

Sense of coherence among pregnant women participating and not participating in antenatal classes

Poczucie koherencji wśród kobiet w ciąży uczestniczących i nieuczestniczących w zajęciach szkoły rodzenia

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Key words: pregnancy, fear of childbirth, sense of coherence.

Słowa kluczowe: ciąża, lęk przed porodem, poczucie koherencji.

Abstract

Introduction: Pregnancy is undoubtedly one of the most important and stressful events in a woman's life. Fear of childbirth is common during pregnancy and has a significant impact on the course of the labour, which may also be a sign of postnatal mental health problems. Both participation in antenatal classes and the individual sense of coherence can increase the sense of self-efficacy and satisfaction with childbirth.

Aim of the research: Assessment of the sense of coherence among pregnant women participating and not participating in antenatal classes.

Material and methods: The enrolled group of 200 women was divided into two equal subgroups: the study group – participants of antenatal classes ($n = 100$); and the control group – women not participating in antenatal classes ($n = 100$). The Sense of Coherence Questionnaire (SOC-29) was applied as a research method. The study was approved by the Bioethics Committee. It was carried out in the period from October 2016 to December 2018.

Results: Among the sociodemographic factors, education and living conditions had a significant impact on the sense of coherence. The sense of manageability was significantly higher ($p = 0.0252$) among women with at most secondary education (51.05 ± 8.35 points) than in the group of women with higher education (48.53 ± 7.14 points). The living conditions of women significantly influenced the sense of coherence ($p = 0.0037$). The sense of coherence was as high among women who participated in antenatal classes (4.74 ± 0.64 points) as among women who did not participate in these classes (4.74 ± 0.65 points).

Conclusions: The sense of coherence is one of the personal resources that can significantly affect coping in difficult life situations. Hence, it is important to assess the sense of coherence not only in pregnant women, but also in women preparing for pregnancy. It would be worthwhile conducting further studies based on a multicentre project analysing a number of other individual and social factors.

Streszczenie

Wprowadzenie: Lęk przed porodem jest częstym problemem w okresie ciąży i w znaczący sposób wpływa na przebieg porodu. Zajęcia w szkole rodzenia oraz osobnicze poczucie koherencji mogą zwiększyć poczucie własnej skuteczności.

Cel pracy: Ocena poczucia koherencji wśród kobiet w ciąży uczestniczących i nieuczestniczących w zajęciach szkoły rodzenia.

Materiał i metody: Grupę badaną stanowiło 200 kobiet, które podzielono na dwie równo liczebne grupy: grupa badana – uczestniczki zajęć szkoły rodzenia ($n = 100$), grupa kontrolna – kobiety nieuczestniczące w zajęciach szkoły rodzenia ($n = 100$). Metodą zastosowaną w pracy był Kwestionariusz orientacji życiowej SOC-29 (*Sense of Coherence Questionnaire*). Na badanie uzyskano zgodę Komisji Bioetycznej. Badanie zrealizowano od października 2016 do grudnia 2018 roku.

Wyniki: Wśród czynników socjodemograficznych wykształcenie i warunki bytowe miały istotny wpływ na poczucie koherencji. Poczucie zaradności było istotnie wyższe ($p = 0,0252$) wśród kobiet z wykształceniem co najwyżej średnim ($51,05 \pm 8,35$ pkt) niż w grupie kobiet z wykształceniem wyższym ($48,53 \pm 7,14$ pkt). Na poczucie koherencji istotnie wpływały warunki bytowe kobiet ($p = 0,0037$). Poczucie koherencji było tak samo wysokie wśród kobiet, które brały udział w zajęciach szkoły rodzenia ($4,74 \pm 0,64$ pkt), jak wśród kobiet nieuczestniczących w tych zajęciach ($4,74 \pm 0,65$ pkt).

Wnioski: Poczucie koherencji stanowi jeden z zasobów osobowych, który może istotnie wpływać na radzenie sobie w trudnych sytuacjach życiowych. Dlatego też istotna jest ocena poczucia koherencji nie tylko u kobiet ciężarnych, lecz też u kobiet przygotowujących się do ciąży. Warto byłoby w przyszłości poszerzyć badania o projekt wieloośrodkowy, analizując szereg innych osobniczych i społecznych czynników.

Introduction

Pregnancy is a special time in every woman's life. Regardless of whether it is a dream come true of having children or a surprise, it is considered as a stressful situation [1]. From the psychological, sociological and legal perspective, the moment of the child's birth, along with the entire perinatal period, seems to be one of the most important events affecting the future of a woman, her baby and the family. Various factors of everyday and personal life have an impact on a woman's attitude towards pregnancy and childbirth, significantly affecting its final course [2].

Increased susceptibility to the development of anxiety and depression is observed during the pregnancy period [3]. The prevalence of anxiety in a pregnant woman is associated with numerous factors e.g. general anxiety of pregnancy, concerns about the physical aspects of the fetus, anxiety about the health and well-being of the fetus, anxiety about the labour, anxiety about routine care for a newborn, and anxiety about the ability to breastfeed the baby [4].

Fear of childbirth (FOC) is a common problem affecting the health and well-being of women and a frequent reason for ordering a caesarean section [5]. Most women, especially nulliparous women, experience logical dread from ignorance of the birthing process. This fear is naturally controlled during pregnancy and childbirth. Irrational fears occur as everyday anxiety, nightmares, and physical symptoms. Sometimes a severe phobia of childbirth leads to avoidance of pregnancy and motherhood or its denial [6].

Anxiety creates tension, which leads to unnecessary pain. This pain increases the anxiety and thus the tension, and the cycle repeats itself. Dick-Read has developed a way to prepare for childbirth that aims to break the vicious circle of fear, tension and anxiety. A pregnant woman learns what causes pain and how she can free herself from fear. In addition, she practises breathing to eliminate tension during childbirth, and also performs physical exercises that prepare muscles and joints for labour effort. A woman free from fear and focused on what is happening to her body and her unborn child is free from mental and physical tension [7].

One of the effective factors that can help pregnant women face the anxiety and stress of pregnancy and childbirth, and reduce psychological stresses, such as the fear of childbirth, is the sense of coherence. In fact, the sense of coherence is known as a pleasant feeling that can increase the sense of self-efficacy in terms of labour and satisfaction with the birth [8].

Similarly, classes at the antenatal school are designed to increase the sense of self-efficacy in connection with childbirth, which in turn has a positive effect on the women's birth experience [9].

In our study, the Life Orientation Questionnaire (SOC-29) was used to assess the level of sense of co-

herence among the surveyed women. According to Hildingson, identification of women with low SOC in pregnancy may be a way to prevent subsequent parental stress [10]. The respondents were divided into participants of the antenatal school and women not participating in such classes. According to Toolan *et al.*, good quality of antenatal care can reduce adverse pregnancy outcomes and increase interest in antenatal and postnatal care [11].

Material and methods

200 pregnant women hospitalized at the Department of Obstetrics and Pregnancy Pathology of the Provincial Clinical Hospital No. 2 in Rzeszow were enrolled in the study. The respondents were a representative group for the population of women giving birth in 4 hospitals in the city of Rzeszow, data for 2016 (with a confidence interval of 0.95% and a maximum error of 0.05). The detailed characteristics of the study group are provided in the previous publication [12]. The study was conducted from October 2016 to December 2018. The women were divided into two equal groups: the study group – participants of the antenatal classes ($n = 100$); the control group – women not participating in them ($n = 100$).

The study was approved by the resolution of the Bioethics Committee of the University of Rzeszow of June 8, 2016 (5/06/2016). After being informed about the course and purpose of the study, the respondents gave their informed consent in writing to participate in the study. The inclusion criteria were as follows: informed consent to participate in the study, adult women, logical verbal contact with the patient, pregnant women, participants of antenatal classes and pregnant women not participating in antenatal classes.

The method used in the study was a diagnostic survey, and the technique was the Sense of Coherence Questionnaire SOC-29 by Antonovsky. The SOC-29 questionnaire included 29 items, covering three subscales related to the components of the sense of coherence: comprehensibility, manageability and meaningfulness. The concept of the sense of coherence is used primarily in health psychology as the name of a preventive factor for maintaining health. The Polish version of the SOC-29 questionnaire was developed in 1993 in cooperation with the Department of Clinical Psychology of the Institute of Psychiatry and Neurology, the Department of Psychoprophylaxis at the Institute of Psychology at the Adam Mickiewicz University and the Department of Occupational Psychology of the Institute of Labour and Social Sciences in Lodz. The evaluation of the Polish version of SOC-29 showed high reliability. This questionnaire has good psychometric properties: Cronbach's α for the entire scale is 0.85 and from 0.72 to 0.75 for the subscales. The retest stability of the scale ranges from 0.72 to 0.83 ($p < 0.001$) [13].

The results were presented using the methods of descriptive statistics.

Results

It was not found that the age of women significantly influenced the sense of coherence in general as well as in individual subscales. The place of residence of women did not significantly differentiate the sense of coherence. The sense of manageability was significantly higher ($p = 0.0252$) among women with at most secondary education (51.05 ± 8.35 points) than in the group of women with higher education (48.53 ± 7.14 points). The living conditions of women significantly influenced the sense of coherence. It was found that the respondents with good living conditions had a significantly higher level of comprehensibility (45.20 ± 8.11 points), a sense of manageability (49.84 ± 7.63 points) and a sense of meaningfulness (43.89 ± 6.04 points) than the respondents reporting mediocre living conditions. Also, the general sense of coherence was significantly higher ($p = 0.0037$) in the group of women who described their living conditions as good (Table 1).

The life orientation questionnaire (SOC-29) allowed us to assess the sense of coherence among the examined women in general, as well as on three subscales. The results are presented in two versions – “raw” (the results are the sum of the items based on the key) and transcoded in the range of 1–7 points. The results of the transcoded scale were discussed, as it allowed for their comparison. The general level of the sense of coherence in the studied group of women was 4.74 ± 0.67 points and ranged from 3.17 to 6.38 points. The sense of coherence manifested among the respondents to the greatest extent as a sense of meaningfulness (5.44 ± 0.77 points), and to a lesser extent as a sense of manageability (4.94 ± 0.76 points), and to the least extent took the form of a sense of comprehensibility (4.05 ± 0.75 points) (Table 2).

The sense of coherence was as high among women who participated in antenatal classes (4.74 ± 0.64 points) as among women who did not participate in these classes (4.74 ± 0.65 points). Also on the individual subscales, the differences were not statistically significant ($p > 0.05$) (Table 3).

Discussion

A high level of coherence is an extremely important factor influencing effective coping with a difficult situation. Antonovsky defines the sense of coherence as “a person’s global orientation, expressing the degree to which the person has an overwhelming, persistent, yet dynamic sense of certainty that the stimuli flowing from the internal and external environment throughout life are structured, predictable and explainable; resources are available to enable

it to meet the demands of these stimuli; these requirements are for him a challenge worth the effort and commitment” [14].

In this study, the Orientation to Life Questionnaire (SOC-29) was used to assess the sense of coherence among the surveyed women. It was found that the higher the intensity of the general coherence index, the lower the level of depression symptoms before delivery ($\rho = -0.416$; $p < 0.0001$). The sense of coherence was manifested among the respondents to the greatest extent by a sense of meaningfulness (5.44 ± 0.77 points), to a lesser extent by a sense of manageability (4.94 ± 0.76 points), and the lowest by a sense of comprehensibility (4.05 ± 0.75 points). These results seem to be in line with the findings of Antonovsky and Pasikowski, who consider meaningfulness to be the most important component of the sense of coherence [14, 15]. These conclusions may be supplemented by the studies by Kroemke *et al.* showing strong, inversely proportional correlations between the sense of coherence and the intensity of depressive symptoms during pregnancy and after delivery, which can be considered as an indirect verification of Antonovsky’s assumptions [16]. The thesis formulated above is confirmed by the study by Phoosuwan *et al.*, where the low level of the sense of coherence doubled the risk of antenatal depression [17]. A similar conclusion was made by Ferguson *et al.* upon analysing the results of their study, in which women with a high sense of coherence experienced fewer depressive symptoms compared to women with a low sense of coherence [18].

The age and place of residence of the surveyed women did not significantly differentiate the sense of coherence – as opposed to their education and living conditions. In the case of education, the sense of manageability was significantly higher ($p = 0.0252$) among women with at most secondary education (51.05 ± 8.35 points) than in the group of women with higher education (48.53 ± 7.14 points). The living conditions of women significantly influenced the sense of coherence. It was found that the respondents with good living conditions had a significantly higher level of comprehensibility (45.20 ± 8.11 points), a sense of manageability (49.84 ± 7.63 points) and a sense of meaningfulness (43.89 ± 6.04 points) than the respondents reporting average living conditions. Also, the general sense of coherence was significantly higher ($p = 0.0037$) in the group of women with good living conditions.

In Hildingsson’s study, the level of the sense of coherence was correlated with the socio-demographic situation of women, their emotional well-being and attitudes, but there was no correlation in this respect with the results of delivery [19]. On the other hand, in the study by Przestrzelska *et al.* the younger age of women, as well as the lack of support from the hus-

Table 1. Sense of coherence (SOC-29) and sociodemographic factors

Parameter		Sense of comprehensibility	Sense of manageability	Sense of meaningfulness	Sense of coherence	Sense of comprehensibility	Sense of manageability	Sense of meaningfulness	Sense of coherence	
Age	Up to 30 years	Mean	44.98	49.95	43.65	138.58	4.09	5.00	5.46	4.78
		SD	8.66	7.81	6.51	19.78	0.79	0.78	0.81	0.68
Over 30 years		Mean	43.85	48.32	43.34	135.51	3.99	4.83	5.42	4.67
		SD	7.48	7.24	5.59	16.72	0.68	0.72	0.70	0.58
P-value			0.3692	0.1374	0.5841	0.3065	0.3692	0.1374	0.5841	0.3065
Place of residence	Urban area	Mean	45.12	49.60	43.59	138.30	4.10	4.96	5.45	4.77
		SD	8.16	7.54	6.02	18.43	0.74	0.75	0.75	0.64
Rural area		Mean	43.98	49.09	43.48	136.55	4.00	4.91	5.43	4.71
		SD	8.32	7.74	6.36	19.06	0.76	0.77	0.80	0.66
P-value			0.4713	0.5621	0.8900	0.4983	0.4713	0.5621	0.8900	0.4983
Education	Up to secondary education	Mean	44.66	51.05	44.02	139.72	4.06	5.10	5.50	4.82
		SD	9.51	8.35	6.61	21.14	0.86	0.84	0.83	0.73
Higher		Mean	44.51	48.53	43.30	136.35	4.05	4.85	5.41	4.70
		SD	7.59	7.14	5.97	17.41	0.69	0.71	0.75	0.60
P-value			0.8622	0.0252	0.3531	0.2472	0.8622	0.0252	0.3531	0.2472
Living conditions	Good	Mean	45.20	49.84	43.89	138.93	4.11	4.98	5.49	4.79
		SD	8.11	7.63	6.04	18.51	0.74	0.76	0.76	0.64
Mediocre		Mean	40.27	46.08	41.15	127.50	3.66	4.61	5.14	4.40
		SD	7.94	6.90	6.65	17.27	0.72	0.69	0.83	0.60
P-value			0.0039	0.0182	0.0440	0.0037	0.0039	0.0182	0.0440	0.0037

Table 2. Sense of coherence (SOC-29)

Parameter	Sense of comprehensibility	Sense of manageability	Sense of meaningfulness	Sense of coherence
Mean	44.56	49.35	43.54	137.45
Me	45.00	50.00	44.00	139.00
SD	8.24	7.63	6.18	18.72
Min.	25	29	27	92
Max.	67	69	56	185
1–7 point scale	Sense of comprehensibility	Sense of manageability	Sense of meaningfulness	Sense of coherence
Mean	4.05	4.94	5.44	4.74
Me	4.09	5.00	5.50	4.79
SD	0.75	0.76	0.77	0.65
Min.	2.27	2.90	3.38	3.17
Max.	6.09	6.90	7.00	6.38

Table 3. Sense of coherence (SOC-29) and participating in antenatal classes

Participant of antenatal classes	Yes		No		P-value
	Mean	SD	Mean	SD	
Sense of comprehensibility	4.05	0.73	4.05	0.77	0.9221
Sense of manageability	4.93	0.77	4.94	0.76	0.9172
Sense of meaningfulness	5.45	0.74	5.43	0.80	0.8086

band/partner, was correlated with a lower SOC score ($p < 0.0280$) ($p < 0.0295$) [20]. In a study by Ngai *et al.* conducted among Chinese couples during pregnancy, 6 weeks and 6 months after childbirth, it was observed that a high level of sense of coherence was associated with better functioning of the family and marriage in the perinatal period [21].

In the study by Schwartz *et al.* there were no differences between nulliparous and multiparous women in terms of expected outcome, but multiparous women had higher scores on self-efficacy ($p < 0.001$). We found no relationship for age, education, or having a history of miscarriage against the subscales of outcome expectancy or self-efficacy for the first stage of labour in nulliparous or multiparous women. Multiparous women not supported by partners more often reported low self-efficacy expectations ($p < 0.05$). Experiencing moderate pain in pregnancy was significantly associated with low expected efficacy in both groups as well as low expected outcome only in nulliparous women. Fear strongly correlated with low self-efficacy in labour. Statistically significant associations with lower childbirth efficacy were found for both parity groups against the variables of perceiving less childbirth knowledge compared to peers, preferring a caesarean section for this birth [22].

Similarly, a study by Stoll *et al.* in women of reproductive age showed that high self-efficacy in childbirth was associated with a reduced likelihood of caesarean delivery [23].

In the study by Zinsser *et al.*, pregnant women, nulliparous women, planning natural childbirth, participating in antenatal classes were asked to complete the shortened German version of the Self Birth Efficacy Inventory (CBSEI-C32). Despite some difficulties in understanding the tools, the respondents positively assessed the above tool and the need to use it to assess their own effectiveness during childbirth [24].

In a study by Schwarzer *et al.*, it was found that when faced with difficult situations, people with lower self-efficacy had a higher level of anxiety and self-doubt and tried to avoid difficult environmental requirements compared to people with higher self-efficacy [25].

This aspect was not the subject of this study, but it would be worth considering the above analysis in further research projects of a prospective nature among Polish women.

Takegata *et al.* reported that SOC was negatively associated with antenatal anxiety of delivery. High SOC acts as an immunity factor that helps pregnant women cope with the stress of the upcoming labour and reduces the fear of childbirth [8].

The main results of the study by Voogand *et al.* were that women with severe fear of childbirth (FOC) reported a lower sense of coherence (SOC), and all three components of SOC were lower in women with severe FOC. Comprehensibility turned out to be significantly correlated with FOC. Psychological problems before pregnancy were more common in women with severe FOC and low SOC [26].

The aim of the study by Pasricha *et al.* was to investigate the relationship between the expected sense of maternal coherence, perceived social support, and the bond between the mother and fetus and mental health outcomes. The results of this study highlight the role of perceived social support, a sense of coherence and maternal-fetal attachment in contributing to the expected mental health and well-being of mothers in urban India [27].

Social support is a type of interaction between people, and its most important sources are people from the closest environment. The study by Bałanda-Bałyga *et al.* showed a statistically significant correlation between the attitude towards pregnancy and childbirth and the support received by young mothers from teachers – respectively $p = 0.004$; $p = 0.02$. In addition, a relationship close to statistical significance was found between women's attitude towards pregnancy and the support they received from strangers ($p = 0.05$) and young members of the local community ($p = 0.09$) [28].

The meta-analysis by Missler *et al.* aimed to evaluate the effectiveness of preventive psychological interventions offered to common populations of pregnant women in terms of symptoms of depression, anxiety and general stress. According to the above study, there is sufficient evidence that antenatal interventions in women at risk (selective prophylaxis) or women with severe psychiatric symptoms (prophylaxis indicated) are effective in reducing postpartum stress. However, women without risk or severe psychological symptoms may also experience stress [29].

Another study by Missler *et al.* found no evidence that a universal prophylaxis programme was effective in reducing parental stress or increasing the quality of care. However, parents found some aspects of the intervention useful [30].

In this study, the participation of the respondents in antenatal classes can be classified as such interventions. However, the results show that participation in antenatal classes did not significantly affect the sense of coherence of the respondents. The sense of coherence was as high among the women attending antenatal classes as in the women not attending.

Institutional and disciplined training in pregnancy has significant benefits in pregnancy, childbirth and postpartum depression, especially in reducing the incidence of caesarean sections and postpartum depression [31].

Conclusions

No relationship was found between the participation of the respondents in antenatal classes and the level of the sense of coherence. Other individual (including health) and social factors which may significantly affect the level of the sense of coherence need to be analysed in the future. This is especially important in relation to the assessment of the woman's resilience potential in the face of the new situation awaiting her that is childbirth and serving a new life role.

Conflict of interest

The authors declare no conflict of interest.

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