

EFFECTS OF MIDWIFERY PSYCHOEDUCATIONAL INTERVENTION ON REDUCING THE NUMBER OF CESAREAN SECTIONS DUE TO TOKOPHOBIA

D. KANELLOPOULOS¹ K. GOUROUNTI²

Abstract: *The purpose of the current review was to underline the beneficiary effect that the appropriate midwifery psychoeducational intervention can have, on the reduction of the number of cesarean sections that are attributed to tokophobia (fear of childbirth). The research data available so far show that pregnant women who attend midwifery psychoeducation and maternal preparation classes (both prepartum and postpartum) tend to better recognize, understand and interpret their deep and personal feelings and beliefs regarding gestation, labor and motherhood, thus being able to experience less intense anxiety and fear for the upcoming labor, as well as to be ready to ask for the appropriate help or information whenever needed. Additionally, midwifery intervention proves to be valuable in terms of highlighting the stronger emotional bonding that vaginal delivery will naturally bring between mother and newborn -which serves as an extra factor that encourages women's choice in favor of vaginal delivery. In that context, most psychoeducated women can documentedly and more confidently choose vaginal delivery over cesarean section, and have higher possibilities of enjoying an overall better quality of life -both prenatally and postnatally.*

Key-words: *tokophobia, psychoeducation, midwife, vaginal delivery.*

1. Introduction

Tokophobia is a significant issue for women of reproductive age, which obstetricians, midwives, and mental health professionals are called upon to manage. Historically, the first official reports of women with tokophobia date back to 1797 AD, when the German gynecologist Johann Friedrich Osiander first recorded a woman experiencing suicidal ideation due to her intense fear of the upcoming childbirth. A few years later (in 1858 AD), the same clinical psychopathological signs of this particular phobia were presented in a relevant monograph by the French psychiatrist Louis Victor Marcé, while it was not

¹ Department of Midwifery, University of West Attica, Athens, Greece, drdimitrios8@gmail.com, corresponding author

² Department of Midwifery, University of West Attica, Athens, Greece.

until 1897 that the Austrian gynecologist Emil Knauer reported in a relevant study that 20-78 % of pregnant women tend to present phobic symptoms related to pregnancy or childbirth. Since then, such cases have regularly come to the offices of mental healthcare professionals, seeking treatment with the aim of relieving the psychological symptomatology (anxiety, depression, intense fear) and improving their general quality of life (Salomonsson, 2010; Fenwick et al., 2015; O'Donovan & O'Donovan, 2017).

Taxonomically, the disease has been officially included, since 1997, in the ICD-10 code O99.80 (“Other specified diseases in pregnancy”) of the international diagnostic manual ICD-10, and is specifically represented by the diagnostic code ICD-10-CM 2015 F40.9 (Phobic anxiety disorder, unspecified). It is also classified as primary or secondary, depending on whether the disease occurs in a primiparous woman or in a woman who has a previous positive history of psychological trauma and/or physical injury during childbirth -respectively. Nevertheless, tokophobia has not yet been included in the American psychiatric diagnostic manual DSM-5 (American Psychiatric Association 2013). Epidemiologically, tokophobia is relatively difficult to record nowadays, because it overlaps -to a great extent- with postpartum depression and the perinatal mental disorders mentioned above. Nevertheless, the aggregate prevalence of the disease is currently estimated about 14 % (95 % CI, 0.12 to 0.16) -with the individual prevalences per country showing significant differentiations. A typical example is Scandinavia, where the prevalence was found to be 12 %, in comparison to 8 % for the rest of Europe and 23 % for Australia (O’Connell et al, 2017). At the same time, other systematic reviews report rates as high as 43 % (O’Connell et al., 2017).

Given these alarming numbers, the role of midwives -as part of the modern multidisciplinary healthcare team- emerges as substantial, as their professional interventions combine clinical assessment, counselling and parental preparation. Those therapeutic ingredients are often enough to give valuable relief to the pregnant women from both the psychoemotional and the physical burden of such a sensitive and crucial phase that they go through, from conception to delivery.

In that direction, numerous researchers and mental healthcare professionals have attempted to dive deep into the effects of midwifery psychoeducational interventions on reducing the number of cesarean sections due to tokophobia, with an emphasis to their contribution on the counselling and the parental preparation field.

2. Objectives

The purpose of the current review was to find, select and briefly summarize the most recent articles available, that focus on the effects of midwifery psychoeducational interventions on reducing the number of cesarean sections due to tokophobia and, more specifically, on the role of modern midwives in counselling and in preparing pregnant women for their upcoming parenthood.

3. Materials and Methods

For the present systematic review to be accomplished, a detailed and systematic electronic search strategy was performed. The main search engine used was *Google Search*, and the main scientific databases available were: NCBI Database, PubMed Database, ResearchGate Database, CAB Direct Database, and Scopus. Data on the psychological perspectives of tokophobia were sought, and the keywords used included the terms: tokophobia, psychoeducation, midwife, vaginal delivery.

The inclusion criteria included: (1) that the citations had to be published later than 2013 (and with a definite preference to the most recent ones), (2) that they had to be written in the English language, (3) that their full text version would be available for free retrieval, and (4) that they would respond successfully to the present subject area.

The exclusion criteria included: (1) citations published before 2013, (2) citations written in other languages than English, (3) citations whose full text version would not be accessible for free, and (4) citations with a reference to other similar subjects, but not precisely focusing on the effects of midwifery psychoeducational intervention on reducing the number of cesarean sections due to tokophobia.

From the search process described above, and in accordance with all the inclusion criteria mentioned, 487 citations were -initially- identified, after the detailed screening of titles and abstracts (Figure 1). Next, 477 citations were excluded: for representing databases' duplications, or for concentrating on different populations or different kinds of interventions or different timings, or for not implicating tokophobia from a psychological point of view, or for being still, on-going studies, or for not having the full paper available for free access. After detailed evaluation of all the above, 10 (ten) articles finally were found to be meeting the inclusion criteria, and thus, were included to the current review (Figure 1).

4. Results

Starting the review with the counselling role of midwives on reducing the number of cesarean sections due to tokophobia, on October 2013, Fenwick et al. focused their research interest on investigating the effectiveness of psychoeducational counseling by trained midwives in women with tokophobia. The sample of the research (referred to here only as a research protocol) consisted of 1200 pregnant women with a gestational age of 12-24 weeks, of which those who scored high tokophobia scores could, during the 23rd-24th week of their pregnancy, undergo 2 sessions of psychoeducational counseling by telephone by trained midwives (intervention group), or not undergo them (control group). The research tools used for the needs of the study were the following: Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ), Edinburgh Postnatal Depression Scale (EPDS), Childbirth Self-Efficacy Inventory (CBSEI), Decisional Conflict Scale (DCS), and EuroQol (EQ-5D), and the assessments were made three times: at 20 weeks of gestation, at 36 weeks of gestation, and at 4-6 weeks postpartum.

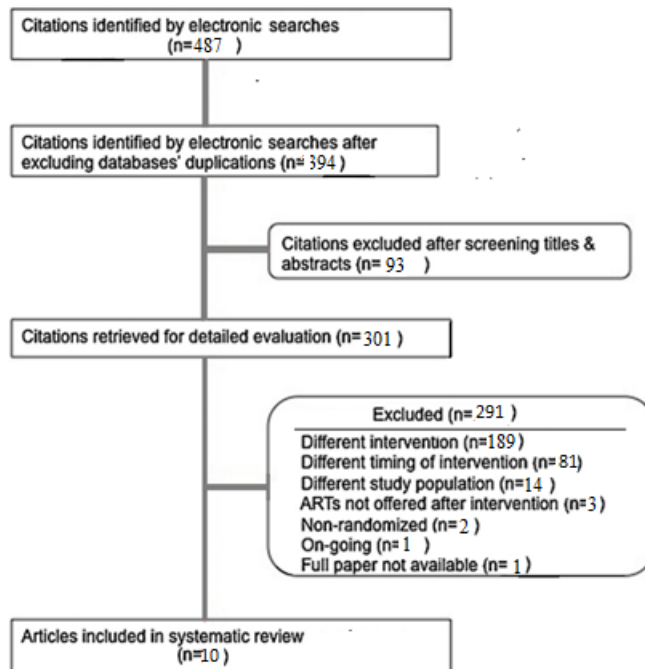


Fig. 1. Flow chart describing the electronic searching process followed for the current review

Their scores were organized and statistically analyzed, and the results were expected to show that women who underwent the 2 sessions of telephone counseling psychoeducation by trained midwives had significantly reduced anxiety and alleviated symptoms of tokophobia, compared to women in the control group. These findings were expected to be important, because they emphasize the importance of counseling - both in the prevention and treatment of tokophobia (Fenwick et al., 2013).

Next, on December 2014, Toohill et al. studied the effect of counseling sessions by midwives that had been trained on reducing tokophobia in pregnant women of Australia. The study included 339 pregnant women aged 16 years old and older, who were in the 2nd trimester of gestation, and were receiving prenatal care at maternity clinics in the state of Queensland, Australia. These women were divided into 2 groups (intervention and control), and those in the control group underwent telephone counseling sessions by professional midwives during the 24th and 34th months of their pregnancy. Both groups (intervention and control) were then assessed using the following clinical tools: Wijma Delivery Expectancy/Experience Questionnaire Version A (W-DEQ A), Childbirth Self-Efficacy Inventory (CBSEI), Edinburgh Postnatal Depression Scale (EPDS), and Decisional Conflict Scale (DCS). The results revealed that women belonging to the intervention group recorded a statistically significant recession in their tokophobia ($p < 0.001$), as well as their self-efficacy during the upcoming childbirth ($p = 0.002$), while at the same time, the reduction in indecisiveness about the type of

preferred childbirth and the reduction in depressive symptomatology were present, but not statistically significant. These findings are of research interest, because they show how telephone counseling by trained midwives can significantly help pregnant women with tokophobia reduce their experienced fear of the upcoming birth, and make more informed decisions about the method of birth that best suits them (Toohill et al., 2014).

About 4 years later and more specifically, on July 2018, Rondung et al. reported another important RCT on the clinical efficacy of cognitive-behavioral counseling for tokophobia. The study included 258 pregnant women, who were 17-20 weeks gestational age at baseline and had documented symptoms of tokophobia. Participants were assessed for the severity of their tokophobia using the Fear of Birth Scale (FOBS), and this assessment was performed mid-pregnancy and one year postpartum. The results showed that levels of tokophobia were not different between the intervention and control groups, and in particular, at one year after delivery, participants in the intervention group showed significantly lower levels of tokophobia compared to participants in the control group ($U = 3674.00$, $z = -1.97$, $p = .049$, Cohen $d = 0.28$, 95 % CI -0.01 to 0.57). In addition, a significant decline in the harshness of tokophobia over time was found ($p \leq 0.001$), along with a greater decrease in tokophobia in the intervention group over time ($F_{1,192.538} = 4.96$, $p = 0.03$). These findings are interesting because they highlight the importance of counseling in the postpartum (1 year after childbirth) treatment of tokophobia (Rondung et al., 2018).

On July 2019, Kacperczyk-Bartnik et al. studied the relationship between attending parenting preparation classes and tokophobia, as well as pain experienced during childbirth. The study included $N=147$ parous women who had given birth to a single child by vaginal delivery (multiple pregnancies were excluded) within 24-72 hours. These women were assessed with the research tools: Polish version of the Delivery Fear Scale (DFS), and Numeric Rating Scale (NRS), and the results of their scores revealed that primiparous women belonging to the subgroup that had attended parenthood preparation classes had a lower tokophobia score on the DFS scale (48.7 ± 23.5 vs. 60.2 ± 16.5 , $p < 0.03$), while there was no statistically significant difference in the tokophobia score on the DFS scale in the subgroup of multiparous women ($p < 0.90$). Finally, no statistically significant differences were observed in the intensity of pain experienced during childbirth, according to the NRS scale, depending on the attendance of parenthood preparation classes, in any subgroup. These findings are considered noteworthy, because they clearly show that the intensity of tokophobia symptoms is significantly reduced with the support of first-time mothers from parenthood preparation classes (Kacperczyk-Bartnik et al., 2019).

Additionally, on February 2020, Wahlbeck et al. published another important paper that compared the effectiveness of art therapy and counseling in treating tokophobia. The study sample consisted of 82 pregnant women who, between March 2011 and March 2017, were followed up in 10 obstetric clinics in Sweden and reported that they were afraid of giving birth. These women, after being divided into two groups (art therapy intervention, or counseling, and control), were then assessed using the Wijma

Delivery Expectancy Questionnaire (W-DEQ) research tool - both before and after receiving these interventions. The results were organized and statistically analyzed, and it was revealed that of the women belonging to the intervention group, 36 out of 39 had a tokophobia score on the W-DEQ scale ≥ 100 before treatment, and 17 showed a reduction to levels ≤ 99 post-treatment, while of the women belonging to the control group, 40 out of 43 had a tokophobia score on the W-DEQ scale ≥ 100 before treatment, and 15 showed a reduction to levels ≤ 99 post-treatment - so that ultimately, there was no statistically significant difference between the 2 intervention groups ($\chi^2 = 0.34$ (1df), $p = 0.56$). These findings are considered important, because they show that both art therapy and counseling can alleviate the symptomatology of tokophobia, but between the two techniques, the differences in effectiveness are statistically negligible (Wahlbeck et al., 2020).

Next, on March 2020, Hanahoe published another significant paper that used Robson ten group classification system to assess the extent to which Midwifery-led care can lower caesarean section rates. The sample of the research consisted of 8 nulliparous and 67 multiparous women who had homebirths. The results showed that the largest group of women cared for by the community midwives had a previous vaginal birth, were in spontaneous labor, and had a very low rate of cesarean section of 0.72% rates that would certainly not be successfully achieved without the midwives' contribution. These results are important, because they reflect the large contribution that the midwifery care can inflict to the reduction of the cesarean section rates (Hanahoe, 2020).

Next, on August 2022, Mousavi et al. compared the impact of birth preparation classes that had been carried out both in person and through social media on the lived experience of pregnancy, fear of labor, and preferences and mode of delivery in pregnant women from Iran. The study sample consisted of 165 pregnant women, who were pregnant for the first time in their lives, and were followed up in obstetric clinics and hospitals in Tehran. These women were randomly divided into three groups (intervention group with parenthood preparation through personal contact, intervention group with parenthood preparation through social media, and control group), and during their 36th and 38th weeks of pregnancy they were assessed with the help of research tools: Pregnancy experience scale (PES), and Wijma delivery expectancy/experience questionnaire - version A (WDEQ-A). Their scores were statistically analyzed, and revealed that after the intervention through the preparation classes, the mean scores of gestation experience and tokophobia were similar among the 3 groups. It was also found that 86.8% of the women in the intervention group with parenthood preparation through personal contact, 90.4% of participants who had been prepared for parenthood through social media, and 62% of participants in the control group suggested preferring vaginal birth over cesarean section, which was statistically significant ($p = 0.001$) and certainly indicated the measure of successful treatment of their tokophobia. These findings are important because they suggest how parenting preparation classes, whether delivered through personal contact with instructors or

delivered via social media, ultimately yield significant results in alleviating tokophobia (Mousavi et al., 2022).

Several months later (November 2022), Corrigan et al. investigated the midwives' point of view of an evidence-based intervention to reduce caesarean section rates in Ireland. The sample of the study consisted of 28 midwives who -at the time that the study took place- would offer their services in one large tertiary maternity hospital. Their points of view were extracted with the use of thematic analysis, and the results revealed that the contribution of the midwifery support, via the induction of the labor, the psychoeducation, the auditing of practice, the enhancement of the clinical practice and the promotion of the midwife-obstetrician collaboration resulted in a significant reduction of the cesarean section rates, on the maternity hospitals they had been working for. These results are considered to be important, because they depict the way in which specific midwifery practices can help pregnant women avoid the prospect of a cesarean section (Corrigan et al., 2022).

On March 2023, Yörük et al. studied how attending parenting preparation courses was associated with the intensity of experienced tokophobia, as well as the intensity of experienced perinatal maternal stress. The study included 133 pregnant women, who were carrying a single child for the first time in their lives (multiple pregnancies were excluded), and had a gestational age of 28-36 weeks. The following research tools were used: Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ), and Antenatal Perceived Stress Inventory (APSI), and the results of the statistical analysis showed that the mean tokophobia score of pregnant women was 85.50 ± 19.41 before the intervention (preparation courses) and 76.32 ± 20.52 after it, and the difference between these scores was statistically significant ($p < 0.01$), while the tokophobia score did not differ significantly between the intervention group and the control group. Correspondingly, the mean maternal perinatal stress score according to the APSI scale in the intervention group was 22.32 ± 6.12 before the preparation courses, and 21.79 ± 5.97 after them, however, here too this difference was not statistically significant ($p = 0.70$). These findings are remarkable because they show how parenting preparation classes significantly help pregnant women in reducing their tokophobic and anxiety symptoms (Yörük & Acikgoz, 2023).

And last, on October 2023, Kashiha et al. published a major qualitative study, aiming to investigate pregnant women's perceptions of the usefulness of parenting preparation courses, with an emphasis on tokophobic symptomatology. The study included $N = 18$ women aged 17-37 years, who had given birth in the last six months in one of the hospitals in Tehran and had passed at least 20 days since their delivery. As research tools, a series of open-ended questions were used regarding the childbirth experience of these women, and the results from the statistical analysis of their responses showed that these courses had all the potential to inform pregnant women about their childbirth options, to make the wait until childbirth more pleasant, to ensure a birth as bearable as possible, and to lay the foundations for a pleasant start to the journey of parenthood, where tokophobic symptomatology will not overshadow the relationship with the

newborn. These findings are considered of remarkable value, because they imply the great practical importance of this type of preparation courses in the remission of tokophobia, with the ultimate goal of experiencing a more satisfying childbirth experience (Kashiha et al.,2023).

5. Discussion

All the ten primary articles analyzed above undoubtedly offer valuable and well-documented information about how midwifery psychoeducational interventions can be useful on reducing the number of cesarean sections due to tokophobia. Other, equally significant researchers agree with the findings above, in terms of counselling, start with Andaroon et al. (2020) who published a large RCT investigating the effect of counseling on the attitudes of primiparous women with tokophobia regarding the choice of delivery method. The sample of the study consisted of $N = 90$ nulliparous women, aged 18-35 years, who were pregnant for the first time, had a gestational age of 28-30 weeks, and during the period March 2015 -January 2016, were followed up in obstetric clinics and health care facilities of the city of Mashhad. These women were divided into 2 groups (the intervention group, and the control group), and the scales: Childbirth Attitudes Scale, and Decisional Conflict Scale were used as research tools. Their scores were pooled and statistically analyzed, and the results revealed that after counseling, the attitude of women in the intervention group (i.e., those who had received counseling sessions) regarding fear of childbirth and decision-making about the method of delivery was statistically significantly different (86.577 ± 13.531), compared to that of women in the control group (69.955 ± 19.858) ($p < 0.001$). At the same time, these women (in the intervention group) could decide more clearly about the method of delivery they wanted to follow (0.614 ± 0.626), compared to women in the control group (1.216 ± 0.949) ($p < 0.001$) (Andaroon et al., 2020). These findings are remarkable because they show in a statistical way how the implementation of counseling helps pregnant women face their fears about the upcoming birth, and more easily choose a method of delivery, and are aligned to all the conclusions drawn in the articles above, all of which present midwifery interventions as extremely helpful in reducing tokophobia symptomatology. In the same direction, on May 2020, Abdollahi et al. published a major randomized controlled trial on how counseling can reduce anxiety symptoms and tokophobia symptomatology in pregnant women. The study was conducted by a team of researchers from Iran, with a sample of 7 pregnant women, aged 18-50 years, with a gestational age of 26-33 weeks, with a healthy pregnancy course, without a previous cesarean delivery, and without having ever undergone psychotherapy in the past. Of these women, half (35 women) underwent counseling-type psychotherapy, and the other half (35 women) did not, serving as normal controls. The following tools were used to assess their mental state: the Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ), the Pregnancy-specific stress questionnaire (Prenatal Distress Questionnaire, NuPDQ), the Spielberger State-Trait Anxiety Inventory (STAI), and the Childbirth Self-

Efficacy Index (CBSI). Measurements were made twice (once at baseline, and once 5 months later), and the results revealed that tokophobic symptom scores were significantly reduced in the group of pregnant women who had undergone counseling psychotherapy compared to the control group, based on the Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) ($B = -23.54$, $p < 0.001$, $\eta^2 = 0.27$), the Pregnancy-specific stress questionnaire (Prenatal Distress Questionnaire, NuPDQ) ($B = -4.51$, $p < 0.001$, $\eta^2 = 19$), and the Spielberger State-Trait Anxiety Inventory (STAI) scale ($B = -12.42$, $p < 0.001$, $\eta^2 = 0.22$). However, self-efficacy and somatic symptom worry scores were not found to differ between the two groups ($p < 0.05$) (Abdollahi et al., 2020). These findings are interesting because they provide evidence for why as little as 5 months of counseling may be particularly useful in treating tokophobia in pregnant women, thus adding more valuable information on the already mentioned above.

And regarding midwifery role on parental preparation, on April 2023, Moshki et al. investigated the relationship between the support of pregnant women with parenting preparation classes (either in person with the instructor or electronically) and the regulation of the intensity of their tokophobia symptoms. The research sample consisted of $N=96$ pregnant women, aged 18-40 years, with a gestational age of 20-24 weeks, who did not have any medical contraindication to giving birth by natural childbirth. The women were randomly divided into the following three groups: the intervention group that was supported with parenting preparation classes with personal contact with the instructor, the intervention group that was supported with parenting preparation classes electronically, and the control group (without any preparation classes at all), while the following research tools were used: Wijma delivery expectation/experience questionnaire, version A, and Midwifery personal information form. The results of the statistical analysis of their scores showed that pregnant women who participated in parenting preparation classes, either in person with the instructor or electronically, scored a lower mean tokophobia score compared to those in the control group, with a difference that was statistically significant ($p < 0.001$), while between the two intervention groups, those who had come into personal contact with their instructor scored the statistically greatest improvements ($p < 0.001$) (Moshki et al., 2023). These findings are considered noteworthy, because they highlight the role of parenting preparation classes in reducing tokophobic symptomatology, and generally agree with the conclusions drawn above about the utility of midwifery interventions via parenthood preparation in tokophobia alleviation and vaginal labor preference. And last but not least, on October 2023, Kashiha et al. published another significant qualitative study, aiming to investigate pregnant women's perceptions of the usefulness of parenting preparation courses, with an emphasis on tokophobic symptomatology. The study included 18 women aged 17-37 years, who had given birth in the last six months in one of the hospitals in Tehran and had passed at least 20 days since their delivery. As research tools, a series of open-ended questions were used regarding the childbirth experience of these women, and the results from the statistical analysis of their responses showed that these courses had all the potential to inform pregnant women

about their childbirth options, to make the wait until childbirth more pleasant, to ensure a birth as bearable as possible, and to lay the foundations for a pleasant start to the journey of parenthood, where tokophobic symptomatology will not overshadow the relationship with the newborn (Kashiha et al. 2023). These findings are considered of remarkable value, because they imply the great practical importance of this type of preparation courses in the remission of tokophobia, with the ultimate goal of experiencing a more satisfying childbirth experience.

6. Conclusions

In conclusion, modern scientific literature has offered significant statistical results, as for the adequate documentation of the midwifery role in the reduction of tokophobia, which, in turn acts as a natural facilitator to the women leaning towards deciding vaginal childbirth. That being suggested, pregnant women who attend midwifery psychoeducation and maternal preparation classes are bound to better recognize, understand and interpret their feelings and beliefs regarding gestation, labor, lactation and motherhood, thus being able to experience the upcoming childbirth much more calmly. At the same time, midwifery intervention proves to be valuable in terms of highlighting the stronger emotional bonding that vaginal delivery will naturally bring between mother and child -which serves as an extra factor that encourages women's choice in favor of vaginal delivery. In the years to come, more articles need to be published, so that the numbers of cesarean section will be reduced in favor of natural childbirth.

References

- Abdollahi, S., Faramarzi, M., Delavar, M. A., Bakouei, F., Chehrazi, M., & Gholinia, H. (2020). Effect of Psychotherapy on Reduction of Fear of Childbirth and Pregnancy Stress: A Randomized Controlled Trial. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.00787>.
- Andaroon, N., Kordi, M., Ghasemi, M., & Mazlom, R. (2020). The Validity and Reliability of the Wijma Delivery Expectancy/Experience Questionnaire (Version A) in Primiparous Women in Mashhad, Iran. *Iranian Journal of Medical Sciences*, 45(2), 110–117. <https://doi.org/10.30476/IJMS.2019.45326>.
- Corrigan, S., Howard, V., Gallagher, L., Smith, V., Hannon, K., Carroll, M., & Begley, C. (2022). Midwives' views of an evidence-based intervention to reduce caesarean section rates in Ireland. *Women and Birth*, 35(6). <https://doi.org/10.1016/j.wombi.2022.01.002>.
- Fenwick, J., Toohill, J., Creedy, D. K., Smith, J., & Gamble, J. (2015). Sources, responses and moderators of childbirth fear in Australian women: A qualitative investigation. *Midwifery*, 31(1), 239–246. <https://doi.org/10.1016/j.midw.2014.09.003>

- Hanahoe, M. (2020). Midwifery-led care can lower caesarean section rates according to the Robson ten group classification system. *European Journal of Midwifery*, 4, 7. <https://doi.org/10.18332/ejm/119164>.
- Kacperczyk-Bartnik, J., Bartnik, P., Symonides, A., Sroka-Ostrowska, N., Dobrowolska-Redo, A., & Romejko-Wolniewicz, E. (2019). Association between antenatal classes attendance and perceived fear and pain during labour. *Taiwanese Journal of Obstetrics and Gynecology*, 58(4), 492–496. <https://doi.org/10.1016/j.tjog.2019.05.011>.
- Kashiha, M., Hosseini, J., & Samadaee Gelekholaee, K. (2023). Mothers' Perceptions About Childbirth Preparation Classes: A Qualitative Study. *International Journal of Community Based Nursing & Midwifery*, 11(4), 278–286. <https://doi.org/10.30476/ijcbnm.2023.98607.2247>.
- Mahdi Moshki, Farzaneh Esmailzadeh-Asali, Roghaieh Rahmani-Bilandi, Habibollah Esmaily, Atefeh Dehnoalian, & Jafari, A. (2023). The effect of prenatal education in two ways, face-to-face and virtual, on the fear of natural childbirth in pregnant women. *Journal of Public Health*, 32, 1219–1227 <https://doi.org/10.1007/s10389-023-01866-9>.
- Mousavi, S. R., Amiri-Farahani, L., Haghani, S., & Pezaro, S. (2022). Comparing the effect of childbirth preparation courses delivered both in-person and via social media on pregnancy experience, fear of childbirth, birth preference and mode of birth in pregnant Iranian women: A quasi-experimental study. *PLOS ONE*, 17(8), e0272613. <https://doi.org/10.1371/journal.pone.0272613>.
- O'Connell, M. A., Leahy-Warren, P., Khashan, A. S., Kenny, L. C., & O'Neill, S. M. (2017). Worldwide prevalence of tocophobia in pregnant women: systematic review and meta-analysis. *Acta Obstetrica et Gynecologica Scandinavica*, 96(8), 907–920. <https://doi.org/10.1111/aogs.13138>.
- O'Donovan, C., & O'Donovan, J. (2017). Why do women request an elective cesarean delivery for non-medical reasons? A systematic review of the qualitative literature. *Birth*, 45(2), 109–119. <https://doi.org/10.1111/birt.12319>.
- Rondung, E., Ternström, E., Hildingsson, I., Haines, H. M., Sundin, Ö., Ekdahl, J., Karlström, A., Larsson, B., Segeblad, B., Baylis, R., & Rubertsson, C. (2018). Comparing Internet-Based Cognitive Behavioral Therapy with Standard Care for Women with Fear of Birth: Randomized Controlled Trial. *JMIR Mental Health*, 5(3), e10420. <https://doi.org/10.2196/10420>.
- Salomonsson, B., Wijma, K., & Alehagen, S. (2010). Swedish midwives' perceptions of fear of childbirth. *Midwifery*, 26(3), 327–337. <https://doi.org/10.1016/j.midw.2008.07.003>.
- Toohill, J., Fenwick, J., Gamble, J., Creedy, D. K., Buist, A., Turkstra, E., & Ryding, E.-L. (2014). A Randomized Controlled Trial of a Psycho-Education Intervention by Midwives in Reducing Childbirth Fear in Pregnant Women. *Birth*, 41(4), 384–394. <https://doi.org/10.1111/birt.12136>.

Wahlbeck, H., Kvist, L. J., & Landgren, K. (2020). Art Therapy and Counseling for Fear of Childbirth: A Randomized Controlled Trial. *Art Therapy*, 37(3), 1–8. <https://doi.org/10.1080/07421656.2020.1721399>.

Yörük, S., & Acikgoz, A. (2023). Effect of antenatal class attendance on fear of childbirth and antenatal stress. *Revista de Saúde Pública*, 57, 18. <https://doi.org/10.11606/s1518>.

*** (2013). *Diagnostic and Statistical Manual of Mental Disorders* DSM-5. (American Psychiatric Association).