy and postpartum, 10% to 20% of women worldwide experience mental disorders. The prevalence of mental health problems during pregnancy is still quite high in low- and middle-income countries, with an average prevalence of 15.6% (Spedding et al., 2020). Among mental problems during pregnancy, stress, depression, and anxiety are the most frequently reported problems during pregnancy. Other mental disorders with a fairly high prevalence are pregnancy stress at 92.8% and anxiety at 32.6% (Usami et al., 2016). This condition is primarily caused by low self-esteem as a result of changes in body shape during pregnancy, excessive fear of pain, childbirth, and congenital disabilities in babies, all of which contribute to anxiety, particularly in nulliparous mothers (Khoshkerdar & Raeisi, 2020).

The tendency to fear giving birth is 33% greater in nulliparous mothers than in multiparous mothers. Approximately 22% of mothers are afraid of childbirth, which leads nulliparous pregnant women to choose caesarean section delivery at the mother's request (Biaggi et al., 2016). Moreover, stress escalates the risk of experiencing labor complications 8,229 times (Amidu et al., 2018). The results of research conducted by (Ningtiyasari, 2019) explain that stress in pregnancy possesses the potential to cause low birth weight and small head circumference (p-value<0.01). Furthermore, stress during pregnancy has been demonstrated to affect neonatal neurobehavioral development, ACTH, cortisol, norepinephrine, and epinephrine levels (p<0.001) (Togher et al., 2017).

Mental health education and training programs reduce anxiety and stress while improving mental function. As a result, research on Mindfulness-Based Childbirth Education (MBCE) indicates that psychological awareness programs can enhance interpersonal relationships as well as effectiveness in dealing with stress, anxiety, and fear in pregnant women (Frank et al., 2014). Sombere education is based on the Mindfulness-Based Childbirth Education (MBCE) model, which combines education with skills and relaxation techniques to alleviate anxiety and fear during normal childbirth. Although the MBCE meditation program is a relaxation technique, relaxation techniques such as foot soak and Therapy Murottal have been studied. Researchers will develop an educational model to achieve the mental well-being of mothers by involving families, particularly husbands, in an education that provides services to reduce stress on mothers through skills and evaluation of programs that will pay attention to maternal health through the adaptation of the chair theory shake balance. Mental aspects, such as stress, are in the form of module development. This research aims to develop Education Sombore in order to reduce stress on pregnant mothers.

2. RESEARCH METHOD

The Quasy experimental design with pre-test and post-test design with the control group was employed in this study. This research employed participants who were divided into two groups:

1. Intervention group: pregnant women are given education through education Sombere shaped by Maternal Mental Health counselling and an intervention-shaped foot soak and therapy murottal al-Qur'an.
2. Control group: pregnant women as the control group received counselling through the Maternal and Child Health Book

This study was conducted in the Makassar area, specifically at four Community Health Centers and two hospitals in the Makassar City Region that were randomly selected: Bara-Baraya Health Center, Pattingalloang Health Center, Antang Perumnas Health Center, Kaluku Boddoa

Health Center, Rumah sick mother and child Siti Fatimah, and Homesick Mashita gave birth. It is a facility that is frequently visited by Mother. The sample was selected using the purposive sampling method, specifically the sample that fulfilled the requirements for inclusion. Sample inclusion criteria were primigravida, normal pregnant women third trimester UK, gestational age 28 weeks, willing to sign informed consent, willing to take part in educational activities 3 (three) times for the intervention group, family/husband willing to participate in educational activities for the intervention group and experienced mild to severe stress that was calculated with Prenatal Distress Questionnaire (PDQ). Exclusion criteria include experiencing mother complications, a history of the disease, and depression. This study's sample size was 80 people (39 mothers in the intervention group and 41 mothers in the control group). The Prenatal Distress Questionnaire (PDQ) was used, with 12 statements using an alternative Likert scale with four choices (weight 0-3), notably 0 = Never, 1 = Sometimes, 2 = Quite often, and 3 = Very often. The chi-square test was utilized for contrasting stress levels in the control and intervention groups. The Wilcoxon test was employed for assessing stress levels before and after intervention in each group.

3. RESULTS AND DISCUSSION

This study was performed between January and October 2022, with up to 80 respondents required to meet criteria. The following are the results of the data study processed and analyzed using the application SPSS version 16:

Table 1. Distribution of Respondent Characteristics in the Intervention Group and the Control Group.

Variable	**Intervention (n=39)**	**Control (n=41)**
	n (%) / Mean ± SD	**n (%) / Mean ± SD**
Mother's age (years)	23.48 ±4.15	21.97±3.517
Length of Marriage (month)	17.33 ±11.6	18.95±19.97
Income (Rupiah/) month		
According to UMR (Minimum wages)	6 (15.4)	14 (34.1)
Under UMR	2,217 33 (84.6)	3,545,000272 27 (65.9)
Mother's job		
Working as an IRT (Housewife)	36 (91.7)	38 (92.7)
Work is not IRT	3 (8.3)	3 (7.3)
Education		
Elementary school	3 (7.7)	2 (4.9)
Junior High School	8 (20.5)	6 (14.6)
Senior High School	20 (51.3)	26 (63.4)
College	8 (20.5)	7 (17.1)
Pregnancy status		
Planned	24 (61.5)	31 (75.6)
Unplanned	15 (38.5)	10 (24.4)
Resident status		
With family	31 (79.5)	26 (63.4)
Own	8 (20.5)	15 (36.6)

Table 1 illustrates that the Mean ± SD of the mothers in the control group was 21.97 ± 3.517 years, and the Mean ± SD of the intervention group was 23.48 ± 4.15 years. The intervention group's highest income was held by 33 respondents (55%). The majority of respondents worked as housemaids, with 38 (92.7%) in the control group and 36 (91.7%) in the intervention group. The most common pregnancy status in the two groups was planned pregnancies, with 31

respondents (75.6%). In terms of residence status, the intervention group with family had 31 respondents (79.5%), while the control group had 26 respondents (63.4%).

Table 2. Analysis of Changes in Stress and Self-Efficacy in the Intervention and Control Groups.

Variable	N	Rating Average	Number of Ranks	p-value
Deep Stress of Group Intervention				
Negative rating	21	13.21	277.50	0.000*
Positive rating	3	7.5	10:50 p.m	
Ties	15			
Group stress control				
Negative rating	22	12.77	281.00	0.001*
Positive ratings	3	14.67	44.00	
Ties	16			

p = Wilcoxon signed rating test

The differences in stress and self-efficacy in the intervention group are displayed in Table 2. After the intervention, 21 respondents reported a decrease in stress, three stated a rise in stress, and 15 reported a constant stress level. In 21 respondents, the average value of ratings on a negative rating reveals 13.21 differences in pregnancy stress before and after treatment. The difference in stress reduction is calculated by adding the rank values. In comparison, the average positive rating is 7.5, an increase from the previous average of 3 respondents, for a total positive rating of 22.50.

Control 22 respondents reported lower stress levels, 3 reported higher stress levels, and 16 reported survivals. In the negative rank, the mean rank value was 12.77, indicating differences in pregnancy stress before and after treatment in 22 respondents. The difference in stress reduction is 281.00, which is the sum of the rank values. At the same time, the average positive rating is 14.67, representing an increase of 3 respondents, for a total positive rating of 44.00.

The results of the different tests with the Wilcoxon rank obtained the stress in pregnancy at the intervention p value = 0.000 <0.005. Similarly, in groups control happen, it is changed the stress on the post-test with p-value = 0.001 <0.05.

Table 3. Analysis of the Effect of Sombere Education on Pregnancy Stress in the Intervention and Control Groups.

Variable	Intervention (n=39)	Control (n=41)	p-value
Pregnancy stress			
Pre-test			
Without stress	0	0	0.273
Light	8 (20.5)	10 (24.4)	
Currently	27 (69.2)	25 (61)	
Heavy	4 (10.3)	6 (14.6)	
Post-test			
Without stress	13 (33.3)	1(2,4)	0.016*
Light	16 (41.1)	16 (39.1)	
Currently	10 (25.6)	19 (46.3)	
Heavy	0	5 (12.2)	

p = Chi Squared

Table 3 demonstrates that Pregnancy stress before treatment was most prevalent in the intervention group, with 27 respondents (69.2%) falling into this category. Similarly, the majority of respondents in the control group, that is 25 (61%), were in the currently category. Following the intervention, the majority of the treatment group, particularly regarding 16 respondents (41.1%), included in the light category. In contrast, the majority of the control group, 19 respondents (46.3%), are currently employed.

The analysis results employing the test *chi-square*, p is the stress of pregnancy, before treatment, the value of p = 0.273 > 0.05, which illustrates no significant difference. However, after the treatment, p = 0.016 <0.05 indicated a difference between the two groups. In the intervention group, 33.3% of the respondents experienced a decrease in stress to no stress, and 41.1% experienced mild stress. This intervention is being implemented because mental health-based education for pregnant women has discovered that mindfulness training can also help with self-management. Individuals can use various coping strategies when they are more aware of their physical and psychological experiences (Jebena et al., 2015). While relaxation is not the intended outcome of mindfulness practice, it is a common side effect that may help with stress-related symptoms and physical distractions. Acceptance (or non-judgment) is a fundamental point in mindfulness practice, and people are encouraged to accept all aspects of their experience, including their thoughts, emotions, and physical sensations (Kartini et al., 2019)

Furthermore, relaxation therapy administered to the intervention group can reduce stress in the respondents. Relaxation techniques such as soaking feet in warm water and murottal therapy can help mothers reduce the symptoms of stress (Sudirman et al., 2022). Anxiety during pregnancy can be brought on by negative thoughts that continue to grow. As a result, anxiety rises as a result of the brain's decision to fight or flee. This intervention increases the supply of oxygen to the body's tissues, resulting in an imbalance of O2 and CO2 levels in the brain. Body shaking, difficulty breathing, weakness, visual disturbances, increased muscle strength, neck and head pain, and chest pain are all symptoms of a O2 and CO2 imbalance (Septianingrum, 2018).

Soaking the feet in warm water for therapy causes vasodilation and reduces tension by transferring heat from the water to the feet and then to the body. Muscles promote blood circulation. The venous flexus in the feet contains many nerves, which are delivered to the body when the feet come into contact with warm water. In addition, the stimulus will be transmitted to the posterior horn and then to the spinal cord. This process continues to the dorsal root of the lamina I, II, and III and ends in the raphe area below the pons and medulla, inducing sleep. The mother will become more relaxed as a result of this condition (Septianingrum, 2018) .

The sound vibrations of reading the Qur'an will be captured by the earlobe, which will be diverted to the ear canal and hit the eardrum so that it vibrates. This vibration will be transmitted to the ossicles, which are fused and pass it on to the cochlea. Auditory cells vibrate inside the cochlea in response to sound, and these vibrations produce electrical vibrations that are transmitted to the thalamus via the VIII (vestibule cochlear). The thalamus sends signals to the amygdala and the hippocampus. The hippocampus is responsible for motivation, which is a drive in the brain to recall pleasant experiences and thoughts. The amiglada is also transmitted to the hypothalamus, in addition to the hippocampus. The hypothalamus induces negative feedback from the thyroid gland, resulting in a decrease in stress hormones and an increase in relaxation hormones (Anita, 2017).

Furthermore, stress and anxiety during pregnancy can be overcome if a person has strong mental health self-efficacy. According to previous research (Nagle & Farrelly, 2018), self-efficacy in mental health is thought to be an influential factor in reducing stress and depression levels that originate within a person. As a result, it is critical to focus on increasing the person's mental health self-efficacy during the mental health intervention process (MacKinnon et al., 2017).

This research is in accordance with research (Khoshkerdar & Raeisi, 2020) (Mindfulness-based programs on the psychological health of pregnant women) that mindfulness-based programs underlie decision-making; self-management; relaxation; and acceptance, indicating that this approach may possess essential benefits for human health (Sullivan et al., 2019).

During the post-test, ten respondents (25.6%) in the intervention group experienced moderate stress. Age, education, living status, and family income are all potential risk factors for prenatal stress exacerbations, as are stressors that persist in the mother. There were 7 people (17.07%) in the control group <20 years and in the intervention group there were 6 people (15.38%). Aside from the development of maturity, age has an impact on emotional and social aspects. Age has a significant impact on a woman's ability to fulfill her role as a mother. A pregnancy occurs during a woman's psychological development at a healthy reproductive age. A woman at this age will easily adapt to her role as a mother (Martins, 2019).

Several issues will confront pregnant mothers during their adolescent years, including puberty, when adolescents have lofty goals that are frequently unrealistic, and their thoughts are overly grandiose. Sensitivity to the opinions of others is extremely high. Furthermore, the psychological problems of teenage mothers are conflicts that are not properly resolved in childhood, so the adolescent phase fails to undergo a mental development process, which has an impact on the mother's stress condition (Isir et al., 2021) . Traumatic experiences in childhood or the past, such as being abused or others, can cause disruptions in the growth phase. Similarly, they are subjected to environmental or socioeconomic pressures, which can lead to feelings of inferiority. This condition occurs because teenagers are not yet emotionally stable (Triwahyuningsih & Prayugi, 2018).

In addition to age, highly educated people will respond more rationally than uneducated people who are unable to face challenges rationally. According to the findings of the study, pregnant women with primary and secondary education have higher levels of anxiety than mothers with a higher level of education. This condition exists because the higher a person's level of education, the better he can think rationally and control his emotions, thereby reducing anxiety (Sūdžiūtė et al., 2020).

Status of residence in the control group with a family of 26 mothers (63.4%) and the intervention group 31 mothers (79.5%). Status of residence most of the respondents live with their families. This research is in accordance with research conducted by (Field et al., 2019) entitled Psychosocial Stress During Pregnancy. Research results illustrate that psychosocial stress during pregnancy in pregnant women living with family is higher with OR 3.1 and to calculate their level of psychosocial stress by employing the Prenatal Psychosocial Profile Scale. Meanwhile, on research revealed that 38% of mothers experience stress living with family, particularly family husband (Prihandini & Primana, 2020).

Internal family conflicts are signs of psychosocial stressors. Internal family problems are one of the negative life events that physically and psychologically immature people experience. As a result, it will be involved in the activation of stress signals at the locus cereus and the HPA axis (Aatsinki et al., 2020).

Thus, women in the intervention group may have better relationships with their husbands and mothers-in-law, as presented in our previous study (Arinda & Herdayati, 2021). Better interpersonal relationships can help women receive more practical assistance from their families with baby care, household chores, and emotional support. This condition could explain why study groups had higher levels of perceived social support.

In Six respondents (30%) in the intervention group had family income based on the minimum wage, while 14 respondents (70% in the control group) did not. The intervention group had 33 respondents (55%) and the control group had 27 (45%). Adequate family income

prepares pregnant women for pregnancy because pregnancy necessitates a special budget for ANC, nutritious food for the mother and fetus, maternity clothes, childbirth costs, and the baby's needs after birth (Telaumbanua & Absah, 2021).

The results of this study (Said et al., 2015) revealed a relationship between family income and anxiety for primigravida mothers at the Tuminting Health Center, where the p-value = 0.000 is less than = 0.05. Research conducted by (Rahmawati, 2020) discovered that the correlation coefficient (r) obtained between economic status and the level of maternal anxiety in dealing with normal delivery during the Covid-19 pandemic had a relationship with a significance value (p) of 0.000 <0.05. The results demonstrated that the higher the economic status, the lower the anxiety level; the lower the economic status, the higher the anxiety level.

Pregnant women with good socioeconomic status have better physical and psychological health, which reduces anxiety before childbirth because the mother has reached an emotional maturity stage. Low socioeconomic status also causes pregnant women to be irregular in their antenatal care, increasing the risk of pathological births (Bledsoe et al., 2017). Pregnant women can benefit from mental health education provided by their mothers. Furthermore, it aids in the relief of symptoms associated with stress and physical disorders. Pregnant women have improved coping mechanisms and are encouraged to accept all aspects of their experience, including their thoughts, emotions, and physical sensations. However, the presence of determinant factors such as living status and socioeconomic conditions resulted in none of the three responses experiencing a reduction in anxiety after receiving the intervention (Alipour et al., 2018).

Anxiety can impair pregnant women's ability to concentrate and cause them to lose confidence. The effects of mothers' anxiety during childbirth will manifest as excessive pain or pain. Fear will impede the birth process because the human body will activate the center of alertness and defense when it receives a signal of fear (Stocker et al., 2020).

4. CONCLUSION

In this study, there was a change in the stress of pregnant women in both the intervention and control groups after the intervention was performed during the post-test. Sombere education has an effect on stress levels in primigravida pregnant women. The importance of paying attention to pregnant women's mental or psychological conditions by developing mental health-based education to ensure the mother's and fetus's health. To ensure the mental health of pregnant women, health workers, particularly midwives, must conduct stress assessments or collaborate with psychologists.

REFERENCES

Aatsinki, A.-K., Keskitalo, A., Laitinen, V., Munukka, E., Uusitupa, H.-M., Lahti, L., Kortesluoma, S., Mustonen, P., Rodrigues, AJ, Coimbra, B., Huovinen, P., Karlsson, H., & Karlsson, L. (2020). Maternal prenatal psychological distress and hair cortisol levels associated with infant faecal microbiota composition at 2.5 months of age. *Psychoneuroendocrinology* , *119* , 104754. https://doi.org/10.1016/j.psyneuen.2020.104754

Alipour, Z., Kheirabadi, G. R., Kazemi, A., & Fooladi, M. (2018). The most important risk factors affecting mental health during pregnancy: a systematic review. *Eastern Mediterranean health journal*, *24*(6), 549-559. https://doi.org/10.26719/2018.24.6.549

Amidu, N., Alhassan, M., Issah, H., Yakong, V., Yahaya, W., Adams, Y., & Dapare, P. (2018). Perceived Stress and Anxiety in Women during Labor: A Case of Tamale West Hospital, Tamale, Ghana. *Asian Journal of Medicine and Health* , *11* (2), 1–10. https://doi.org/10.9734/ajmah/2018/40373

Anita, W. (2017). Techniques of pain reduction in the normal labor process: systematic

review. *Jurnal Endurance*, *2*(3), 362-375. https://doi.org/10.22216/jen.v2i3.2357

Arinda, Y. D., & Herdayati, M. (2021). Masalah kesehatan mental pada wanita hamil selama pandemi COVID-19. *Jurnal Kesehatan Vokasional*, *6*(1), 32-41. https://doi.org/10.22146/jkesvo.62784

Biaggi, A., Conroy, S., Pawlby, S., & Pariante, CM (2016). Identifying the women at risk of antenatal anxiety and depression: A systematic review. *Journal of Affective Disorders* , *191* , 62–77. https://doi.org/10.1016/j.jad.2015.11.014

Bledsoe, SE, Rizo, CF, Wike, TL, Killian-Farrell, C., Wessel, J., Bellows, A.-M., & Doernberg, A. (2017). Pregnant adolescent women's perceptions of depression and psychiatric services in the United States. *Women and Birth* , *30* (5), e248–e257. https://doi.org/10.1016/j.wombi.2017.02.006

Field, S., Abrahams, Z., Woods, DL, Turner, R., Onah, MN, Kaura, DK, & Honikman, S. (2019). Accessible continued professional development for maternal mental health. *African Journal of Primary Health Care & Family Medicine* , *11* (1), 1-7. https://doi.org/10.4102/phcfm.v11i1.1902

Frank, G. D., Fox, D., Njue, C., & Dawson, A. (2021). The maternity experiences of women seeking asylum in high-income countries: a meta-ethnography. *Women and birth : journal of the Australian College of Midwives*, *34*(6), 531–539. https://doi.org/10.1016/j.wombi.2020.12.012

Isir, M., Egam, A., & Mustamu, AC (2021). Factors Predictors of Survival Rate in Early Adolescent Pregnancy. *Journal of Nursing* , *13* (3), 519–528. https://doi.org/10.32583/keperawatan.v13i3.1424

Jebena, M. G., Taha, M., Nakajima, M., Lemieux, A., Lemessa, F., Hoffman, R., ... & al'Absi, M. (2015). Household food insecurity and mental distress among pregnant women in Southwestern Ethiopia: a cross sectional study design. *BMC pregnancy and childbirth*, *15*, 250. https://doi.org/10.1186/s12884-015-0699-5

Kartini, F., Emilia, O., Dasuki, D., & Prabandari, YS (2019). Developing Indonesian version of childbirth self-efficacy inventory (Cbsei)-C32. *Bali Medical Journal* , *8* (3), 679-686. https://doi.org/10.15562/bmj.v8i3.1538

MacKinnon, AL, Naguib, M., Barr, HJ, Levinsson, A., Robins, S., Feeley, N., Hayton, B., Zelkowitz, P., & Gold, I. (2017). Delusional ideation during the perinatal period in a community sample. *Schizophrenia Research* , *179* , 17–22. https://doi.org/10.1016/j.schres.2016.09.027

Martins, CA (2019). Transition to parenthood: consequences on health and well-being. A qualitative study. *Enfermería Clínica* , *29* (4), 225–233. https://doi.org/10.1016/j.enfcli.2018.04.005

Nagle, U., & Farrelly, M. (2018). Women's views and experiences of having their mental health needs considered in the perinatal period. *Midwifery* , *66* , 79–87. https://doi.org/10.1016/j.midw.2018.07.015

Ningtiyasari, N. (2019). The Relationship between the Nutritional Status of Pregnant Women and the Incidence of LBW in PMB Johana Widijati, Tulungagung Regency, Sidorejo Village, Kauman District, Tulungagung Regency. *Journal of Midwifery, University of Tulungagung* , 1–6.

Khoshkerdar, P., & Raeisi, Z. (2020). The Effect of Mindfulness-Based Stress Reduction on Affective Control Dimensions in Adolescent Girls with Dysfunctional Eating Attitudes. *Journal of Child and Family Studies*, *29*, 1992-1999. https://doi.org/10.1007/s10826-020-01721-5

Prihandini, S., & Primana, L. (2020). Efikasi Diri Kesehatan Mental sebagai Mediator antara

Dukungan Suami dengan Kelekatan Ibu-Janin. *INSAN Jurnal Psikologi Dan Kesehatan Mental*, *5*(2), 112–124. https://doi.org/10.20473/jpkm.V5I22020.112-124

Rahmawati, W. R. (2019). Pengaruh Stres pada Ibu Hamil Trimester III terhadap Aktivitas Janin yang Dikandung di Wilayah Puskesmas Grabag 1 Kabupaten Magelang. *JURNAL KEPERAWATAN MERSI*, *8*(2), 37-42.

Said, N., Kanine, E., & Bidjuni, H. (2015). Hubungan faktor sosial ekonomi dengan kecemasan ibu primigravida di puskesmas tuminting. *Jurnal Keperawatan*, *3*(2),1-8.

Septianingrum, Y. (2018). The Effectiveness of Relaxation During Pregnancy on Reducing Stress, Anxiety in Pregnant Women and the Response of the Fetus in the Womb. *Journal of Health Sciences* , *8* (2), 206–212. https://doi.org/10.33086/jhs.v8i2.206

Spedding, M., Stein, DJ, Naledi, T., Myers, B., Cuijpers, P., & Sorsdahl, KR (2020). A task-sharing intervention for prepartum common mental disorders: Feasibility, acceptability and responses in a South African sample. *African Journal of Primary Health Care & Family Medicine* , *12* (1), a2378. https://doi.org/10.4102/phcfm.v12i1.2378

Stocker, R., Nguyen, T., Tran, T., Tran, H., Tran, T., Hanieh, S., Biggs, B.-A., & Fisher, J. (2020). Social and economic development and pregnancy mental health: secondary analysis of data from rural Vietnam. *BMC Public Health* , *20* , 1001. https://doi.org/10.1186/s12889-020-09067-9

Sudirman, J., Bachri, N., Syafar, M., Jusuf, EC, Syamsuddin, S., Mappaware, NA, & Saleng, H. (2022). Foot Hydrotherapy: Non-pharmacology Treatment for Reducing Anxiety in Third Trimester Pregnancy. *Open Access Macedonian Journal of Medical Sciences* , *10* , 320–323. https://doi.org/10.3889/oamjms.2022.8271

Sūdžiūtė, K., Murauskienė, G., Jarienė, K., Jaras, A., Minkauskienė, M., Adomaitienė, V., & Nedzelskienė, I. (2020). Pre-existing mental health disorders affecting pregnancy and neonatal outcomes: a retrospective cohort study. *BMC Pregnancy and Childbirth* , *20, 419*. https://doi.org/10.1186/s12884-020-03094-5

Sullivan, J., Thorn, N., Amin, M., Mason, K., Lue, N., & Nawzir, M. (2019). Using simple acupressure and breathing techniques to improve mood, sleep and pain management in refugees: a peer-to-peer approach in a Rohingya refugee camp. *Intervention* , *17* (2), 252–258. https://doi.org/10.4103/INTV.INTV_13_19

Telaumbanua, AS, & Absah, Y. (2021). The Influence of Education and Training on Performance Through Midwifery Competence: A Quantitative Study. *Journal of Education, Psychology and Health Research (J-P3K)* , *2* (2), 142–147. https://doi.org/10.51849/j-p3k.v2i2.103

Togher, K., Treacy, E., O'Keeffe, G., & Kenny, LC (2017). Maternal distress in late pregnancy alters obstetric outcomes and the expression of genes important for placental glucocorticoid signaling. *Psychiatry Research* , *255* , 17–26. https://doi.org/10.1016/j.psychres.2017.05.013

Triwahyuningsih, R. Y., & Prayugi, A. N. (2018). Analisis Faktor-Faktor Yang Berhubungan Dengan Kejadian Kekurangan Energi Kronik (Kek) Pada Ibu Hamil. *Jurnal Kebidanan*, *8*(2), 116-121.

Usami, M., Iwadare, Y., Watanabe, K., Kodaira, M., Ushijima, H., Tanaka, T., & Saito, K. (2016). Long-term fluctuations in traumatic symptoms of high school girls who survived from the 2011 Japan tsunami: series of questionnaire-based cross-sectional surveys. *Child Psychiatry & Human Development*, *47*, 1002-1008. https://doi.org/10.1007/s10578-016-0631-x