Sexual & Reproductive Healthcare 4 (2013) 129–131

Contents lists available at ScienceDirect

Sexual & Reproductive Healthcare

journal homepage: www.srhcjournal.org

Short communication

Women's worries in first pregnancy: Results from a randomised controlled trial

Rikke D. Maimburg [a,b,c,*], Michael Væth [d], Lone Hvidman [a], Joan Dürr [a], Jørn Olsen [b,e]

[a] Department of Obstetrics and Gynaecology, Aarhus University Hospital, Brendstrupgårdsvej 100, 8200 Aarhus, Aarhus, Denmark
[b] Department of Epidemiology, School of Public Health, University of Aarhus, Bartholin alle 2, 8000 Aarhus, Denmark
[c] Centre of Research in Rehabilitation (CORIR), Aarhus University Hospital, Brendstrupgårsdvej 100, 8200 Skejby, Aarhus, Denmark
[d] Department of Biostatistics, School of Public Health, Aarhus University, Bartholin alle 2, 8000 Aarhus, Denmark
[e] Department of Epidemiology, School of Public Health, University of California, Los Angeles, CA, USA

ARTICLE INFO

Article history:
Received 23 April 2013
Revised 1 September 2013
Accepted 1 October 2013

Keywords:
Worry
RCT
Pregnancy
Education
Antenatal
Anxiety

ABSTRACT

It has been suggested that participation in an antenatal education programme will increase the level of worry in pregnant women. This randomised controlled trial, investigated women's worries in late pregnancy as a secondary outcome depending on their attendance in an antenatal education programme. We found that women attending the education programme reported a lower level of worry in late pregnancy, especially worries related to birth issues, compared to those who did not attend the antenatal education programme.

Introduction

Worrying is a normal psychological condition and an integral part of the transition to parenthood. Furthermore, worrying is a cognitive activity and a way of coping and adapting to new and challenging situations. The process of worrying is known as the "work of worry" [1] and can contribute to an increased level of tolerance for a future challenge, such as an unpleasant or uncontrollable event. The cognitive preparation process is individual and can be used as a part of problem-solving. This enables a person to cope more effectively with either painful demanding or challenging situations. However, worrying is also closely related to fear of possible negative consequences making the cognitive process of worrying dysfunctional. The process of worrying is considered dysfunctional when prolonged periods of introspection and social withdrawal occur resulting in a pattern of helplessness and thus a reduction of the person's capacity to cope with challenging situations due to anxiety [1]. Women's worries in pregnancy are considered to be u-shaped and the highest levels are seen in early and late pregnancy. A high level of worry towards the end of the pregnancy may influence the woman's ability to cope with childbirth.

Attending antenatal education programmes gives women the opportunity to share expectations on how to cope with the challenge of giving birth and how to cope with their worries in a constructive way making their own individual "work of worry" in a group setting. In general, group sessions led by professionals is an effective way of addressing individual anxiety [2]. We therefore investigated whether attending a structured antenatal education programme could reduce the extent of worry experienced by nulliparous women in late pregnancy and thereby help women to prepare for childbirth.

Methods

A randomised controlled trial among 1193 nulliparous pregnant women was conducted in a Danish university hospital during the years 2006 to 2007. After consent was received from the women, randomisation was made using a computer-based system. A total of 603 women and their partners were randomised to receive a structured antenatal education programme "The Ready for Child " programme free of charge, and 590 women with partners were allocated to receive routine care, which included no antenatal education programme. The intervention group attended three educational modules between 30th and 35th weeks of pregnancy, each lasting three hours. The content of the three modules included the birth, the newborn baby, and parenthood and relationship

* Corresponding author. Address: Department of Obstetrics and Gynaecology, Aarhus University Hospital, Skejby, Brendstrupgaardsvej 100, 8200 Aarhus N, Denmark. Tel.: +45 7845 3608, +45 4080 8191.
E-mail address: rmai@soci.au.dk (R.D. Maimburg).

1877-5756/$ - see front matter © 2013 Elsevier B.V. All rights reserved.
http://dx.doi.org/10.1016/j.srhc.2013.10.001

involving lectures and discussions with additional film clips on selected topics and a short film or practical exercise. In late pregnancy, the women's worries were measured using the Cambridge Worry Scale [3]. The scale assesses the content and degree of common concerns during pregnancy. Responses to each item are given on Likert-like scales ranging from 0 (no worry) to 5 (major worry). Data were collected by questionnaires forwarded by e-mail or by regular mail. Additional information about method and intervention is available from the main study [4].

Statistical analysis

Data were analysed according to the "intention to treat" principle. We compared the data in the intervention and reference group's, respectively on worries during pregnancy (The Cambridge Worry Scale) by using the t-test with unequal variance. All reported P values were two-sided, and the level of statistical significance was 5%. A stratified Wilcoxon test (Van Eltern test) was used to adjust for attendance of antenatal education programmes (categorised as "yes" or "no") provided by private stakeholders. Statistical analysis was performed using STATA Statistical Software, version 9 (STATA-Corp, College Station, TX, USA, 2006).

The study was approved by The Central Denmark Committee on Biomedical and Research Ethics (200660030), and the Danish Data Protection Agency (2006-41-6122). The study was also reported to Clinical Trials (NCT00323401).

Results

Women attending the antenatal education programme, reported a lower extent of worry related to medical and birth issues on the Cambridge Worry Scale ("going to hospital", "internal examination", and "giving birth"), see Table 1. We found no differences between the intervention and reference groups in the women's worries related to health, relationships, and socio-economic conditions, as measured on the Cambridge Worry Scale. In total, we found that the two major causes of worrying in late pregnancy were "The possibility of something being wrong with the child" and "giving birth" followed by "coping with the new child" and "the possibility of miscarriage". Ranking lowest in worry scores were "problems with the law" and "whether your partner will be with you during the birth". We also found a high compliance in attendance to the antenatal education programme; 85% attended the birth session, 80% the newborn session, and 79% the parenthood session. Adjusting for attending private antenatal education programmes produced little or no change in the differences between the groups, and the conclusion remained unaltered.

Discussion

Nulliparous women attending the antenatal education programme "Ready for Child" during pregnancy experienced a lower extent of worry in late pregnancy related to medical and birth issues compared to women, who did not attended the antenatal education programme. No differences between the groups were seen in worry related to health, relationships, and socio-economic conditions. The education programme was mainly focused on the forthcoming birth; this may explain the decreased extent of worry about medical and birth issues only. Further, worries related to the birth items at the Cambridge Worry Scale have earlier been found to be the only items that do not diminish in late pregnancy [5], indicating that the decrease we observed for these particular worries most likely were influenced by the educational programme provided. We were unable to address worries related to health, relationships, and socio-economic conditions in the programme used in this study and recommend a more specific and individualised approach to address these worries effectively. The provision of a safe environment during pregnancy in which women can express and discuss their worries may facilitate learning and development and thereby increase the women's coping ability. A structured antenatal education programme provided by skilled midwives is one way of providing that environment. Fewer opportunities to attend antenatal education reduce the amount of time that women can spend with midwives and other health professionals dealing with their worries in pregnancy and to supporting the "work of worry" in a constructive way. Lack of processing worries with professionals may perhaps reinforce a tendency for some women to manage worries in a dysfunctional way resulting in maternal anxiety and a decrease in the woman's coping ability. This could be manifested by arriving at the maternity ward before labour has been established or by using more pain-relief during the birth process. [4,6]

Overall, we found a decrease in the level of worry among women attending the antenatal education programme. Our result are similar to the results found in another randomised controlled

Table 1
Worry scores for pregnant women according to the intervention

The Cambridge Worry Scale	Response categories*						Mean				Adjusted
	0 (%)	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Total	intervention $n = 529$	Reference $n = 526$	p-Value	p-Value
Your housing	47.3	24.2	14.0	9.3	4.4	0.9	1.02	1.04	1.00	0.454	0.070
Money problems	29.7	28.4	19.0	14.1	7.4	1.4	1.45	1.41	1.49	0.425	0.673
Problems with the law	79.3	10.7	6.1	2.8	0.7	0.5	0.36	0.33	0.39	0.143	0.119
Your relationship with your husband/partner	48.3	29.2	13.5	6.1	2.7	0.4	0.87	0.88	0.85	0.254	0.139
Your relationship with your familiy and friends	43.4	32.3	16.0	6.6	1.3	0.3	0.91	0.94	0.88	0.110	0.082
Your own health	29.6	34.8	22.8	8.4	3.5	0.9	1.24	1.23	1.25	0.600	0.602
The health of someone close to you	59.4	19.2	10.9	5.8	3.0	1.7	0.80	0.77	0.81	0.910	0.601
Employment problems	66.4	15.4	9.4	5.6	2.5	0.9	0.65	0.60	0.71	0.243	0.928
The possibility of something being wrong with the baby	4.7	17.9	25.7	26.2	17.6	7.9	2.58	2.53	2.62	0.206	0.730
Going to hospital	37.4	32.4	16.9	8.6	3.9	0.9	1.12	0.99	1.25	0.007†	0.001†
Internal examinations	64.6	21.7	8.1	3.6	1.6	0.4	0.57	0.50	0.63	0.021†	0.024†
Giving birth	3.6	22.1	30.5	22.9	14.8	6.1	2.41	2.29	2.54	0.002†	0.004†
Coping with the new baby	15.7	39.2	23.4	13.1	7.4	1.1	1.61	1.59	1.62	0.741	0.997
Giving up work (maternity leave)	51.3	28.7	12.7	5.0	1.9	0.4	0.79	0.79	0.78	0.743	0.559
Whether your partner will be with you for the birth	78.8	13.5	3.8	2.4	1.1	0.5	0.35	0.33	0.37	0.123	0.114
The possibility of miscarriage	35.5	27.8	16.8	11.5	5.4	3.1	1.61	1.56	1.66	0.361	0.553
The possibility of going into labour too early	22.1	31.2	21.7	15.5	7.9	1.7	1.33	1.36	1.29	0.391	0.662

* 0 = no worry, 5 = major worry.
† $p < 0.05$.

trial in which the level of worry also decreased in late pregnancy after attending an antenatal education programme [7]. Providing structured antenatal programmes led by professionals can decrease the level of worry and be an effective way of offering health promotion to pregnant women.

Contributors' statement

Rikke Damkjær Maimburg: Dr Maimburg conceptualized and designed the study, was actively involved in data collection and made the analyses. Drafted the initial manuscript, revised suggestions for the manuscript and submitted the approved manuscript

Michael Væth: Dr Væth supervised data collection, analyses, and reviewed, revised, and approved the final manuscript.

Lone Hvidman: Dr Hvidmann supported the trial and revised suggestions for the manuscript, and approved the final manuscript.

Joan Dürr: supported the trial and approved the final manuscript as submitted

Jørn Olsen: Dr Olsen supervised data collection, analyses, and reviewed, revised, and approved the final manuscript.

References

[1] Bruhn JG. The two sides of worry. South Med J 1990;83(5):557–62.
[2] Goldberger M, Gillman R, Levinson N, Notman M, Seeling B, Shaw R. On supervising the pregnant psychoanalytic candidate. Psychoanal Q 2003;72:439–63.
[3] Green JM, Kafetsios K, Statham HE, et al. Factor structure, validity and reliability of the Cambridge Worry Scale in a pregnant population. J Health Psychol 2003;8(6):753–64.
[4] Maimburg RD, Vaeth M, Durr J, et al. Randomised trial of structured antenatal training sessions to improve the birth process. BJOG 2010;117(8):921–8.
[5] Peñacoba-Puente C, Monge FJC, Morales DM. Pregnancy worries: a longitudinal study of Spanish women. Acta Obstet Gynecol Scand 2011;90(9):1030–50.
[6] Veringa I, Buitendijk S, De Miranda E, De Wolf S, Spinhoven P. Pain cognitions as predictors of the requested for pain relief during the first stage of labor: a prospective study. J Psychosom Obstet Gynaecol 2011;32(3):119–25.
[7] Svensson J, Barclay L, Cooke M. Randomised-controlled trial of two antenatal education programmes. Midwifery 2009;25(2):114–25.