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Partners of nulliparous women with severe fear of childbirth: a longitudinal 1 study of psychological well being

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1 **Partners of nulliparous women with severe fear of childbirth: a longitudinal**
2 **study of psychological well being**

3

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10 **ABSTRACT: Background:** Little is known about the psychological status of
11 partners of women with severe fear of childbirth (FOC). In this longitudinal study
12 from Helsinki University Central Hospital, we investigated FOC, depression and post-
13 traumatic stress in the partners of women with severe FOC, and possible effects of
14 group psychoeducation and mode of birth. **Methods:** During pregnancy, 250 partners
15 of nulliparous women with severe FOC participated, 93 in the intervention group and
16 157 in the control group. At three months postpartum 52 partners in the intervention
17 group and 93 in the control group participated. Both the partners and the childbearing
18 women filled in the Wijma Delivery Expectancy Questionnaire and the Edinburgh
19 Postnatal Depression Scale mid-pregnancy as well as three months postpartum, when
20 they also filled in the Traumatic Event Scale.

21 **Results:** Partners of women with severe FOC reported less antenatal and postnatal
22 FOC and fewer depressive symptoms than the childbearing women. No partner
23 reached the threshold of severe FOC. No partner reported a possible post-traumatic
24 stress disorder. Group psychoeducation with relaxation was not associated with better

1 or worse psychological well being of the partners. An emergency cesarean section
2 was associated with a more fearful delivery experience in the partners.

3 **Conclusion:** Partners of nulliparous women with severe FOC neither seem to suffer
4 from severe FOC nor reported post-traumatic stress symptoms after childbirth. They
5 reported better psychological well being than the mothers both during pregnancy and
6 after delivery. An unexpected cesarean may be a negative experience even for
7 partners of childbearing women.

8

9 **Keywords:** Fear of childbirth, partners, group psychoeducation, post-traumatic stress
10 disorder

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12

1 **Introduction**

2

3 Childbirth is a significant event in life. Although joy and positive expectations of the
4 coming birth are common, some people are troubled by fear of childbirth (FOC)
5 during pregnancy. The prevalence of intense FOC in expectant fathers has been
6 reported at 5-13% (1,2,3). In women, about 10% report a fear of getting pregnant or
7 giving birth vaginally, or the fear disturbs her normal life and activities (4-7). FOC in
8 women is associated with depressive symptoms (8,9), and with post-traumatic stress
9 postpartum (10). Women with severe FOC more often want a planned cesarean
10 section (4,5). FOC in fathers has been associated with parental stress and with poor
11 physical and mental health (11). The relationship between pregnant women's FOC
12 and their partners' FOC is not sufficiently known. Hildingsson (1) reported few
13 couples (6/821) with mutual FOC in a non-selected sample. Another study about
14 couples' mental well being showed that pregnant women and their partners seemed to
15 resemble each other concerning depression and dissatisfaction with life (12).

16 The possible effect of treatment in partners of women with a severe FOC has
17 not been evaluated. We do know that treatment of FOC may lower the need for
18 cesarean section and improve the mental health of the women (13,14). In a previously
19 published randomized controlled study of group psychoeducation with relaxation for
20 nulliparous women with very severe FOC, a positive effect was shown on the
21 obstetric outcome (15) as well as on the childbirth experience and maternal
22 adjustment of the women (16). Even so, post-traumatic stress symptoms were
23 common postpartum, especially following emergency cesarean section (16). In the
24 present study, the partners of the participating women are investigated.

1 six group sessions during pregnancy. During that session the focus was on the
2 emotions, especially wishes and fears regarding the forthcoming childbirth,
3 parenthood and becoming a family. The participants were supported in sharing their
4 emotions and thoughts within the couple and within the intervention group. Those
5 randomized to the control group had conventional antenatal care, which is **community**
6 **based and** free of charge in Finland. Pregnant nulliparous women are scheduled for 10
7 visits to a **district nurse**. Partners are welcome to attend. Complications are treated by
8 obstetricians **and midwives** at a hospital clinic. Virtually all births take place in a
9 hospital with hospital-based staff. The couples in the intervention group also had
10 access to conventional antenatal care.

11 In all, 257 partners (three female) sent in their informed consent form and
12 completed questionnaires during mid-pregnancy. For the purpose of the current
13 analysis, we only used those couples that reported living together ($n = 250$ couples).
14 Of these, 93 were in the intervention group and 157 in the control group. At three
15 months postpartum 145 (only male) partners returned the questionnaire (58%), 52
16 (56%) in the intervention group and 93 (59%) in the control group. In one case we
17 could not trace mode of birth.

18 Fear of childbirth was assessed using the Wijma Delivery
19 Expectancy/Experience Questionnaire Man (W-DEQ Man), version A (prenatal FOC)
20 and version B (postnatal FOC, describing the degree of fear during the recent
21 childbirth). The W-DEQ is a 6-point, 33-item self-assessment rating scale for a
22 minimum score of 0 and a maximum of 165. It has been used extensively in various
23 countries and demonstrated good validity (18). It has also been used in male subjects
24 (2). In this study, the Cronbach's alpha reliability coefficient was 0.92 for W-DEQ
25 Man A and 0.89 for W-DEQ Man B in the partners. The corresponding Cronbach's

1 alpha reliability coefficients for the childbearing women were 0.75 and 0.95. For the
2 purpose of this study, having a “higher postnatal fear” was defined as having a W-
3 DEQ sum score in the upper quartile (W-DEQ>47).

4 The Edinburgh Postnatal Depression Scale (EPDS), developed to assess
5 postnatal depressive symptoms, was used during pregnancy and three months after
6 childbirth (19). It has been validated for pregnancy (20,21) and for new fathers (22).
7 Each item is rated on a scale of 0 to 3 and all items are added to give an overall score.
8 The chosen cut-off score was ≥ 11 for depression, which has shown a sensitivity of
9 78.9 and a specificity of 84.7 (18). Cronbach’s alpha coefficient was 0.84 and 0.83 for
10 partners and 0.88 and 0.89 for the childbearing women in the two waves.

11 The Traumatic Event Scale (TES) was used to measure post-traumatic stress
12 symptoms related to childbirth, three months after delivery (23). The scale was
13 developed in line with the Diagnostic and Statistical Manual of Mental Disorders,
14 Fourth Edition criteria for post-traumatic stress disorder and comprises the stressor
15 criterion (criterion A) and all symptom criteria for post-traumatic stress disorder
16 including criteria E (time criterion) and F (influence on life). TES includes four
17 statements about criterion A (stressor) and 17 statements concerning post-traumatic
18 stress disorder criteria B, C and D (i.e. intrusive thoughts, avoidance/numbing and
19 arousal). The subjects were asked to report the frequency of each symptom described
20 on a scale of 1 (never/not at all) to 4 (often). A TES F criterion is the reported
21 influence of the symptoms on the person’s life, on a scale of 0–10. For a post-
22 traumatic stress disorder profile (very probable diagnosis, but an interview is always
23 needed) according to the Diagnostic and Statistical Manual of Mental Disorders,
24 Fourth Edition criteria were fulfilled if items A, B, C, D and E were fulfilled and the
25 degree to which they influenced life was 6–10 for at least one of the symptoms. The

1 TES was only filled in by 86 men (59%) because it was added after the start of the
2 study. Cronbach's alpha coefficient was 0.94 for partners and 0.92 for childbearing
3 women.

4 Obstetrical data were registered in the hospital records. The delivery variables
5 used for the 145 participants three months postpartum were emergency and elective
6 cesarean section, cesarean because of fear of childbirth, instrumental vaginal delivery,
7 and spontaneous vaginal birth.

8 Demographic covariates of age and educational level were used. Age was
9 measured in years. Educational level was measured on a 5-point scale (1 =
10 Comprehensive school, 2 = Vocational school, 3 = Polytechnics, 4 = Lower university
11 degree, 5 = Higher university degree)..

12 This study was approved by the Ethics Committee for Gynaecology and
13 Obstetrics, Otolaryngology, Ophthalmology, Neurology and Neurosurgery at Helsinki
14 University Central Hospital (376/E9/05 from 27 October 2005).

15

16 *Statistical analyses*

17 To quantify the prevalence of FOC and depressive and post-traumatic stress
18 symptoms, mean (standard deviation) was used. The paired samples t-test was used to
19 assess differences between mothers and their partners in the intervention group
20 compared to the control group. Student's t-test was used to assess differences between
21 partners following various modes of birth. Logistic binary regression analysis was
22 used to estimate the odds ratio and 95% confidence interval of the association between
23 an emergency cesarean section and higher postnatal FOC in partners, adjusting for
24 age, education, prenatal FOC and depressive symptoms. All analyses were two-sided

1 at $\alpha = 0.05$. The Statistical Package of Social Sciences (SPSS) 22 was used to perform
2 all these analyses.

3

4

5 **Results**

6

7 The distributions of socio-demographic factors, FOC, depressive symptoms, and post-
8 traumatic stress symptoms are shown in Table 1.

9 The average ages of the partners and the pregnant women were 31 and 29
10 years, respectively, at the start of the study. One third of the partners and nearly half
11 of the pregnant women had a university degree. Prenatal FOC was high with low
12 variance in the pregnant women as W-DEQ A ≥ 100 was the criterion for
13 participation. For the partners, prenatal FOC was considerably lower (mean of W-
14 DEQ A was about 45). No partner scored ≥ 100 , the cut-off point for the women to
15 participate in the intervention study. Only one partner scored ≥ 85 , another commonly
16 used cut-off point for severe fear of childbirth (2). Three months postpartum, the W-
17 DEQ B mean score was about 35 for the partners and 65 and 70 for the women in the
18 intervention and control groups.

19 Depressive symptoms were lower in the partners (mean score of EPDS about 4
20 before and after the childbirth) compared to the childbearing women (mean score of
21 EPDS about 8 before childbirth and about 7 after the childbirth). Before childbirth, 12
22 partners (4.9% of the available sample) and after childbirth, six partners (4.1% of the
23 available sample) had an EPDS score ≥ 11 indicating risk of depression.

24 Three months postpartum, post-traumatic stress symptoms score (TES) was
25 about 19 in the partners and 34 in the childbearing women. No man reported a post-

1 partners with FOC may have other needs than pregnant women (24). Further research
2 around optimizing partner input within this intervention model might be of interest.

3 The partners reported less FOC, fewer depressive symptoms, and fewer post-
4 traumatic stress symptoms than the women with a severe FOC (Table 1). This might
5 be due to different experiences and expectations related to childbirth, but perhaps also
6 to differences in understanding of the questions posed. It is also possible that partners
7 with a severe FOC did not want to take part in the study, even when their
8 wife/girlfriend did. The rate of elective cesarean section in the present study is lower
9 than that in the larger study of all childbearing women (15), which suggests that
10 partners of women who wanted a cesarean might have been less motivated to
11 participate in a longitudinal study. Those partners may have been more frightened of
12 birth and may have wished to avoid filling in questionnaires about feelings and
13 symptoms. It is however evident that the partners who did participate in this study had
14 virtually no severe FOC during pregnancy.

15 Most of the few studies of FOC in men have used other ways of measurement
16 than the W-DEQ (1,25). According to a study that used a modified W-DEQ A, 12%
17 of 672 Swedish fathers-to-be reported a serious FOC mid-pregnancy corresponding to
18 a W-DEQ score of ≥ 85 (2). In our study of partners of women with a very serious
19 fear, hardly anyone reported such a high score. It is possible that couples where both
20 partners suffer from severe FOC do not choose to have children. The association
21 between FOC in both parents and elective cesarean section should be investigated in
22 the future. We did find an association between higher levels of FOC during their
23 partner's pregnancy and a higher level of postnatal FOC (or frightening experience of
24 childbirth) just as in the other Swedish study (2).

1 Other studies about new fathers' depressive symptoms have reported various
2 mean EPDS scores, from antenatal and postnatal scores of 5.3 and 6.5 (26) to 2.89
3 and 2.49 (27), compared to our results of 3.5 and 3.9. One study using the same cut-
4 off point for possible paternal depression reported a prevalence of 5.4 and 5.9 percent
5 from birth to six months postpartum (28) compared to our results of 4.1 percent three
6 months postpartum. The partners participating in the present study do not seem more
7 depressed than new fathers with spouses with unknown levels of FOC.

8 The impact of emergency cesarean section on new fathers' frightening
9 experience of childbirth has been shown previously (29). However, no partner in our
10 sample seemed seriously harmed since we found no probable PTSD following birth.
11 The fact that an emergency cesarean may be traumatic for a childbearing woman is
12 well known (30). A previous Finnish study showed that anxiety during pregnancy was
13 a predictor of parental stress in obstetrically low-risk mothers up to three years
14 postpartum, but not in the partners (31).

15 Our study has certain limitations, which must be taken into consideration
16 before generalizing the results. In another cultural context partners of women with
17 severe FOC may report differently about their psychological status. Compared with
18 another model of standard care, the results of the intervention may have been
19 different. The participation rate was under 60% in the postnatal follow-up. Only
20 Finnish and Swedish speaking couples could participate. The measure for depressive
21 symptoms (EPDS) may also be less suitable for new fathers than for new mothers
22 (32). However, the lower level of depressive symptoms in the partners compared to in
23 the childbearing women was to be expected according to previous research (33).

24 Women with severe FOC are vulnerable, and may suffer from post-traumatic
25 stress disorder following childbirth even after treatment during pregnancy (16). It is

1 reassuring that the partners in these families seem to feel well postpartum, which
2 should be beneficial to the early infant-parent interaction (34).

3

4

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1

2 Table 1. Age, educational level and psychological symptoms in women who had
3 severe FOC in pregnancy and their partners (percent or mean \pm SD) by intervention
4 and control group.

5

6

7

	Partners Intervention group	Partners Control group	Childbearing women Intervention group	Childbearing women Control group
<i>Mid-pregnancy</i>				
Age	32.7 \pm 5.4 (n = 85)	31.1 \pm 5.0 (n = 143)	29.8 \pm 4.4 (n = 93)	29.3 \pm 4.4 (n = 157)
Educational level	(n = 87)	(n = 151)	(n = 93)	(n = 156)
Comprehensive school	11.5	13.9	6.5	6.4
Vocational school	19.5	19.2	10.8	16.0
Polytechnics	17.2	18.5	11.8	11.5
Lower university degree	18.4	15.9	25.8	26.3
Higher university degree	33.3	32.5	45.2	39.7
Prenatal FOC (W-DEQ A)	44.6 \pm 20.5 (n = 88)	45.0 \pm 19.1 (n = 152)	112.5 \pm 12.9 (n = 93)	109.6 \pm 12.3 (n = 157)
Depressive symptoms (EPDS)	4.2 \pm 4.1 (n = 89)	3.8 \pm 3.7 (n = 152)	7.6 \pm 5.3 (n = 93)	8.8 \pm 5.2 (n = 157)

<i>Three months after childbirth</i>				
Postnatal FOC (W-DEQ B)	34.2 ± 18.5 (n = 51)	35.2 ± 18.8 (n = 93)	64.9 ± 32.0 (n = 71)	70.4 ± 28.1 (n = 114)
Depressive symptoms (EPDS)	3.5 ± 3.0 (n = 52)	3.9 ± 3.9 (n = 93)	6.3 ± 5.3 (n = 71)	8.0 ± 5.8 (n = 114)
Post-traumatic stress symptoms (TES)	18.2±1.8 (n = 28)	19.5 ± 3.8 (n = 65)	34.1 ± 10.7 (n = 71)	35.3 ± 9.7 (n = 114)

1 Note. The paired sample t-tests comparing the age, educational level (continuous),
2 prenatal and post-natal FOC and depressive symptoms, and post-traumatic stress
3 between the mothers and their partners in intervention and control groups are all
4 significant at $p < 0.001$.

5

6

1 Table 2. Delivery variables and postnatal FOC in 144 partners of women with severe
2 FOC.

Delivery variable	Number (percent)	Postnatal FOC W-DEQ mean \pm SD	Comparison to spontaneous vaginal birth (P)*
Spontaneous vaginal birth	84 (58.3)	31.6 \pm 17.2	NA
Instrumental vaginal birth	22 (15.3)	36.6 \pm 13.8	0.352
Elective cesarean section	16 (11.1)	33.3 \pm 18.5	0.707
Cesarean section for fear of birth	10 (6.9)	31.1 \pm 13.2	0.971
Emergency cesarean section	22 (15.3)	46.5 \pm 23.9	0.002

3 *Independent samples t-test

4

5

6