Implementation of CenteringPregnancy® in the Netherlands: Investigating Relationships between Model Fidelity, Social Support, Group Cohesion, and Satisfaction with Care

Paukkunen, Jonna

Universiteit Leiden

Psychologie
Faculteit der Sociale Wetenschappen

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Name: J. M. Paukkunen
Student number: s2963892
Date: 09/08/2021
External supervisors: Dr. Marlies Rijnders & Dr. Matty Crone
Internal supervisor: Dr. Lieke Wirken
Word count: 12,668
Leiden University, Institute of Psychology; TNO Child Health; Leiden University Medical Center (LUMC)
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Abstract

CenteringPregnancy® (CP) is a prenatal care model that provides all aspects of prenatal care in a group setting. This retrospective cohort study investigated how the CP group facilitators' fidelity to the CP model, social support (as perceived by the CP participants), group cohesion (as perceived by the CP group facilitators), and the CP participants' satisfaction with care were related. Additionally, it was assessed how the perceived social support and the observed group cohesion developed over time, and to what extent these were related to each other. 637 women (mean age 30.44) and 69 groups were included. Questionnaires were used to measure perceived social support at the 28th week and 36th week of pregnancy, and satisfaction with care (PPSQ) at the 36th week. Model fidelity and group cohesion were measured by a questionnaire filled in by the group facilitators after each session. A parallel mediation analysis, a dependent samples t-test, and a one-way repeated measures ANOVA were conducted. The results showed that women that felt more supported by their peers were generally more satisfied with CP care (95% CI [.15, .22]). In contrast, group facilitators' perceptions of the groups' cohesiveness did not predict how satisfied the women were with CP care (95% CI [-.17, .12]). It was also found that the group facilitators' fidelity to the CP model did not predict the participants' satisfaction with care (95% CI [-0.01, 0.00]). Further, the results showed that the participants felt increasingly supported by their peers over the course of the program ($p < .001$, $d = .82$). Similarly, the group facilitators' perceived the CP groups to be increasingly cohesive over time ($p = .001$, $\eta^2 = .02$). Finally, the participants' and group facilitators' perceptions of social support and group cohesion were found to be weakly related ($p < .001$). These findings highlight that the implementation of CP in the Netherlands shows promise in enhancing maternal social support, and consequently, satisfaction with care. This study also adds unique knowledge to the evidence base of CP by assessing the cohesiveness of the groups. Future research is called upon to examine the presented relationships by applying different instruments regarding the group facilitators' (in)fidelity to the CP model.

Keywords: CenteringPregnancy, Group Prenatal Care, Social Support, Group Cohesion, Model Fidelity, Satisfaction with Care

Layman's abstract

CenteringPregnancy® (CP) is model for giving care to pregnant women before they give birth. Currently most prenatal (before birth) care is individual, but CP gives care in a group setting. According to research, women have been found to be generally more satisfied with CP than with usual individual care. This study investigated the reason why that is the case. It was expected that the CP group leaders' fidelity, or adherence, to the practices of the model, the women's views of being supported by their group members, and the cohesiveness (togetherness) of the groups, as viewed by the group leaders, would be related to how satisfied the women are with CP. It was also assessed how the women's views of being supported by their group members and the leaders' views of the cohesiveness of the groups developed over time, and how these views were related to each other.

Existing data of 637 CP participants and 69 CP groups were used. The women filled in a questionnaire about their views of being supported by their group members twice, on the 28th and on 36th weeks of pregnancy, and a questionnaire about their satisfaction with CP care on the 36th week. The group leaders filled in a questionnaire measuring their fidelity to the CP practices and their views of the groups' cohesiveness after each group meeting.

Three main statistical analyses were conducted. First, relationships between the group leaders' fidelity to the CP practices, the participants' views of being supported by their group members, and the leaders' views of cohesion of the groups, and the participants' satisfaction with care were examined. Second, the participants' viewed support at 28 weeks of pregnancy was compared to that at 36 weeks. Third, the group leaders' views of the groups' cohesion at the beginning, the middle, and the end of the program were compared to each other.

The results showed that women that felt more supported by their group members were generally more satisfied with CP care. In contrast, the group leaders' views of the groups' cohesiveness were not related to how satisfied the women were with the care. It was also found that the group leaders' fidelity to the CP practices was not related to the participants' satisfaction with care. Further, the participants were found to feel increasingly supported by their group members over the course of the program. The group leaders rated the CP groups to increase in cohesiveness over time as well. Lastly, the participants' and the group leaders' views of support and cohesion were found to be weakly related. These findings tell us that CP shows promise in enhancing the participants' support and, therefore, satisfaction with care.

Introduction

CenteringPregnancy® (CP) is an innovative group prenatal care model originating from the USA. In CP, participants are assigned into groups of around 10 women based on the similarity of their gestational ages. The CP groups meet for nine two-hour sessions during the prenatal period and once in early postpartum. Throughout the program, each woman has the opportunity to receive all standard physical examinations, follow and be assured about the progression of the pregnancy, build connections with the other participants, learn about self-care and healthy lifestyle behaviors, and gain knowledge about pregnancy, labor, birth, and parenthood. The sessions are led by two trained care providers, the group facilitators, of which at least one is typically a midwife (Rising, 1998; Rising, Kennedy, & Klima, 2004). CP has recently been implemented in the Netherlands as a response to relatively high perinatal mortality rates of the country, and as an attempt to improve the quality of prenatal care by a more integrated, collaborative women-centered approach (Rijnders, Jans, Aalhuizen, Detmar, & Crone, 2018). CP holds potential in improving quality of prenatal care, as it has been shown to be associated with a number of improved outcomes over usual individual prenatal care, such as higher infant birth weight, decreased numbers of preterm births and caesarean deliveries, and increased breastfeeding initiation and duration (Tilden, Hersh, Emeis, Weinstein, & Caughey, 2014).

Next to these objective outcomes, CP can increase satisfaction with care. Satisfaction with care is an important subjective indication of the quality of the received care (Prakash, 2010). Ickovics et al. (2007) conducted a multisite randomized controlled trial, in which pregnant women were randomly assigned either to usual individual prenatal care or to CP group care. They found that compared to participants in individual care, the women participating in CP were more satisfied with the received care. In other contexts, it has been found that women that are dissatisfied with their prenatal care are less likely to attend prenatal care appointments and are less likely to utilize the care in their future pregnancies (Duong, Binns, & Lee, 2004; Higgings, Murray, & Williams, 1994; Wheatley, Kelley, Peacock, & Delgado, 2008). These findings highlight the importance of investigating what exactly contributes to this greater satisfaction of CP participants.

First, enhanced perceived maternal social support, being one of the central goals of CP, can be assumed to contribute to the improved satisfaction. The American Psychological Association's (APA) Dictionary of Psychology defines social support as "the provision of assistance or comfort to others, typically to help them cope with biological, psychological, and social stressors" (para. 1). Given that CP offers complete prenatal care to women in a group setting, CP provides its participants with a unique opportunity to meet other women that are experiencing similar psychological and physiological changes related to pregnancy. The normalization and validation of

these collective experiences nurture supportive relationships among the participants (Massey, Rising, & Ickovics, 2006). Cunningham et al. (2016) found higher attendance to CP sessions to be associated with higher levels of satisfaction with care. They suggested that this may have been the result of increased perceived social support among the participants. In their small adolescent sample, Grady and Bloom (2004) found almost every CP participant to be highly satisfied with the provided prenatal care. Most of the participants indicated peer support, sharing, and discussions within the groups to be the most enjoyable parts of the program. It is therefore likely that women that feel well supported by their CP peers also feel more comfortable participating in group discussions and activities, and seek to form friendships with the other group members. Consequently, it can be assumed that these women are likely to be more satisfied with the received care.

A second factor that potentially contributes to higher satisfaction of care is group cohesion, which refers to "a dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of its goals and objectives" (Cota, Evans, Dion, Kilik, & Longman, 1995). Group cohesion is indicated "by the strength of the bonds that link members to the group as a whole" and "the sense of belongingness and community within the group" (APA Dictionary of Psychology, para. 1). Similarly to groups high on perceived social support, it could be expected that women in highly cohesive CP groups would feel more comfortable to actively participate in the sessions and feel more connected to the other group members, and would therefore also be more satisfied with the provided care. Higher cohesion could also lead to more sharing and discussions within the groups, making the sessions more informative for the participants. Whereas perceived social support is by definition an individual, subjective experience, group cohesion can also be observed from the perspective of someone outside the group (Luong, Drummond, & Norton, 2021). In CP, the group facilitators are in an excellent position to evaluate how cohesion develops within the CP groups, as the group leadership (ideally) remains stable throughout the program (Rising, Kennedy, & Klima, 2004). The facilitators are therefore able to observe how the group functions and how the dynamics between the group members change from the very first session to the final one. Optimally, the CP participants' perceptions of support would go hand-in-hand with the group facilitators' perceptions of group cohesion, so that a group with more women feeling well supported by their peers would also be perceived as a more highly cohesive group by the group facilitators, and vice versa. In practice, however, it could be the case that these perceptions differ. For example, it could seem for the group facilitators that the group is functioning well and that the group members have strong bonds with each other, but the individuals in the group might not feel connected to each other and might be lacking the experience of being supported by their peers.

Research on this (mis)match of perceptions between participants and group facilitators has not yet been conducted in the context of CP or other group prenatal care.

Third, model fidelity, the extent to which the model is implemented as intended, is another factor that may affect the CP participants' satisfaction with care in both how supported the women feel and how cohesive the CP groups are. In fact, CP model's effectiveness has been suggested to require the facilitators' adherence to the practice protocols and underlying theoretical constructs (Manant & Dodgson, 2011). Three cornerstones have been suggested for the optimal implementation of the CP model: community building, health assessment, and interactive learning (CenteringParenting Implementation Guide, 2014; Herrman, Rogers, & Ehrenthal, 2012;). It is obvious that community building practices, such as providing women with opportunities to socialize during the sessions, are ways to enhance positive, supportive relationships between the participants that also aim to improve the cohesion of the groups (Teate, Leap, Rising, & Homer, 2011). The principle of community building has also been described to be an outcome of good model fidelity rather than a part of the implementation itself (Manant & Dodgson, 2011). For the purposes of this study, the latter perspective is applied, in which community building is seen as an outcome, which is reflected by the women's perceptions of being supported by their peers as well as the group facilitators' perceptions of the cohesiveness of the CP groups.

In regard to health assessment, it is essential for the implementation of the model that the physical examinations occur within the group space, that the predetermined topics as well as the questions brought up by the women are discussed, and that the women participate in their own care, for example by taking their own blood pressure (Rising, Kennedy, & Klima, 2004). Physical examinations in the group space may promote social support and cohesion within the group, because the participants can, for example, hear each baby's heartbeat and receive praise from the other group members. Questions coming up during the short encounter between the care providers and the women are addressed in the group discussion highlighting the importance of all questions and knowledge to be shared. In the adolescent sample of Grady and Bloom (2004), the participants also reported the quality of the physical examinations and the fact of having the physical examinations in a group setting to contribute to their satisfaction, suggesting that the aspects of the physical examinations can indeed be important for the participants' satisfaction with care. Moreover, by including predetermined topics, the group facilitators ensure that the participants gain essential knowledge relevant to pregnancy and related topics. The topics of discussion range from discomforts of pregnancy to concerns of the health of the fetus, and from lifestyle behaviors to abuse in romantic relationships (see Appendix A for a description of topics per session). Discussing these topics and the questions brought up by the women themselves may bring the group members

closer together by the sharing of knowledge and experiences. Also, by involving women in their own care, women are empowered as they feel a sense of control over their health and pregnancy (Rising, 1998).

Considering interactive learning, the CP group facilitators are advised to stimulate the women to take part in discussions, divide the group into subgroups during the sessions, carry out interactive methods and activities, and to facilitate the group supportively rather than directively. All of these practices aim to help the participants to get to know each other better, build trusting relationships, and to learn from each other. Supportive leadership style includes active listening, expressing interest in the women's concerns, and creating an atmosphere that doesn't simply rely on the professional's knowledge, but rather embraces the knowledge and experiences of the group as well (Rising, 1998; Teate et al., 2011). Further, these practices aim to narrow down the provider-women gap in prenatal care (Rising, Kennedy, & Klima, 2004).

The current state of literature in regard to CP model fidelity, social support, group cohesion, and satisfaction with care is insufficient. Some relationships, such as a positive relationship between the participants' perceived social support and satisfaction with care, have merely been assumed to exist in practice, without conducting explicit scientific research. There has especially been a call for studies to assess the group facilitators' (in)fidelity to the CP model and its effects on several outcomes (Cunningham et al., 2016; Manant & Dodgson, 2011). Therefore, the present study aims to answer the following research questions:

1. How is CP participants' perceived social support related to their satisfaction with CP care?
2. How is group cohesion, as perceived by CP group facilitators, related to the participants' satisfaction with CP care?
3. How are the CP participants' and the group facilitators' perceptions of social support and group cohesion related?
4. Does model fidelity predict CP participants' perceived social support and CP group facilitators' rated group cohesion, which in turn predict the CP participants' satisfaction with care?
5. How does the CP participants' perceived social support develop over time?
6. How does group cohesion, as perceived by the CP group facilitators, develop over time?

These questions are important to investigate as the findings will have several potential implications for the prenatal care practice in the Netherlands as well as in other countries in which CP is currently implemented. CP implementation in clinical practice could be improved as the associations between model fidelity, social support, group cohesion, and satisfaction with care will

be better understood. In particular, practical recommendations could potentially be given about how CP model implementation could be better organized in terms of health assessment and interactive learning by the group facilitators so that perceived social support, group cohesion, and satisfaction with CP care among the participants could be maximized. Moreover, this study will add to the existing knowledge by investigating how social support and group cohesion develop throughout the course of CP and how the participants' and group facilitators' perceptions of them relate to each other.

Taking together, given the central importance of enhancement of maternal social support in CP (Massey, Rising, & Ickovics, 2006) and given that CP has previously been associated with greater satisfaction with care over that of usual individual prenatal care (Grady & Bloom, 2004; Ickovics et al., 2007), it is hypothesized that:

1. CP participants that perceive to be more supported by their CP group are more satisfied with CP care.

Secondly, given social support's similarity to group cohesion as a theoretical concept, it is hypothesized that:

2. The members of the CP groups that are rated more cohesive by their CP facilitators are more satisfied with CP care.
3. Social support, as perceived by the CP participants, is strongly and positively related to group cohesion, as perceived by the CP group facilitators, so that a group with more women feeling well supported by the group members is also perceived as a more highly cohesive group by the group facilitators.

Further, as model fidelity has been found to be related to the effectiveness of the model (Manant & Dodgson, 2011), and can be assumed to, according to the theory of the model, contribute to the participants' satisfaction through enhanced maternal social support and group cohesion (Rising, 1998; Rising, Kennedy, & Klima, 2004; Teate et al., 2011), it is hypothesized that:

4. Social support, as perceived by the CP participants, and group cohesion, as perceived by the CP group facilitators, mediate the relationship between model fidelity and satisfaction with CP care; women that participate in CP groups of higher model fidelity feel more supported by their CP groups, are rated more cohesive by their CP group facilitators, and are more satisfied with CP care.

Moreover, as the members in each CP group get to know each other better during the program and often form personal, supportive relationships with each other (Massey, Rising, & Ickovics, 2006), it is hypothesized that:

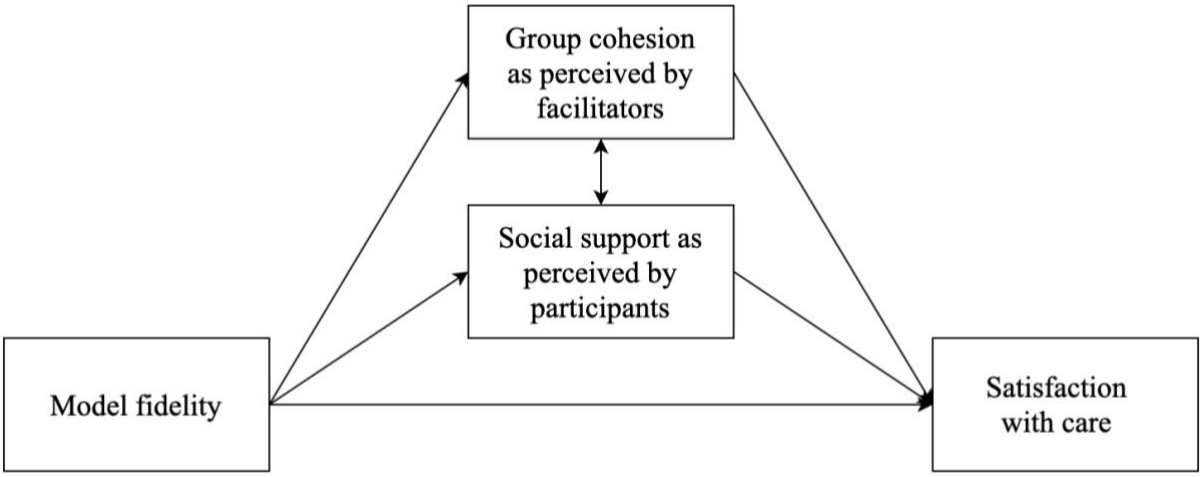
5. CP participants' perceived social support increases over time.

6. Group facilitators' perceived cohesion within CP groups increases over time.

Figure 1 displays the hypothesized relationships in a complete conceptual model.

Figure 1

Hypothesized Conceptual Model



Method

Research design

This study is a sub-project of the CONNECT-IN study conducted by the Leiden University Medical Center (LUMC) in collaboration with TNO Child Health. The CONNECT-IN study was conducted in 12 midwifery practices[1] and two hospitals[2] in the perinatal region of Noorderlijk Zuid-Holland, the Netherlands. The participating health care centers started collecting control data at the same time point and subsequently implemented the prenatal care intervention at a randomly determined time point. During the control period, the participants received usual individual prenatal care (control group). The intervention period began when the health center started recruiting their first CP group. During the intervention period, pregnant women were offered a choice between usual individual prenatal care and CP (intervention groups; van Zwicht, Crone, van Lith, & Rijnders, 2016). In the present study, a retrospective cohort study design was used, in which only women that chose to participate in CP during the intervention period were included. These data were collected between 2013 and 2016. The CONNECT-IN study was approved by the Commission of Medical Ethics of the LUMC and was registered at the Dutch Trial Register.

[1] De Kern, Leiden; Verloskundigenpraktijk Katwijk, Katwijk; Verloskundigenpraktijk Nieuwkoop, Nieuwkoop; Promessa, Waddinxveen; Vivre, Alphen aan den Rijn; Wereldkind, Alphen aan den Rijn; Liva, Voorschoten; Caatje, Gouda; Antje, Gouda; Neeltje, Gouda; Tara, den Haag; and Tria, den Haag.

[2] Groene Hart Ziekenhuis (GHZ) and Leiden University Medical Center (LUMC).

Participants

To be included in the study, the women had to be < 24 weeks pregnant and had to be able to communicate in Dutch (with assistance). In case of a participant under the age of 18, informed consent of parents or a guardian was obtained. In total, data from 814 individual women participating in CP and 79 CP groups were received. In total, 31 women could not be assigned a group number due to missing attendance data. These women were therefore excluded from the data analyses. Additionally, 146 participants did not fill in the questionnaires either at the 12th or 36th weeks of pregnancy, which is why these women were excluded from the data analyses as well. On the group level scales, the group facilitators of three groups filled in less than 50% of all the items correctly, which is why the data of these groups were removed. Furthermore, data of seven groups were completely missing either of the beginning (sessions 1, 2, and 3), middle (sessions 4, 5, 6, and 7) or end (sessions 8, 9, and 10) of the program, which is why these groups were excluded. Therefore, a final number of 637 individual women participating in CP and 69 CP groups were included in further analyses.

Procedure

All women that registered for prenatal care at any of the participating health centers received written information about the CONNECT-IN study. Women meeting the inclusion criteria were asked to participate. The women's health care provider verbally informed the women about the study at their first prenatal consultation and asked them for informed consent. When agreeing to participate, the women agreed to fill in three self-administered questionnaires: at intake (T1), on the 28th week of pregnancy (T2), and on the 36th week of pregnancy (T3). Each set of questionnaires took about 10-20 minutes to complete. The first set of questionnaires were filled in at home or at the health clinic on paper. The following sets of questionnaires were filled in digitally.

The women that chose to participate in CP were allocated in prenatal care groups of about 8-12 women based on the similarity of their due dates. Each group met for a maximum of 10 sessions, nine times during the prenatal period and once postpartum. The first session took place when the women were at 12-16 weeks of pregnancy and the final session takes place in early postpartum. The sessions lasted for about two hours each, during which the participants monitored their own health by taking and registering their vital signs (weight and blood pressure), received their standard physical examinations, and discussed several predetermined topics related to pregnancy, labor, birth, and parenthood. The sessions were led by two trained care providers. The participants' partners were welcome to join the sessions as well.

Measures

Participant characteristics. Several participant characteristics were measured in the questionnaire at T1. The participants indicated their age by filling in their birthdate. Parity was measured with the question “Have you ever given birth before?”, to which the participant could either answer with “yes” or “no”. Ethnicity of the women was measured with the question “What ethnicity do you consider yourself to be?”. The women could choose between a number of answer options or indicate another ethnicity. The answers were dichotomized to 1 = “Dutch or other Western” and 2 = “Non-Western". Marital status was measured with the question “What is your marital status?”. Again, the participants could choose between a number of answer options or indicate another marital status. The answers were categorized as follows: 1 = “married, registered partnership, or cohabitation with partner” and 2 = “no cohabitation with partner or single”. Education level of the women was assessed with the question “What is the highest level of education that you have completed?”, to which the women had several answer options and an option to indicate another education level. Three categories were created, in which 1 = “no secondary education”, 2 = “some secondary education”, and 3 = “higher education”. Employment status was measured with the following two questions: “Do you currently have a paid job?” and “Does your partner currently have a paid job?”, to which the women either answered “yes”, “no” or “not applicable, I do not have a partner”. Four categories were created, where 1 = “both partners employed”, 2 = “only woman employed”, 3 = “only partner employed”, and 4 = “both partners unemployed”. Finally, the participants’ socioeconomic status (SES) was determined by the neighborhood that they belonged to. The SES of the neighborhood was based on the ZIP-code of the address of the women and referred to the average income, proportion of individuals with a low income, with low education, and without a job for this ZIP-code. Using the 20^{th} and 80^{th} percentiles, three categories were created: 1 = < P20 (lower SES), 2 = P20-P80 (middle SES), and 3 = > P80 (higher SES). See Appendix B for all items considering participant characteristics including their answer options in further detail. The characteristics of the participants of the current study were compared to those of the general pregnant population in the Netherlands, as reported by the Perinatal Registry of the Netherlands (https://www.perined.nl/) in order to evaluate the representativeness of the sample.

Satisfaction with CP care. The participants’ satisfaction with CP care was measured with the Patient Participation and Satisfaction Questionnaire (PPSQ; Littlefield & Adams, 1987) at T3. The PPSQ contains 22 items about participation in prenatal care and satisfaction about the received care. An example item is “My questions were answered in an open and honest manner” (see Appendix C for the full questionnaire). The answers were given on a 5-point Likert scale, with

options: 1 = “I totally agree”, 2 = “I agree”, 3 = “neutral”, 4 = “I disagree”, and 5 = “I totally disagree”. The items were reverse-scored, so that a higher computed mean score indicated higher satisfaction with CP care. Previous studies have reported the PPSQ Cronbach’s alpha coefficients to range from .83 to .97, demonstrating high reliability (Littlefield & Adams, 1987; Littlefield & Adams, 1990). The predictive validity of the questionnaire, determined by correlations between participation in prenatal care and satisfaction with the received care, has been reported to range from .65 to .78 (Littlefield & Adams, 1987). In the current sample, Cronbach’s alpha was found to be .95, also demonstrating high reliability.

Perceived social support. The participants’ perceived social support considering their CP group was assessed with three questions at T2 and T3, which were: “How much support do you experience or did you experience (if you have stopped) from the group?”, “How engaged do you or did you feel (if you have stopped) with the group?”, and “To what extent does the group feel or did feel (if you stopped) like a close-knit group of friends?”. Each question was answered on a 0-10 scale (0 = “no support at all”/“not engaged at all”/“not like a close-knit group of friends at all”; 10 = “greatest possible support”/“extremely engaged”/“very much like a close-knit group of friends”). Mean scores were first computed for the two different time points separately and then an overall mean score was computed of those two means. A higher mean score indicated higher perceived social support. Cronbach’s alphas for these items were found to be .85 at T2 and .91 at T3, both indicating high reliability.

Group cohesion. Facilitators’ perceived group cohesion was measured with a 13-item subscale, which was filled in by the CP group facilitators as a part of the CP process evaluation questionnaire after each of the 10 sessions. An example item is “The group members shared emotions and personal experiences with each other” (see Appendix D part “Cohesion within the group” for all items). The answers were given on a 5-point Likert scale, on which the answer options were: 1 = “never”, 2 = “seldomly”, 3 = “every now and then”, 4 = “often”, and 5 = “always”. An overall mean score was computed per group. In addition, group mean scores were also computed per sessions 1, 2, and 3 (beginning of the program); sessions 4, 5, 6, and 7 (middle of the program); and sessions 8, 9, and 10 (end of the program). A higher mean score indicated higher group cohesion. Cronbach’s alpha was found to be .74 in this sample, indicating appropriate reliability of the scale.

Model fidelity. Model fidelity was assessed by the group facilitators’ compliance with the basic principles of health assessment and interactive learning. Health assessment was measured with the following four items: “Women took and registered their own blood pressure and weight”, “The physical examination was done within the first 30-40 minutes”, “The physical examination

took place in the group space", and "The planned content was discussed". Interactive learning, in turn, was measured with the following six items: "How often did you clearly summarize the discussion in the end?", "How often did you encourage the group members to participate in the discussion?", "How often did you give a direct answer to a question?", "How often did you divide the group into subgroups?", and "How often did you use an interactive method or did an activity?". All items of the model fidelity scale were a part of the CP process evaluation questionnaire that the group facilitators filled in after each session (see Appendix D parts "Model" and "Supportive leadership" for the items). The answers were given on a 5-point Likert scale, on which the answer options were: 1 = "never", 2 = "seldomly", 3 = "every now and then", 4 = "often", and 5 = "always", except for the items "How often did you divide the group into subgroups?" and "How often did you do a game or an activity?, to which the group facilitator could freely indicate a number.

Firstly, the answers on "How often did you give a direct answer to a question?" were reverse-scored, so that a higher score would account for better model fidelity. Next, answers on the Likert scale items were dichotomized so that scores < 4 were labeled as 0 (= not well adhered to) and scores 4-5 were labeled as 1 (= well adhered to). The answers of the item "How often did you divide the group into subgroups?" were dichotomized so that scores < 1 were labeled as 0 (= not well adhered to) and scores ≥ 1 were labeled as 1 (= well adhered to). The answers of the item "How often did you do a game or an activity?" were dichotomized so that a score < 2 were labeled as 0 (= not well adhered to) and scores ≥ 2 were labeled as 1 (= well adhered to). To get an idea of to what extent the CP facilitators adhered to each item over the 10 sessions in each group, the percentage of scores 1 out of all scores were calculated per item for each group. Then the mean percentages per group were calculated for health assessment and interactive learning items separately. Lastly, to achieve an overall model fidelity score per group, the means of these two percentages were then calculated, where the possible scores ranged from 0-100% and a higher percentage described better model fidelity by the group facilitators. No reliability could be determined for these percentage scores.

Statistical analyses

All statistical analyses were carried out with IBM SPSS software v26.0. In addition, PROCESS macro v3.5 (Hayes, 2017) for SPSS was used to assess the effects of the hypothesized model. To account for missing data on the individual level variables, on the PPSQ and the perceived social support items at T2 and T3, a multiple imputation was carried out. In the imputation, the age, parity, ethnicity, education level, marital status, employment status, SES, and the CP group number of the women were set to be used as predictors only. PPSQ and perceived

social support items were used as predictors and their missing values were imputed. In total, 10 imputations were conducted, which were then pooled based on the mean scores of all imputations. To account for missing data on the group level variables, group cohesion and model fidelity, cases with < 50% of the items answered on any subscale of the CP evaluation questionnaire (model, cohesion, or supportive leadership) were removed. Next, groups that missed all item values either of the beginning, middle, or the end of CP, were excluded from the analyses. The remaining missing values were then replaced with the series means. Outliers, in turn, were detected with SPSS interquartile range rule multiplier of 1.5. The detected outliers were inspected and were found to be legitimate. Removing the outliers was not found to substantially affect the hypothesis testing results, which is why the detected outliers were decided to be retained.

Next, association measures between all study variables were computed. In order to estimate the associations between all covariates and variables of primary interest, categorical variables with more than two levels were dichotomized as follows: education level: 1 = no secondary education/some secondary education, 2 = higher education; employment status: 1 = both partners employed, 2 = only one partner employed/both unemployed; and SES: 1 = < 20P, 2 = 20P-100P. For associations between continuous study variables (age, satisfaction with care, perceived social support, group cohesion, health assessment, interactive learning, and model fidelity), a Pearson's correlation coefficient was calculated for each pair of variables. Associations between dichotomous variables (parity, ethnicity, marital status, education level, employment status, and SES) and continuous variables could be estimated by calculating point biserial correlation coefficients, which is a special case of Pearson's correlation (Tate, 1954). Finally, because a Pearson's correlation coefficient cannot be calculated between two dichotomous variables, associations between two categorical covariates were tested with Chi-square tests without dichotomizing the variables. The Chi-square tests indicated a Cramer's V value for each pair of variables, which is an association measure similar to Pearson's r. However, Cramer's V indicates the strength, but not the direction of the association (Akoglu, 2018).

Because the data were organized at two levels, individual women participating in CP (level 1) and the CP groups (level 2), intraclass correlation had to be taken into account when assessing the relationships between model fidelity, social support, group cohesion, and satisfaction with care (Hox, 1998). Multilevel modelling indicated, however, that the group membership was a redundant variable as it did not explain any additional variance within perceived social support, facilitators' perceived group cohesion, or participants' satisfaction with care. Therefore, the testing of hypotheses 1, 2, and 4 was appropriate to be done with a one-level parallel mediation analysis instead of a multilevel mediation analysis. For this, the assumptions of linearity, homoscedasticity,

and normality were evaluated. Linearity was assessed by running a series of linear regression analyses considering all eight effects of the hypothesized model and inspecting their standard residual plots with Loess curves. To check for homoscedasticity, the same plots were employed to examine whether the estimation errors across all predicted satisfaction with care values were relatively consistent. Lastly, to assess the normality of estimation errors, Q-Q plots with the residuals from the regressions were created and inspected (Kane & Ashbaugh, 2017).

After inspecting possible violations of the assumptions, the hypotheses 1, 2, and 4 were tested with a mediation analysis using the fourth model of PROCESS macro. Model fidelity was set as the independent variable, perceived social support as the first mediator variable, group cohesion as the second mediator variable, and satisfaction with care as the dependent variable. Age, parity, ethnicity, education level, marital status, employment status, and socioeconomic status (SES) of the women were added to the model as covariates, without dichotomization. Demographic and social factors such as these have previously been suggested to be related to satisfaction with prenatal care (Higgings, Murray, & Williams, 1994). Total, direct, and indirect effects were computed for 5000 bootstrap samples, and 95% confidence intervals (CIs) were calculated to test the significance of the effects. A positive relationship was expected between perceived social support and satisfaction with care as well as between group cohesion and satisfaction with care. Further, positive indirect effects were expected between model fidelity and satisfaction with care, wherein social support and group cohesion were expected to mediate the relationship.

To test hypothesis 3, as a part of the calculations of association measures between all study variables, a Pearson's correlation coefficient between perceived social support and group cohesion was computed and its significance was tested. Thereafter, the strength of the correlation was interpreted. It was expected that perceived social support and group cohesion would be strongly and positively related.

To test hypothesis 5, a one-tailed dependent samples t-test was conducted, in which the mean score of the participants' mean perceived social support score at T2 was compared to that at T3. Before conducting the test, however, the assumption of approximate normality was assessed by inspecting the skewness and kurtosis of the difference of the means at T2 and T3 and by inspecting the corresponding histogram. Indeed, it has been advised that in a case of a sample size > 300, normality tests should depend on evaluating histograms and the absolute values of skewness and kurtosis (Kim, 2013). The perceived social support mean score at T3 was expected to be higher than at T2. In addition, Cohen's d value was computed for the comparison in order to estimate the effect size of the difference between the means.

To test hypothesis 6, in turn, a one-way repeated measures ANOVA was conducted, in which the group cohesion mean scores at the beginning, the middle, and at the end of the CP program were compared to each other while controlling for the previously mentioned covariates. For this, the assumption of normality of each level of time (beginning, middle, and end of CP) and the assumption of sphericity were tested. Normality, similarly to that in hypothesis 5, was tested by inspecting the skewness and kurtosis of the mean score distributions and by assessing the corresponding histograms. Sphericity, in turn, was tested with a Mauchly's test. It was expected that the mean scores of the three time points would all differ; the mean score at the middle of CP being higher than at the beginning, and the mean score at the end of CP being higher than at the middle.

An alpha significance level of .05 was used across all analyses. Priori power analyses were conducted with G*Power version 3.1. According to the power analyses, to reach a power of .80, given a medium effect size and an alpha value of .05, a total sample size of 55 for the mediation analysis, a total sample size of 27 for the dependent samples t-test, and a total sample size of 28 for the repeated measures ANOVA would be needed. The sample size of the present study (n = 637) substantially exceeds these indications.

Results

Participant characteristics and mean study outcomes

The mean age of women participating in CP was found to be 30.44 ± 4.55, ranging from 18 to 46. The majority of the women were expecting their first child (65%), identified themselves as Dutch (81%), were either married, in registered partnership, or cohabitated with their partner (88%), had an applied or research university degree (50%), were employed (81%), and belonged to the middle socioeconomic class (P20-P80; 59%). The age, parity, and ethnicity of the study participants were compared to those of the general pregnant population in the Netherlands in 2019, as reported by the Perinatal Registry of the Netherlands (https://www.perined.nl/). The two groups were comparable in all of the three characteristics, although the CP participants were, on average, slightly younger and more often primiparous than the Dutch general pregnant population. Table 1 further summarizes the participant and reference group characteristics together with the participants' and their group facilitators' mean responses on model fidelity, perceived social support, group cohesion, and satisfaction with care. Reference data of the Dutch general pregnant population considering the other participant characteristics were not available.

Table 1

Participant Characteristics and Mean Study Outcomes

Variable	CP participants n = 637	#Reference data n = 164,225
Age, mean ± SD	30.44 ± 4.55	
Age categories, n (%)		
< 24 years	68 (11)	13,624 (8)
25-29 years	227 (36)	48,111 (29)
30-34 years	243 (38)	65,446 (40)
> 35 years	99 (15)	36,944 (23)
Unknown		100 (0)
Parity, n (%)		
Primiparous women	413 (65)	73,104 (44)
Multiparous women	216 (34)	90,940 (55)
Unknown	8 (1)	181 (0)
Ethnicity, n (%)		
Dutch or other Western	565 (89)	141,215 (86)
Non-Western	64 (10)	19,539 (12)
Unknown	8 (1)	3,471 (2)
Marital status, n (%)		
Married, registered partnership, or cohabitation with partner	559 (88)	
Not cohabitation with partner or single	24 (4)	
Unknown	54 (8)	
Education level, n (%)		
No secondary education	17 (3)	
Some secondary education	242 (38)	
Higher education	322 (50)	
Unknown	56 (9)	
Employment status, n (%)		
Both partners employed	499 (78)	
Only woman employed	19 (3)	
Only partner employed	58 (9)	
Both partners not employed	6 (1)	
Unknown	55 (9)	
SES percentile score, n (%)		
< P20 (lower)	97 (15)	
P20-P80 (middle)	375 (59)	
> P80 (higher)	103 (16)	
Unknown	62 (10)	
Model fidelity, mean% ± SD (range)		
Health assessment	86.56 ± 0.54 (50.00-100.00)	
Interactive learning	53.18 ± 0.76 (15.56-84.00)	
Total	69.87 ± 0.51 (38.33-92.00)	

Table 1

Continues

Perceived social support, mean ± SD (range)	
At 28 weeks	6.05 ± 0.06 (0.00-9.67)
At 36 weeks	6.83 ± 0.06 (0.00-10.00)
Total	6.44 ± 0.06 (0.00-9.58)
Group cohesion, mean ± SD (range)	
Beginning CP	3.91 ± 0.02 (3.23-4.97)
Middle CP	4.26 ± 0.02 (3.62-4.90)
End CP	4.46 ± 0.02 (3.69-4.95)
Total	4.21 ± 0.02 (3.60-4.91)
Satisfaction with care, mean ± SD (range)	4.00 ± 0.02 (1.09-5.00)

#Data retrieved from Perined (the Perinatal Registry of the Netherlands; 2019).
SD = standard deviation.

Associations between study variables

Against expectations, model fidelity's association between perceived social support (r = .04, p = .438) and between satisfaction with care (r = -.04, p = .415) were found to be nonsignificant. Model fidelity did have a significant correlation with group cohesion, however, (r = .26, p < .001), indicating that the better the CP group facilitators adhered to the model the more cohesive they rated the groups to be. A significant positive correlation was also found between perceived social support and satisfaction with care (r = .40, p < .001), indicating that women that perceived to be highly supported by their group members were likely to be more satisfied with the care. This association was from weak to moderate. Finally, a nonsignificant correlation was found between group cohesion and satisfaction with care (r = .05, p = .341).

Regarding the covariates' associations with the variables of primary interest, employment status was found to be significantly correlated with satisfaction with care (r = -.14, p = .001), so that both of the partners being employed was linked to higher satisfaction with care. Moreover, the women's age (r = .10, p = .037) was found to be significantly, but weakly, associated with model fidelity, so that an older age was more likely to be associated with higher model fidelity. Furthermore, the age (r = -.21, p < .001) and the education level (r = -.18, p < .001) of the women were weakly correlated with perceived social support so that a younger age and lower education level seemed to be associated with higher perceived social support. See Table 2 for all Pearson's correlation coefficients, point biserial correlation coefficients, and Cramer's V values of study variables.

Table 2

Associations between Study Variables

Variable	Age	Parity	Ethnicity	Marital status	Education level	Employment status	SES	Satisfaction with care	Perceived social support	Group cohesion	Health assessment	Interactive learning
Parity	.28**											
Ethnicity	-.03	*.09*										
Marital status	-.07	*.06*	*.11**									
Education level	.22**	*.09*	*.06*	*.13***								
Employment status	.05	*.17***	*.16***	*.51***	*.14***							
SES	.06	*.11**	*.08*	*.07*	*.13***	*.10*						
Satisfaction with care	-.05	.03	-.04	-.08	.04	-.14**	-.02					
Perceived social support	.21**	-.06	-.04	-.07	-.18**	-.07	.01	.40**				
Group cohesion	.04	.07	-.02	-.04	.00	.03	.02	.05	.13**			
Health assessment	.08	.03	.00	.02	-.07	.09	.02	-.08	-.05	.03		
Interactive learning	.08	.03	.08	-.04	-.03	.05	.11*	.00	.09	.33**	.22*	
Model fidelity	.10*	.04	.06	-.02	-.06	.07	.09	-.04	.04	.26**	.69**	.86**

*$p < .05$. **$p < .01$.

Akoglu (2018): Pearson's correlation coefficient/Point biserial correlation coefficient (normal font) interpretation: .00 = no association, ±.20 = weak association, ±.50 = moderate association, ±.70 = strong association, ±1.00 = perfect association.

Akoglu (2018): Cramer's V (*font in italics*) interpretation: .00 = no association, .05 = weak association, .10 = moderate association, .15 = strong association, .25 = very strong association.

Relationships between participants' perceived social support and satisfaction with care

Firstly, considering each of the regression analyses of the hypothesized model, no major violations were found for the assumptions of linearity, homoscedasticity, and normality of estimation errors. In regard to linearity, all regressions appeared fairly linear as the Loess curves centered close to zero along the X-axes. In addition, the plots displayed relatively constant vertical ranges across the X-axes, which is why the assumption of homoscedasticity was also concluded to have been met. In regard to normality, the data also fit generally well on the diagonal line across these plots, although some minor violations could be detected. Given the large sample size, however, the results of the analysis should not be affected by these minor normality violations (Kane & Ashbaugh, 2017).

The results of the regression analysis considering hypothesis 1 showed that CP participants' perceived social support was found to significantly predict their satisfaction with care (a_1-path, B = 0.19, SE = 0.02, 95% CI [0.15, 0.22]). This indicates that women that perceived to be better supported by their group members were, on average, also more satisfied with CP care. This finding is supporting evidence for hypothesis 1.

Relationship between group facilitators' perceived group cohesion and participants' satisfaction with care

The results of the regression analysis considering hypothesis 2, in turn, revealed that group cohesion, as perceived by the group facilitators, was not found to significantly predict the participants' satisfaction with care (b_2-path; B = -0.02, SE = 0.07, 95% CI [-0.17, 0.12]). This demonstrates that the group facilitators' rated cohesiveness of their CP groups was not related to how satisfied the individual CP participants were with the care. Therefore, this finding does not support hypothesis 2.

Association between group facilitators' perceived group cohesion and participants' perceived social support

As expected in hypothesis 3, facilitators' rated group cohesion was found to be significantly and positively correlated with the women's perceived social support (r = .13, p < .001), meaning that CP groups with more women that perceived to be highly supported by their group members also tended to be scored more highly cohesive by the CP group facilitators. Against the hypothesis, however, the found correlation between group cohesion and social support was found to be weak. Therefore, these results provide only partial support for hypothesis 3, which stated that the relationship between the facilitators' rated group cohesion and the participants' social support would be both positive *and* strong.

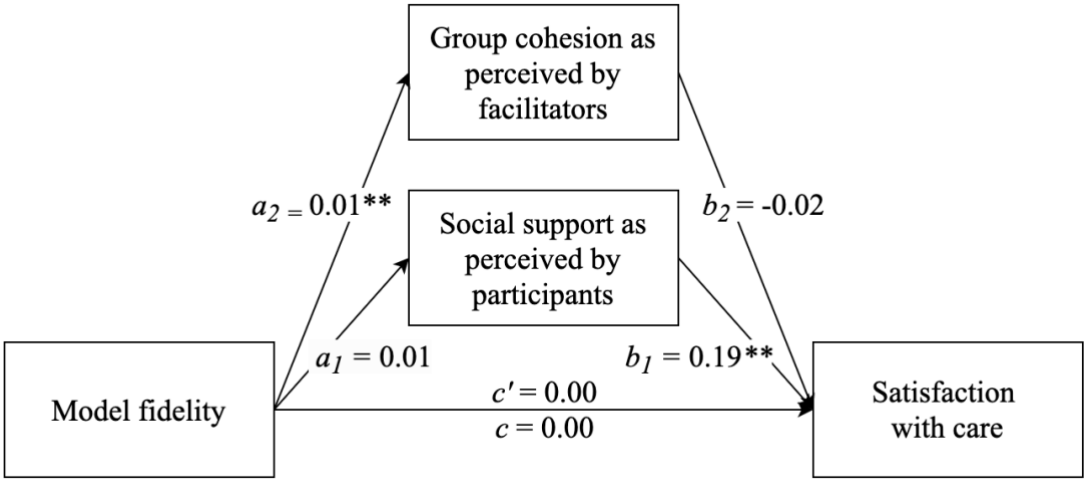
Relationship between group facilitators' fidelity to CP model and the participants' satisfaction with care as mediated by the participants' perceived social support and facilitators' rated group cohesion

The unstandardized total effect (*c*-path = 0.00, *SE* = 0.00, 95% CI [-0.01, 0.00]) as well as the unstandardized direct effect (*c*'-path = 0.00, *SE* = 0.00, 95% CI [-0.01, 0.00]) of model fidelity on satisfaction with care were found to be nonsignificant, meaning that the group facilitators' self-rated fidelity to the model did not significantly predict the CP participants' satisfaction with CP care. Although unlikely, indirect effects can occur in the absence of significant total or direct effects (Rucker, Preacher, Tormala, & Petty, 2011), which is why the indirect effects were also examined despite the nonsignificant total and direct effects. The indirect effects of model fidelity on satisfaction with care through social support (a_1b_1-path; *B* = 0.00, bootstrap *SE* = 0.00, 95% CI [-0.00, 0.00]) and group cohesion (a_2b_2-path*; B* = 0.00, *SE* = 0.00 ,95% CI [-0.00, 0.00]) were found to be nonsignificant as well, indicating that social support and group cohesion did not successfully mediate the relationship between model fidelity and satisfaction with care. These results are evidence against the hypothesis 4.

Additionally, although not included in the hypotheses, it was found that model fidelity was a significant predictor of group cohesion (a_2-path; *B* = 0.01, *SE* = 0.00, 95% CI [0.01, 0.01]), demonstrating that the group facilitators that better adhered to the CP model, generally perceived their CP groups to be more cohesive. The total hypothesized model explained 28% of the variation in satisfaction with care. Figure 2 illustrates the unstandardized regression coefficients between variables of primary interest. Table 3, in turn, displays the regression results in further detail, including the effects of the covariates.

Figure 2

Unstandardized Regression Coefficients of the Hypothesized Model



*p < .05. **p < .01.

Table 3

Regression Table for the Multivariate Analyses

Outcome	B	95% CI [Lower, Upper]
Social Support		
Model fidelity	0.01	[-0.01, 0.19]
Age	-0.05	[-0.08, -0.02]
Parity	0.05	[-0.26, 0.35]
Ethnicity	-0.20	[-0.44, 0.05]
Education level	-0.50**	[-0.75, -0.24]
Marital status	-0.47	[-1.13, 0.19]
Employment status	-0.19	[-0.40, 0.02]
SES	0.03	[-0.20, 0.26]
R^2	0.11	
F(8, 329)	4.85**	
Group cohesion		
Model fidelity	0.01**	[0.01, 0.01]
Age	0.00	[-0.01, 0.01]
Parity	0.04	[-0.04, 0.11]
Ethnicity	-0.01	[-0.07, 0.05]
Education level	-0.01	[-0.07, 0.06]
Marital status	-0.04	[-0.20, 0.13]
Employment status	0.00	[-0.06, 0.05]
SES	-0.01	[-0.07, 0.05]
R^2	0.09	
F(8,329)	3.90**	
Satisfaction with Care		
Model fidelity	0.00	[-0.01, 0.00]
Social support	0.19**	[0.15, 0.22]
Group cohesion	-0.02	[-0.17, 0.12]
Age	0.01	[-0.00, 0.02]
Parity	0.05	[-0.06, 0.15]
Ethnicity	-0.03	[-0.12, 0.05]
Education level	0.15**	[0.07, 0.24]
Marital status	0.00	[-0.22, 0.22]
Employment status	-0.09*	[-0.16, -0.01]
SES	-0.02	[-0.10, 0.06]
R^2	0.28	
F(10, 327)	12.68**	
Indirect effect		
Model Fidelity > Social Support > Satisfaction with Care	0.00	[-0.01, 0.00]
Model Fidelity > Group Cohesion > Satisfaction with Care	0.00	[-0.01, 0.00]

*$p < .05$. **$p < .01$.

Development of participants' perceived social support over the course of CP

An absolute skewness value of < 2.00 and an absolute kurtosis value of < 7.00 have been recommended to be used when determining substantial normality in large sample sizes (n > 300; Kim, 2013). Therefore, the approximate normality assumption of the dependent samples t-test was met as the skewness and kurtosis of the difference of the social support mean scores at T2 and T3 were found to be .31(*SE* = 0.10) and 2.8 (*SE* = 0.19), respectively, and the corresponding histogram resembled a normal distribution. The one-tailed dependent samples t-test showed that the mean of perceived social support at T3 was significantly higher than at T2 ($t(636) = -20.69$, $p < .001$), with a large effect size ($d = 0.82$). This indicates that the CP participants' perceived social support generally increased from T2 to T3, which is supporting evidence for hypothesis 5 (see Table 4).

Table 4

Development of CP participants' Perceived Social Support over Time

Variable	Mean	SD	p-value	Cohen's d#
Perceived social support 28 weeks (T2)	6.05	1.54	< .001**	0.82
Perceived social support 36 weeks (T3)	6.83	1.52		

*$p < .05$. **$p < .01$.

#Fritz, Morris, & Richler (2012): Cohen's d effect sizes: small: 0.2; medium: 0.5; large: 0.8.

Development of facilitators' rated group cohesion over the course of CP

Regarding hypothesis 7, the mean score of facilitators' rated group cohesion across CP groups was found to be 3.91 ± 0.36 in the beginning, 4.25 ± 0.35 in the middle, and 4.45 ± 0.34 in the end of the program. The group cohesion mean score distributions at these three time points of the beginning, middle, and end were found to have a skewness of 0.17 (*SE* = 0.12), -0.17 (*SE* = 0.12), and -0.44 (*SE* = 0.12), and a kurtosis of -0.24 (*SE* = 0.24), -0.87 (*SE* = 0.24), and -0.72 (*SE* = 0.24), respectively. Additionally, as the associated histograms resembled normal distributions, the normality assumption was concluded to have been met. The Mauchly's test indicated that the assumption of sphericity was violated ($\chi^2(2) = 0.81$, $p < .001$), however, which is why the test significance was determined with the Huynh-Feldt test ($\varepsilon = 0.87$).

The results of the one-way repeated measures ANOVA showed that the mean group cohesion was significantly affected by time ($F(2) = 8.28$, $p = .001$), with a small to medium effect size ($\eta^2 = .02$). Following post-hoc tests using the Bonferroni correction revealed that time elicited a statistically significant improvement in group cohesion from the beginning to the middle of the program ($p < .001$) and, similarly, from the middle to the end of the program ($p < .001$). These results indicate that group cohesion, as perceived by the CP group facilitators, generally increased

throughout the program within the CP groups. This is supporting evidence for hypothesis 6. Tables 5 and 6 summarize the ANOVA and post-hoc test outcomes.

Table 5

The Effect of Time and Covariates on CP Facilitators' Rated Group Cohesion

Source of variation	F	df	p-value	η^2#
Between-subjects effects				
Age	.32	1	.574	.00
Parity	1.25	1	.264	.00
Ethnicity	.03	1	.874	.00
Education level	.23	1	.635	.00
Marital status	.29	1	.588	.00
Employment status	.00	1	.953	.00
SES	.01	1	.944	.00
Within-subjects effects				
Time	8.28	2	.001**	.02
TimeXAge	.81	2	.430	.00
TimeXParity	1.15	2	.314	.00
TimeXEthnicity	1.43	2	.242	.00
TimeXEducation level	.32	2	.698	.00
TimeXMarital status	.08	2	.897	.00
TimeXEmployment status	1.40	2	.247	.00
TimeXSES	.22	2	.775	.00

*$p < .05$. **$p < .01$.

#Richardson (2011): Partial eta squared effect sizes: .01 = small; .06 = medium; .14 = large.

Table 6

The Development of CP Facilitators' Rated Group Cohesion over Time

Comparison				
Time A	Time B	Mean difference (B-A)	SE	p-value
Beginning CP	Middle CP	-0.35	0.01	< .001**
	End CP	-0.54	0.01	< .001**
Middle CP	End CP	-0.20	0.01	< .001**

*$p < .05$. **$p < .01$.

Discussion

The present study aimed to expand the current understanding of the implementation of the CP model in the Netherlands by investigating how the group facilitators' fidelity to the CP model, social support (as perceived by the participants), group cohesion (as perceived by the group facilitators), and the participants' satisfaction with care related to each other. Additionally, it was assessed how the participants' perceived social support and the facilitators' rated group cohesion developed throughout the course of the program and how these two perceptions were related to each other. These research aims were relevant, as the CP model's one of the most central aims has been to enhance maternal social support, but only little research has been conducted on how social support and related constructs, such as group cohesion, develop throughout the program and how

they are related to the previously researched outcomes of the program, such as satisfaction with care. Previous literature had also called upon future research to study the group facilitators' (in)fidelity to the CP model and its effects on several outcomes (Cunningham et al., 2016; Manant & Dodgson, 2011). This study attempted to do so by measuring model fidelity in terms two basic principles of the model, health assessment and interactive learning.

Hypothesis 1 was supported by the findings. Indeed, women that felt more supported by their peers were generally also more satisfied with the provided care. It is important to note that causation of the effects cannot be assumed, however, because this study was not experimental in design (Trafimow, 2015). Therefore, it could also be that because the women were satisfied with the program, they also perceived to be more supported by their group members. Hypothesis 2, in turn, did not receive support by the findings, as the group facilitators' perceptions of the groups' cohesiveness did not predict how satisfied the individual women were with the care. Hypothesis 3 was only partially supported by the study findings as the participants' and group facilitators' perceptions of social support and group cohesion were found to be positively related, but the association was found to be weak. Against hypothesis 4, it was found that the group facilitators' model fidelity did not predict the CP participants' satisfaction with care. Hypothesis 5, in turn, was supported by the study findings, because the CP participants' perceived to be, on average, more supported by their peers at 36 weeks of pregnancy than at 28 weeks of pregnancy. Similarly, hypothesis 6 received support, since the group facilitators tended to rate the CP groups more cohesive in the middle than in the beginning of the program, and again, in the end than in the middle of the program.

These findings can be partially explained with previous research. In line with previous literature, CP participants' social support was found to be related to their satisfaction with care. In previous literature, quantitative and qualitative findings have suggested that enhanced maternal social support is a major difference between group prenatal care and usual individual care, and that the great satisfaction with care among CP participants can be attributed to this enhanced social support (Cunningham et al., 2016; Grady & Bloom, 2004). This has also been assumed to be the case in practice, as the program is seen to be fundamentally based on the provision of supportive relationships (Massey, Rising, & Ickovics, 2006). Group cohesion, as perceived by the group facilitators, has not explicitly been studied in the context of CP before, and it therefore remains unclear why group cohesion did not predict the participants' satisfaction with care. However, as demonstrated by the weak association between the participants' and the group facilitators' perceptions of social support and group cohesion, it may be that the group facilitators are not able to

accurately interpret the strengths of their group members' bonds and their feelings of unity, and therefore, the participants' satisfaction with the care that they provide.

In the present study, the instruments to measure study variables only considered social support and group cohesion as outcomes of model fidelity. The measurement of model fidelity itself did not take into account any community building practices, which are considered to be one of the three cornerstones of the implementation of the CP model (CenteringParenting Implementation Guide, 2014; Herrman, Rogers, & Ehrenthal, 2012). In the present study, it was not possible to add community building practices into the assessment, because of the retrospective design of the study. That is, the CP evaluation questionnaire filled in by the group facilitators after each session only considered items that could be related to the principles of health assessment and interactive learning, and group cohesion as an outcome. Community building practices, such as ensuring that the group members have enough time to socialize with each other (Rising, Kennedy, & Klima, 2004), could directly be associated with the support that the participants perceive to receive from their peers. This may explain why the group facilitators' fidelity to the model was not found to predict either social support or satisfaction with care. Thus, taking community building practices into account when measuring model fidelity could potentially change the results.

Overall, the women's perceived social support was found to increase throughout the course of the program. This could be, because the participants are able to build more trusting relationships with each other over time. Kweekel, Gerrits, Rijnders, and Brown (2016) qualitatively examined the role of trust in CP. They found trusting relationships to be based on the aspects of vulnerability, communication, reciprocity, chemistry, and atmosphere, which further facilitated social support to emerge between the CP participants. Establishing this kind of trust within the CP groups through these five preconditions takes some time, explaining why CP participants were found to perceive to be more socially supported by their peers later in the program. Group cohesion, as perceived by the group facilitators, was also found to generally increase throughout the program. Although not included in the hypotheses, model fidelity was found to successfully predict group cohesion, demonstrating that the group facilitators that better adhered to the model, generally perceived their CP groups to be more cohesive as well. It may therefore be that the CP group facilitators have a tendency to see the groups' unity and strength of bonds through their own behavior during the sessions and their own success in facilitating them. This notion would also explain the finding that, although significantly associated, the CP group facilitators' and participants' perceptions of being cohesive and socially supported were only weakly related.

Several limitations and strengths should be taken into account when interpreting these findings. First, some of the data processing while entering and screening the data was done

manually in SPSS, which is an error-prone method of managing data. Manual data entry and screening may compromise the internal validity and the findings of the study (Jinks, Jordan, & Croft, 2003). Errors somewhere in the manual data entry process may explain, for example, why the data of some women that had participated in CP did not contain any indications of their group number. These women had to be excluded from the data analyses. Second, the accuracy of the model fidelity items can be questioned as the facilitators had to rate their own fidelity to the model. The group facilitators may have been affected by the social desirability bias, which refers to the tendency to answer questions in the way that is viewed favorable by other people (Grimm, 2010). Another limitation concerns the limited prior research on the relationships hypothesized in this study. The body of research on CP is quickly growing, but still in its early stages. That is why the literature does not yet clearly suggest mechanisms that could explain how CP is associated with the already established positive outcomes. For example, although used as an independent variable in the present study, model fidelity could as well be considered to be a moderator between the CP participants' perceived social support and their satisfaction with care, so that the extent to which the participants' perceived social support would predict their satisfaction with care would depend on how well the facilitators' adhere to the CP practices.

On the other hand, the fact that the research on CP is still in its early stages makes the present study more valuable as it uniquely adds to the evidence base of CP. As other noteworthy strengths, this study used a large sample size, which was also found to be representative of the general pregnant population in the Netherlands. Moreover, this study statistically controlled for a number of covariates in the data analyses, where possible, enhancing the internal validity by limiting their influence of confounding (Skelly, Dettori, & Brodt, 2012). Additionally, an advanced multiple imputation method was used to deal with the missing data on the individual level scales. It has been found that in comparison to ad hoc approaches, multiple imputation provides more validity and unbiased estimates to missing data (McCleary, 2002).

Future research is suggested to establish and apply a more reliable and comprehensive measurement of CP model fidelity, as no validated measure has yet been developed. Researchers are challenged, together with the practitioners, to further think about the practices that are essential for the good implementation of the model and that could be related to the CP outcomes that have been described to be superior to those of usual individual care. The 13 essential elements, that were also the basis of the CP evaluation questionnaire filled in by the group facilitators in this study, and that are used in the training of the group facilitators (Rising, Kennedy, & Klima, 2004), need to be critically evaluated and their application and value to measure model fidelity need to be carefully estimated. Based on the findings of the present study, future research is particularly recommended

to include community building practices in the measurement of model fidelity. As explained, community building practices are likely to contribute to the CP participants' perceived social support, the cohesiveness of the groups, the participants' satisfaction with care, and perhaps to other outcomes as well.

Future research should also consider measuring the CP participants' and group facilitators' perceptions of social support and/or group cohesion with the same instrument for a better comparability of the results. Additionally, measuring the participants' satisfaction with care at multiple time points would be of benefit. This would make the assessment of the development of the participants' satisfaction over the course of CP possible and it could be examined in relation to the development of the participants' social support and group cohesion over time. Future research could also measure the CP participants' partners' satisfaction with the care. These findings could provide valuable information about CP from the partners' point of view. Finally, it would be interesting for future research to investigate how different group compositions in terms of participant characteristics play a role what comes to how well the group facilitators adhere to the model, how socially supported the CP participants feel, how cohesive the groups are, and how satisfied they are with the provided care. Earnshaw et al. (2015) have already carried out some initial research on this issue with respect to the age of the participants, but other characteristics could be further investigated.

The findings of the present study have several implications for the theory and practice of CP. Firstly, the findings highlight the importance of promoting peer support within CP groups in order to maximize the participants' satisfaction with CP. Based on previous literature, satisfied women are, in turn, more likely to attend the sessions and be more likely utilize CP in their future pregnancies (Duong, Binns, & Lee, 2004; Higgings, Murray, & Williams, 1994; Wheatley et al., 2008). The findings also point out that CP group facilitators may have somewhat different perceptions about the feelings of unity of the groups and about the strength of the bonds between the group members compared to the perceptions of the group members themselves. Therefore, the group facilitators should not take it for granted that they know how supported the group members feel in the groups that they facilitate. As health assessment and interactive learning principles did not successfully predict the women's social support, the group facilitators may consider further emphasizing more straight-forward methods (e.g., open discussion) in assessing each group member's state of perceived support and their needs with regard to support. Thirdly, the group facilitators and group members can expect group cohesion and social support to grow throughout the program.

In conclusion, similarly to what has been found in other countries, the results of the present study demonstrate that the implementation of CP in the Netherlands shows promise in enhancing maternal social support, and consequently, the CP participants satisfaction with care. This study also adds unique knowledge to the evidence base of CP by assessing cohesiveness of the groups, as perceived by the group facilitators. Similarly to the CP participants' perceived support of their peers, the facilitators' rated group cohesion was found to increase throughout the program. Overall, these findings support the fundamental aims of CP to enhance women's supportive relationships during pregnancy. Although this study did not find the group facilitators' fidelity to the CP model to be associated with the CP participants' perceptions of being supported by their peers or with their satisfaction with care, more studies should be conducted to examine the presented relationships with different instruments regarding the group facilitators' (in)fidelity to the CP model.

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Appendix A

Predetermined discussion topics for CP sessions

Vul alleen de groene velden in!

Praktijk	0
Groep	0

Bijeenkomst 1; 12-16 weken **Leefstijl**	**Behandeld in de bijeenkomst** *Noteer het nummer van de bijeenkomst waarin het behandeld is*		
00-01-1900	Volledig behandeld	Deels behandeld	Kort Aangestipt
1. Groepsverwachtingen, groepsregels, vertrouwelijkheid			
2. Voeding tijdens de zwangerschap			
3. Gebruik vitamines en mineralen (ijzer, calcium)			
4. Gewichtstoename en beheersing			
5. Aanleren van technieken wb. bloeddruk opnemen, wegen, hoogte baarmoeder etc. tbv. zelfzorg			
6. Prenatale screening			
7. Persoonlijke doelen en keuzes gezondheid			
8. Kraamzorg			
9. Roken en zwangerschap, incl passief meeroken			
12. Gebruik van alcohol /drugs			
13. Anders namelijk			

Bijeenkomst 2; 16-20 weken **Ongemakken, lichaamsveranderingen en mondzorg**	**Behandeld in Bijeenkomst** *Noteer nummer van de bijeenkomst*		
00-01-1900	**Volledig behandeld**	**Deels behandeld**	**Kort Aangestipt**
201 Lichamenlijke veranderingen in de zwangerschap			
202. Veel voorkomende ongemakken en klachten in zwangerschap, en wat je er aan kan doen			
203. Gebitsverzorging			
204. Lichaamshoudingen			
202. (Niet-voorgeschreven) medicijngebruik			
203. Gebruik van medicijnen, kruiden(mengsels) en huis-, tuin en keukenmiddeltjes			
205. Veiligheid			
206. Erkennen van de baby			
207. Structureel echoscopisch Onderzoek			
Anders namelijk:			

Bijeenkomst 3; 20-24 weken **Borstvoeding, ontspanning en werk**	**Behandeld in Bijeenkomst** *Noteer nummer van de bijeenkomst*		
00-01-1900	**Volledig behandeld**	**Deels behandeld**	**Kort Aangestipt**
301. Borstvoeding; voordelen moeder en kind, ervaren belemmeringen, oplossingen			
302. Flesvoeding; voor en nadelen;			
303. Ontspanning en stressreductie tijdens de zwangerschap			
304. Geestelijke gezondheid: emotionele aanpassing aan de zwangerschap			
305. Werk en zwangerschapsverlof			
306. Het gezin dat ik wil			
Anders, namelijk			

bijeenkomst 4; 24-27 weken **Familie, seksualiteit, vroeggeboorte en anticonceptie**	**Behandeld in Bijeenkomst** *Noteer nummer van de bijeenkomst*		
00-01-1900	**Volledig behandeld**	**Deels behandeld**	**Kort Aangestipt**
401. Familie- en ouderschapsvoorbereiding /problemen : Huishoudelijke taken, discipline, voorbereiden van broertjes/zusjes			
402. Seksualiteit, HIV/SOA's,			
403. Anticonceptiekwesties: menstruele cyclus, methoden van anticonceptie			
404. Relatieproblemen: bijv. seksualiteit, huiselijk geweld/misbruik			
405. Vroegtijdige bevalling: tekenen en symptomen			
406. Bij klachten: Wie en Wanneer bellen en waar je heengaat			
407. Signalen complicaties en noodgevallen: minder beweging van de baby, koorts, pijn bij urineren			
Anders			

Bijeenkomst 5; 27-30 weken **De bevalling en pijn tijdens de bevalling**	**Behandeld in Bijeenkomst** *Noteer nummer van de bijeenkomst*		
00-01-1900	**Volledig behandeld**	**Deels behandeld**	**Kort Aangestipt**
501 Begin van de bevalling: bijv echte en oefenweeën, wanneer bellen			
502 Verloop van de bevalling procedures: baby checken, medische handelingen			
503. Ademhalen en persen			
504. Pijnbestrijding; mogelijkheden, voor en nadelen, afspraken			
505. Rol van de zorgverlener			
Anders			

Bijeenkomst 6; 30-32 weken **Voorbereiding op de bevalling en keuzes**	**Behandeld in Bijeenkomst** *Noteer nummer van de bijeenkomst*		
00-01-1900	**Volledig behandeld**	**Deels behandeld**	**Kort Aangestipt**
601. Voorbereiden op de bevalling: wat kan je doen om beter met de bevalling om te gaan houdingen, ontspanning, muziek, medicijnen			
602. Baringshoudingen			
603. Keuzes rondom de bevalling			
604. Regelzaken			
Anders			

Bijeenkomst 7; 32-34 weken **Geboorteplan en zorg voor de baby**	**Behandeld in Bijeenkomst** *Noteer nummer van de bijeenkomst*		
00-01-1900	**Volledig behandeld**	**Deels behandeld**	**Kort Aangestipt**
701 Besluiten omtrent bevalling; plaats bevalling, wanneer bellen en waarom, wanneer naar ziekenhuis/bevalcentrum, kinderoppas, pijnbestrijding			
702 Inhoud ziekenhuistasje, kraampakket, klossen en wassen van de kleertjes van de baby			
703 Geboorteplan invullen			
704. Zorg rondom de baby: hielprik, gehoorscreening, wat doet kraamzorg, wat doet het consultatiebureau?			
705. Tekenen van ziekte bij je kind: wanneer medische hulp in te schakelen en bij wie?			
706. Verzorging van de baby (badderen, veiligheid, oppas)			
Anders, namelijk			

Bijeenkomst 8; 34-36 weken **Voorbereiden op de kraamtijd en emoties**	**Behandeld in Bijeenkomst** *Noteer nummer van de bijeenkomst*		
00-01-1900	**Volledig behandeld**	**Deels behandeld**	**Kort Aangestipt**
801. Geestelijke gezondheid: emotioneel wennen aan zwangerschap en periode na de bevalling			
802 Baby blues, postnatale depressie			
803. Netwerk van ondersteuning			
804. Shaken baby syndroom			
Anders, namelijk			

Bijeenkomst 9; 36-38 weken **Groei en ontwikkeling van de baby**	**Behandeld in Bijeenkomst** *Noteer nummer van de bijeenkomst*		
00-01-1900	**Volledig behandeld**	**Deels behandeld**	**Kort Aangestipt**
901. Herstel na de bevalling: nacontrole afspraak, wanneer hulp zoeken			
902. Groei en ontwikkeling van het kind; gewicht, voeding,			
903. Veiligheid baby, preventie wiegendood, shaken baby			
904 Rol van consultatiebureau, vaccinaties, gehoortest, CenteringParenting			
Anders, namelijk			

Bijeenkomst 10; 36-40 weken of na de bevalling **Herstel moeder,** **groei en ontwikkeling van de baby**	**Behandeld in Bijeenkomst** *Noteer nummer van de bijeenkomst*		
00-01-1900	**Volledig behandeld**	**Deels behandeld**	**Kort Aangestipt**
101 Ervaringen met de bevalling			
102. Zorg voor de pasgeborene			
103. Groei en ontwikkeling van het kind; gewicht, voeding,			
104. Veranderingen thuis en in het gezin			
105. De baby/moeder, wanneer moet je bellen			
106. Veiligheid baby, preventie wiegendood, shaken baby,roken			
107. Over naar het consultatiebureau, vaccinaties, gehoortest, CenteringParenting			
Anders, namelijk			

Table A1

Predetermined discussion topics for CP sessions in English

Session number (time period in pregnancy)	Overall topics for discussion
1 (12-16 weeks)	Lifestyle
2 (16-20 weeks)	Discomforts, bodily changes, and oral care
3 (20-24 weeks)	Breastfeeding, relaxation, and work
4 (24-27 weeks)	Family, sexuality, premature birth, and birth control
5 (27-30 weeks)	Childbirth and pain during childbirth
6 (30-32 weeks)	Preparation for childbirth and choices
7 (32-34 weeks)	Birth plan and care for the baby
8 (34-36 weeks)	Preparing for maternity period and emotions
9 (36-38 weeks)	Growth and development of the baby
10 (36-40 weeks or after birth)	Recovery of the mother, growth and development of the baby

Appendix B

Questionnaires on participant characteristics

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A. Uw gegevens

1. **Wat is uw geboortedatum?** ☐☐ - ☐☐ - ☐☐☐☐
   dag maand jaar
2. **Wat is uw postcode?**
   (bijvoorbeeld 1123 AB) ☐☐☐☐ ☐☐
3. **Wat is de eerste letter van uw voornaam?** ☐
4. **Wat is de eerste letter van uw meisjesnaam?** ☐
5. **Bent u al eens eerder bevallen?**
   ☐ ja
   ☐ nee
6. **Op welke datum bent u uitgerekend?**
   (uw vermoedelijke bevaldatum) ☐☐ - ☐☐ - ☐☐☐☐
   dag maand jaar
7. **Hoeveel weegt u <u>op dit moment</u>?**
   (uw gewicht) ☐☐☐ kilogram (bijvoorbeeld 65 kg)
8. **In welk land bent u geboren?**
   ☐ Nederland
   ☐ Suriname
   ☐ Nederlandse Antillen/Aruba
   ☐ Turkije
   ☐ Marokko
   ☐ In een (ander) Europees land, Noord-Amerika, Australie, Nieuw-Zeeland, Indonesie of Japan
   ☐ Anders, namelijk: ☐

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9. In welk land is uw vader geboren?

- ☐ Nederland
- ☐ Suriname
- ☐ Nederlandse Antillen/Aruba
- ☐ Turkije
- ☐ Marokko
- ☐ In een (ander) Europees land, Noord-Amerika, Australie, Nieuw-Zeeland, Indonesie of Japan
- ☐ Anders, namelijk:

10. In welk land is uw moeder geboren?

- ☐ Nederland
- ☐ Suriname
- ☐ Nederlandse Antillen/Aruba
- ☐ Turkije
- ☐ Marokko
- ☐ In een (ander) Europees land, Noord-Amerika, Australie, Nieuw-Zeeland, Indonesie of Japan
- ☐ Anders, namelijk:

11. Tot welke etniciteit rekent u zichzelf?

- ☐ Nederlands
- ☐ Ander Europees
- ☐ Afrikaans of Surinaams Creools
- ☐ Hindoestaans
- ☐ Marokkaans
- ☐ Turks
- ☐ Aziatisch
- ☐ Overig Westers (Noord-Amerikaans, Australische, Nieuw-Zeelands)
- ☐ Gemengd
- ☐ Anders, namelijk:

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12. Tot welke geloofsovertuiging/religie rekent u zichzelf?

- ☐ Christelijk (Rooms Katholiek of Protestants Christelijk)
- ☐ Islam
- ☐ Hindoeïsme
- ☐ Boeddhisme
- ☐ Jodendom
- ☐ Niet religieus
- ☐ Anders, namelijk:

13. Wat is de hoogste opleiding die u heeft afgemaakt?
(afgerond met een diploma of voldoende getuigschrift)

- ☐ Geen opleiding of alleen lager onderwijs (basisschool, speciaal basisonderwijs)
- ☐ Lager of voorbereidend beroepsonderwijs (zoals VMBO basis/kader/gemengd LBO)
- ☐ Middelbaar algemeen voortgezet onderwijs (zoals MAVO, MBO-kort, VMBO, theoretische leerweg)
- ☐ Middelbaar beroepsonderwijs en beroepsbegeleidend onderwijs (zoals MBO-lang, MTS, BOL, BBL, INAS)
- ☐ Hoger algemeen en voorbereidend wetenschappelijk onderwijs (zoals HAVO, VWO, Atheneum, Gymnasium)
- ☐ Hoger beroepsonderwijs (zoals HTS, HBO)
- ☐ Wetenschappelijk onderwijs (universiteit)
- ☐ Anders, namelijk:

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14. Wat is uw burgerlijke staat?

- ☐ Gehuwd of geregistreerd partnerschap
- ☐ Relatie, samenwonend
- ☐ Relatie, maar niet samenwonend
- ☐ Alleenstaand
- ☐ Anders, namelijk:

15. Heeft u op dit moment betaald werk?

- ☐ Ja, aantal uur per week: ☐☐
- ☐ Nee

16. Heeft uw partner momenteel betaald werk?

- ☐ Ja, aantal uur per week: ☐☐
- ☐ Nee
- ☐ Niet van toepassing, ik heb geen partner

Appendix C

The Patient Participation and Satisfaction Questionnaire (PPSQ)

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K Uw ervaring met uw zwangerschapszorg

De volgende stellingen gaan over hoe uw ervaring was met de verschillende onderdelen van de zwangerschapszorg die u hebt gekregen. Kruis aan in hoeverre u het met de stelling eens bent.

Binnen mijn zwangerschapszorg in de verloskundigenpraktijk of in het ziekenhuis…

		Helemaal eens	Eens	Neutraal	Oneens	Helemaal oneens
81.	**…werden alle onderzoeken duidelijk aan mij uitgelegd voordat ze werden uitgevoerd.**	☐	☐	☐	☐	☐
82.	**…kreeg ik nuttige informatie over mijn zwangerschap.**	☐	☐	☐	☐	☐
83.	**…was er steeds iemand telefonisch bereikbaar om vragen te beantwoorden.**	☐	☐	☐	☐	☐
84.	**…was er tijdens mijn controlebezoeken steeds voldoende tijd om vragen te stellen of mijn zorgen te bespreken.**	☐	☐	☐	☐	☐
85.	**…voelde ik mij op mijn gemak tijdens mijn controlebezoeken.**	☐	☐	☐	☐	☐
86.	**…heeft iemand mij geholpen met het maken van plannen voor de toekomst van mij en mijn baby.**	☐	☐	☐	☐	☐

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Binnen mijn zwangerschapszorg in de verloskundigenpraktijk of in het ziekenhuis…

		Helemaal eens	Eens	Neutraal	Oneens	Helemaal oneens
87.	…heb ik ondersteuning gekregen.	☐	☐	☐	☐	☐
88.	…is mijn familie bij de zorg betrokken voor zover ik dat zelf wilde.	☐	☐	☐	☐	☐
89.	…was er iemand warm en zorgzaam voor mij.	☐	☐	☐	☐	☐
90.	…werden er andere zorgverleners geraadpleegd over mijn zorg als dit nodig was.	☐	☐	☐	☐	☐
91.	…had iemand de juiste kennis en vaardigheden om voor mijn zwangerschap te zorgen.	☐	☐	☐	☐	☐
92.	…werd mijn privacy voldoende beschermd.	☐	☐	☐	☐	☐
93.	…werd ik met respect behandeld.	☐	☐	☐	☐	☐
94.	…werden mijn behoeften en wensen besproken met andere personen die ook voor mij zorgden.	☐	☐	☐	☐	☐
95.	…werden mijn vragen op een open en eerlijke wijze beantwoord.	☐	☐	☐	☐	☐

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Binnen mijn zwangerschapszorg in de verloskundigenpraktijk of in het ziekenhuis…

		Helemaal eens	Eens	Neutraal	Oneens	Helemaal oneens
96.	**…heb ik zelf keuzes mogen maken in de zorg die ik kreeg.**	☐	☐	☐	☐	☐
97.	**…werden mijn wensen over voeding en gewichtstoename besproken.**	☐	☐	☐	☐	☐
98.	**…. werden mijn wensen over medicatie besproken.**	☐	☐	☐	☐	☐
99.	**…werden mijn wensen over lichamelijke beweging en oefeningen besproken.**	☐	☐	☐	☐	☐
100.	**…werden mijn wensen over ademhalingstechnieken en ontspanningsoefeningen besproken.**	☐	☐	☐	☐	☐
101.	**…kreeg ik de mogelijkheid om actief deel te nemen aan mijn eigen zorg.**	☐	☐	☐	☐	☐
102.	**…kon ik mijn mening over de geleverde zwangerschapszorg geven.**	☐	☐	☐	☐	☐
103.	**Over het algemeen, hoe tevreden bent u over uw zwangerschapszorg?**	**Erg tevreden** ☐	**Tevreden** ☐	**Neutraal** ☐	**Ontevreden** ☐	**Erg ontevreden** ☐
104.	**Welk cijfer zou u geven aan de zorg die u tijdens uw zwangerschap kreeg?**	_ _ , _ *(bijvoorbeeld 8,0 of 7,3)* *(geef een cijfer van 0 tot 10, waarbij 0 het slechtste cijfer is dat u kunt geven en 10 het hoogste cijfer)*				

Appendix D

CP process evaluation questionnaire for group facilitators

Vul alleen de groene velden in!

Praktijk	0
Groep	0

Geef vraag 1 t/m 23 een cijfer van 1 t/m 5: **1 = Nooit , 2 = Zelden , 3 = Af en toe, 4 = Vaak , 5 = Altijd**
Vul voor vraag 25 en 26 het precieze aantal in.

	nummer sessie	1	2	3	4	5	6	7	8	9	10	totaal
	datum	00-01-1900	00-01-1900	00-01-1900	00-01-1900	00-01-1900	00-01-1900	00-01-1900	00-01-1900	00-01-1900	00-01-1900	
	Model											
1	De start en afsluiting waren op tijd											0,0
2	Vrouwen deden en registreerden zelf hun bloeddruk en gewicht											0,0
3	Het uitwendig onderzoek is in de eerste 30-40 minuten gedaan											0,0
4	Het uitwendig onderzoek vond plaats in de groepsruimte											0,0
5	De groepsruimte was gezellig en prive											0,0
6	De geplande inhoud is besproken											0,0
7	Er waren storende omgevingsfactoren											0,0
	Cohesie binnen de groep											
8	Groepsleden probeerden elkaar te begrijpen door het stellen van aanvullende vragen											0,0
9	Groepsleden gaven elkaar tips en adviezen/positieve feedback											0,0
10	Groepsleden deelden emoties en persoonlijke ervaringen met elkaar											0,0
11	Groepsleden maakten vervelende of beledigende opmerkingen naar elkaar											0,0
12	Groepsleden waren verveeld, gaapten of met andere dingen bezig											0,0
13	Groepsleden spraken met elkaar in het begin, in de pauze of na afloop											0,0
14	Groepsleden spraken met elkaar af buiten de groep											0,0
15	Groepsleden brachten zelf onderwerpen in om te bespreken											0,0
16	De sfeer in de groep werd door 1 of enkele groepsleden negatief beïnvloed											0,0
17	De sfeer in de groep werd door 1 of enkele groepsleden positief beïnvloed											0,0
18	Er vielen groepsleden buiten de groep											0,0
19	De groep leefde de eigen gemaakte regels na											0,0
20	De groep voelde als een vriendengroep											0,0
	Ondersteunend leiderschap											
21	Hoe vaak heb je aan het einde de discussie steeds helder samengevat?											0,0
22	Hoe vaak heb je groepsleden gestimuleerd tot deelname aan de discussie?											0,0
23	Hoe vaak gaf je direct antwoord op een vraag?											0,0
24	In hoeverre was je als groepsleider alert aanwezig deze sessie?											0,0
25	Hoe vaak heb je de groep opgedeeld in subgroepjes?											0,0
26	Hoe vaak heb je een spelletje of activiteit gedaan?											0,0
27	**De gezamelijke beoordeling over sessie door de groepsleiders (rapportcijfer 0-10)**											0,0