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The program of psychological and breastfeeding support "Maternity step by step": an example of effective solution for the prevention, diagnostics and treatment of prenatal and postpartum depression

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Summary

Aim. Postpartum depression affects about 13–20% of women. Depression during pregnancy is observed in 19% of pregnant women. In Poland we lack a support system for this group of patients. This article presents the elements of the pilot program of psychological interventions and breastfeeding support "Motherhood: step by step", financed by the municipality of Gdansk. The aim of the program was to provide inhabitants of Gdansk with professional breastfeeding support and psychological help during pregnancy and in the first year of infant's life.

Method. The study involved three groups of women: 36 mothers participating in psychological consultations and short-term therapy, 123 women from breastfeeding support group and 104 women in the control group. The evaluation was based on questionnaires prepared by the researchers, the General Health Questionnaire-28 and the Parenting Stress Index – 3rd version.

Results. The evaluation showed a significant decrease in symptoms of mental disorders in both groups of treated women: women from psychological intervention and breastfeeding intervention group. In women from psychological intervention group a significant decrease in parental stress was observed.

Conclusions. Conducted analyses showed that the implemented program is characterized by high effectiveness and may be recommended for the continuation in the subsequent years. It may be considered as a solution for changes in the new standards for perinatal care in Poland**.**

Key words: postpartum depression, psychotherapy availability, prenatal depression

Introduction

Postpartum depression affects about 13–20% of women [1]. Prenatal depression has similar rates: it affects 12 to 19% of pregnant women, however, it is much less

recognized [2, 3]. This problem is an important issue of public and social health. Although the percentage of depression after childbirth is not significantly higher than in the group of women of similar age who do not have small children (about 10% of them suffers from depression [4]), the percentage of the first episode of major depression in the perinatal period increases by three times. Depression at this point in life is also an additional risk for the whole family: untreated depression, both prenatal and postpartum, can have significant consequences for both the mother and the child. Maternal prenatal depression double the risk of premature labor [5–8], preeclampsia [9, 10], diabetes [11], risk of epidural anesthesia and caesarian section [12, 13]. It also influences child long-term emotional and social development. *Avon Longitudinal Study of Parents and Children* (ALSPAC) population study (n = 9,848) carried in South and West England between 1991 and 1992 on all pregnant women showed that postpartum depression had negative and lasting developmental consequences also seen in children at 18 years of age [14]. Particularly sensitive group of children are those whose mothers suffered from depression between their 2nd and 8th month of life. The children were 4 times more likely to have problems with behavior between 3rd and 4th year of life, they have two times higher risk of math problems while 16 years old and had 7 times higher risk of depression at 18 years of age. Their mothers, on the other hand, were much more likely to have depression 11 years after the occurrence of postpartum depression.

According to an economic analysis carried out in Canada, the costs of untreated depression of pregnant women, including drug discontinuation during pregnancy, are estimated at 14 trillion Canadian dollars annually [15]. The costs included charges related to the stay of mothers in hospital, premature birth and the costs of treating premature babies in specialized departments. In Poland, we not only lack data for the costs of untreated depression, but, above all, there are no coherent, systemic services directed to parents suffering from pre – or post-natal depression and other mental health problems. Taking statistics into consideration, introducing such services seems indispensable: 403,000 children were born in Poland in 2017. Statistically, 12% of mothers, i.e., 48,360 women, suffer from postpartum depression, or 80,600 women – when the 20% rate is adopted [16 – calculated on the basis of the number of children in Poland under the age of 12 months]. In addition, a similar number of women suffer from depression during pregnancy – which gives a total of 96,000 thousand women. The waiting period for a psychological consultation at public Mental Health Clinics in large Polish cities ranges from one month to a year [17]. This significantly impedes access to treatment for those in need, and it becomes almost impossible for women who fall ill in the third trimester to start psychotherapy before childbirth. It is also worth emphasizing that antidepressants are often prescribed to people with subclinical depression or suffering from a relatively mild depression (including pregnant women), meanwhile, the first-choice treatment for mild to moderate depression should be psychotherapy [18]. In addition, studies conducted in a group of patients diagnosed with depression [19] show that they value psychotherapy more than pharmacotherapy. Also in the case of a strictly pre-or postpartum depression, it is recommended that women with moderate symptoms should be subjected to intensive psychological intervention [20]. According to the research [21], psychological interventions reduce the severity

of depressive symptoms immediately after termination of psychotherapy, and their effects persist also 6 months later.

Despite the widely confirmed effectiveness of psychotherapy and pharmacotherapy as a method of treatment of affective disorders in the perinatal period, data obtained from the Polish National Health Fund (NFZ) indicate that only a small percentage of ill women receive help. In 2014, 6,387 women were diagnosed with depressive disorders within the first year after giving birth, and in 2015 – 5,133. Only in 21 cases in 2014 and 45 in 2015 the diagnosis F53.0 – mild mental and behavioral disorders associated with the puerperium, not elsewhere classified; postnatal and postpartum depression, was made [22]. Based on the above data, it can be stated that postnatal depression is rarely diagnosed. Despite the knowledge on its negative consequences, the illness remains a private matter of the mother and her family.

The presented literature review and practices introduced in Western European countries indicate that effective help may be based on the structures existing in Poland [20, 21, 23, 24]. According to research [21], most women seek help in primary healthcare centers. The key factors seem to be: adequately planned screening to assess the risk and increase in the risk of postpartum depression, the availability of treatment and, in justified cases, joint interventions of psychologists and midwives/community nurses. In most European countries, in the United States and Australia, screening tests are performed during routine gynecological visits during pregnancy and at postnatal patronage visits. For example, the American College of Obstetricians and Gynecologists [23] recommends that patients should be screened for anxiety and depression using standardized tools at least once during pregnancy. The British National Institute for Health and Care Excellence [20] recommends screening for mental disorders and assessing the risk of their occurrence in the routine care of pregnant women and women after childbirth. During the first meeting with the midwife, questions should be asked about the mental state and factors that increase the risk of depression. Identifying women at risk is crucial for the effectiveness of treatment: the earlier the diagnosis, the more effective the treatment. Meanwhile, as indicated by the aforementioned statistics from the National Health Fund [22], in Polish reality, the symptoms of depression in pregnant women and after delivery were not identified in everyday medical and obstetric practice until 2019. New standards of perinatal care, implemented on January 1, 2019, oblige clinicians, midwives and nurses to assess the risk and severity of symptoms of depression in the first and third trimesters of pregnancy. Similar procedures apply in the United States, Australia and Great Britain. The screening tests carried out there are simple and low-cost: pregnant women and young mothers, during routine obstetric examination, are asked two so-called Whooley questions [24]. Answer "YES" to one or two questions means that a full examination should be performed, for example, using the Edinburgh Postnatal Depression Scale [25] or the Patient Health Questionnaire 9 [26], and in the case of elevated score, patients should be referred to obtain appropriate help (Table 1). Negative result – no answer "YES" – generally eliminates the risk of depression. Whooley questions (65% accuracy), however, cannot be used to diagnose or measure depression. It is worth remembering that even standardized tools may not be sufficient to identify the symptoms of depression. Maternity and gynecological

personnel should be aware of the prevalence of these problems and the risk factors of the illness. The results of studies on risk factors for postpartum depression recommended by the WHO [27] may be helpful in the case of doubts concerning maternal mental state or assessing the risk of psychiatric disorders. Factors such as depression and anxiety during pregnancy, stressful life events during pregnancy or in the postnatal period, low level of social support, an earlier history of depression are strong predictors of depression. Moderate predictors include: high level of parental stress, low self-esteem, neuroticism, and child temperament. Gynecological and perinatal difficulties, negative beliefs, low quality of partner relations and low socioeconomic status are less powerful predictors.

Although the literature describes a number of projects aimed to support mothers in prenatal and postpartum period, a meta-analysis of studies show that the answer to this question is not obvious. Both psychotherapy and pharmacotherapy contribute significantly to the improvement of functioning. Logsdon [28] showed a significant reduction in symptoms of depression 8 weeks after pharmacological treatment (nortriptyline and sertraline). Psychotherapy and psychosocial interventions reduce the severity of symptoms of postpartum depression by 30% [29]. Comparison of counseling, psychodynamic and cognitive behavioral therapy and standard care indicates the highest effectiveness of psychodynamic psychotherapy [30].

Research shows an interesting relationship: it is much easier to help a mother than to influence her relationship with her child. Psychological and psychiatric interventions (pharmacotherapy) are focused solely on reducing the symptoms of depression in the mother, are associated with the improvement of her mood, but they do not serve a protective function for child development [31]. Activities that include the mother–child dyad, such as community nursing programs aimed at supporting parental sensitivity, turn out to be more effective in this respect [31].

While working on the project "Motherhood step by step", the literature on the effectiveness of actions taken towards mothers in the perinatal period was analyzed. Based on data from the literature as well as on the experience gained during the implementation of breastfeeding support programs for the inhabitants of Gdansk in 2011–2016 [32, 33], an interdisciplinary project was developed. It assumed the cooperation between midwives, who were certified Breastfeeding Counselors, psychologists and psychotherapists. The Gdansk medical staff working with women in the perinatal period could benefit from supervisions and series of trainings concerning the natural feeding and mental health of women in the perinatal period. An innovative element of the program was the combination of the breastfeeding and psychological counseling center. According to Pietkiewicz [32], about 25% of breastfeeding center patients experience psychological difficulties and need more visits than the remaining 75%. Women experiencing anxiety about caring for their baby or worrying about the course of breastfeeding more often turn to a midwife for help, although they may require the support of a psychologist. Another aspect that justifies integrating breastfeeding and psychological care in the a program is the relationship between breastfeeding and mental health. WHO recommends exclusive breastfeeding for the first 6 months of a child's life, and then continuing it for up to 2 years or more [34]. Research confirms

that in the event of a mother's mood disorder, maintaining breastfeeding is protective for both the woman and the baby. Breastfeeding relieves some of the psychological and physiological consequences of maternal depression for child development [35], and is associated with the decrease of depressive symptoms in mothers [36]. However, failure in feeding, if the mother planned to feed naturally during pregnancy, is a risk factor for postpartum depression [37]. Among women who do not breastfeed, a higher level of depression is reported in the first months after childbirth. Research shows [36, 37] that compared to women who are not depressed, mothers suffering from depression are less likely to breastfeed naturally. It has also been observed that depressive mothers perform a number of unfavorable feeding practices [38], and more infants and children of mothers suffering from depression have difficulty eating [38], which may increase maternal anxiety and stress. Infants of depressive mothers have significantly less physical contact with mothers. These children spend more time touching their skin than the children of mothers not suffering from depression – which may compensate the lack of sensitive touch from their caregivers [39, 40]. In such a situation, natural feeding would provide the possibility of physical contact with the mother, especially "skin to skin" contact. In addition, breastfeeding weakens the neurophysiological stress response and modulates the anti-inflammatory response that is a consequence of stress [41]. Experiences of early motherhood: sleep disturbance, postpartum pain, pain of nipples during feeding or fear of proper feeding are often experienced as significant stressors that lead to an increase in the level of proinflammatory cytokines [41]. Studies also show the relationship between mood disorders and pain [42]. The study of 113 breastfeeding women (48 with nipple pain, 65 without such problems) showed that women experiencing pain more often suffer from depression (38% vs. 14%). When pain was relieved, the depressive symptoms decreased to the level observed in women without pain [42].

The project combining breastfeeding and psychological care was created on the basis of many years of cooperation between the maternity ward of St. Adalbert Hospital in Gdansk and the Institute of Psychology, University of Gdansk. The program seemed to be a response to the real expectations of the maternity ward patients and it was also based on the results of scientific research. In developing a model of psychotherapeutic support, we analyzed the literature on effective psychotherapeutic interventions for mothers in the perinatal period. Based on the results of the meta-analysis by Tsivos [31] and the research of Cooper [30], we decided to choose a psychodynamic paradigm. We were also inspired by the model elaborated by the team of Nancy Suchman [43] and their model of short-term therapy: *Mothering from the Inside Out* (*MIO).* The MIO program was also implemented among women from the socioeconomic risk group, as well as those receiving psychiatric treatment and addiction therapy [44]. MIO aims to support parental skills related to the so-called reflective function: understanding their own emotional states and mental states of a child [43, 44]. According to a study conducted by Slade's team [45], psychopathology of parents is associated with deficits in the ability to understand one's own subjective experience as well as subjective experience of others. Parents begin to react insensitively, sometimes impulsively, it is difficult for them to understand the motivations, intentions, emotional background of

their own and their child's behavior. The MIO therapy is associated with the improvement in reflective function and reduction of psychiatric symptoms and parental stress [44]. This therapy combines elements of directive therapy – having a specific purpose, and non-directive therapies, where the therapist follows the patient. It assumes three stages of work: building a therapeutic alliance with the patient; mentalizing the mental states of the patient; supporting the patient in understanding – mentalizing – the mental states of the child.

In our project, based on literature review, we set the following goals:

1. Improving symptoms of mental disorders and reducing the level of parental stress in the group of women benefitting from individual psychotherapy.
2. Increasing the percentage of women breastfeeding in the first six months of a child's life and improvement of mental health indicators among women benefiting from the breastfeeding support.

Material

As part of the program "Motherhood: step by step", both breastfeeding and psychological help was offered – the scheme of using the project is presented in Figure 1. Patients of the breastfeeding and psychological counseling center were volunteers, information about the project was available in local media and in Gdansk hospitals. Patients could benefit from breastfeeding support and/or psychological intervention. In the situation of an increased level of anxiety, depression or other emotional difficulties, breastfeeding consultants encouraged patients to consult with a psychologist. Breastfeeding and psychological help was free, no referral from another doctor was required. Due to the method of financing (total financing by the City Council of Gdansk), the beneficiaries of the program were only inhabitants of Gdansk.

Subjects

1. Psychological help
   During the six-month period of the project, a total of 11 women completed a cycle of 10 psychotherapy sessions and 25 benefitted from less than 10 visits. For women in the intervention group (I) comparison group (CG) was selected. The control group was recruited, among others, during the Birth classes held in the hospital where the project was implemented (women interested in participating in the program left a telephone number and an indicative date of delivery, which enabled the interviewer to be in contact during the postnatal period); through a pediatrician, community midwives and instructor conducting sports activities for mothers and infants. The majority of women in the intervention group (60%) and the control group (83.3%) were married. 60% of women in the intervention group and 79.2% in the control group had higher education, 3.3% of women in the intervention group and 8.3% in the control group had secondary education; the remaining percentage of the surveyed women did not answer the question. 30% of women from the inter-

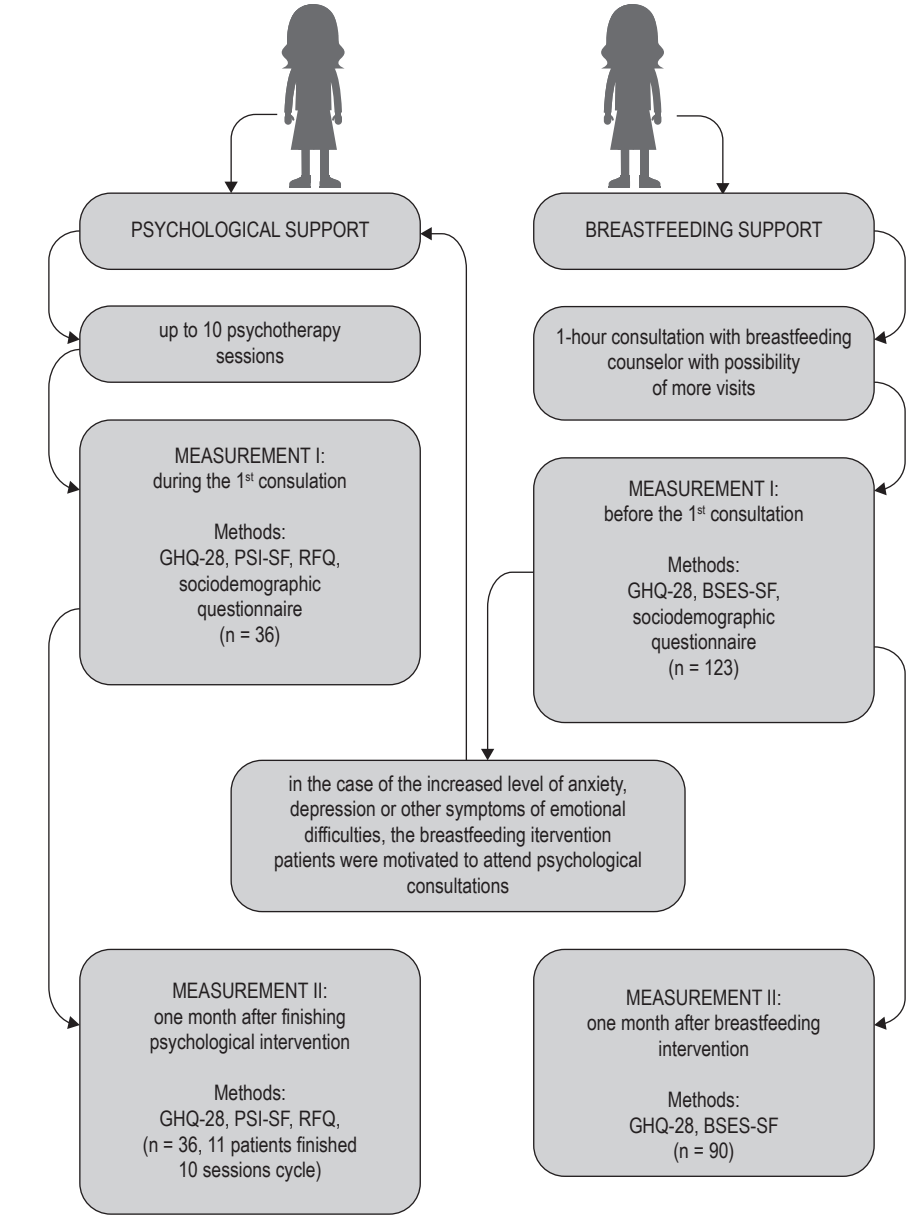

Figure 1. **The procedure for conducting research and the scheme of using psychological help and breastfeeding consultations under the program "Maternity step by step"**

vention group and 5% from the control group had previously received psychiatric treatment. Five women from the psychological intervention group benefited from pharmacotherapy due to affective disorder, one of them contacted a psychiatrist and was subject to pharmacotherapy during psychological therapy. 4 women were pregnant, the rest of the group had children younger than one year.

2. Breastfeeding consultations
   123 women participated in the first stage of breastfeeding consultation evaluation, in the second – 90. The control group (CG) for patients were women who did not benefit from this type of advice. Women in the comparison group were recruited, among others, during the Birth classes held in the hospital where the project was implemented (women interested in participating in the program left a telephone number and an indicative date of delivery, which enabled the interviewer to be in contact during the postnatal period); pediatrician and community midwives. In the control group, 70 women were examined in two stages of the study; 104 participated in the first stage. The majority of women in the breastfeeding consultation group (72.2%) and in the control group (65.7%) were married. Most of the surveyed women from both the breastfeeding consultation group (65.6%) and the control group (61.4%) had higher education. 5.6% of women from the intervention group and 18.6% of women from the control group had secondary education. 53.3% of women in the intervention group and 50% of women in the control group had a natural delivery. 42.2% of mothers in the intervention and 44.3% in the control group had a caesarean section. The remaining respondents did not answer this question.

Method

The first tool used in the study is the survey developed by the authors on: sociodemographic data, the course of pregnancy and childbirth, psychological and psychiatric care to date, and the history of difficulties in natural feeding.

Another tool is the General Health Questionnaire GHQ-28 [46]. The questionnaire is used to assess the mental health of adults and can be used for screening. It consists of 28 items, the higher the score, the greater the severity of mental difficulties. In addition to the overall score, defined by the authors as an indicator of general well-being, the questionnaire has four scales: somatic symptoms; anxiety, insomnia; functional disorders; symptoms of depression. The authors of the tool provide two ways to calculate the results. One of them allows for the identification of people whose mental state has been subject to a temporary or long-term breakdown: people whose score is equal to or higher than 4 points are defined as people from the "clinical" group [46].

The Parenting Stress Index Short Form questionnaire – 3rd version (PSI – SF) [47] was also used in the research – only in the case of women receiving psychological counseling. The tool consists of 36 items. It is intended for parents of children aged 1 month to 12 years. The questionnaire allows for the analysis of the results on both the scale of the general level of parental stress and on three subscales: parental distress, parent-child dysfunctional interaction, and difficult child subscale. The test enables

the identification of families in need of support and enables the examination of the results of aid interventions.

The research was carried out in two stages and consisted of two measurements:

a) psychological help

Measurement I: beneficiaries of short-term therapy filled in questionnaires during the first consultation with a psychotherapist.

Measurement II: one month after the end of the series of meetings, the interviewer arranged the second stage of the study..

b) breastfeeding help

Measurement I: the first stage of the study was carried out before the first visit at the clinic. Women were informed by phone about the necessity of arriving about 20 minutes before the date of the visit, the interviewer handed the participants of the program package of questionnaires in the envelope.

Measurement II: the second stage of the study was carried out by phone one month after the end of care in the clinic.

The comparison group for women using psychological help as well as breastfeeding advice was tested with the same tests at the interval of one month.

Results

1. Effectiveness of psychological help: symptoms of mental health disorders measured using the GHQ-28 and parental stress measured using the PSI-SF.

The conducted statistical analyzes show that in the group of women receiving short-term therapy an improvement in the symptoms of mental disorders, measured with the GHQ-28, was observed. A decrease in the level of somatic symptoms was observed in 60% of women. A decrease in the level of anxiety and insomnia was observed in 80% of patients. An improvement in everyday functioning was observed in 90% and a decrease in the level of symptoms of depression was observed in 70% of women from the intervention group.

Figure 2 illustrates the intergroup differences and changes observed in the level of the overall mental health index examined with the GHQ-28 after short-term psychological intervention. Statistically significant intergroup differences were observed in both stages of the study. In the first measurement ($U = 26.00$; $z = -4.99$; $p < 0.001$), women receiving psychotherapy obtained results indicating a significant severity of mental difficulties. In the second measurement, due to the significant decrease in symptoms of mental disorders in the intervention group ($z = -2.50$; $p = 0.013$), differences between groups are smaller but remain at a statistically significant level ($U = 84.50$; $z = -2.06$; $p = 0.039$].

Figure 3 depicts the intergroup differences and the level of parental stress of the mothers before and after psychological intervention. During the first consultation, patients receiving psychological help were characterized by a definitely higher level of the tested variable than the mothers from the control group ($U = 31.00$; $z = -3.335$;

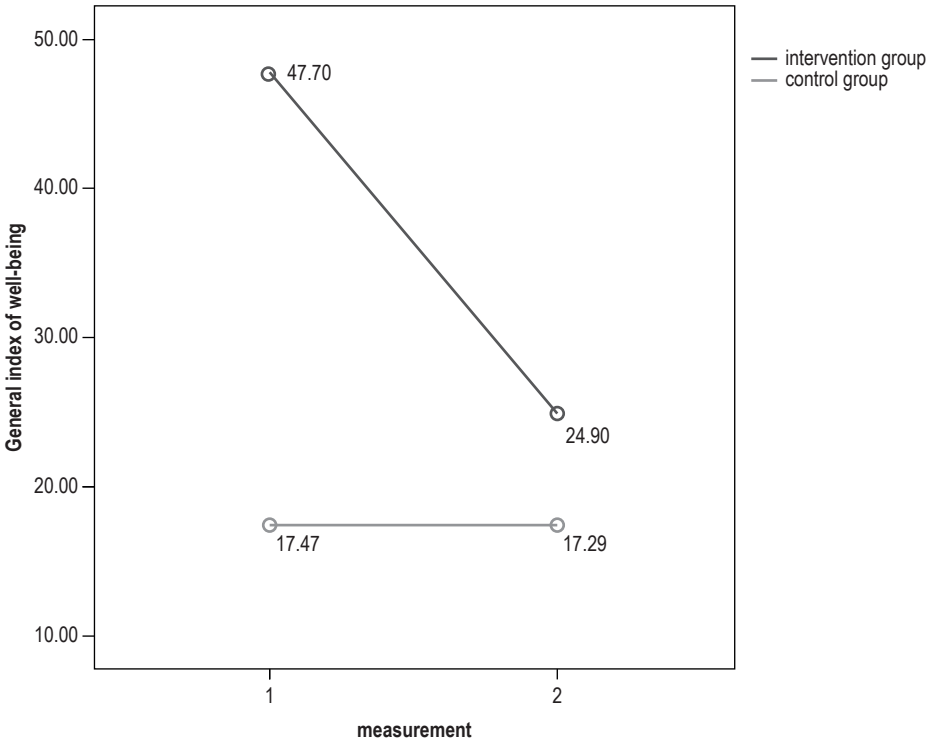

Figure 2. **The results of individuals from the intervention group and the comparison group in two stages of the study and the changes observed in the mental health of the respondent measured with the GHQ-28 before and after psychological intervention**

$p < 0.001$). In the second measurement, the difference in the level of parental stress between the study groups was statistically insignificant. It is associated with a significant decrease in the level of the variable in the intervention group ($z = – 2.20$; $p = 0.028$). In the control group no decrease in the level of parental stress was observed. In addition, women from the intervention group had a tendency to perceive their child as having more difficult temperament: getting frustrated more easily, having more difficulties with self-regulation. In the patients of psychological clinic, one month after the completion of the therapy, a tendency to reduce the results on the "difficult child" subscale of the PSI – SF was observed ($z = – 1.86$; $p = 0.063$). As a consequence, in the second stage no significant intergroup differences were observed. In the control group, there were no differences in the examined feature between the two measurements. However, differences were observed in the child interaction subscale ($U = 61.00$; $z = – 2.08$; $p = 0.039$). After psychological consultations, there was a significant decrease in the severity of the studied variable in these women ($z = – 2.20$; $p = 0.028$). This shows that the interactions with the child have become more pleasant and rewarding, and the relationship with him/her – less difficult. It should be noted that in the second measurement the

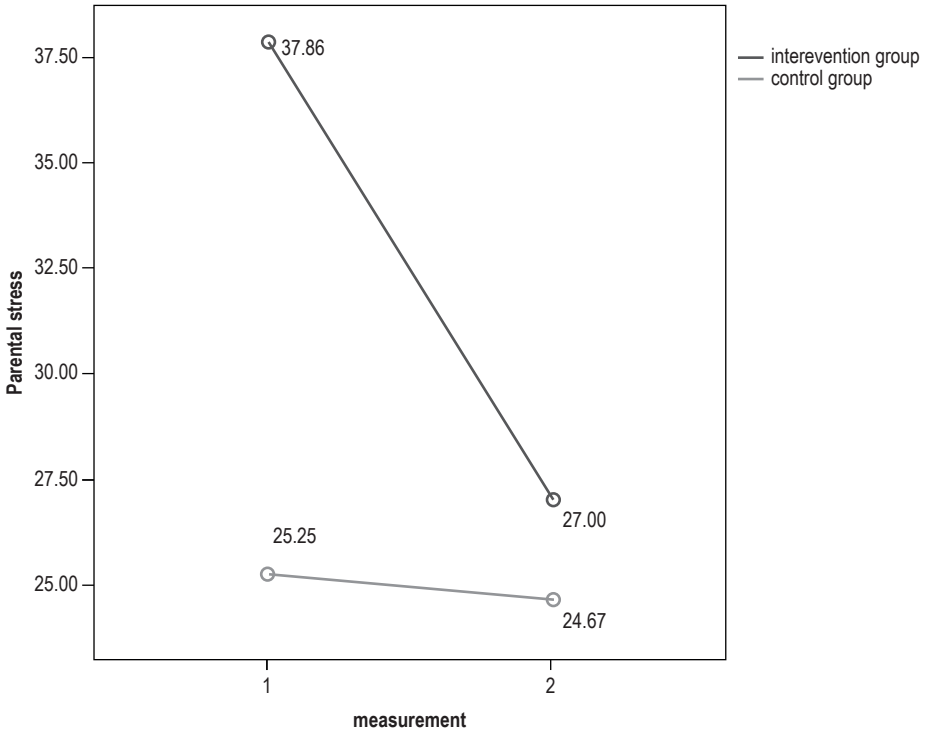

Figure 3. **The level of parental stress assessed with the Parental Stress Index – SF in people from the intervention group and the comparison group in two stages of the study**

level of the tested variable is equal in both examined groups of women. In the control group, the level of parent – child interaction was at the same level in both measures.

Effectiveness of breastfeeding help: exclusive breastfeeding in the first six months of a child's life and symptoms of mental health disorders measured with the GHQ-28.

The number of breastfeeding mothers in the second measurement increased by 47.9%. 48 mothers in the 1st measurement did not feed only naturally. In the 2nd measurement, exclusive breastfeeding was observed in 23 women from the group of mothers who did not breastfeed in this way in the first measurement. In the control group, in the 2nd measurement, the number of breastfeeding mothers increased by 12.9%: out of 31 mothers not feeding only naturally in the first measurement, exclusive breastfeeding was observed in 4 mothers in the 2nd measurement. In the breastfeeding intervention group, a significant improvement in mental health and overall well-being was observed (Figure 4). Women from the breastfeeding intervention group obtained results – in the 1st measurement – indicating significant mental difficulties. Their mean score corresponded to the mean result of the mental clinic outpatients. During the first measurement, 68.89% of women in the breastfeeding intervention group obtained a clinical result in the GHQ-28, while in the control group – 45.71%. In the

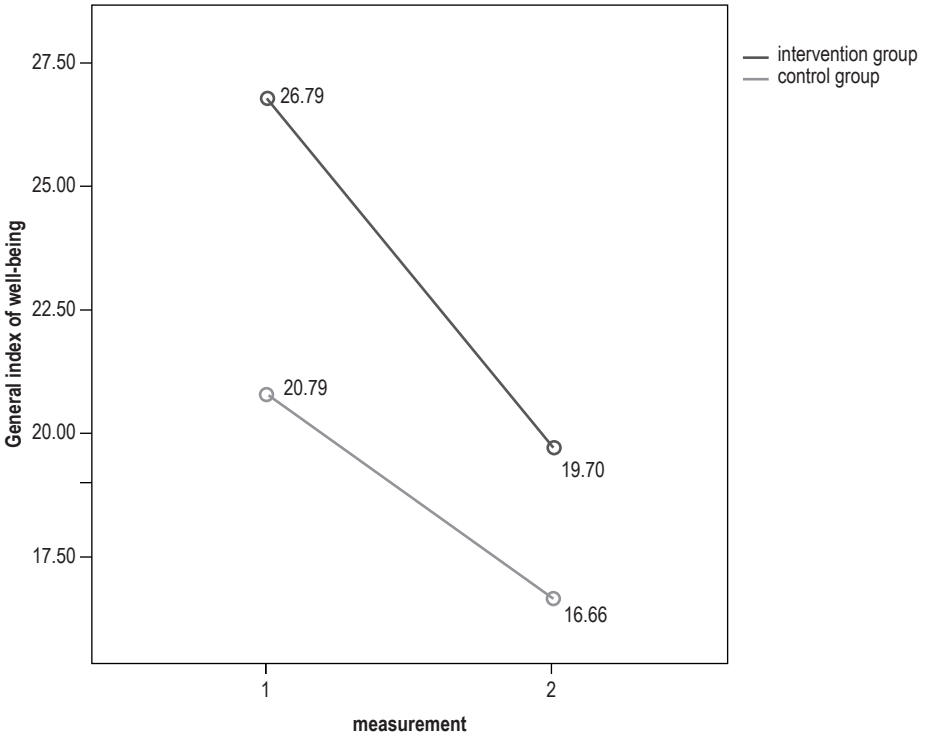

Figure 4. **Mental health assessed with the GHQ-28 of women receiving breastfeeding counseling and women from the control group in two stages of the study**

2nd measurement, as a result of the significant improvement in mental health in the breastfeeding intervention group ($p < 0.001$), differences between groups turned out to be statistically insignificant ($t = 1.93$; $p = 0.055$). It should be noted, however, that in women from the control group the level of psychological well-being also increased significantly: symptoms indicating mental difficulties decreased ($t = 2.34$; $p = 0.022$). The improvement in the functioning of women in the breastfeeding intervention group concerned the following subscales: somatic symptoms, functional disorders and anxiety, and insomnia.

Discussion

The conducted statistical analyzes showed that the evaluated program turned out to be effective both in terms of supporting natural feeding and the effects of psychotherapeutic treatment.

In the group of people using the program "Maternity step by step", we observed:

a) an improvement of mental health and reduction in the level of parental stress (overall result), as well as improvement in interaction with the child, and the

perception of the infant as less difficult in women from the psychological intervention group;

b) an increase in the percentage of women exclusively breastfeeding in the first six months of their child's life in the group of participants benefiting from breastfeeding support. Additionally, the number of mothers breastfeeding exclusively in the second stage of the study is significantly higher than in the control group;

c) a significant improvement in mental health indicators among women benefiting from breastfeeding support: reduction in somatic symptoms, difficulties in functioning and symptoms indicative of anxiety and insomnia.

The results of our own research confirm the results of above-mentioned foreign studies [20]: in the case of psychiatric disorders in the perinatal period, it is recommended that women with moderate severity of symptoms undergo intense psychological intervention, which is an effective and recommended method of treatment. Interestingly, a significant improvement in functioning was observed not only in the group of people benefiting from psychological interventions but also among patients of the breastfeeding clinic. The research describes the effectiveness of psychotherapy as well as other psychosocial interactions, such as home visits by midwives, visits of non-professionals to support young mothers [20, 21]. Discussing concerns about the course of breastfeeding and uncertainty regarding parental competences with a counselor during breastfeeding counseling may also be understood as a kind of psychosocial intervention leading to an improvement in the respondents' mood.

The effectiveness of the program seems to be related to a number of factors:

a) Despite the relatively short duration, the program was very popular among the inhabitants of Gdansk. Hospital where breastfeeding and psychological consultations were carried out is known in the local community for its previous activities to support breastfeeding, in addition, the program was advertised in the local media.

b) Program beneficiaries could count on getting aid in a short time. Waiting time for an appointment at the breastfeeding clinic was 1–4 days, and the waiting time for starting short-term psychotherapy was 1–7 days. Midwives reporting the need for supervision received psychological support on an ongoing basis.

c) Interdisciplinary care brought positive effects: cooperation of certified breastfeeding counselors, midwives, nurses, and psychologists; the possibility of participation of various professional groups in training and supervision guaranteed by the program. All of this facilitated the identification of women with symptoms of depression, establishing relationships with them, planning strategies to provide them with optimal care, referring them to psychotherapy and/or psychiatric treatment. Interdisciplinary cooperation seems to be crucial for the success of screening and treatment of women in the perinatal period. Identification of mood disorders is possible owing to nurses and midwives, however, research [48] shows that midwives feel frustrated by the need to provide patients with information about the mental state and, in particular,

the rejection of help by needy women. A study [49] conducted on a group of Australian midwives and nurses who implemented a nationwide screening program showed that despite training the medical staff is lacking in knowledge about identifying depression and further work with such patients. Australian nurses and midwives felt involved in the project, but they felt a lack of competence and support in dealing with mental health of newly delivered mothers. The program "Maternity step by step" assumed close cooperation of breastfeeding counselors and psychologists, it also offered the possibility of supervision for breastfeeding counselors and midwives that teach birth classes. These activities supported the medical personnel in carrying out tasks which were new for them.

d) Preventive actions on mental health were two-pronged: concerned both women benefiting from psychotherapeutic help and from breastfeeding counseling. It is worth noting that failure in feeding, if the mother planned to feed naturally during pregnancy, is a risk factor for postpartum depression [39]. Natural feeding eliminates the negative consequences of stress experienced after childbirth, it also reduces the level of proinflammatory cytokines, which is an important protective function for the mother's mental health. Symptoms of depression are associated with an increased level of inflammation of the body. The obtained results confirmed that the relationship – both therapeutic relationship with a psychologist, and supportive and caring relationship with a midwife or a breastfeeding counselor – may play an important role for the prevention of mental health disorders in the perinatal period. The possibility to build such a relationship in the initial period of maternity may be an important identification element in building one's own maternal identity. This relationship may be a corrective emotional experience. The mother, surrounded by effective support, is able to adequately care for her own child.

Conclusions

1. The social risk related to maternal postpartum depression described in the article should encourage institutions and municipalities to look for effective solutions. The conducted analyzes show that the implemented program, financed entirely from the resources of the municipality of Gdansk, was characterized by satisfactory effectiveness and may be recommended for subsequent years.
2. The success of the program is related to the interdisciplinary approach and analysis of the evidence-based medicine regarding effective interventions in the perinatal period, which was possible due to successful cooperation of the health center, research institution and Gdansk City Hall.

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