Family Medicine & Primary Care Review 2024; 26(2): 261–266, https://doi.org/10.5114/fmpcr.2024.139039

REVIEWS

ISSN 1734-3402, eISSN 2449-8580

Cognitive behavioral therapy techniques in the treatment of tokophobia – a literature review

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A – Study Design, **B** – Data Collection, **C** – Statistical Analysis, **D** – Data Interpretation, **E** – Manuscript Preparation, **F** – Literature Search, **G** – Funds Collection

Summary **Background.** Tokophobia is a type of specific phobia related to the pathological fear of natural childbirth and occurs in about 6–10% of expectant mothers. Tokophobia is multifaceted, and its underlying factors are biological, psychological, and social. There are primary and secondary tokophobia and tokophobia coexisting with depression. The crucial symptom of tokophobia is the fear of pain. Tokophobia is associated with low pain tolerance, inhibiting the endogenous mechanisms of analgesia caused by pregnancy. The basic form of treatment for tokophobia is psychotherapy.
Objectives. The purpose of this article is to review the latest publications which state the methods of therapy for tokophobia.
Material and methods. To assess available cognitive behavioral therapy techniques in the treatment of tokophobia, a systematic review of four electronic databases (EBSCOhost, PEDro, PubMed, and Scopus) were searched until the end of May 2023.
Results and conclusions. The use of cognitive-behavioral therapy techniques for this type of specific phobia can minimize negative beliefs about childbirth and experienced pain, which can result in a reduction of negative experiences and thereby reduce the number of caesarean sections on demand. The inclusion of alternative interventions, such as the practice of mindfulness and compassion, seems to be a supportive treatment option in the case of a tendency to worry in pregnant women, as well as the experience of discomfort during pregnancy.
Key words: anxiety, caesarean section, parturition.

Konieczna E, Hofmann M, K. Domaszewska. Cognitive behavioral therapy techniques in the treatment of tokophobia – a literature review. *Fam Med Prim Care Rev* 2024; 26(2): 261–266, doi: https://doi.org/10.5114/fmpcr.2024.139039.

Background

Many epidemiological studies show that the percentage of caesarean sections performed in Poland and the world is gradually increasing. In Poland in 1999, the percentage of operative births was 18.1%, while in 2012, it reached the level of 37%. It is currently the highest in Europe at 42.2% [1, 2]. Among the reasons given by pregnant women who preferred cesarean delivery, the following are distinguished: fear of childbirth, previous negative or traumatic experiences related to natural childbirth, and previous obstetrical complications (e.g. in the form of a caesarean section performed in emergency modes) [3].

Studies conducted in Europe indicate that one of the most common reasons associated with the preference for a caesarean section as a method of delivery was the phobia of natural childbirth, also known as tokophobia [4]. Preferences regarding delivery by caesarean section were more frequent in pregnant women with mental disorders, i.e. anxiety disorders, mood disorders, and a history of sexual abuse, compared to other women giving birth [5]. The experience of childbirth is a unique event in a woman's life and causes a whole range of positive and negative factors. Pain and unpleasant emotions should be included in the latter [6]. They may affect the course of pregnancy, childbirth, and the confinement/puerperium, as well as the well-being of the child [3–5]. Research on anxiety in the perinatal period was initiated on a larger scale by Swedish obstetricians in the 1980s, and interest in this issue increases with the rising indications for caesarean sections [7–10]. It is estimated that 80% of pregnant women may experience fears related to childbirth in a mild form, while high intensity tokophobia occurs in 6–10% of expectant mothers.

Anxiety disorders

Among the anxiety disorders that are one of the most common psychiatric indications for cesarean delivery, there is a specific phobia related to the fear of childbirth, also referred to in literature as tokophobia (Greek tokos – childbirth) [11]. Tokophobia is part of a broad concept of specific anxiety during pregnancy that includes other pregnancy-related fears. It includes concerns and fears related to childbirth, parenting abilities, being with the child, and the future health of the child [11]. Studies have shown that it is an autonomic anxiety disorder [12, 13]. Women suffering from tokophobia may be diagnosed with an anxiety disorder such as specific phobia, generalized anxiety disorder, or adjustment disorder [14].

According to the National Institute of Health and Care Excellence, antenatal anxiety is experienced by most women. Anxiety is considered pathological when it exceeds the level observed in the antenatal period in most women, thereby conditioning the withdrawal from trying to give birth by natural methods and is an indication for caesarean section [15].

There are several forms of tokophobia:

1. The primary form may appear long before the first pregnancy (probably since adolescence), manifested not only by fear of childbirth and pain but also by the

presence of depression [11]. Symptoms of depression may occur in the first or in subsequent pregnancies, its underlying cause primally being depressive syndrome.
2. Secondary tokophobia occurs following the first traumatic birth and may be associated with symptoms of postpartum PTSD or postpartum chronic depressive reactions that have not been diagnosed or treated.
3. Tokophobia coexisting with depression during pregnancy is one of the symptoms of depressive disorders. Pregnant women with this form of tokophobia experience intrusive recurring thoughts about the belief that they are unable to give birth to a child or will die during childbirth [12–14].

Despite the high prevalence rate, no specific diagnostic category exists for fear of childbirth [16, 17], neither in ICD-10 nor in DSM-5 (American Psychiatric Association). However, based on the ICD-10 classification, the symptoms of tokophobia can be coded using two categories – specific (isolated) forms of phobia (F40.2) or mental disorders and diseases of the nervous system complicating pregnancy, childbirth, and the puerperium (O99.3) [16]. ICD-11 includes tokophobia as a "specific, indefinable phobia". The etiology of tokophobia is believed to be multifaceted. Sheen and Slade in 2018 [18] identified three moderators of tokophobia that may contribute to or alleviate anxiety: negative birth experiences or "scary stories"; knowledge and understanding versus "too much" information about childbirth; access to support from healthcare providers and perceived helpfulness of this support. Tokophobia was also found to be more common in women receiving psychiatric help and co-occurring with other mental disorders [19–21] with a tendency to anxiety [22, 23], fear of pain [23, 24], lack of social support [21, 25], and a history of sexual abuse [26]. In a Finnish study evaluating the determinants of fear of childbirth in women, it was shown that strong fear of childbirth most often accompanies nulliparous women and women whose previous pregnancies were terminated by emergency surgery or with the use of vacuum extraction (VE). A higher level of anxiety was also observed in the later stages of pregnancy compared to the initial stages [23]. It was also observed that a strong fear of childbirth was correlated with the preference for caesarean section as a method of delivery [27]. This was confirmed by Nieminen et al. [28]. In a Polish study, the severity of anxiety in women in the early postpartum period as a trait (measured with the Spielberger Questionnaire) was associated with a higher probability of delivery by caesarean section [29]. According to the authors, psychoeducational interventions related to the fear of childbirth reduce the severity of tokophobia. This was confirmed in the study, which also showed that these interventions have an influence on a reduction in the number of surgical deliveries and on increasing the satisfaction of the surveyed women compared to women who did not use psychoeducational interventions [30, 31].

Postpartum depression and posttraumatic stress disorder and the type of delivery

Postpartum depression is not a separate category of mental disorders, but according to the latest DSM-5 classification, it is a special case of depressive disorders that manifest up to four weeks after childbirth [32]. Traumatic childbirth, ending with surgical procedures, such as delivery using obstetric forceps or vacuum extraction, is classified as one of the potential risk factors for the development of postpartum depression. Fear of childbirth is an independent predictor of the presence of postpartum depression [32]. The strongest predictor of the occurrence of depressive disorders in the postpartum period was an earlier diagnosis of depression. In women who had not previously been diagnosed with depressive disorders, the occurrence of depression was correlated with the occurrence of symptoms of fear of childbirth and the need for medical intervention [32, 33]. Anxiety accompanying the expectation of childbirth and labor pain is an evolutionary experience; however, in the case of delivery with complications, it may contribute to the development of posttraumatic stress symptoms [32].

Anxiety and labor analgesia and cognitive-behavioral therapy

Fear of pain and suspicion of low pain tolerance are, along with fear for the child's health, the most important components of fear of childbirth, regardless of the order of delivery [23, 31]. Women who are afraid of childbirth feel pain more strongly. This difference is more significant in the final stage of pregnancy, and the maximum duration of pain tolerance is shorter as well. In their research, Saisto et al. hypothesized that fear inhibits the endogenous mechanisms of pregnancy-induced analgesia [31]. This fact raises the question of whether the reduction of fear of pain and of childbirth using cognitive behavioral therapy techniques together with the relief of labor pain by central blockades (usually epidural or combined spinal-epidural analgesia) can be an alternative to a caesarean section upon request in patients with tokophobia.

Cognitive-behavioral therapy

Cognitive behavioral therapy is one of the most commonly used approaches in the treatment of anxiety and pain syndromes. It is one of the most effective methods of short-term therapeutic impact, the effects of which are visible after approximately 12–24 sessions, depending on the complexity of the problem. It focuses on cognitive factors, i.e. automatic negative thoughts, cognitive distortions, beliefs, patterns, and behavioral factors related to avoidance. The cognitive-behavioral approach uses a whole repertoire of different techniques, such as psychoeducation, cognitive restructuring, communication consolidation, behavioral and relaxation techniques, and mindfulness-based interventions, which can be a promising complement to the treatment of patients. The healing factor in CBT is also personal work, which is an essential element of treatment. Patients' activity between sessions may be limited to observing, for example, their behavior, writing down thoughts, and searching for evidence, as well as exposure to fear-producing situations. The therapeutic relationship is extremely important. Patients' activity between sessions may be limited to observing, for example, their behavior, writing down thoughts, and searching for evidence, as well as exposure to fear-producing situations [34]. The goal of therapy is to improve the quality of a patient's life, which is achieved by modifying one's behavior and way of thinking. Integral features of CBT, according to the assumption of Watson et al. [34], are based on cooperation between the therapist and the patient, problem-solving orientation, focus on the present, time limitation, and the use of appropriate techniques. CBT is based on theoretical models and the therapeutic protocols resulting from them. Based on the cognitive model of a specific disorder, an individualized conceptualization of the patient's case is built, taking into account the problem reported by them. The goals of therapy are then set and implemented using appropriately selected protocols [34].

In cognitive-behavioral therapy, there is no standardized therapeutic protocol for treating tokophobia. Tokophobia during pregnancy may be associated with pain during labor [35, 36], longer duration of labor [37, 38], and a more negative assessment of the overall birth experience [39, 40]. Some studies suggest a higher number of emergency caesarean sections among women with tokophobia [41–43]. If a pregnant woman has a strong fear of pain and childbirth (tokophobia) or anxiety reflecting the presence of other types of anxiety disorders (e.g. generalized anxiety disorder, panic disorder), as well as anxiety

occurring in the course of depressive disorders, the experienced excessive fear of pain may be important in the therapeutic process. Leeuw et al. in 2007 [44] emphasized that the reasons for interpreting pain as a threatening stimulus are different. However, its misperception leads to a catastrophizing: "It's going to hurt me". The discussed process can be presented in the form of a vicious circle. As in the case of phobias, avoidance is a factor maintaining the disorder, and confrontation helps to reduce anxiety, which translates directly into the therapeutic protocol and methods of conducting therapy. CBT for tokophobia, on the one hand, is based on cognitive work with the patient, and on the other – on behavioral change. On the one hand, cognitive work consists of self-observation, which is aimed at focusing on the present and noticing that anxiety does not come suddenly and unexpectedly but is a process. Observation of the causes and consequences of what is happening in the patient's daily life and noticing the relationship between them will increase the chance to change the cognitive perspective and take more adaptive actions. In this process, "automatic thoughts", "cognitive distortions", and "cognitive schemas" are identified. Automatic thoughts are recognized as a kind of spontaneous reaction to stimuli flowing from the environment. Cognitive distortions, or errors in thinking, are usually a source of unpleasant, dysfunctional emotions that may involve predicting the future, catastrophizing, and arbitrary reasoning. Automatic thoughts are based on cognitive schemas, which are specific mental filters that determine the selection of stimuli from the environment and the meanings assigned to them and can also determine the resulting emotional reactions or behaviors [34]. One of the elements of psychotherapeutic interactions is cognitive restructuring, understood as a method of recognizing one's own system of meanings, negative automatic thoughts and beliefs about childbirth, the pain experienced with it and oneself, and then an attempt to verify dysfunctional assumptions and create new, more adaptive assumptions [34]. On the other hand, behavioral change in tokophobia is based on the implementation of relaxation techniques aimed at reducing tension and anxiety, as well as desensitization with self-control. Desensitization consists of the patient gradually getting used to the fear-inducing stimulus through exposure that must take place in conditions that are safe for the woman while in a state of rest and relaxation.

A theoretical model for the development and maintenance of tokophobia

Rachman in 1977 [45] pointed to three paths of fear acquisition, thereby extending Mowrer's (1939) [46] two-factor theory of the development and maintenance of phobias, suggesting that classical conditioning refers to the onset of pathological fear and an instrumental conditioning to maintain it. The first path of "conditioning" involves direct exposure to a traumatic or aversive situation. Anxiety about childbirth can affect women who have directly experienced childbirth that was terrifying or traumatic. The second path is "vicarious acquisition", direct or indirect observation of fearful individuals, such as a mother experiencing an emotional relationship with her own birth. The third path is "communicating fear-inducing information", which in tokophobia can come from the information presented in articles, social media posts, television, conversations with others, etc.

Prevention and treatment of tokophobia

Psychotherapeutic methods are the basis for preventing and treating the pathological fear of childbirth [2, 3, 6]. Special counselling teams (fear of child-birth teams) are created, consisting of a doctor, midwife, and psychologist, focused on identifying pregnant women with tokophobia and appropriate treatment and prevention [2]. A review of literature on intervention in the case of tokophobia indicates the effectiveness of psychoeducation and prenatal education in reducing the symptoms of tokophobia. The authors suggest that exposure (through education) may play an important role in the effectiveness of these interventions [47]. Interventions related to the fear of childbirth include counselling with midwives, relaxation sessions [48, 49], and psychoeducation [50–53]. Sjögren and Thomassen in 1997 found that psychosomatic support (meetings with a gynecologist who is also a behavioral specialist and psychotherapist) resulted in a 50% reduction in the number of caesarean sections for psychosocial indications [25]. The beneficial effect of cognitive-behavioral therapy on the reduction of fears related to childbirth and the experience of shorter labor in women was shown in the studies of Saisto and Halmesmäki [24]. Nieminen et al. [51] examined the impact of an 8-week online program based on cognitive-behavioral therapy (ICBT), consisting of psychoeducation, respiratory re-education, cognitive restructuring, imaginal exposure, in vivo exposure, and relapse prevention. A significant decrease in anxiety levels was observed, indicating the potential in treating tokophobia in motivated women. The therapy leads to a significant shortening of the duration of labor, reduction of anxiety symptoms, and prevents the negative experience of childbirth, which occurs in the case of tokophobia [24, 51, 52].

In a study of 258 pregnant women (recruited at 17–20 weeks of gestation), Rondung et al. [53] found non-significant differences between ICBT treatment (based on a transdiagnostic protocol) and a standard care control group (2–4 counselling sessions with midwives, obstetricians, or psychologists). This can be explained by the lower involvement of the respondents in the ICBT program. Jomeen et al. [54] suggest that exposure-based therapy warrants further research on tokophobia, as it has strong research support in the treatment of specific phobias and justifies the use of exposure therapy in late pregnancy [47]. Studies have also shown that in addition to exposure, focusing on cognitive changes improves the effectiveness of exposure therapy for specific phobias [51].

It was also emphasized that the plan of labor pain relief should be agreed upon with the pregnant woman, both in primary and secondary tokophobia [4, 5]. In some cases, especially in tokophobia, which is a symptom of depression, specialist psychiatric treatment and pharmacotherapy may be necessary [32]. In Poland, psychoeducational programs offered by birthing schools are used for this purpose. The most practical guidelines on the characteristics of tokophobia, which would constitute absolute indications for a caesarean section, were published in 2013 in the guidelines of the National Institute of Health and Care Excellence (NICE) from Great Britain [15]. According to the aforementioned clinical standards, every pregnant woman reporting symptoms of fear of childbirth should be consulted by a specialist in the field of mental health during pregnancy and the postpartum period. Before referral for such a consultation, the pregnant woman should be able to discuss all medical conditions regarding both methods of delivery [15]. If, after a series of psychoeducational meetings, a pregnant woman with symptoms of tokophobia still does not consent to a natural birth, then, according to the NICE guidelines, the pregnancy should be completed by caesarean section [15].

Concerning the use of a unified transdiagnostic protocol of cognitive-behavioral therapy of emotional disorders in the treatment of tokophobia, Nieminen et al. [51] presented a guided online self-help program based on cognitive behavioral therapy. The aim of the ICBT intervention was to help participants observe and understand their fear of childbirth and find new ways to deal with difficult thoughts and emotions. The intervention was prepared on the basis of a unified protocol of transdiagnostic cognitive-behavioral therapy for the treatment of emotional disorders, including therapeutic procedures effective in the case of a whole group of emotional disorders, including anxiety disorders and unipolar mood disorders [55, 56]. Research indicates that interventions based on CBT principles and techniques, de-

livered via the Internet, are equal to face-to-face CBT in terms of effectiveness [57, 58]. Guided online self-help programs have been well accepted by patients [59] and may be beneficial in terms of patient access to treatment, the amount of time required by a therapist, and cost-effectiveness [53]. These advantages may be important when trying to implement a new therapeutic approach in antenatal psychosocial care. In addition, the treatment program is flexible in terms of time and place, which aims at the needs of expectant mothers and families. Although online self-help based on the principles of CBT may be a promising treatment alternative for women experiencing fear of childbirth, in the study by Elisabet Rondung et al. [52], it was decided to exclude module 6, focusing on the interoceptive exposure to the symptoms, due to limited contact with pregnant women. The self-help material was built on the content of 7 out of 8 modules and adapted to the needs of the population (e.g. with regard to the content and sequence of psychoeducational elements and examples specific to tokophobia) [60, 61].

The researchers observed no difference in relation to adherence in the study between primiparous and multiparous women, and the reduction of anxiety symptoms was similar in both intervention groups during pregnancy. The research results obtained after a year's break suggest that contact with a guide (clinical psychologist/psychotherapist) had a better effect on the subsequent reduction of fear of childbirth [53].

Therefore, it can be assumed that cognitive-behavioral therapy conducted using a unified protocol for the transdiagnostic treatment of emotional disorders in women with tokophobia may reduce the preference for caesarean section on demand while helping to shape skills, i.e. careful awareness of emotions, non-judgment, focus on the present moment, undermining automatic thoughts, changing problematic tendencies to act under the influence of emotions, and increasing awareness of physical sensations and tolerating them through exposure.

Dual Session Tokophobia Intervention (DSTI) [62, 63] was constructed as an exposure-based intervention. DSTI offers a two-session intervention consisting of psychoeducation (presenting a cognitive model, learning challenge techniques, and re-evaluating automatic thoughts to achieve "cognitive restructuring" and create alternative thought), relaxation techniques, gradual exposure in vivo and imaginative exposure, and cognitive strategies to provide focused assistance in a short time due to the upcoming birth. Interventions are outlined in the tokophobia treatment manual for nurses and midwives. Exposures considered important in the treatment of specific phobias [17], along with psychoeducation, cognitive restructuring, and relaxation, were selected as the basic forms of intervention in this approach.

The experience of visiting a pregnant woman in the delivery room during in vivo exposure was aimed at enabling her to experience her reaction to disturbing stimuli "here and now" without the use of safety behaviors (imagined exposure to pain, childbirth, and preparation for the days after childbirth). The therapeutic relationship and treatment expectations also play an important role. A highly structured two-session intervention is designed to enable stronger emotional regulation and increase the ability to accept change during labor. The effectiveness of this ultra-short exposure-based intervention indicates a reduction in the level of anxiety and shortening the duration of labor, which translates into a low preference for caesarean section. The promising results of studies based on the abovementioned intervention also indicate the possibility of reducing the risk of postpartum depression and PTSD [62, 63].

Conclusions

This paper presents cognitive-behavioral therapy interventions in the treatment of tokophobia based on a two-session model or a unified transdiagnostic protocol for the treatment of emotional disorders, which indicates the effectiveness of therapeutic interactions in reducing labor anxiety and thereby reducing the number of caesarean sections on request. Cognitive-behavioral therapy interventions in the treatment of tokophobia should target both cognitive processes and/or behaviors that may determine the development of fear of childbirth and fear of labor pain. Currently, there is no universal approach to the treatment of tokophobia; however, the use of CBT treatment methods, including behavioral techniques, including reduction of avoidance and systematic desensitization of fear of pain, can contribute to reducing labor pain and thereby inhibit the preference for caesarean section on demand. The inclusion of alternative interventions, such as the practice of mindfulness and compassion, seems to be a supportive treatment option in the case of a tendency to worry in pregnant women, as well as the experience of discomfort during pregnancy [3].

Source of funding: This work was funded from the author's own resources.
Conflicts of interest: The authors declare no conflicts of interest.

References

1. Bewley S, Cockburn J. Responding to Fear of Childbirth. *Lancet* 2002; 359(9324): 2128–2129.
2. Eriksson C, Jansson L, Hamberg K. Women's Experiences of Intense Fear Related to Childbirth Investigated in a Swedish Qualitative Study. *Midwifery* 2006; 22(3): 240–248.
3. Apolinário-Hagen J, Drüge M, Fritsche L. *Cognitive Behavioral Therapy, Mindfulness-Based Cognitive Therapy and Acceptance Commitment Therapy for Anxiety Disorders: Integrating Traditional with Digital Treatment Approaches.* In: Kim Y-K, ed. *Anxiety Disorders: Rethinking and Understanding Recent Discoveries.* Advances in Experimental Medicine and Biology. Singapore: Springer; 2020: 291–329.
4. Benhamou D, Mercier FJ, Velde M van de, et al. Education in Obstetric Anesthesiology: An International Approach. *Int J Obstet Anesth* 2023; 55: 103896.
5. Mitchell Ross G. Objectives and outcome of perinatal care. *Lancet* 1985; 326 (8461): 931–934.
6. Bilert H. Tokophobia – a Multidisciplinary Problem. *Ginekol Pol* 2007; 78(10): 807–811.
7. Viérin M, Bouissou M. Pregnancy Is Associated with Low Fear Reactions in Ewes. *Physiol Behav* 2001; 72(4): 579–587.
8. Schulte AM, Krivitzky SK. Obstetric psychoprophylaxis. The current reality. *Acta Médica Grupo Angeles* 2021; 19(3): 361–367.
9. Hofberg K, Brockington I. Tokophobia: An Unreasoning Dread of Childbirth: A Series of 26 Cases. *Br J Psychiatry* 2000; 176(1): 83–85.
10. Clement S. Psychological Aspects of Caesarean Section. *Best Pract Res Clin Obstet Gynaecol* 2001; 15(1): 109–126.
11. Huizink AC, Mulder EJH, Robles de Medina PG, et al. Is Pregnancy Anxiety a Distinctive Syndrome? *Early Hum Dev* 2004; 79(2): 81–91.
12. Prescott J, Mackie L, Rathbone AL. Predictors of Health Anxiety during Pregnancy. *m Health* 2018; 4: 16.
13. Ross LE, McLean LM. Anxiety Disorders during Pregnancy and the Postpartum Period: A Systematic Review. *J Clin Psychiatry* 2006; 67(8): 1285–1298.
14. Stoll K, Swift EM, Fairbrother N, et al. A Systematic Review of Nonpharmacological Prenatal Interventions for Pregnancy-Specific Anxiety and Fear of Childbirth. *Birth* 2018; 45(1): 7–18.
15. National Institute of Health and Care Excellence. NICE Quality Standard [QS 32] [cited 02.09.2023]. Available from URL: http://www.nice.org.uk/guidance/qs32/chapter/introduction-and-overview.

16. Cooper JE, World Health Organization. *Pocket Guide to the ICD-10 Classification of Mental and Behavioural Disorders: With Glossary and Diagnostic Criteria for Research: ICD-10/DCR-10.* American Psychiatric Pub; 1994.
17. American Psychiatric Association. *Diagnostic and statistical manual of mental disorders: DSM-IV.* 4th ed revised. Washington: APA; 2000.
18. Sheen K, Slade P. Examining the Content and Moderators of Women's Fears for Giving Birth: A Meta-Synthesis. *J Clin Nurs* 2018; 27(13–14): 2523–2535.
19. Rouhe H, Salmela-Aro K, Toivanen R, et al. Group Psychoeducation with Relaxation for Severe Fear of Childbirth Improves Maternal Adjustment and Childbirth Experience – a Randomised Controlled Trial. *J Psychosom Obstet Gynecol* 2015; 36(1): 1–9.
20. Andersson L, Sundström-Poromaa I, Bixo M, et al. Point Prevalence of Psychiatric Disorders during the Second Trimester of Pregnancy: A Population-Based Study. *Am J Obstet Gynecol* 2003; 189(1): 148–154.
21. Badaoui A, Kassm SA, Naja W. Fear and Anxiety Disorders Related to Childbirth: Epidemiological and Therapeutic Issues. *Curr Psychiatry Rep* 2019; 21(4): 27.
22. Ryding EL, Wirfelt E, Wängborg IB, et al. Personality and Fear of Childbirth. *Acta Obstet Gynecol Scand* 2007; 86(7): 814–820.
23. Zar M, Wijma K, Wijma B. Relations between Anxiety Disorders and Fear of Childbirth during Late Pregnancy. *Clin Psychol Psychother* 2002; 9(2): 122–130, doi: 10.1002/cpp.305.
24. Saisto T, Halmesmäki E. Fear of Childbirth: A Neglected Dilemma. *Acta Obstet Gynecol Scand* 2003; 82(3): 201–208.
25. Sjögren B, Thomassen P. Obstetric Outcome in 100 Women with Severe Anxiety over Childbirth. *Acta Obstet Gynecol Scand* 1997; 76(10): 948–952.
26. Heimstad R, Dahloe R, Laache I, et al. Fear of Childbirth and History of Abuse: Implications for Pregnancy and Delivery. *Acta Obstet Gynecol Scand* 2006; 85(4): 435–440.
27. Ryding EL, Lukasse M, Parys A-S, et al. Fear of Childbirth and Risk of Cesarean Delivery: A Cohort Study in Six European Countries. *Birth* 2015; 42(1): 48–55.
28. Nieminen K, Andersson G, Wijma B, et al. Treatment of Nulliparous Women with Severe Fear of Childbirth via the Internet: A Feasibility Study. *J Psychosom Obstet Gynecol* 2016; 37(2): 37–43.
29. Mojs E, Czarnecka-Iwańczuk M, Głowacka MD. [The level of anxiety and depression in the early puerperium – preliminary communication]. *Psychiatr Pol* 2013; 47(1): 31–40.
30. Imakawa CSO, Nadai MN, Reis M, et al. Is It Necessary to Evaluate Fear of Childbirth in Pregnant Women? A Scoping Review. *Rev Bras Ginecol E Obstetrícia* 2022; 44: 692–700.
31. Saisto T, Salmela-Aro K, Nurmi J-E, et al. A Randomized Controlled Trial of Intervention in Fear of Childbirth. *Obstet Gynecol* 2001; 98 (5, Part 1): 820–826.
32. Koo V, Lynch J, Cooper S. Risk of Postnatal Depression after Emergency Delivery. *J Obstet Gynaecol Res* 2003; 29(4): 246–250.
33. Nerum H, Halvorsen L, Sørlie T, et al. Maternal Request for Cesarean Section Due to Fear of Birth: Can It Be Changed Through Crisis-Oriented Counseling? *Birth* 2006; 33(3): 221–228.
34. Watson JC, Gordon LB, Stermac L, et al. Comparing the Effectiveness of Process-Experiential with Cognitive-Behavioral Psychotherapy in the Treatment of Depression. *J Consult Clin Psychol* 2003; 71(4): 773–781.
35. Beebe KR, Lee KA, Carrieri-Kohlman V, et al. The Effects of Childbirth Self-Efficacy and Anxiety During Pregnancy on Prehospitalization Labor. *J Obstet Gynecol Neonatal Nurs* 2007; 36(5): 410–418.
36. Kjærgaard H, Wijma K, Dykes A, et al. Fear of Childbirth in Obstetrically Low-risk Nulliparous Women in Sweden and Denmark. *J Reprod Infant Psychol* 2008; 26(4): 340–350.
37. Farchione TJ, Fairholme CP, Ellard KK, et al. Unified Protocol for Transdiagnostic Treatment of Emotional Disorders: A Randomized Controlled Trial. *Behav Ther* 2012; 43(3): 666–678.
38. Adams S, Eberhard-Gran M, Eskild A. Fear of Childbirth and Duration of Labour: A Study of 2206 Women with Intended Vaginal Delivery. *BJOG Int J Obstet Gynaecol* 2012; 119(10): 1238–1246.
39. Reck C, Zimmer K, Dubber S, et al. The Influence of General Anxiety and Childbirth-Specific Anxiety on Birth Outcome. *Arch Womens Ment Health* 2013; 16(5): 363–369.
40. Sydsjö G, Angerbjörn L, Palmquist S, et al. Secondary Fear of Childbirth Prolongs the Time to Subsequent Delivery. *Acta Obstet Gynecol Scand* 2013; 92(2): 210–214.
41. Hildingsson I. Swedish Couples' Attitudes towards Birth, Childbirth Fear and Birth Preferences and Relation to Mode of Birth – A Longitudinal Cohort Study. *Sex Reprod Health* 2014; 5(2): 75–80.
42. Laursen M, Johansen C, Hedegaard M. Fear of Childbirth and Risk for Birth Complications in Nulliparous Women in the Danish National Birth Cohort. *BJOG Int J Obstet Gynaecol* 2009; 116(10): 1350–1355.
43. Ryding EL, Lukasse M, Parys A-SV, et al. Fear of Childbirth and Risk of Cesarean Delivery: A Cohort Study in Six European Countries. *Birth* 2015; 42(1): 48–55.
44. Leeuw M, Goossens MEJB, Linton SJ, et al. The Fear-Avoidance Model of Musculoskeletal Pain: Current State of Scientific Evidence. *J Behav Med* 2007; 30(1): 77–94.
45. Rachman, S. The Conditioning Theory of Fearacquisition: A Critical Examination. *Behav Res Ther* 1977; 15(5): 375–387.
46. Mowrer OH. A stimulus-response analysis of anxiety and its role as a reinforcing agent. *Psychol Rev* 1939; 46(6): 553–565.
47. Aguilera-Martín Á, Gálvez-Lara M, Blanco-Ruiz M, et al. Psychological, Educational, and Alternative Interventions for Reducing Fear of Childbirth in Pregnant Women: A Systematic Review. *J Clin Psychol* 2021; 77(3): 525–555.
48. Rouhe H, Salmela-Aro K, Toivanen R, et al. Group Psychoeducation with Relaxation for Severe Fear of Childbirth Improves Maternal Adjustment and Childbirth Experience – a Randomised Controlled Trial. *J Psychosom Obstet Gynecol* 2015; 36(1): 1–9.
49. Striebich S, Mattern E, Ayerle GM. Support for Pregnant Women Identified with Fear of Childbirth (FOC)/Tokophobia – A Systematic Review of Approaches and Interventions. *Midwifery* 2018; 61: 97–115.
50. Toohill J, Fenwick J, Gamble J, et al. A Randomized Controlled Trial of a Psycho-Education Intervention by Midwives in Reducing Childbirth Fear in Pregnant Women. *Birth* 2014; 41(4): 384–394.
51. Nieminen K, Andersson G, Wijma B, et al. Treatment of Nulliparous Women with Severe Fear of Childbirth via the Internet: A Feasibility Study. *J Psychosom Obstet Gynecol* 2016; 37(2): 37–43.
52. Rondung E, Ternström E, Hildingsson I, et al. Comparing Internet-Based Cognitive Behavioral Therapy with Standard Care for Women with Fear of Birth: Randomized Controlled Trial. *JMIR Ment Health* 2018; 5(3): e10420.
53. Rondung E, Ekdahl J, Sundin Ö. Potential Mechanisms in Fear of Birth: The Role of Pain Catastrophizing and Intolerance of Uncertainty. *Birth* 2019; 46(1): 61–68.
54. Jomeen J, Martin CR, Jones C, et al. Tokophobia and Fear of Birth: A Workshop Consensus Statement on Current Issues and Recommendations for Future Research. *J Reprod Infant Psychol* 2021; 39(1): 2–15.

55. Böhnlein J, Altegoer L, Muck NK, et al. Factors Influencing the Success of Exposure Therapy for Specific Phobia: A Systematic Review. *Neurosci Biobehav Rev* 2020; 108: 796–820.
56. Larsson B, Karlström A, Rubertsson C, et al. Counseling for Childbirth Fear – a National Survey. *Sex Reprod Health* 2016; 8: 82–87.
57. Farchione TJ, Fairholme CP, Ellard KK, et al. Unified Protocol for Transdiagnostic Treatment of Emotional Disorders: A Randomized Controlled Trial. *Behav Ther* 2012; 43(3): 666–678.
58. Arnberg FK, Linton SJ, Hultcrantz M, et al. Internet-Delivered Psychological Treatments for Mood and Anxiety Disorders: A Systematic Review of Their Efficacy, Safety, and Cost-Effectiveness. *PLoS ONE* 2014; 9(5): e98118.
59. Carlbring P, Andersson G, Cuijpers P, et al. Internet-Based vs. Face-to-Face Cognitive Behavior Therapy for Psychiatric and Somatic Disorders: An Updated Systematic Review and Meta-Analysis. *Cogn Behav Ther* 2018; 47(1): 1–18.
60. Andersson G, Titov N. Advantages and Limitations of Internet-Based Interventions for Common Mental Disorders. *World Psychiatry* 2014; 13(1): 4–11.
61. Harris R. *ACT Made Simple: An Easy-To-Read Primer on Acceptance and Commitment Therapy.* Oakland (CA): New Harbinger Publications; 2019.
62. U-CARE [cited 02.03.2018]. Available from URL: https://www.u-care.se/.
63. Ben-Rafael S, Bloch M, Aisenberg-Romano G. Dual-Session Tokophobia Intervention, a Novel Ultrashort Cognitive Behavioral Therapy Protocol for Women Suffering From Tokophobia in the Third Term of Pregnancy. *Cogn Behav Pract* 2023; 30(3): 520–538.

Tables: 0
Figures: 0
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Received: 19.09.2023
Reviewed: 07.10.2023
Accepted: 29.10.2023

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