

# ORIGINAL PAPERS

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## Effect of Attending Childbirth Education Classes on Psychological Distress in Pregnant Women Measured by Means of the General Health Questionnaire

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A – research concept and design; B – collection and/or assembly of data; C – data analysis and interpretation;  
D – writing the article; E – critical revision of the article; F – final approval of article; G – other

### Abstract

**Background.** Pregnancy brings about many changes in a woman's life in somatic, psychological and social spheres. Therefore, many women decide to participate in childbirth education classes. The aim of study was to determine the differences in emotional distress between women who participated in childbirth education classes and these who did not.

**Material and Methods.** Seventy first-time mothers after labor were examined. Based on a survey carried out, the women were divided into two equal groups. Group I consisted of women who had participated in childbirth education classes and Group II of women who had not. The data was gathered by means of the General Health Questionnaire (GHQ-12) adapted to Polish conditions.

**Results.** There were no differences either in age or in BMI rates among the examined women. The level of education and knowledge about labor was significantly higher among the participants of childbirth classes. The results of the GHQ-12 revealed that women from Group I had a better mental status than women from Group II. Significant differences were observed in terms of sleep deprivation, overcoming difficulties and in the ability to enjoy daily activities.

**Conclusions.** Participation in childbirth classes has a significant influence on psychological well-being in pregnant women as measured by the GHQ-12 (*Adv Clin Exp Med* 2014, 23, 6, 953–957).

**Key words:** psychological distress, pregnant women, childbirth classes, GHQ-12.

Psychological distress in pregnant women has been the subject of numerous studies in various institutions and health care centers all over the world [1–6]. Pregnancy brings about a great many changes in somatic, psychological and social aspects of life. First-time mothers have the added stressors of adapting to their new role as mothers and the insecurities associated with their ability to nurture an infant for the first time, therefore many women – if they have such the possibility – decide to participate in childbirth education classes. The originator of the idea, Grantly Dick-Read, a British obstetrician,

was the first one to observe a correlation between the mental state of the woman in labor and the pain which accompanies childbirth. He defined that correlation as the fear-tension-pain syndrome, which was the cause of pain during labor [7, 8]. The first childbirth education classes in Poland were held in the 50's by Professor Włodzimierz Fijałkowski, who followed the idea of Dick-Read and aimed at correcting misconceptions and eliminating the negative emotions related to childbirth [7]. At present, the most important goal of childbirth education classes is physiotherapeutic preparation for natural

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birth. Additionally, childbirth education classes help pregnant women overcome their fear and mentally prepare for childbirth [7, 8]. Therefore, the objective of this study was to evaluate the effects of the expanding knowledge, psychological preparation and suitably chosen physical activity offered by childbirth education classes on the emotions accompanying pregnancy and labor and thus the emotional distress status of the examined women.

## Material and Methods

The examined group consisted of 70 postpartum women. Classification criterion was the first childbirth and delivery after the 37<sup>th</sup> week of pregnancy. All women gave their informed consent prior to their inclusion in this study. The necessary data was gathered by means of a two-part, anonymous questionnaire. The first part – sociological – consisted of general questions concerning age, received education and knowledge about childbirth. The second part included the General Health Questionnaire (GHQ-12) adapted to Polish conditions. The GHQ-12 consists of 12 items, each assessing a certain problem in the Likert scoring system (0 – 1 – 2 – 3) [9]. The obtained results were subjected to statistical analysis by means of CSS STATISTICA 6.0 and presented in the form of arithmetical mean ( $\bar{x}$ ) and standard deviation ( $\pm$  SD). A quantitative comparison employed the non-parametric Mann-Whitney *U* test, assuming the level of statistical significance at  $p \leq 0.05$ .

All procedures were approved by the Ethics Committee/KB-165/210 of Wrocław Medical University.

## Results

Based on the questionnaire, the examined women were divided into 2 groups, 35 women in each. Group I consisted of those women who had

participated in childbirth education classes and Group II of the women who had not. The differences regarding age and BMI values between the groups were statistically insignificant. However, the level of received education and knowledge about childbirth were significantly higher in childbirth classes' participants (Table 1). Twenty eight (80%) women in Group I had university education and none had vocational or elementary education. In Group II only 15 (43%) women had received university education. The subjective evaluation of pain was at the same level in both groups.

Assessment of psychological distress by means of the GHQ-12, where lower point values mean better emotional status, revealed that the mental health status between the women in Group I and Group II differed significantly. Group I obtained lower point values (better mental health status) than Group II. The significant differences regarded questions 1, 7 and 9, which were related to sleeping problems, overcoming difficulties and enjoying everyday activities (Table 2). As far as the rest of the questions are concerned, the average number of points obtained was comparable in both groups – similarly low or high, yet always higher in Group II (Fig. 1).

## Discussion

Within the last decades, due to changes in our culture and lifestyle, women are deciding to become mothers much later in life, and the age of late, yet still healthy, motherhood has increased from 35 to 40 [10, 11]. The majority of pregnant women are over 25. The average age in Group I was 30.4 and in Group II 29.3.

The examined women who participated in childbirth education classes had higher education than the ones who did not. A similar tendency was observed by Kołomyjec et al. [12], who found that 54.6% of women who attended childbirth education classes had received university education, whereas that percentage dropped to 24.4% in women who

**Table 1.** Age, education and knowledge of childbirth in the examined postpartum women of both groups ( $p \leq 0.05$ )

	Group I	Group II	$p \leq 0.05$
Age (years)	30.4 $\pm$ 3.94	29.3 $\pm$ 6.64	0.206
Education <sup>1</sup>	3.8 $\pm$ 0.41	3.1 $\pm$ 0.91	0.001
BMI	21.30 $\pm$ 2.08	22.57 $\pm$ 4.34	0.177
Knowledge <sup>2</sup>	8.54 $\pm$ 1.34	7.51 $\pm$ 1.79	0.011
Pain <sup>2</sup>	7.23 $\pm$ 3.2	7.43 $\pm$ 3.31	0.801

<sup>1</sup> – education: 1 – elementary, 2 – vocational, 3 – secondary, 4 – university.

<sup>2</sup> – knowledge of childbirth and pain evaluated subjectively by the examined women by means of a 10-point scale.

**Table 2.** Evaluation of the quality of life by means of the 12-item General Health Questionnaire (GHQ-12)

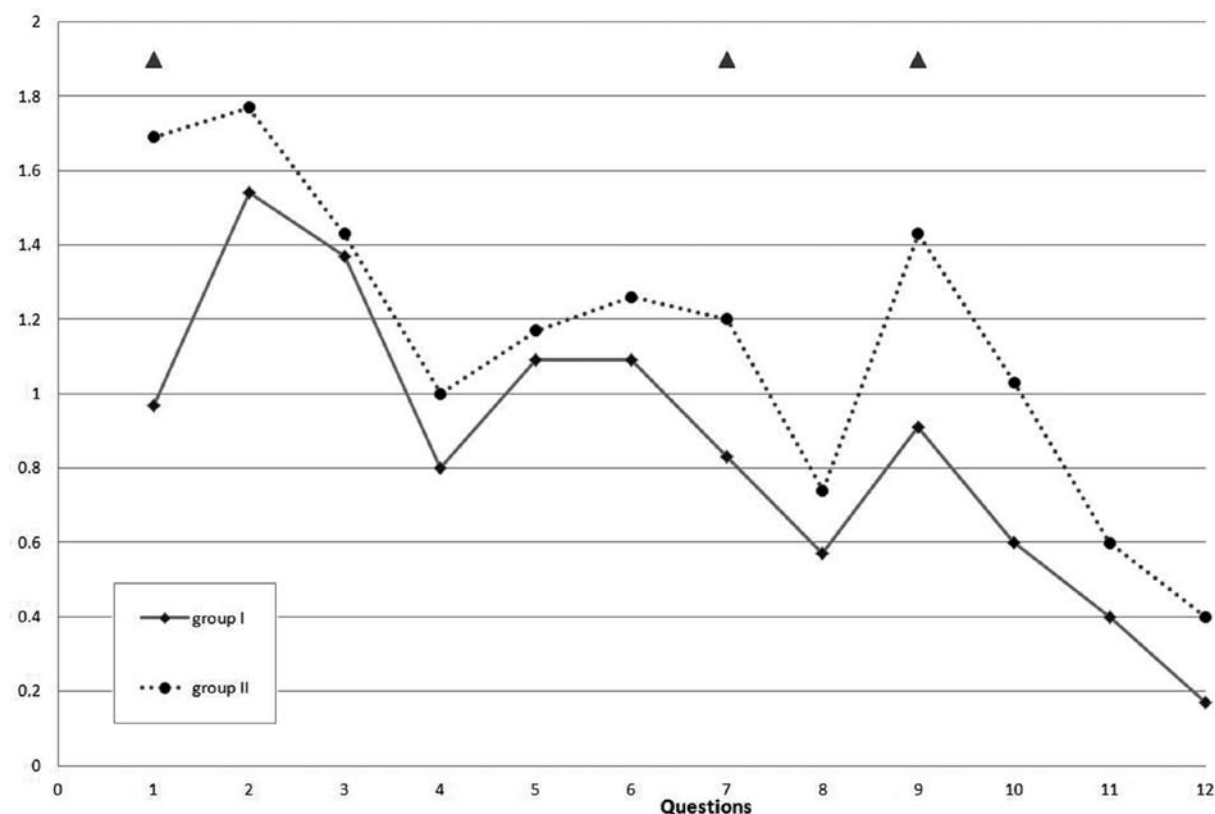
Questions	Group I (n = 35)		Group II (n = 35)		Mann-Whitney <i>U</i> Test	
	mean	standard deviation	mean	standard deviation	<i>z</i>	$p \leq 0.05$
1. Have you recently lost much sleep over worry?	0.97	1.04	1.69	0.96	-2.96	0.003
2. Have you recently felt constantly exhausted?	1.54	0.95	1.77	0.73	-1.06	0.290
3. Have you recently been able to concentrate on what you were doing?	1.37	0.65	1.43	0.61	-0.56	0.576
4. Have you recently felt that what you are doing is useful?	0.80	0.63	1.00	0.73	-1.05	0.293
5. Have you recently been able to face up to your problems?	1.09	0.56	1.17	0.57	-0.63	0.528
6. Have you recently felt capable of making your own decisions about things?	1.09	0.56	1.26	0.51	-1.12	0.261
7. Have you recently felt that you were unable to overcome difficulties?	0.83	0.57	1.20	0.80	-2.05	0.040
8. All things considered, have you recently felt reasonably happy?	0.57	0.56	0.74	0.89	-0.42	0.675
9. Have you recently been able to enjoy your usual daily activities?	0.91	0.61	1.43	0.74	-2.90	0.004
10. Have you recently felt unhappy and depressed?	0.60	0.74	1.03	0.95	-1.93	0.054
11. Have you recently felt that you are losing self-confidence?	0.40	0.70	0.60	0.81	-1.16	0.245
12. Have you recently been thinking of yourself as a worthless person?	0.17	0.38	0.40	0.78	-1.05	0.293
Total	10.34	3.86	13.71	5.68	-2.41	0.016

had not participated in the classes [13]. That may prove that well-educated women are more aware of the fact that the course of labor to a great extent depends on the woman herself and therefore are more willing to participate in childbirth education classes [14]. Kolanko and Kolanko [7] did not observe any correlations between education and the motivation to attend childbirth education classes; however, the results were much better among those women who were well-educated.

Psychological distress in pregnant women has been the subject of numerous publications all over the world [1–6]. The studies carried out were also focused on women burdened with various illnesses or/and different questionnaires were used [3, 15]. The GHQ is a widely used instrument designed to screen for psychological disturbance, and also to screen women during pregnancy and in the post-natal period. The Chinese version of the GHQ-12 is widely used in Hong Kong [5]. The GHQ-12 was

employed by van Bussel et al. [4], who examined mentally healthy women before, during and after pregnancy. They observed frequent mental health disorders in the early stages of pregnancy and after childbirth. However, according to those authors, pregnant women are not more predisposed to mental disorders than those women who are not pregnant or have not given birth recently. Setse et al. [15] observed that alterations in depressive symptomatology have a substantial effect on functioning during pregnancy and after delivery.

Pregnancy brings about a great many changes in a women's life, most of all those resulting from the changes that are happening to her body. Physical abilities decrease, the body's shape alters and hormonal balance is disturbed. Lower physical activity during pregnancy contributes to increasing body weight, which in turn results in overloading of the osteoarticular system [16]. As the amount of blood and lymph increases and blood vessels expand,



**Fig. 1.** Comparison of mean number of points scored for particular questions in the 12-item General Health Questionnaire (GHQ-12) in both groups

there is a possibility of varices [17]. The center of gravity shifts forwards which may result in pain in the lumbar section of the spine and balance disorders [18, 19]. During pregnancy the oxygen requirement increases while lung capacity decreases due to upshifting of the diaphragm caused by the expanding uterus [20]. The aforementioned changes as well as many others which accompany pregnancy may obviously affect the psycho-emotional condition of the woman and thus her quality of life.

Both psychological well-being and physical condition are important factors to quality of life. The quality of life in pregnancy is not a constant value and, depending on the situation and various factors, it may decrease or increase accordingly [14, 21, 22]. Health-related quality of life progressively decreases when the probability of being a psychiatric case increases [23]. The physical exercise provided at childbirth education classes, similarly

to Yoga classes for pregnant women, bring positive results by improving efficiency and well-being [24, 25]. It was observed in both cases that the level of psychological distress decreased and the quality of life in physical, psychological and sociological aspects increased and even the quality of sleep improved among the women participating in childbirth education classes in comparison with control groups. Therefore, childbirth education classes in an unconventional way improve the quality of life of pregnant women as well as their physical efficiency, provide necessary knowledge and become, in a way, support group sessions which improve the mental state of the women.

The authors concluded that participating in childbirth education classes significantly improves mental health status by decreasing emotional distress in pregnant women, measured by means of the GHQ-12.

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