



Saudi Arabian Primigravid Women's Experiences of Mindfulness to Reduce Childbirth Stress: A Qualitative Study

SAGE Open Nursing
Volume 9: 1–11
© The Author(s) 2023
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/23779608231175214
journals.sagepub.com/home/son



Anwar Nader Alkhunaizi, RN, PhD (c)¹,
Seham Mansour Alyousef, RN, PhD² ,
Sami Abdulrahman Alhamidi, RN, PhD³ 
and Danah Nasser Almoammar, BS⁴

Abstract

Introduction: Pregnancy is a significant transitional life experience. It can also be one of the most stressful experiences in life and some women go on to develop postpartum depression. Adopting mindfulness techniques during childbirth may allow women to experience less labor pain and require fewer medical interventions, which improve the mother's health.

Objective: To investigate the effectiveness of mindfulness in reducing childbirth stress in primigravid women in Saudi Arabia.

Methods: The researcher recruited primigravid women from an antenatal clinic in a government hospital in the Eastern Province of Saudi Arabia. The study adopted a qualitative interpretive descriptive design, using individual interviews to collect the data before conducting thematic content analysis using NVivo 10.1 software.

Results: Five key themes emerged from the data: (a) stress reduction, (b) recognition of thoughts and feelings, (c) life satisfaction, (d) insufficient knowledge leads to challenges, and (e) empowerment of a spiritual aspect.

Conclusions: Mindfulness is an effective technique that supports a mother's physical and psychological well-being.

Keywords

childbirth stress, mindfulness, postpartum depression, primigravid women

Received 12 January 2023; accepted 18 April 2023

Introduction/Background

As highlighted by the World Health Organization, improving the quality of care for pregnant women during childbirth is important for achieving desired person-centered outcomes (Yildiz, 2019). Pregnancy is one of the most important life events and is, therefore, associated with unforgettable moments and memories. Despite being associated with many positive feelings, Pereda-Goikoetxea et al. (2023) argue that pregnancy is highly influenced by emotional experiences, and Moustafa et al. (2020) advise that it is a major life transition that can lead to postpartum depression. Pregnant women often need antenatal education to decide on their childbirth options, such as positions during labor, pain relief methods, infant care, and breastfeeding. Participation in childbirth classes can not only increase women's knowledge about childbirth but also potentially help to moderate anxiety and fear of the childbirth experience (Hassanzadeh et al., 2019).

Mindfulness is defined in the mental health literature as paying attention to purpose and focusing on the present moment without judgment (Kabat-Zinn et al., 1998). Other definitions in clinical literature describe mindfulness as engaging full, direct, and active awareness of experienced phenomena (Husgafvel, 2018). Strohmaier et al. (2021) revealed that a small amount of mindfulness practice could

¹Department of Maternal and Child Health Nurse, King Saud University, Riyadh, Saudi Arabia

²Community and Psychiatric Department, Nursing College, King Saud University, Riyadh, Saudi Arabia

³Department of Maternal and Child Health, Nursing College, King Saud University, Riyadh, Saudi Arabia

⁴Department of Psychiatric and Mental Health Care, College of Nursing, King Saud University, Riyadh, Saudi Arabia

Corresponding Author:

Anwar Nader Alkhunaizi, King Saud University, Riyadh, Saudi Arabia.
Email: 442204544@student.ksu.edu.sa



be beneficial in improving symptoms of depression, anxiety, and stress in pregnant women.

Review of Literature

To determine the potential impact of mindfulness on the anxiety levels of first-time expectant mothers in their second or third trimesters, a randomized controlled trial conducted by Zarenejad et al. (2020) implemented a mindfulness-based stress reduction program. The researchers identified a significant improvement in the anxiety scores of the intervention group compared with the control group, while this significant difference continued to widen when anxiety scores were reassessed one month after completion of the study, indicating that the intervention provided continued therapeutic benefits even after its completion (Zarenejad et al., 2020).

Evidence has demonstrated that women who experience mindfulness in childbirth have increased confidence in their ability to deal with childbirth and labor pain, which leads to improved maternal health and even a reduction in medical intervention and medical costs (Zarenejad et al., 2020). Moreover, Zarenejad et al. (2020) indicate that mindfulness in childbirth has long been used to reduce the anxiety of pregnant women. There is growing evidence of the effectiveness of mindfulness interventions in treating a range of mental health issues and this appears well suited to pregnancy (Yang et al., 2018). Thus, combining mindfulness techniques with childbirth education promises to enhance the perinatal mental health of expectant mothers (Sbrilli et al., 2020). In studies conducted by Stamler (1998) and Yıldız (2019), pregnant women who attended prenatal educational classes stated that participating in the classes had increased their knowledge and reduced their anxiety and fear. The women reported that relaxation techniques were beneficial, while they described the atmosphere of these classes as conducive to asking questions and receiving answers. Al Nasr et al. (2020) highlight that the prevalence of postpartum depression is high in Saudi Arabia, which suggests the need for the adoption of necessary changes in the system, including routine screening and encouraging the application of mindfulness techniques for primigravid women. The present study aims to explore Saudi Arabian primigravid women's experiences of mindfulness to reduce childbirth stress.

Theoretical Considerations

Lazarus and Folkman's (1984) *Transactional Model of Stress and Coping* addresses coping with stressful events. According to Glanz et al. (2008), this model is helpful for health education, health promotion, and disease prevention; it presents stress as the product of a transaction between a person (cognitive, physiological, affective, psychological, and neurological) and their complex environment. This

model includes determining whether the stressor poses a threat to pregnant women, as well as the individual's evaluation of their coping strategies and resources, which can include practicing mindfulness to address any perceived threats. Coping with stress is an ongoing process that involves continually reappraising both the nature of the stressor and the resources available for responding to it (Goh et al., 2010).

Methods

Study Design

The present study used an interpretive descriptive design to analyze Saudi Arabian primigravid women's experiences of mindfulness to reduce childbirth stress. This design involves the formation of a description, while interpretive research is written in depth (Schwandt, 2001).

Research Questions

The study used two open-ended questions, as suggested by Forero et al. (2018). These were: "What is your knowledge and experience of mindfulness techniques?" and "How do mindfulness techniques influence your childbirth stress as well as your thoughts and feelings in reducing stress?"

Sample

Creswell et al. (2016) assert that the optimal method for elucidating an individual's views is conducted with 10 participants with an average age of 27 years. However, Baker et al. (2018) argue that a smaller number of cases or subjects may still be extremely valuable and represent adequate qualitative research numbers. Meanwhile, Glaser and Strauss (1967) and Bowen (2008) state that the saturation point is the primary factor that limits the sample size in most qualitative studies. This is the point at which the researcher can stop interviewing new participants because the data being revealed repeat rather than supplement information that has already been extracted from the participants.

Inclusion/Exclusion Criteria

The subjects were selected purposively from the childbirth education clinic. The subjects had to meet several criteria for inclusion in the study, being healthy; pregnant between 16 and 30 weeks' gestation; over 18 years of age; nulliparous with a singleton, low-risk pregnancy; either they attended the mindfulness sessions in the childbirth education clinic or had heard about the same mindfulness intervention. The exclusion criteria included having complications related to the pregnancy; having a mental disorder; being less than 16 weeks pregnant or more than 30 weeks' gestation; less than 18 years of age; multiparous; pregnant with twins or

multiples; mothers who did not practice mindfulness or had not heard about the same mindfulness intervention.

Study Setting

The interviews in the current study took place at one governmental hospital, Qatif Central Hospital in the Eastern Province of Saudi Arabia. This 375-bed hospital has more than 1000 mothers who visit the antenatal clinic monthly and is located in the Al-Qatif area of 519 km² with a population of 580,434. Certified childbirth educators and meditation teachers deliver the mindfulness program, which is dedicated to pregnant women. It consists of eight sessions, each taking around two and a half hours. Appendix A (Table A1) Mindfulness Program which explains the mindfulness practices such as triangle of awareness, tips for mindful eating, body scan meditation, mindful movement, awareness of thoughts meditation, and kindly awareness meditation. The researcher held the interviews in a hospital meeting room at a time convenient to the participants.

Ethical Considerations

The researcher sought and obtained permission to carry out the study and record the interviews from the ethics bodies of King Saud University (Ref no: KSU-HE-21-44) and Qatif Central Hospital (Ref no: QCH-SREC0254/2021). Before the interviews, the participants signed a written consent form, while verbal and written consent for the audio recording of the interviews was also obtained before the interviews commenced. No financial incentive was provided and the researcher assured the participants that the content of their interviews would be stored securely and remain confidential, while they could withdraw from the study at any time.

Data Collection

This study used semistructured interviews to collect the data. Semistructured interviews encourage participants to talk freely about all topics and tell stories in their own words, giving them the freedom to provide many explanations (Polit & Beck, 2017). The interviews were conducted in the childbirth education clinic and served the educational classes with mindfulness practices by certified educators. The interviews took place between January and March 2021, each of which lasted approximately 60 min; they were audio-recorded and started with open-ended questions.

Rigor

The researcher followed the principles of interpretive epistemology recommended by Savin-Baden and Major (2013), taking steps to consider the subjects' perspectives and avoid preconceived expectations and ideas. The dependability, credibility, confirmability, and transferability of the study were

enhanced by employing member checking and peer-review methods. Two separate researchers reviewed the data, codes, and categories before reaching a consensus via a separate review and joint discussion on the meaning, accuracy, and importance of the data. As stated previously, the researcher used two open-ended questions as probes for these open, semi-structured interviews, which explored the primigravid women's experiences of mindfulness to reduce childbirth stress. Subsequent questions were structured around the participants' responses to these probes.

Data Analysis

Recording common themes allows researchers to identify repeated patterns and themes. To consider participants' perspectives fully in data interpretation, Braun et al. (2014) and Ritchie et al. (2013) suggest that following the transcription of interviews, a subsequent read-through of the completed narratives, and coding of the transcripts, themes begin to emerge. The present study implemented the data analysis approach recommended by Silver and Lewins (2014), assisted by the thematic analytic software NVivo 10.1. The themes that emerged were subsequently discussed with an expert peer.

Results

Overview

All responses from the interviews were considered significant and relevant. Although some of the participants had a previous background in mindfulness, others did not have any knowledge of it. Five main themes emerged from the data: (a) stress reduction, (b) recognition of thoughts and feelings, (c) life satisfaction, (d) insufficient knowledge leads to challenges, and (e) empowerment of a spiritual aspect.

Theme 1: Stress Reduction. During the interviews, four participants highlighted that mindfulness practices led to a sense of empowerment. The background knowledge and experience they gained from mindfulness and childbirth techniques supported the mothers to stay calm during pregnancy and it also reduced their stress. The overall effect of this is captured in the following quotes:

It helps a lot to relieve my stress. I became calmer. My thoughts about delivery changed to enthusiasm. (Mother 1)

After practicing the meditations, my stress decreased. I became calmer. (Mother 6)

The quality of my sleep improved greatly. (Mother 9)

The mindfulness techniques provided me with what I needed; exercises during pregnancy, stages of pregnancy and childbirth, and how I can relieve the stress and pain of childbirth in natural ways. Thank God! (Mother 2)

I feel more connected to my baby, and my stress decreased. (Mother 6)

Theme 2: Recognition of Thoughts and Feelings. The participants mentioned that they were better able to recognize their thoughts and feelings and label them. Three participants indicated that the techniques helped them to recognize their thoughts and feelings, stating:

I was anxious and exhausted about childbirth, but the meditation session made me feel better by labeling my thoughts and emotions. (Mother 3)

I focused more on my breathing during these techniques, rearranging my thoughts and emotions by labeling them with names and recognizing them. (Mother 9)

It increased my focus on my thoughts and feelings. (Mother 2)

Theme 3: Life Satisfaction. Several indications emerged concerning the participants feeling greater satisfaction and enjoyment with their lives as they learned and experienced mindfulness techniques:

I feel more connected to my baby, and even my stress decreased. I am enjoying my lifestyle. (Mother 6);

I always practice mindfulness, including choosing a routine for some good activity in my day. I feel joyful and happy, which stratifies during the day. (Mother 7)

The participants also noted that the mindfulness techniques improved their quality of life and eating habits, with one participant stating: I also previously attended some mindfulness techniques, particularly for childbirth. I applied all the exercises that I could; I feel the quality of my meals improved during pregnancy. (Mother 6)

Another participant reflected that her life felt more satisfying and enjoyable, as she advised:

I always practice mindfulness, including choosing a routine activity during my day, such as mindful eating. I feel joyful and happy during the day. (Mother 7)

Moreover, being knowledgeable during pregnancy gave the mothers confidence about birth, as stated by one participant: I attended a course which was one of the most beautiful courses. I advise all pregnant women to prepare themselves with information from reliable sources to increase their confidence, trust, and power in delivery. (Mother 1)

Theme 4: Insufficient Knowledge Leads to Challenges. The interviews highlighted that some of the mothers lacked experience, information, and knowledge about childbirth, which

could lead to them facing particular challenges during their pregnancy, as well as at birth. This could cause feelings of worry and fear:

I am worried about facing the unknown. I have never heard of mindfulness. I'm following up on my pregnancy appointments with the doctor. I don't have enough information. This is my first pregnancy, I am anxious, and too many questions come to my mind at this stage. (Mother 4)

To add to this, two participants mentioned that they lacked background experience or knowledge about pregnancy. They mentioned that they were trying to seek another source to help them organize their thoughts and gain more knowledge:

I always look for educational courses to answer my questions, but I was unable to attend. Fear is controlling my thoughts and feelings, as my husband has refused to attend the delivery with me. (Mother 5)

I've never heard about mindfulness before. This is my first pregnancy. I am the one who educates myself with information. I'm always reading and researching about every stage of my pregnancy in order to arrange my thoughts. (Mother 7)

Theme 5: Empowerment of a Spiritual Aspect. Some participants indicated practicing mindfulness enhanced their psychological outlook and spiritual well-being. Two participants expressed feelings of gratitude and hope with a spiritual connection:

I am praying, believing, and depending on God with trust. I continue to pray to facilitate my birth. I have also attended mindfulness practicing techniques and childbirth courses to prepare myself. (Mother 1)

With experience of some of the mindfulness techniques, I can say that now I'm feeling well, and I always praying to God to give me the power for the delivery and to have a healthy baby. (Mother 8)

Discussion

This study employed a qualitative methodology to explore Saudi Arabian primigravid women's experiences of mindfulness to reduce childbirth stress. The interview discussions generated themes relating to (a) stress reduction, (b) recognition of thoughts and feelings, (c) life satisfaction, (d) insufficient knowledge leading to challenges, and (e) empowerment of a spiritual aspect. The themes resulting from the analysis provide an understanding that would typically be difficult to identify or measure when such unique circumstances are considered quantitatively.

The findings of this study indicate that the sense of empowerment that resulted from the knowledge and confidence gained from mindfulness techniques enabled the

mothers to stay calm during pregnancy. This finding is consistent with Khoshayand et al. (2019), who found that the sense of empowerment gained from the knowledge and self-efficacy provided during mindfulness-based childbirth education techniques enabled mothers to stay calm during pregnancy, labor, and birth. Meanwhile, Bostock et al. (2019) found that mindfulness-based childbirth education techniques could improve psychological well-being and reduce stress, concluding that these techniques have the potential to empower mothers to become active participants in the birthing process. Furthermore, the findings of the current study are similar to those of the study conducted by Jensen et al. (2021), who assert that when pregnant women practice mindfulness during the perinatal and early parenting period, this enables them to cope better with the stressful aspects of pregnancy and family life post-intervention. The authors suggested that teaching mindfulness during the perinatal period might expand pregnant women's adaptive strategies for coping with stress (Jensen et al., 2021). Fernandes et al. (2021) also highlighted that mindfulness techniques may help pregnant women who have symptoms of anxiety or depression. These conditions seem to add to parenting stress and may adversely affect parenting skills. Applying psychological interventions may not only ameliorate symptoms of anxiety, depression, and stress but can also improve parenting skills (Fernandes et al., 2021).

Moreover, the findings of the current study show that applying mindfulness techniques during pregnancy gives mothers the ability to recognize and label their thoughts and emotions, which enable them to relieve their stress. This finding is similar to the results of studies conducted by Grieb et al. (2023) and Langer et al. (2020), both of which identify the importance of increasing the perceptions of observing thoughts, feelings, or emotions, as well as identifying and accepting these feelings and sensations exactly as they are and letting them pass by intentionally while focusing on breathing. The acceptance of feelings and body sensations as they appear is an effective strategy for adapting to a distressing situation or a painful stimulus, which is a key element in the regulation of emotions. This point agrees with the findings presented by Chen et al. (2021), who used mind-body practices as an alternative therapy to treat emotional disorders. They found that using words to identify and label internal experiences was effective in managing emotional conditions.

This study's findings also provide evidence for the effects of mindfulness techniques on promoting life satisfaction. These findings are similar to those of Cheung and Lau (2021), who found that mindfulness leads to positive experiences and feelings and greater life satisfaction. Moreover, Richter and Hunecke (2021) observed a strong positive correlation between mindfulness and attitudes toward well-being with life satisfaction and experiences of well-being.

The current study also found that the challenges and difficulties faced by the participants during pregnancy could be

attributed to the mother's lack of experience, knowledge, and information about childbirth, which could lead to them experiencing more stress and anxiety about the birth. The mindfulness techniques were also valuable in restoring calmness. These results are in line with those of Bartal et al. (2023) and Çapik and Durmaz (2018), who found that women who are anxious and fearful of childbirth are more likely to experience birth as a traumatic event and thus develop postpartum post-traumatic stress disorder. This indicates that challenges and difficulties during pregnancy can lead to more stress and anxiety. Additionally, the present study found that mindfulness practices gave the participants more insight, empowering them to trust and accept pregnancy and birth with a spiritual awareness of the birth experience. This finding is consistent with Villar-Alises et al. (2023), who found that the importance of spiritual health in pregnant participants arose from the belief that the spirituality of the pregnant woman is important for the development of the fetus. Abatamarco et al. (2021) added to the overall body of knowledge that prenatal meditation is important in helping pregnant women cope with physical distress and also strengthens social relationships, resulting in spiritual empowerment. Meanwhile, Arefian et al. (2023) asserted that in patients who value spirituality, the impact of mindfulness techniques can be beneficial to their psychological and spiritual states. The evidence from these various studies hints at the mechanisms by which mindfulness may exert beneficial effects on an individual's psychological outlook.

Strengths and Limitations

One of the strengths of this study is that the interviews were conducted in a hospital that offers mindfulness-based childbirth education by certified childbirth educators and meditation teachers. However, since the research was conducted in one government hospital in the Eastern Province of Saudi Arabia, its results are limited to these pregnant women's responses and cannot be generalized. Therefore, the results have limited generalizability to other locales in Saudi Arabia and elsewhere. In addition, since the study consisted of primigravid women; the results cannot be generalized to multiparous women.

Implications for Practice and Education

Childbirth education classes in Saudi Arabia are offered free of charge in all primary healthcare services. If midwives were trained to teach an adapted mindfulness-based childbirth program from Kabat-Zinn, pregnant women, their infants, and their partners might experience multiple benefits from learning mindfulness, compassion skills, and other practices. As well as leading to greater awareness and acceptance, this could also help to prevent postpartum depression.

Future Research Directions

Future research should seek to study the long-term effects of mindfulness-based childbirth on maternal health and child development. Large-scale randomized control trials are needed to produce definitive evidence.

Conclusion

This study showed that applying mindfulness techniques during pregnancy might reduce stress and anxiety and suggests that mindfulness programs tailored to pregnant women can improve their experience of pregnancy. Such programs also promote the mothers' physical and psychological well-being, which may help decrease postpartum depression in Saudi Arabia.

Acknowledgment

The author thanks the Deanship of Scientific Research, College of Nursing Research Centre at King Saud University for facilitating the research.

Authors' Note

The research and interview process commenced after the ethics committee of the University approved (Institutional Review Board – King Saud University – Kingdom of Saudi Arabia) with log No.KSU-HE-21-44. And Qatif Central Hospital approval with (QCH-SREC0254/2021).

Author Contributions

A.K conceived the study and collected the data. S.Y and S.H determined the methodology and wrote the background section, S.Y and S.H wrote the discussion. Both authors reviewed and amended the manuscript before submitting for publication.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iDs

Seham Mansour Alyousef  <https://orcid.org/0000-0003-0435-1353>

Sami Abdulrahman Alhamidi  <https://orcid.org/0000-0003-3815-9722>

References

Abatemarco, D. J., Gannon, M., Short, V. L., Baxter, J., Metzker, K. M., Reid, L., & Catov, J. M. (2021). Mindfulness in pregnancy: A brief intervention for women at risk. *Maternal and Child Health Journal*, 25(4), 1875–1883. <https://doi.org/10.1007/s10995-021-03243-y>

- Al Nasr, R. S., Altharwi, K., Derbah, M. S., Gharibo, S. O., Fallatah, S. A., Alotaibi, S. G., & Asdaq, S. M. B. (2020). Prevalence and predictors of postpartum depression in Riyadh, Saudi Arabia: A cross sectional study. *PLoS One*, 15(2), e0228666. <https://doi.org/10.1371/journal.pone.0228666>
- Arefian, M., Asgari-Mobarake, K., Fazilatpour, M., Zanguri, V., & Akrami, M. (2023). Proposing and evaluating a model of depression, stress, resilience and spirituality in relation to pain in women with breast cancer: Investigating the mediating role of mindfulness. *European Journal of Oncology Nursing: The Official Journal of European Oncology Nursing Society*, 62, 102268. <https://doi.org/10.1016/j.ejon.2023.102268>
- Baker, M., Bergstresser, D., Serafeim, G., & Wurgler, J. (2018). Financing the response to climate change: The pricing and ownership of US green bonds (No. w25194). National Bureau of Economic Research.
- Bartal, A., Jagodnik, K. M., Chan, S. J., Babu, M. S., & Dekel, S. (2023). Identifying women with postdelivery posttraumatic stress disorder using natural language processing of personal childbirth narratives. *American Journal of Obstetrics & Gynecology MFM*, 5(3), 100834. <https://doi.org/10.1016/j.ajogmf.2022.100834>
- Bostock, S., Crosswell, A. D., Prather, A. A., & Steptoe, A. (2019). Mindfulness on-the-go: Effects of a mindfulness meditation app on work stress and well-being. *Journal of Occupational Health Psychology*, 24(1), 127–138. <https://doi.org/10.1037/ocp0000118>
- Bowen, G. A. (2008). Naturalistic inquiry and the saturation concept: A research note. *Qualitative Research*, 8(1), 137–152. <https://doi.org/10.1177/1468794107085301>
- Braun, V., Clarke, V., & Terry, G. (2014). Thematic analysis. *Qualitative Research in Clinical Health Psychology*, 9(1), 95–114. https://doi.org/10.1007/978-1-137-29105-9_7
- Çapik, A., & Durmaz, H. (2018). Fear of childbirth, postpartum depression, and birth-related variables as predictors of posttraumatic stress disorder after childbirth. *Worldviews on Evidence-Based Nursing*, 15(6), 455–463. <https://doi.org/10.1111/wvn.12326>
- Chen, L. Z., Dai, A. Y., Yao, Y., Si, R., Hu, Z., Ge, L., & Wei, G. X. (2021). Effects of 8-week Tai Chi Chuan practice on mindfulness level. *Mindfulness*, 12(6), 1–8. <https://doi.org/10.1007/s12671-021-01622-8>
- Cheung, R. Y., & Lau, E. N. S. (2021). Is mindfulness linked to life satisfaction? Testing savoring positive experiences and gratitude as mediators. *Frontiers in Psychology*, 12, 1–7. <https://doi.org/10.3389/fpsyg.2021.591103>
- Creswell, J., Taren, A., Lindsay, E., Greco, C., Gianaros, P., Fairgrieve, A., & Ferris, J. L. (2016). Alterations in resting-state functional connectivity link mindfulness meditation with reduced interleukin-6: A randomized controlled trial. *Biological Psychiatry*, 80(1), 53–61. <https://doi.org/10.1016/j.biopsych.2016.01.008>
- Fernandes, D. V., Canavarro, M. C., & Moreira, H. (2021). The mediating role of parenting stress in the relationship between anxious and depressive symptomatology, mothers' perception of infant temperament, and mindful parenting during the postpartum period. *Mindfulness*, 12(2), 275–290. <https://doi.org/10.1007/s12671-020-01327-4>
- Forero, R., Nahidi, S., De Costa, J., Mohsin, M., Fitzgerald, G., Gibson, N., McCarthy, S., & Aboagye-Sarfo, P. (2018).

- Application of four-dimension criteria to assess rigour of qualitative research in emergency medicine. *BMC Health Services Research*, 18(1), 120. <https://doi.org/10.1186/s12913-018-2915-2>
- Glanz, K., Rimer, B., & Viswanath, K. (2008). *Health behavior* (4th ed.). Jossey-Bass.
- Glaser, B. G., & Strauss, A. L. (1967). *Grounded theory: Strategies for qualitative research*. Aldine Publishing Company.
- Goh, Y. W., Sawang, S., & Oei, T. P. (2010). The revised transactional model (RTM) of occupational stress and coping: An improved process approach. *Australasian Journal of Organisational Psychology*, 3, 13–20. <https://doi.org/10.1375/ajop.3.1.13>
- Grieb, S. M., McAtee, H., Sibinga, E., & Mendelson, T. (2023). Exploring the influence of a mindfulness intervention on the experiences of mothers with infants in neonatal intensive care units. *Mindfulness*, 14(1), 218–229. <https://doi.org/10.1007/s12671-022-02060-w>
- Hassanzadeh, R., Abbas-Alizadeh, F., Meedy, S., Mohammad-Alizadeh-Charandabi, S., & Mirghafourvand, M. (2019). Assessment of childbirth preparation classes: A parallel convergent mixed study. *Reproductive Health*, 16(1), 160. <https://doi.org/10.1186/s12978-019-0826-2>
- Husgafvel, V. (2018). The ‘universal dharma foundation’ of mindfulness-based stress reduction: Non-duality and mahāyāna buddhist influences in the work of Jon Kabat-zinn. *Contemporary Buddhism*, 19(2), 275–326. <https://doi.org/10.1080/14639947.2018.1572329>
- Jensen, K. H. K., Krog, M. C., Koert, E., Hedegaard, S., Chonovitsch, M., Schmidt, L., Kolte, A. M., & Nielsen, H. S. (2021). Meditation and mindfulness reduce perceived stress in women with recurrent pregnancy loss: A randomized controlled trial. *Reproductive Biomedicine Online*, 43(2), 246–256. <https://doi.org/10.1016/j.rbmo.2021.04.018>
- Kabat-Zinn, J., Wheeler, E., Light, T., Skillings, A., Scharf, M. J., Cropley, T. G., Hosmer, D., & Bernhard, J. D. (1998). Influence of a mindfulness meditation-based stress reduction intervention on rates of skin clearing in patients with moderate to severe psoriasis undergoing photo therapy (UVB) and photochemotherapy (PUVA). *Psychosomatic Medicine*, 60(5), 625–632.
- Khoshayand, N., Amanelahi, A., Haghighizadeh, M. H., & Abbaspoor, Z. (2019). Effectiveness of mindfulness-based childbirth and parenting educational program on the self-efficacy of nulliparous pregnant women: A randomized clinical trial study. *Journal of Research in Medical and Dental Science*, 7(3), 1–7. eISSN No.2347-2367; pISSN No.2347-2545.
- Langer, Á. I., Medeiros, S., Valdés-Sánchez, N., Brito, R., Steinebach, C., Cid-Parra, C., & Krause, M. (2020). A qualitative study of a mindfulness-based intervention in educational contexts in Chile: An approach based on adolescents’ voices. *International Journal of Environmental Research and Public Health*, 17(18), 6927. <https://doi.org/10.3390/ijerph17186927>
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer publishing company.
- Moustafa, A. A., Crouse, J. J., Herzallah, M. M., Salama, M., Mohamed, W., Misiak, B., Frydecka, D., Al-Dosari, N. F., Megreya, A. M., & Mattock, K. (2020). Depression following major life transitions in women: A review and theory. *Psychological Reports*, 123(5), 1501–1517. <https://doi.org/10.1177/0033294119872209>
- Pereda-Goikoetxea, B., Marín-Fernández, B., Huitzi-Egilegor, J. X., & Elorza-Puyadena, M. I. (2023). The voice of memory in hospital birth: A phenomenological study. *Midwifery*, 116, 103531. <https://doi.org/10.1016/j.midw.2022.103531>
- Polit, D. F., & Beck, C. T. (2017). *Essentials of nursing research: Appraising evidence for nursing practice* (8th ed.). Lippincott Williams & Wilkins.
- Richter, N., & Hunecke, M. (2021). The mindful hedonist? Relationships between well-being orientations, mindfulness, and well-being experiences. *Journal of Happiness Studies*, 22(7), 1–25. <https://doi.org/10.1007/s10902-021-00358-5>
- Ritchie, J., Lewis, J., Nicholls, C., & Ormston, R. (Eds.). (2013). *Qualitative research practice: A guide for social science students and researchers*. Sage.
- Savin-Baden, M., & Major, C. (2013). *Qualitative research: The essential guide to theory and practice*. Routledge.
- Sbrilli, M. D., Duncan, L. G., & Laurent, H. K. (2020). Effects of prenatal mindfulness-based childbirth education on child-bearers’ trajectories of distress: A randomized control trial. *BMC Pregnancy and Childbirth*, 20(1), 623. <https://doi.org/10.1186/s12884-020-03318-8>
- Schwandt, T. A. (2001). Understanding dialogue as practice. *Evaluation*, 7(2), 228–237.
- Silver, C., & Lewins, A. (2014). *Using software in qualitative research: A step-by-step guide*. Sage.
- Stamler, L. L. (1998). The participants’ views of childbirth education: Is there congruency with an enablement framework for patient education? *Journal of Advanced Nursing*, 28(5), 939–947. <https://doi.org/10.1046/j.1365-2648.1998.00812.x>
- Strohmaier, S., Jones, F. W., & Cane, J. E. (2021). Effects of length of mindfulness practice on mindfulness, depression, anxiety, and stress: A randomized controlled experiment. *Mindfulness*, 12(1), 198–214. <https://doi.org/10.1007/s12671-020-01512-5>
- Villar-Alises, O., Martinez-Miranda, P., & Martinez-Calderon, J. (2023). Prenatal yoga-based interventions may improve mental health during pregnancy: An overview of systematic reviews with meta-analysis. *International Journal of Environmental Research and Public Health*, 20(2), 1556. <https://doi.org/10.3390/ijerph20021556>
- Yang, J., Tang, S., & Zhou, W. (2018). Effect of mindfulness-based stress reduction therapy on work stress and mental health of psychiatric nurses. *Psychiatria Danubina*, 30(2), 189–196. <https://doi.org/10.24869/psyd.2018.189>
- Yıldız, H. (2019). Intrapartum care model for a positive childbirth experience: World Health Organization’ recommendations. *Kocaeli Üniversitesi Sağlık Bilimleri Dergisi*, 5(2), 98–105. <https://doi.org/10.30934/kusbed.546900>
- Zarenejad, M., Yazdkhasti, M., Rahimzadeh, M., Mehdizadeh Tourzani, Z., & Esmaelzadeh-Saeieh, S. (2020). The effect of mindfulness-based stress reduction on maternal anxiety and self-efficacy: A randomized controlled trial. *Brain and Behavior*, 10(4), e01561. <https://doi.org/10.1002/brb3.1561>

Appendix A

Table A1. Mindfulness Program.

Week 1/First Session (2.5 h)				
Outlines	Description	Objectives	Teaching strategies	Learning instrument
What is Mindfulness	A clear description of the Mindfulness concept.	Discuss the meaning of Mindfulness concept.	Group Discussion Brainstorming	Flipchart
Triangle of Awareness	The 3 elements of awareness will be discussed.		Educational videos	Pictures
Tips for Mindful Eating	Practical training on how to eat mindfully by using the five senses.		Guided Mindful Eating	Piece of dates
Tips for the Meditation Journey	Practical training on how to start meditation.	Perform Meditation tips effectively.	Guided Meditation	Flipchart
Home Practice Record Form 1	Explanation about Home Practice Record		Group Discussion	Papers
Week 2/Second Session (2.5 h)				
Outlines	Description	Objectives	Teaching strategies	Learning instrument
Body Scan Meditation	In this practice, the nursing student will be guided to pay attention to all the different areas of the body one by one in peace.	Perform Meditation tips effectively	Guided Meditation	Verbal Guide
Discussion on Home Practice Assignment of the previous week	The discussion will be at the beginning of each session to give the participant with foundation of mindfulness techniques.		Group Discussion	Assignment papers
What is the 3 Step Breathing Space	Three steps will be explained Awareness, Gathering, Expanding.		Demonstrations & Re-demonstration Lecture	Flipchart Video
The 8 Attitudinal qualities of Mindfulness	Details explanation of Non-judging, Patience, Beginner's Mind, Trust, Non-Striving, Acceptance, Letting go, Self-compassion.	Describe the 8 Attitudinal qualities	Group Discussion	Flipchart Pictures PowerPoint
Mindful Movement/Mindful Walking	Movement with an awareness of body sensation thought, emotions	Demonstrate Mindful Movement Practice	Demonstrations & Re-demonstration Group Discussion	Verbal Guide Flipchart
The Blob-Pleasant Event	Practice exploring the experience of a pleasant event to explore the sensation.	Blob-Pleasant Event		Video
Home Practice Record Form 2	Explanation about Home Practice Record		Group Discussion	Papers
Week 3/Third Session (2.5 h)				
Outlines	Description	Objectives	Teaching strategies	Learning instrument
Awareness of Breath and Body Meditation	In this practice, the nursing student will be guided to pay attention to body sensations and breath.	Perform Meditation tips effectively	Guided Meditation	Verbal Guide
Discussion on Home Practice Assignment of the previous week	The discussion will be at the beginning of each session to give the participant the foundation of mindfulness techniques.		Group Discussion	Assignment papers

(continued)

Continued.

Week 3/Third Session (2.5 h)

Outlines	Description	Objectives	Teaching strategies	Learning instrument
Informal Practice S.T.O.P	Provide the student with explanation about STOP method of bringing the body and mind back into balance. S = Stop and Stand T = Take a moment to tune O = Opportunity to change our reaction P = Possibility To reconnect with our experience to step out of automatic pilot.		Demonstrations & Re-demonstration Role Play	Flipchart Pictures Video
Unpleasant Blob Diary	Practice exploring the experience of an unpleasant event to explore the sensation.	Practice Unpleasant Blob Diary	Group Discussion	Flipchart Pictures
Mindful Yoga	Movement with awareness of body sensation, thought, emotions	Practice Mindful Yoga	Demonstrations & Re-demonstration	Verbal Guide
Home Practice Record Form 3	Explanation about Home Practice Record		Group Discussion	Papers

Week 4/Fourth Session (2.5 h)

Outlines	Description	Objectives	Teaching strategies	Learning instrument
Turning Towards the Difficult Meditation	In this practice, the nursing student will be guided to pay attention to thoughts, feelings, body sensations.	Perform Meditation tips effectively	Guided Meditation	Verbal Guide
Discussion on Home Practice Assignment of the previous week	Discussion at the beginning of each session to give the participant the foundation of mindfulness techniques.		Group Discussion	Assignment papers
Responsive/Reactive Modes of minds	Explanation about the difference between Responsive/Reactive modes of mind.	Demonstrate Mindful Methods	Journal reading and critiquing	PowerPoint
Acceptance precedes Change	This session will explore how our perception of our difficulties or pain shapes our experience of stress.		Lecture Group Discussion	PowerPoint
Home Practice Record Form 4	Explanation about Home Practice Record		Group Discussion	Papers

Week 5/Fifth Session (2.5 h)

Outlines	Description	Objectives	Teaching strategies	Learning instrument
Awareness of Thoughts Meditation	In this practice, the nursing student will be guided to give attention to thoughts, feelings, body sensations.	Perform Meditation tips effectively	Guided Meditation	Verbal Guide
Discussion on Home Practice Assignment of the previous week	Discussion at the beginning of each session to give the participant the foundation of mindfulness techniques.		Group Discussion	Assignment papers

(continued)

Continued.

Week 5/Fifth Session (2.5 h)

Outlines	Description	Objectives	Teaching strategies	Learning instrument
Why are our Negative Thoughts so powerful?	Explanation of how the thoughts affect our body. The effect of our negative dialogue when we are talking to ourselves.	Apply step back from thoughts method	Lecture Group Discussion	PowerPoint
Home Practice Record Form 5	Explanation about Home Practice Record		Group Discussion	Papers

Week 6/Sixth Session (2.5 h)

Outlines	Description	Objectives	Teaching strategies	Learning instrument
Mindful Communication	Description About the most important part of mindful communication is to be aware of our thoughts, emotions, behaviours, speech, and the whole situation.	Practice mindful communication	Lecture Group Discussion	PowerPoint
Discussion on Home Practice Assignment of the previous week	Discussion at the beginning of each session to give the participant the foundation of mindfulness techniques.		Group Discussion	Assignment papers
How to label the emotions to calms the Brain	Explanation about how we could label our emotions to help us stay calm so we can make rational decisions.	Label the emotions effectively	Lecture Demonstration & Re-demonstration	PowerPoint Flowchart
Home Practice Record Form 6	Explanation about Home Practice Record		Group Discussion	Papers

Week 7/Seventh Session (2.5 h)

Outlines	Description	Objectives	Teaching strategies	Learning instrument
Kindly Awareness Meditation	In this practice, the nursing student will be guided to give attention to thoughts, feelings, body sensations.	Perform Meditation tips effectively	Guided Meditation	Verbal Guide
Discussion on Home Practice Assignment of the previous week	Discussion in the beginning of each session to give the participant the foundation of mindfulness techniques.		Group Discussion	Assignment papers
G.L.A.D finding joy and balance in your life	Explanation of the G.L.A.D acronym which mean G: Become aware of any Gratitude that you are thankful for today L: Bring to mind one new thing you Learned today A: Become aware of one small Accomplishment you did today D: Delight	Use G.L.A.D method	Demonstration & Re-demonstration	Flowchart
Home Practice Record Form 7	Explanation about Home Practice Record		Group Discussion	Papers

 Week 8/Eighth Session (2.5 h)

Outlines	Description	Objectives	Teaching strategies	Learning instrument
A Mindful Life, Tips for Daily Mindfulness	In this part, the tips for mindful life will be explained clearly to bring awareness to nursing student life.	Apply Mindfulness tips in daily	Lecture	PowerPoint
Discussion on Home Practice Assignment of the previous week	Discussion at the beginning of each session to give the participant the foundation of mindfulness techniques.		Group Discussion	Assignment papers
Course Summary	Discussion on all topics to motivate the nursing students to continue practice mindfulness in their daily life		Group Discussion	Course Manual
