MASTER THESIS

Will your infant be securely attached?

A study about how current local collective preventive parent education interventions could be improved to ensure secure parental attachment in the first 1001 critical days in Twente.

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ABSTRACT

INTRODUCTION: Preventive parent education interventions are developed in order to assist child healthcare professionals to strive for optimal parental attachment behaviour in the first 1001 critical days after conception. In this follow-up research of Pepers (2019), the sixteen factors of secure parental attachment and the components of a persuasive strategy of Gagnon and Sandall (2007) are used to improve current local collective preventive parent education interventions provided by CHC professionals in Twente.

RESEARCH QUESTION: Which persuasive strategy can be used to improve the current local collective preventive parent education interventions provided by CHC professionals in Twente to ensure secure parental attachment between parents and (unborn) infant in the first 1001 critical days after conception?

METHODS: A multi-method research design consisting of a literature-driven and qualitative approach was used. According to the literature-driven approach, this research analyzed five current local collective preventive parent education interventions and, according to the qualitative approach, investigated opinions and practical experiences by conducting semi-structured interviews with CHC professionals about the integration of the sixteen factors of secure parental attachment and about the ideal persuasive strategy.

RESULTS: CHC professionals in Twente indicated that the following six factors of secure parental attachment should be addressed in the content of current local preventive parent education interventions: mental health, childhood history, representation of (unborn) infant, infant temperament, marital relationship and parenting stress. Moreover, according to CHC professionals, the ideal persuasive strategy consisted of three group-oriented face-to-face sessions, with a length of 1.5-2 hours per session. The teaching/learning method consisted of providing information, showing the behaviour and practicing the behaviour with the help of videos. Lastly, the CHC professional/instructor of the preventive parent education intervention must be an expert in working with groups of parents.

CONCLUSION/DISCUSSION: This research provides recommendations for improving a general persuasive strategy and for each current local preventive parent education intervention, recommendations are given to strive for optimal attachment behaviour between parents and (unborn) infant in the first 1001 critical days after conception. Regarding the municipalities in Twente, the first essential step is to aim attention at the Dutch action program 'Kansrijke Start' and to build local coalitions in the entire youth domain to ensure a promising start of every (unborn) infant, in which the concept of secure parental attachment is embedded.

KEYWORDS: Secure parental attachment, collective preventive parent education interventions, persuasive strategy, 1001 critical days

1. Introduction

1.1 Background

Every newborn infant deserves a promising start of his or her life and investments in the first 1001 days of life are crucial for a healthy future. The health of an infant before, during and after birth is important for ensuring optimal developmental outcomes (Leach, 2017). This has little to do with hereditary factors, but is for the largest part dependent of the circumstances in which infants grow up (Roseboom, 2018).

Child healthcare professionals who work with (expectant) parents, infants and toddlers concentrate on the first 1001 critical days; consisting of the prenatal and postnatal phase, which starts from conception until the infant is two years old (Detmar, van Buuren, Schuren, de Wolff, & Clabbers, 2016). The prenatal phase consists of a germinal, embryotic and fetal stage. The postnatal phase contains the phase of infancy and toddlerhood. In the first 1001 critical days, the brain of the (unborn) infant is growing and developing with maximum speed. This means that the brain is shaped in this period and consequently optimal brain development influences the future infant's social-, emotional- and cognitive development life (Rosenblum, Dayton, & Muzik, 2009; Sheridan & Nelson, 2009). Since the parents or other primary caregivers are the infant's most important environment in the first two years of an infant's life, it can be said that the parents play an important role by building the infant's brain. Neurological development of infants can be threatened by a disturbed attachment relationship between the parents and (unborn) infant (Balbernie, 2001). When there is an unsecure attachment relationship between parents and (unborn) infant in the first 1001 critical days after conception, this can potentially influence the future life of the infant drastically (Balbernie, 2001; Belsky & de Haan, 2011).

The formation of a secure attachment relationship between parents and (unborn) infant is dependent on parent-infant interactions during the first years of an infant's life (Dykas & Cassidy, 2011). The development of a secure attachment relationship during the prenatal and postnatal phase is crucial, since it is a powerful predictor of an infant's future social and emotional well-being (Detmar et al., 2016). Originally, an attachment relationship between parents and (unborn) infant is called parental attachment, which indicates that each individual parent (mother and father) develops a long-lasting and stable affective bond with an (unborn) infant. Before birth, this attachment bond is characterized by behaviours, thoughts and fantasies of both parents towards the fetus (Cranley, 1981; Muller, 1993). After birth, parental attachment can be seen as a two-way reinforcing process depending on both parents and their infant (Rees, 2007; Stern, 1995). The construction of attachment representations during the first 1001 critical days is important, because on the one hand, when infants are securely attached to their parents they can function autonomously and gain confidence in their social and other problem-solving competences (Bowlby, 1973). On the other hand, when infants are not securely attached to their parents they have a poor ability to manage emotions and are exposed to psychopathology in later life (Mikulincer, Shaver, & Pereg, 2003). One form of psychopathology is the development of a reactive attachment disorder (RAD) (Zeanah & Gleason, 2010).

Thus, the construction of attachment representations is important for the developmental outcomes of the future infant's life. In order to strive for optimal attachment behaviour and to establish the formation of attachment representations, preventive parent education interventions are developed to promote a secure attachment relationship between parents and (unborn) infant (Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2003). Many preventive parent education interventions are developed in the last decades and these include international, national and local interventions to promote parental attachment in the first 1001 critical days. The aim of preventive parent education interventions is ordinarily to enhance the life expectations of the youth and try to stimulate the developmental and educational potentials for them (Bakermans-Kranenburg et al., 2003). The implementation of preventive parent education interventions during the first 1001 critical days assists child healthcare professionals,

who work with (expectant) parents and their (unborn) infants or toddlers, in reducing any behavioural problems during parent-infant interactions and is strengthening the attachment relationship between parents and the (unborn) infant (Bakermans-Kranenburg et al., 2003).

1.2 Problem definition

In the mini-review of Pepers (2019), sixteen factors of secure parental attachment that influence the attachment bond between parents and (unborn) infant were identified. These factors impact parental attachment in the first 1001 critical days after conception in Western countries and these factors were identified in studies that were conducted after the year 2010. In this follow-up research of Pepers (2019), these sixteen factors of secure parental attachment are presented in a causal model, which is the starting point of the present research. The causal model is used to determine how current local collective preventive parent education can be improved to ensure secure parental attachment in the first 1001 critical days after conception.

With the increasing number of academic literature being written concerning parental attachment, the concept of secure parental attachment is gaining more and more attention. As a result, (existing) preventive parent education interventions are improved, adjusted or newly developed to ensure secure parental attachment between parents and (unborn) infant on the local, national and international level. Regarding the Netherlands, municipalities play an important role in child healthcare during the first 1001 critical days, because municipalities are responsible for the local interpretation and implementation of preventive policies, based on the 'Wet Publieke Gezondheidzorg' (Ministry of Health Welfare and Sport, 2019c). Municipalities are also responsible for the prevention of problems and early deployment of help and care for the youth, based on the 'Jeugdwet'(Ministry of Health Welfare and Sport, 2019a). The role of municipalities is thus crucial, since they make decisions about which preventive policy must be implemented on the local level.

In the present research, by the local level, the municipalities within the region of Twente are meant, in which GGD Twente is the executive actor of fourteen municipalities within the region of Twente. The youth health care (Jeugdgezondheidszorg, JGZ) department of GGD Twente has the task to promote and guarantee the healthy and safe development of children by ensuring preventive healthcare for every family and child (0-18 years old). The youth healthcare department of GGD Twente, in this research called as GGD Twente, advices the municipalities about which preventive parent education intervention should be implemented and actually implements these preventive parent education interventions. GGD Twente, as executive actor, is responsible for the basis-package of health care for the youth in the region of Twente and the core of the basic-package of youth healthcare consists of monitoring, signalling and screening for youth healthcare challenges (Nederlands Centrum Jeugdgezondheidszorg, 2018). The child healthcare (CHC) professionals that work for GGD Twente and provide information and education for children (0-18 years old) and their families within the region of Twente are: a child healthcare physician, child healthcare nurse and behavioural scientists (such as orthopedagogues), see Figure 1 (Nederlands Centrum Jeugdgezondheidszorg, 2018).

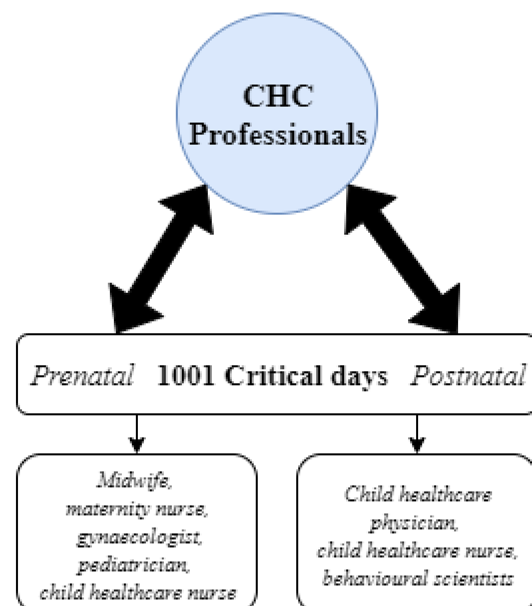

Figure 1. *Prenatally and postnatally involved CHC professionals during the first 1001 critical days*

During the first 1001 critical days after conception, the focus lies on child healthcare challenges for (unborn) infants to toddlers (-9 months to 2 years old). In the action program 'Kansrijke Start' (Ministry of Health Welfare and Sport (2018), the municipalities are encouraged to build local coalitions, where prenatally and postnatally involved CHC professionals work together to strive for the best healthcare as possible for in the first 1001 critical days after conception. The prenatally involved CHC professionals work according the standard 'Integrale Geboortezorg' (College Perinatale Zorg (CPZ), 2018) and are the following: a midwife, maternity nurse, gynaecologist and paediatrician. In addition, since the last decade, a midwife can ask a CHC nurse of GGD Twente to prenatally conduct a home visit at the home of the expectant parents to assist the expectant parents with their transition to parenthood. However, this happens on indication of the midwife and is not standard care (Vink, van Sleuwen, & Boere-Boonekamp, 2013). In Figure 1, the prenatal and postnatal involved CHC professionals are mentioned and they work with (expectant) parents, (unborn) infants and toddlers during the first 1001 critical days.

Since the understanding that secure parental attachment between parents and (unborn) infant in the first 1001 critical days is important for the future developmental outcomes of the infant (Detmar et al., 2016), the executive actor GGD Twente wants to know if their current local collective preventive parent education interventions provided by prenatally and postnatally involved CHC professionals, address the concept of parental attachment, while focussing on the sixteen factors of secure parental attachment of Pepers (2019). Thus, we do not know yet if and how the sixteen factors of secure parental attachment are addressed in the current local collective preventive parent education interventions provided by CHC professionals in the region of Twente. This represents the knowledge gap, because at this moment it is not known how the current local collective preventive parent education interventions provided by CHC professionals in the region of Twente address the concept of secure parental attachment. The aim of the present research is to recommend how current local collective preventive parent education interventions can be improved to ensure secure parental attachment in the first 1001 critical days after conception

Not only current local collective preventive parent education interventions focus on secure parental attachment, Pepers (2019) found thirteen international preventive parent education interventions that strive for optimal attachment behaviour between parents and (unborn) infant during the first 1001 critical days. Next to international interventions, also national preventive parent education interventions focus on secure parental attachment. In the Netherlands, the Dutch ministry of Health, Welfare and Sport provides the knowledge and tools to develop preventive parent education interventions that can be implemented on the local level by CHC professionals. Thus, on each level – local, national and international - preventive parent education interventions are improved, adjusted or newly developed to strive for optimal parental attachment behaviour. The national preventive parent education interventions can be found in Appendix 9.2 and the international preventive (evidence-based) parent education interventions can be found in Pepers (2019). However, it can be the case that the local executive actor GGD Twente can use knowledge of other international and/or national interventions for in their own specific parent education intervention that is tailored to (expectant) parents within the region of Twente. In Figure 2, the share of knowledge between the three levels is presented.

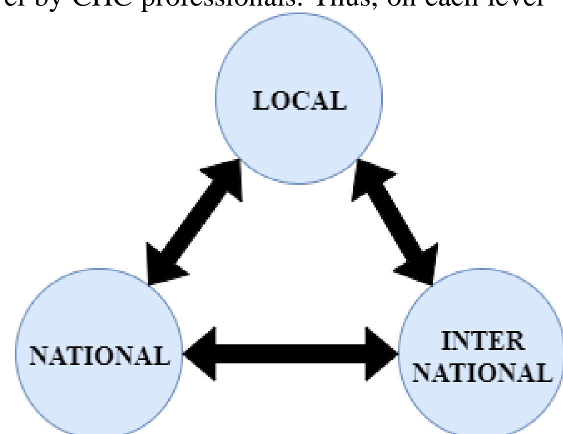

Figure 2. *Share of knowledge between local, national and international preventive parent education interventions*

Overall, by making use of the sixteen factors of secure parental attachment, it is likely to improve the current local collective preventive parent education interventions in the region of Twente. Next to the content, it is likely that other components are of importance to make a current local collective preventive parent education intervention persuasive. Therefore, an ideal persuasive strategy should be developed to improve the current local collective preventive parent education interventions within the region of Twente.

1.3 Research objective

The present research is commissioned by local actors in the region of Twente. These are GGD Twente, Academische Werkplaats Jeugd in Twente (AWJT) and LOES Opvoedondersteuning. According to these actors, it is important to investigate how the current local collective preventive parent education interventions address the concept of parental attachment. The goal is to ensure secure parental attachment between parents and (unborn) infant in the first 1001 critical days after conception. In order to accomplish this goal, a persuasive strategy should be used to improve current local collective preventive parent education intervention to ensure secure parental attachment in the first 1001 critical days after conception. Therefore, research question of the present research is:

RQ: *Which persuasive strategy can be used to improve current local collective preventive parent education interventions provided by CHC professionals in Twente to ensure secure parental attachment between parents and (unborn) infant in the first 1001 critical days after conception?*

The first step in answering this research question is to identify the current local collective preventive parent education interventions that address parental attachment and to analyse the content of these current local collective preventive parent education interventions. The content is going to be analysed based on the causal model representing the sixteen factors of secure parental attachment of Pepers (2019). This leads to the first sub-question:

SQ1: *Which of the sixteen factors of secure parental attachment are used in current local collective preventive parent education interventions to ensure secure parental attachment in the first 1001 critical days after conception?*

The next step is to ask CHC professionals in the region of Twente about their opinions and practical experiences regarding the inclusion and integration of the sixteen factors of secure parental attachment in current local collective preventive parent education interventions. This leads to the second sub-question:

SQ2: *In what way can the sixteen factors of secure parental attachment be integrated in current local collective preventive parent education interventions according to CHC professionals in Twente?*

The following step is to focus on how the factors of secure parental attachment are shaped or addressed in current international and/or national preventive parent education interventions. In the previous sub-question, the CHC professionals indicate which factors should be integrated in current local collective preventive parent education interventions. And in this sub-question, the current international and/or national preventive parent education interventions are used to provide practical interpretations or suggestions as to how the factors of secure parental attachment mentioned by CHC professionals in Twente can be given shape in current local collective preventive parent education interventions. This leads to the third sub-question:

SQ3: *In what way are the factors of secure parental attachment mentioned by the CHC professionals in Twente shaped in current international and national preventive parent education interventions?*

The last step is to focus on improving the persuasive strategy. In the previous sub-questions, the focus lies on the sixteen factors of secure parental attachment, because these factors comprise the content for current local collective preventive parent education interventions. Next to the content, more components play a role to improve a persuasive strategy to educate and inform (expectant) parents about the importance of secure parental attachment. The opinions and practical experiences of CHC professionals are questioned to recommend the local actors (GGD Twente, AWJT, LOES Opvoedondersteuning) about the ideal persuasive strategy for a local collective preventive parent education intervention. This leads to the last sub-question:

SQ4: *In what way can a persuasive strategy to inform (expectant) parents about the importance of secure parental attachment be improved according to CHC professionals in Twente?*

1.4 Research outline

The present research will start with background theory (chapter 2) summarizing Pepers (2019) about the sixteen factors of secure parental attachment. Also, the components of a persuasive strategy to inform and educate (expectant) parents are described and the organizational context of the local actors within the region of Twente are described for a common understanding of the relationships between the actors.

Next, in the method section (chapter 3), the data collection method is described. The method is called a multi-method, since there is an in-depth analysis of the current local collective preventive parent education interventions and interviews are conducted with CHC professionals in the region of Twente. The primary aim of the interviews is to ask CHC professionals about their opinions and practical experiences to improve the current local collective preventive parent education interventions in the region of Twente.

In the results section (chapter 4), the sub-questions are answered, in which the current local collective preventive parent education interventions in the region of Twente are analysed using the causal model of Pepers (2019). CHC professionals are questioned about the integration of the sixteen factors of secure parental attachment in current local collective preventive parent education interventions and their opinions and practical experiences regarding the sixteen factors of secure parental attachment are mentioned. Furthermore, practical interpretations and suggestions are given for the factors of secure parental attachment that should be addressed in current local collective preventive parent education interventions by analysing international and/or national preventive parent education interventions. Lastly, the CHC professionals in Twente are asked to share their opinions and practical experiences about what the best persuasive strategy would be to inform and educate (expectant) parents about the importance of parental attachment.

Then, the results are discussed in a discussion/conclusion section (chapter 5). In this chapter, a recommendation is given for improving the current local collective preventive parent education interventions in general, and for each specific current local collective preventive parent education intervention in the region of Twente. In the discussion, the strengths and limitations of the research are discussed. Lastly, implications for the local responsible actors and the municipalities in Twente are described.

2. Background theory

2.1 The sixteen factors of secure parental attachment

Since the development of the attachment theory of Bowlby (1958), academic literature about attachment behaviour is gaining more attention. In a mini-review of Pepers (2019), contributing and impeding factors that influence secure parental attachment were identified. In total, sixteen factors were found in twenty included parental attachment studies and the identified factors are: 1. Mental health, 2. Childhood history, 3. Representation of an (unborn) infant, 4. Planning of pregnancy, 5. Number of pregnancies, 6. Breastfeeding, 7. Bedsharing, 8. Age, 9. SES/education, 10. Hormone composition, 11. Infant temperament, 12. Preterm birth, 13. Marital relationship, 14. Parenting stress, 15. Household size and 16. Job situation. These sixteen factors of secure parental attachment affect the overall level of secure parental attachment and can thus be presented as a causal model.

Pepers (2019) categorized the sixteen factors of secure parental attachment based on the ecological model of determinants of parenting of Belsky (1984). This ecological model of determinants of parenting consists of three determinants: (1) the individual characteristics of the mother or father, (2) the individual characteristics of the infant and (3) the contextual sources of stress and support of both parents. This model is used to explain to which determinant the factor of secure parental attachment belongs to ensure a secure parental attachment in the first 1001 critical days after conception. In Figure 3, the causal model representing the sixteen factors of secure parental attachment of Pepers (2019) is presented in which factor 1 to 10 belong to the individual characteristics of the mother or father (shown in green), factors 11 and 12 belong to the individual characteristics of the infant (shown in yellow) and factors 13 to 16 belong to the contextual sources of stress and support of parents (shown in red).

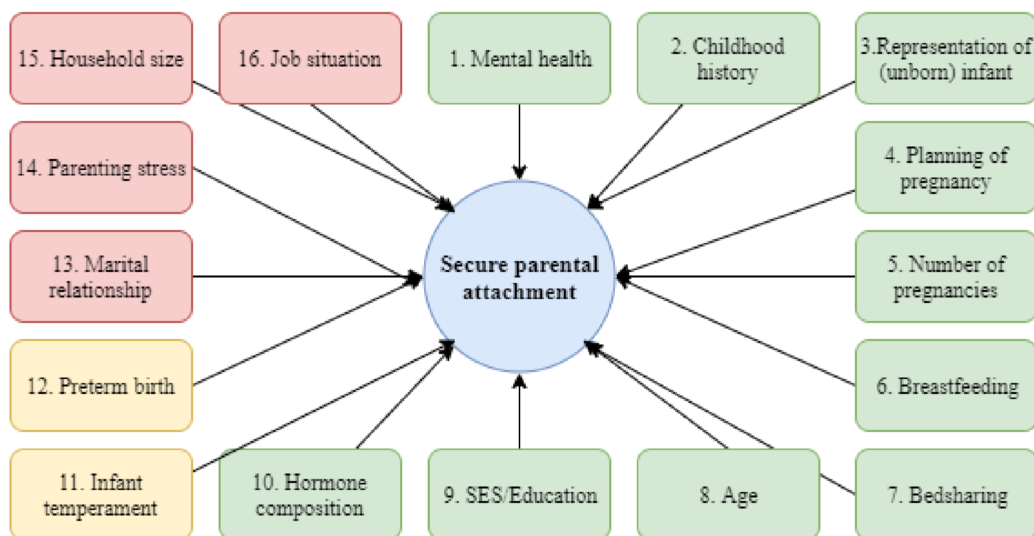

Figure 3. *Causal model with the sixteen factors of secure parental attachment as indicated by Pepers (2019)*

Pepers (2019) divided the sixteen factors of secure parental attachment in a contributing and/or impeding side. Thirteen factors have a contributing and impeding effect, two factors only have an impeding effect and one factor only has a contributing effect. In Table 1, an explanation of the contributing and/or impeding side of the sixteen factors of secure parental attachment is presented. The last column specifies whether the factor is adaptable or not. As shown in the last column of Table 1, eight factors of parental attachment are adaptable factors, which means that also eight factors of parental attachment are unadaptable factors. When a factor of secure parental attachment is adaptable, this means that a preventive parent education intervention can impact upon these factors.

Likewise, when a factor is unadaptable, this means that it is most of the time a 'given' characteristic, such as the factor age and the factor SES/education. For these two unadaptable factors of secure parental attachment, CHC professionals must acknowledge that the unadaptable factors affect the overall level of parental attachment, but these unadaptable factors cannot be changed. It can be a solution to address these unadaptable factors in different (sub) interventions, for example to create a specific preventive parent education intervention only for (expectant) parents who are adolescents and with a low SES and low education level.

Table 1: *Explanation of the sixteen factors of secure parental attachment*

Factor of parental attachment	**Explanation of the sixteen factors of secure parental attachment**		
	Contributing factor	**Impeding factor**	**A**
1.Mental health	Healthy emotional well-being	Symptoms of depression, anxiety or post-traumatic stress disorder (PTSD)	YES
2.Childhood history	Positive thoughts about own childrearing history	Negative thoughts about own childrearing history or a child maltreatment history	YES
3.Representation of an (unborn) infant	Positive prenatal expectations and a balanced representation of an (unborn) infant	Disengaged representations of an (unborn) infant	YES
4.Planning of pregnancy	Intended or wanted pregnancy	Unintended or unwanted pregnancy	NO
5.Number of pregnancies	Pregnant for the first time	Multiple pregnancies	NO
6.Breastfeeding	Breastfeeding for longer than six months		YES
7.Bedsharing		Sharing the bed with their infant	YES
8.Age	Young adults (18+)	Adolescents (18-) and older mothers (30+) and older fathers (40+)	NO
9.SES/Education	High SES and high level of education	Low SES and low level of education	NO
10.Hormone composition	Few plasticity alleles of oxytocin and low cortisol output	More plasticity alleles of oxytocin and high cortisol output	NO
11.Infant temperament	Infant smiling or positive emotionality of the infant	Negative emotionality of the infant	YES
12.Preterm birth	Preterm birth	Preterm birth	NO
13.Marital relationship	Positive marital relationship	Marital relationship criticism	YES
14.Parenting stress		Parenting stress about opinion of others and lack of assertiveness	YES
15.Household size	Small household size	Large household size	NO
16.Job situation	Unstable job situation	Stable job situation	NO

Overall, the causal model representing the sixteen factors of secure parental attachment of Pepers (2019) is going to be used to analyse the content of current local collective preventive parent education interventions in the region of Twente. Next to the content of current local collective preventive parent education interventions, more components play a role to make a preventive parent education intervention persuasive. Other components of a persuasive strategy must be identified in which current local collective preventive parent education interventions can be improved that aim to ensure secure parental attachment in the first 1001 critical days after conception.

2.2 Persuasive strategy to educate and inform (expectant) parents to ensure secure parental attachment

Parenting education interventions are offered to expectant parents in many countries worldwide (Gagnon & Sandall, 2007). The main aim of parenting education interventions (prenatal and postnatal) is to support expectant parents in their transition to parenthood. Parenting education is defined as "a process that involves the expansion of insights, understanding, and attitudes and the acquisition of

knowledge and skills about the development of both parents and their children and the relationships between them" (Campbell, Palm, & Palm, 2004, p. 18). The delivery of parenting education to expectant parents differs, with variation in the aims and the strategy of how the information is delivered. The variation in the delivery of parenting education is based on five components: (1) the length and time phase of the parenting education programme (there are one-day classes or several classes over several weeks), (2) individually or group settings, (3) teaching/learning methods (these methods include self-learning programs, didactic presentations, videos, group discussions, and programs based solely on adult learning principles), (4) content of the information and (5) the expertise of the professional (including the teaching experiences and motivation) (Gagnon & Sandall, 2007), see figure 4.

However, evidence is lacking about the best suitable delivery of parenting education to preventively educate expectant parents. It is known that information transfer by itself should no longer be the sole focus of antenatal education. Instead, antenatal education should provide learning skills for expectant parents to practice desired behaviours (Svensson, Barclay, & Cooke, 2008). Approaches have to be developed in which expectant parents can access information or education at a time and in a format that suits them (Gilmer et al., 2016). In the present research, the five components of delivering parenting education of Gagnon and Sandall (2007) are used.

The five components of Gagnon and Sandall (2007) assist CHC professionals in developing a persuasive strategy to deliver preventive parent education interventions. The five components are discussed in more detail below.

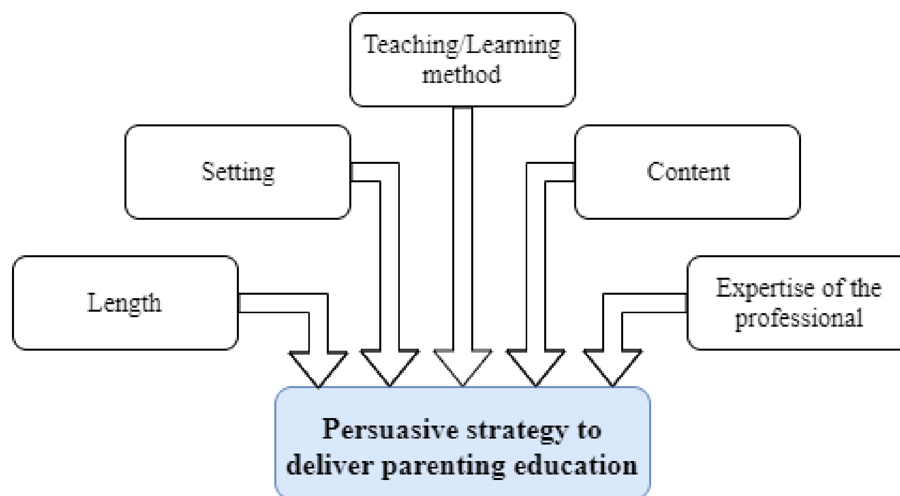

Figure 4. *Components of a persuasive strategy to deliver parenting education to (expectant) parents*

1. *The length and time phase*

   In a meta-analysis of Pinquart and Teubert (2010), it is suggested that an optimal length of parenting education is between three to six months. However, other research suggests that the length of parenting education is dependent of the content and process of the parents' transition to parenthood (Entsieh & Hallström, 2016). Also, one is inclined to think that more is better, indicating that a longer duration of the education leads to better outcomes, but this statement leads to disagreement in CHC professionals (Bakermans-Kranenburg et al., 2003).

   The timing of parenting education is usually during the third trimester, but it is recommended to start earlier with prenatal parenting education to give (expectant) parents more time to reflect and discuss with each other, which may enhance their transition to parenthood (Pålsson, Kvist, Persson, Hallström, & Ekelin, 2019). Research by Entsieh and Hallström (2016) suggested that there should

be an equal emphasis between parenting education during the prenatal and postnatal phase, indicating that parenting education should be performed during the 1001 critical days.

2. *Individual or group setting*

Most of the time, parenting education is offered to a group of pregnant women with their partners. In some cases, there are also individual sessions to prepare (expectant) parents to make the transition to parenthood (Gagnon & Sandall, 2007). Svensson et al. (2008) investigated that expectant and new parents would like to share and support each other, in which peer support is a key factor. Learning and discussing in small groups leads to an in-depth exploration of issues with a general understanding of topics. Parents also like a class-room setting in which discussions can be held and questions can be asked (Gilmer et al., 2016).

Parenting education can also be delivered in a 1:1 format during home visits by CHC professionals. Working with an individual parent or family enables the CHC professional to tailor the education to the individual needs of the (expectant) parents (Pinquart & Teubert, 2010). It can also be the case that (expectant) parents have specific questions or feel uncomfortable during a group session (Entsieh & Hallström, 2016). Pinquart and Teubert (2010) found that individual parenting education interventions have stronger effect sizes than group-based parenting education interventions with regard to the social development of the infant. However, they found the opposite for health promoting behaviour.

3. *Teaching/learning methods*

The responsibility of (expectant) parents to focus on health education is assuming greater importance and also the principles of adult learning in parenting education is gaining attention. The experiences and prior knowledge that adult learners have leads to active involvement in learning. The adult learning principle suggests an outcome-based approach, in which it enables learners to use knowledge in new ways, solve problems and adapt information to their life-changing situation (Svensson et al., 2008). In the research of Svensson et al. (2008) specific activities are identified that can be used to promote learning during the 1001 critical days; the experiential learning, cooperative learning and self-directed learning.

- Experiential learning: parents that attend parenting education to describe and discuss about their experience.
- Cooperative learning: parents discuss about their fears and concerns of becoming parents
- Self-directed learning: problem-solving encourages self-directed learning and the relation of theory to practice.

These three learning principles are in accordance with later conducted research by Entsieh and Hallström (2016).

Other methods are didactic training, self-learning programmes, DVD or video use, mobile applications and the internet (Gagnon & Sandall, 2007; Gilmer et al., 2016). However, no academic literature can be found about the specific teaching/learning method. Therefore, it should be noted that these teaching/learning methods can be implemented in specific cases, but no evidence-based research is conducted to support the methods in educating expectant parents.

4. *Content of the provided information for parenting education in general*

The content of the provided information for parenting education has a wide range of aims, for instance the topics of coping with pain, stress during childbirth, increasing confidence for giving birth, preparing expectant parents for childbirth and parenthood and to develop social support networks (Jaddoe, 2009). Prenatal parenting education focuses mainly on pregnancy, labour and

birth and include a small amount of information about actually caring for the infant (Ateah, 2013). Postnatal parenting education focuses mainly on caring for the infant and infant behaviour (Bryanton, Beck, & Montelpare, 2013).

In a recent study of Pålsson et al. (2019) six topics are indicated which cover information provided in prenatal parenting education in Sweden. These six topics are represented in Table 2:

Table 2: *Six main topics for prenatal parenting education*

Six main topics for prenatal preventive parent education interventions		
Topic		*What kind of information fits the topic?*
1.	Labour and birth:	Information about the birth, methods for breathing and relaxation in labour, partner role during birth, birth positions, pain relief during labour and birth, perineal tears, induction of labour, instrumental birth and caesarean birth
2.	Breastfeeding:	Information about the breastfeeding advantages, breastfeeding initiation, common breastfeeding problems and breastmilk substitutes
3.	Infant:	Information about daily infant care and infant health with signs of illness
4.	Mother:	Information about mother's physical postnatal recovery, pelvic floor exercises and physical exercise postnatally
5.	Family:	Information about attachment behaviour, postnatal emotional mood, sleep, siblings, relationship and sexuality, contraception, equal parenting including gender roles, economy and social insurance
6.	Practical information:	Information about the birthing unit, postnatal ward and child health clinics

A study with a list of specific topics discussed during the postnatal phase cannot be found. The content of parenting education should be flexible to meet also the needs of both heterosexual and same-sex first time expectant and new parents (Entsieh & Hallström, 2016).

When a preventive parent education intervention about secure parental attachment must be improved, the sixteen factors of secure parental attachment of Pepers (2019) must be discussed. These sixteen factors of secure parental attachment are: mental health, childhood history, representation of an (unborn) infant, planning of pregnancy, number of pregnancies, breastfeeding, bedsharing, age, SES/education, hormone composition, infant temperament, preterm birth, marital relationship, parenting stress, household size and job situation.

5. *Expertise of the professional*

The information and skills that (expectant) parents obtain from peers and CHC professionals must be correct. Parents often fear that information which is provided by peers is incorrect (Svensson et al., 2008). Therefore, it is important that the CHC professional has knowledge about the evidence-based guidelines and has improved skills in group leadership and teaching (Pålsson et al., 2019). The role, skills and expertise of CHC professionals are important, because they can influence current and future parenting education by inviting new parents to parenting classes to discuss their experiences of becoming parents, sending a written invitation to parents, encouraging parents to attend sessions about breastfeeding, rewrite education material and to actively promote parents to discuss about potential changes (Deave, Johnson, & Ingram, 2008). The availability of specific resources should allow parents to utilize services and resources, which they need at any specific time period, with guidance on information seeking on the internet (Pålsson et al., 2019). The CHC professional has the knowledge and skills to support parents during the transition to parenthood by using evidence-based guidelines, while focusing on the specific needs of individual parents. The CHC professional should understand that the satisfaction of parents is important, but does not serve as a proxy measure for impact on infant development (Gilmer et al., 2016).

- *Additional information*

  In order to develop a preventive parent education intervention, Svensson et al. (2008) asked expectant and new parents to share their recommendations for developing a persuasive strategy. The expectant and new parents have recommended three intervention types: (1) "Hearing detail and asking questions", lectures are given with the aim to provide information to a large number of parents in a short period of time; (2) "Learning and discussing", in a small-group in which the focus lies on in-depth exploration of issues including problem solving capabilities; (3) "Sharing and supporting each other", peer support and social groups with the primary aim to develop peer support networks (Svensson et al., 2008). It is acknowledged that expectant parents want to receive information as a list in the early weeks of pregnancy, so they can meet their own learning needs during the first 1001 critical days (Svensson et al., 2008). Besides, as internet technologies and smartphones are being used increasingly by women of childbearing age, it is an idea to transmit the information in a mobile application or to provide this list on the internet, since smartphones and the internet have the potential to take over aspects of parenting education from CHC professionals (Tripp et al., 2014). Thus, a shift is observed starting from the provider-patient vertical kind of information dissemination to participatory kind of parenting education wherein internet technologies and smartphones are embraced (Entsieh & Hallström, 2016).

Overall, these five components and additional information regarding the development of a persuasive strategy to educate (expectant) parents is used in the present research to recommend which persuasive strategy should be used to improve the current local collective preventive parent education interventions within the region of Twente. Furthermore, CHC professionals are asked to share their opinions and practical experiences about current local collective preventive parent education interventions about secure parental attachment and how their ideal intervention should look like in terms of an ideal persuasive strategy with the primary aim to inform and educate (expectant) parents. The CHC professionals are asked to share their opinions about the interpretation of every component, leading to their ideal persuasive strategy.

Besides, to understand how a persuasive strategy for a current local collective preventive parent education intervention fit into the context of actors within the region of Twente, the organizational context of the local actors has to be investigated as well.

2.3 Organizational context of the responsible local actors

The perfect fit for introducing a persuasive strategy is dependent on the organizational context wherein the current local collective preventive parent education interventions are embedded. Two responsible actors that play an important role in youth healthcare are investigated. These two actors are GGD Twente and LOES Opvoedondersteuning. In the region of Twente, municipalities in the region of Twente are responsible for the basic-package of youth healthcare challenges, which is performed by the executive actor GGD Twente (Youth healthcare department), in which they focus on a more connecting role in prevention in general, based on the 'Wet Publieke gezondheidszorg' (Ministry of Health Welfare and Sport, 2019c) and in prevention of problems for the youth, based on the 'Jeugdwet' (Ministry of Health Welfare and Sport, 2019a).

GGD Twente wants to improve the health of the Twente community. GGD stands for 'Communal Health Service', and in their mission they state: "GGD Twente promotes, monitors and protects a healthy society in the region of Twente" (GGD Twente, 2017, p. 16). They provide evidence-based information and advice about the health and behaviour of children. The postnatally involved CHC professionals of GGD Twente are systematically following the children starting from birth until the child is 18 years old during meetings at home and at child health clinics and during primary and secondary school (Nederlands Centrum Jeugdgezondheidszorg, 2018).

The CHC professionals focus on the growth and development of the child and aim attention at the vaccine programme of the Dutch government. In order to fulfil these preventive tasks for child healthcare, the Youth healthcare department of GGD Twente must first of all keep in touch with the expectations and perceptions of current and expectant parents and young people. This can be done during personal contact moments at, for example, the child health clinic and schools (individual prevention) and during collective prevention activities such as parent education interventions and public campaigns (Pol & van Beem, 2017). When (expectant) parents want to ask questions about parenting, GGD Twente refers the (expectant) parents to LOES Opvoedondersteuning.

The actor LOES Opvoedondersteuning is an executive actor of the Youth healthcare department of GGD Twente. LOES Opvoedondersteuning focuses on individual and collective prevention by providing parenting tips with a continuous line starting from the prenatal phase until young adulthood (Pol & van Beem, 2017). LOES Opvoedondersteuning supports (expectant) parents by sharing reliable information and the advices are easy to find and available nearby. LOES Opvoedondersteuning helps (expectant) parents to cope with everyday problems that are inevitably linked with parenting and raising a child (Pol & van Beem, 2017). (Expectant) parents can ask for information or advice by mail, phone of during a weekly consultation hour in one of the municipalities. LOES Opvoedondersteuning provides tips for different kind of phases, including the time of parenthood, during a child wish, during pregnancy, during infancy, during toddlerhood, when the child goes to primary school, during adolescence and during young adulthood. The tips of a specific time phase can be filtered, on four aspects: (1) Parenting, (2) Health, (3) Development and (4) Parenthood. In the present research, the focus lies on the collective preventive parent education interventions for (expectant) parents and LOES Opvoedondersteuning established two course programs, which are called Zwanger in Twente and Cursusbureau Twente.

- Zwanger in Twente provides prenatal information and education interventions in the form of group meetings to expectant parents in the region of Twente. They provide courses with a wide range of aims divided by five aspects: information about (1) the pregnancy, (2) the labour and birth, (3) the infant, (4) the maternity period and (5) after the pregnancy.
- Cursusbureau Twente wants to support parents in raising their children. Cursusbureau Twente can do this by looking at the development of children and by providing tips about parenting. The tips are provided in the form of theme meetings and parenting education interventions about topics related to child development in the postnatal phase, for instance information about the development of toddlers, how to handle teenagers and parenting and multimedia issues.

In total, the course programs Zwanger in Twente and Cursusbureau Twente provide a current offer of 29 local collective preventive parent education interventions in the region of Twente. These current local collective preventive parent education interventions have wide aims and address multiple topics (Pol & van Beem, 2017). The current local collective preventive parent education interventions about secure parental attachment are thus derived of Zwanger in Twente and Cursusbureau Twente. In the methods section, these current local collective preventive parent education interventions are described. Overall, it is important to understand the organizational context of the local actors before a persuasive strategy can be improved.

3. Methodology

3.1 Research design

The research question was: "*which persuasive strategy can be used to improve the current local collective preventive parent education interventions provided by CHC professionals in Twente to ensure secure parental attachment between parents and (unborn) infant in the first 1001 critical days after conception?*" To answer this research question, a multi-method approach was executed (Tashakkori & Teddlie, 2010). In a multi-method research design, multiple research methods were carried out, which were each conducted rigorously and complete as a whole in itself (Morse, 2003). In the present research, two research methods were used, (1) a literature-driven approach: by conducting in-depth analyses of the current (collective) preventive parent education interventions using the causal model of Pepers (2019) and (2) a qualitative approach: by conducting semi-structured interviews with CHC professionals in the region of Twente.

Four sub-questions were formulated and the multi-method design started with (**SQ1**) an in-depth analysis of current local collective preventive parent education interventions about secure parental attachment using the causal model of Pepers (2019). The next step was (**SQ2**) to conduct semi-structured interviews with CHC professionals in Twente to ask about their opinions and practical experiences concerning the sixteen factors of secure parental attachment for the integration of these sixteen factors of secure parental attachment in current local collective preventive parent education interventions. The following step was **(SQ3**) an in-depth analysis of international and national preventive parent education interventions about secure parental attachment using the causal model of Pepers (2019). These current international and/or national preventive parent education interventions were used to provide practical interpretations or suggestions as to how the factors of secure parental attachment mentioned by CHC professionals in Twente could be given shape in the current local collective preventive parent education interventions in the region of Twente. The last step was (**SQ4**) to ask CHC professionals during the semi-structured interviews about their opinions and practical experiences concerning their ideal persuasive strategy to educate and inform (expectant) parents about secure parental attachment in the first 1001 critical days. At the end, the outcomes of the semi-structured interviews with CHC professionals were used, together with the in-depth analyses of current (local) collective preventive parent education interventions. By combining these two research methods, recommendations could be given to improve the current local preventive collective parent education interventions, which are provided by CHC professionals in Twente. The method section starts with explaining the research method for SQ1, followed by explaining the research method for SQ2 and SQ4 and ends with explaining the research method for sub-question SQ3.

3.2 Research method for the literature-driven approach: the in-depth analysis of current local collective preventive parent education interventions

The first sub-question of the present research was: **SQ1:** "*which of the sixteen factors of secure parental attachment are used in current local collective preventive parent education interventions to ensure secure parental attachment in the first 1001 critical days after conception?*" In order to answer this first sub-question, the websites of the responsible actors (GGD Twente and LOES Opvoedondersteuning) were viewed and a total of five current local collective preventive parent education interventions were found. Little information was given on the websites and more information about the current local collective preventive parent education interventions was requested by the researcher. The responsible project member of LOES Opvoedondersteuning created a separate log-in for the researcher, so that additional background information about the interventions could be viewed and gathered. For each current local collective preventive parent education intervention, a scenario was written in which multiple CHC professionals could easily follow the instructions and content of every intervention.

3.2.1 Inclusion and exclusion criteria for selection of current local collective preventive parent education interventions

The current local collective preventive parent education interventions that were selected for the in-depth analysis had to meet the inclusion criteria. The inclusion and exclusion criteria were specific for the region of Twente, see Table 3. For inclusion, the intervention had to address attachment-related matters such as making contact, hugging and rotational care during the prenatal phase. For the postnatal phase, difficulties regarding parenting infants or toddlers was necessary for inclusion.

Table 3: *Inclusion and exclusion criteria for current local collective preventive parent education interventions*

Current local collective preventive parent education interventions in the region of Twente	
Inclusion criteria	*Exclusion criteria*
- Intervention is owned and developed by GGD Twente or LOES Opvoedondersteuning - Intervention focussed on attachment-related matters - Intervention had a collective group setting - Intervention is aimed for (expectant) parents - Intervention focused on the first 1001 critical days after conception - Intervention is performed in the region of Twente - Intervention is provided by CHC professionals	- Intervention is owned and developed by other actors than GGD Twente or LOES Opvoedondersteuning - Intervention is aimed for training the CHC professionals - Intervention had a 1:1 individual setting - Intervention focused on a time phase other than the first 1001 critical days after conception - Intervention is performed outside the region of Twente - Intervention is provided by external professionals

3.2.2 In-depth analysis of the current local collective preventive parent education interventions

Regarding the current local collective preventive parent education interventions in the region of Twente, there were five available collective preventive parent education interventions that met the inclusion criteria. To get a thorough understanding of the characteristics of every included current local collective preventive parent education intervention, the features of the included interventions were summarized. The features described were the name of the preventive parent education intervention, objective, target group, method including the length, setting and if possible the expertise of the professional and the content. In Table 4, the current local collective preventive parent education interventions are described. For the systematic analysis of current local collective preventive parent education interventions, the three determinants of parenting of Belsky (1984) were used including the associated sixteen factors of secure parental attachment (see Table 1).

3.3 Research method for the qualitative approach: semi-structured interviews

The second and fourth sub-question of the present research were: **SQ2:** "*in what way can the sixteen factors of secure parental attachment be integrated in current local collective preventive parent education interventions according to CHC professionals in Twente?*" and **SQ4:** "*in what way can a persuasive strategy to inform (expectant) parents about the importance of secure parental attachment be improved according to CHC professionals in Twente?*".

In order to answer these two sub-questions, data were collected, which reflected the opinions and practical experiences of prenatally and postnatally involved CHC professionals during the first 1001 critical days after conception. The data collection method was the execution of semi-structured interviews with CHC professionals in the region of Twente. The interviews were semi-structured, since this kind of interview leads to a verbal interchange, where the interviewer attempts to elicit information from the informant by asking questions. The questions were prepared as a list of predetermined questions, for the topic guide see Appendix 9.6, but still flexibility was ensured in the way questions were addressed by the interviewer (Clifford, Cope, Gillespie, & French, 2016).

Table 4: *Summary of included current local collective preventive parent education interventions*

Intervention	Objective	Target group	Method	Content of the intervention
1.Birth and maternity period (Bevalling en kraamtijd) *Zwanger in Twente*	Aim to prepare expectant parents about the upcoming birth and maternity period.	Expectant parents, in which it is explicitly mentioned that the partners of the pregnant women are invited as well.	One group meeting with several expectant parents that lasts for two hours. The CHC professionals that provide the intervention are a midwife and a maternity nurse. Expectant parents could also catch a glimpse of the delivery rooms at the hospital (MST/ZGT)	The topics that are discussed by the midwife are: (1) preparations for giving birth; (2) the child-birth; (3) the period shortly after the birth. The topics that are discussed by the maternity nurse are: (1) the maternity nurse: during the delivery and during the maternity period; (2) sleeping and safety: sleeping place - making a bed - sleeping safely – jars; (3) care and feeding: rotating care - breastfeeding or formula feeding
2.Infant on the way (Baby op komst) *Zwanger in Twente*	Aim to prepare expectant parents about the arrival of the infant and about the additional matters that must be arranged before the birth of the infant.	Expectant parents, in which it is explicitly mentioned that the partners of the pregnant women are invited as well.	One group meeting with several expectant parents that lasts for two hours. The CHC professional that provides the intervention is a maternity nurse.	The topics that are discussed are: (1) your infant and safety: purchase infant equipment, safe sleeping, a safe home environment and safe transportation; (2) breastfeeding or formula feeding: making a choice about the feeding possibility; (3) maternity period: maternity care, restlessness, rotating care and rest and regularity.
3. Contact with your infant (Contact met je baby) *Zwanger in Twente*	Aim is to prepare expectant parents about making contact with the infant and how they can handle their infant during difficult situations.	Expectant parents and if preferable also a friend of the pregnant woman can join the course.	One group meeting with several expectant parents that lasts for two hours. The CHC professional that provides the intervention is a maternity nurse. In this intervention, the CHC professional provides theoretical background knowledge, shows how you make contact with your baby and motivates parents to practice. It is an inter-active intervention.	The topics that are discussed are: (1) restlessness: experiences with crying infants; (2) rest and regularity, preventing unnecessary infant crying, sleeping and sleeping signals; (3) turning care and talking to the infant: what, why, how do you do that?
4. Toddlers with temperament (Peuters met pit) *Cursusbureau Twente*	Aim is to dig deeper into the toddler behaviour and the ongoing development of the toddler. The course assists parents in strengthening the attachment bond with the toddler, stimulating development of the toddler and dealing with difficult toddler behaviour and temperament in a positive way.	Parents with toddlers in an age range of 1 to 4 years old.	The course consists of three meetings that last two hours per meeting. There are three group meetings with several parents. . The CHC professional that provides the meeting is an orthopedagogue. The parents are stimulated to meet other parents during the group sessions. Theoretical information is given and also short movies are shown for deeper understanding. Also work materials with information for parents is shared among the present parents.	The topics that are discussed in the three meetings are: (1) Strengthening the development of the toddler and increasing the attachment bond: Development of the toddler including information about brain development and the socio-emotional development; play and exercise, such as motor development; and strengthening the attachment bond with the toddler, giving time and attention; (2) Toddler emotions and the stimulation of development of the toddler: Language-speech development; pre-school emotions, happy, sad, scared and angry; stimulate development by spontaneous learning moments, reward card and basic rules; (3) Preschool skills and difficult toddler behaviour: eating, sleeping, becoming toilet-trained; dealing with difficult behaviour, ignore, direct address, obedience routine; difficult toddler behaviour such as crying and temper tantrums.
5. Toddler emotions: happy, sad, afraid and angry (Peuteremoties, blij, bedroefd, bang en boos) *Cursusbureau Twente*	Aim to think about toddler emotions and the behaviour of toddlers together with parents. Every toddler experience emotions differently and is dependent of the temperament, preferences and environment of the toddler. As a parent, you must understand the emotions of your toddler and should know how your toddler reacts in different situations	Parents with toddlers in an age range of 1 to 4 years old.	One group meeting with several parents that lasts for two hours. The CHC professional that provides the meeting is an orthopedagogue. Theoretical information is given and also short movies are shown for deeper understanding.	The topics that are discussed during the meeting are: (1) ensuring a secure environment; (2) Happy and sad, joy, crying, jealousy; (3) being afraid is part of it, fear of separation, fear of unknown things; (4) angry toddler, it is normal to be angry, temper tantrums, how do you handle them?

3.3.1 Research population for semi-structured interviews

The research population consisted of prenatally and postnatally involved CHC professionals who work with (expectant) parents, infants and toddlers and who work in the region of Twente. As mentioned before, the prenatally and postnatally involved CHC professionals during the first 1001 critical days after conception were: a midwife, maternity nurse, gynaecologist, paediatrician, child healthcare physician, child healthcare nurse and behavioural scientists (ortho-pedagogue) (College Perinatale Zorg (CPZ), 2018; Ministry of Health Welfare and Sport, 2018; Nederlands Centrum Jeugdgezondheidszorg, 2018). The CHC professionals had to know the current local collective preventive parent education interventions, perform the current local collective preventive parent education interventions or design and develop the content of the current local collective preventive parent education interventions in the region of Twente. The professionals who developed the content of current local collective preventive parent education interventions were not yet mentioned, because they had a supporting role in which they were the policy developers/advisers or in other words the project members, who designed/developed the current local collective preventive parent education interventions. These interventions were then provided by the CHC nurse, midwife or maternity nurse. Thus, a wide range of prenatally and postnatally involved CHC professionals was preferred, since all the diverse disciplines have different opinions and practical experiences concerning parental attachment.

3.3.2 Sample size for interviews

A total of eight different disciplines shared their opinions and practical experiences concerning parental attachment, see Table 5. Three of the CHC professionals had a supporting role, in which they developed and maintained the quality of the current local collective preventive parent educations and they did not have regularly contact with expectant parents. The other five CHC professionals were executive CHC professionals, who had regularly contact with (expectant) parents. The supportive and executive CHC professional were:

(1) A *project member of LOES Opvoedondersteuning*, who is responsible for the organization of the website and social media accounts of LOES Opvoedondersteuning, which is filled with useful information for (expectant) parents in the region of Twente.

(2) A *project member of LOES Opvoedondersteuning and Cursusbureau Twente*, who is exclusively responsible for LOES Opvoedondersteuning in the municipality of Enschede. Main point of focus is to bring LOES Opvoedondersteuning to (expectant) parents by providing them reliable information about parenting behaviour. Regarding Cursusbureau Twente, this project member developed the content of courses of Cursusbureau Twente.

(3) A *project member of LOES Opvoedondersteuning and coordinator of Zwanger in Twente*, who is responsible for the translation of agreements or wishes from the municipalities to the content of current local collective parent education interventions. Also, this project member realizes the planning for CHC professionals, when they must provide a course of Zwanger in Twente or Cursusbureau Twente.

(4) An *orthopedagogue (behavioural scientist)*, who is concerned about young children and meets the children at places were children are in their usual ways, so in playgroups, day-care centres or at home. An orthopedagogue ends up there either through colleagues from the child health clinic or through questions from parents themselves or through professionals who work at the places where the orthopedagogue meets the children. Normally, the field of an orthopedagogue is targeting the parenting or upbringing skills, development and behaviour of young children;

(5) A *child healthcare nurse*, who is concerned about children between 0-18 years old. A CHC nurse visits parents at their home two weeks after the birth of the infants (postnatal home visit) and the

CHC nurse identifies and observes parenting difficulties and tries to inform and advice parents. The CHC nurse focuses on the development of the infant.

(6) A *pedagogical family counsellor for youth health care (behavioural scientist)*, who accompanies families who experience difficulties by parenting or upbringing skills. The family counsellor visits the home of parents who experience the difficulties and during 1:1 sessions, the questions of parents are addressed and information is given about parenting or upbringing skills.

(7) A *midwife*, who guides (expectant) parents before, during and after pregnancy. A midwife advices and supports parents during this period and strives for the best possible care for the infant and the mother. A midwife also checks the health of the mother and of the infant and discusses the experiences of (expectant) parents by their transition to parenthood.

(8) A *child healthcare physician*, who is concerned about children between 0-18 years old. A CHC physician looks primarily at the medical side of growth and development of the infant. A CHC physician performs physical examination and sees parents and infant at the child health clinic. This involved CHC physician worked as a GP for several years, before becoming a CHC physician.

A gynaecologist and paediatrician were not invited to participate in the present research, since they do not work for GGD Twente or LOES Opvoedondersteuning. A maternity nurse was invited, but was not able to make an appointment for an interview. Overall, all the involved eight disciplines work for or provide the current local collective preventive parent education interventions for GGD Twente and LOES Opvoedondersteuning.

Table 5: *Included CHC-professionals in the region of Twente*

Included CHC-professionals that participated in interview			
Discipline	*Years of experience*	*Supportive or executive role*	*Work for GGD Twente or LOES Opvoedondersteuning*
1.Project member LOES Opvoedondersteuning	4	Supportive role	LOES Opvoedondersteuning general project member
2.Project member LOES Opvoedondersteuning and Cursusbureau Twente	7	Supportive role	LOES Opvoedondersteuning of the municipality of Enschede and developed the courses of Cursusbureau Twente
3.Project member Zwanger in Twente	5	Supportive role	LOES Opvoedondersteuning and developed the courses of Zwanger in Twente
4.Orthopedagogue *	13	Executive role	GGD Twente and provides the collective interventions of Cursusbureau Twente
5.CHC Nurse *	4	Executive role	GGD Twente and provides the postnatal home visits
6.Pedagogical family counsellor	10	Executive role	GGD Twente and is specialized in home-visits for parents who experience difficulties during parenting
7.Midwife	31	Executive role	Own obstetric practice and assists LOES Opvoedondersteuning by providing the collective interventions of Zwanger in Twente
8.CHC Physician	0	Executive role	GGD Twente and works for the consultation office

*: *Tandem interview*

3.3.3 Research procedure for interviews

All the supportive and executive CHC professionals were approached by e-mail. Since this research was commissioned by GGD Twente, Academische Werkplaats Jeugd in Twente (AWJT) and LOES Opvoedondersteuning, contact information for the involvement of CHC professionals was provided by the general project member of LOES Opvoedondersteuning (Table 5, discipline 1). In the email, the present research was clearly introduced by the researcher. This was done by an attached information and invitation letter, which can be found in Appendix 9.4. In this letter, information was given about the research itself and boundary conditions for participation were mentioned. For instance, the objective of the research was described, what participation for this research consisted of, the relevance of this research, possible risk factors for inclusion and information about the use and savings of personal data.

Besides, since the present research had to be conducted in a limited amount of time, the interviews were conducted in the months October, November and December 2019.

The interviews were held at a location that was preferred by the CHC professional. It was important that the location was private, since the interview had to be recorded. Before the start of the interview, the information letter was mentioned and informed consent was requested. Permission was asked about the recording of the interview and using quotes for in the research paper. It was mentioned that participation was entirely voluntary. After signing the informed consent, the interview could start (Appendix 9.5). The semi-structured interviews were guided with the use of a topic guide. The topic guide can be found in Appendix 9.6 (Dutch). The interview was structured by five topics:

1. The first topic focused on introductory questions. These were questions regarding the gender, age, level of education, current function at GGD Twente/LOES Opvoedondersteuning or other and if the CHC professional had regular contact with (expectant) parents.

2. The second topic focused on the concept of secure parental attachment. CHC professionals were asked to describe the concept of secure parental attachment in their own words and explain why the concept of secure parental attachment was important during the first 1001 critical days. CHC professionals were then asked if they could mention any specific factors that would possibly influence the level of secure parental attachment. Subsequently, the sixteen factors of secure parental attachment were shown with the use of a poster of Pepers (2019). For each factor it was questioned whether the CHC professional thought that this was an important factor of secure parental attachment and how this factor of secure parental attachment could be integrated in current local (collective) preventive parent education interventions. Since this interview was semi-structured, there was room for follow-up questions to ask further and go more into depth.

3. The third topic was about the current local collective preventive parent education interventions about secure parental attachment, thus the interventions of Zwanger in Twente and Cursusbureau Twente. More in particular, if possible, the following interventions were mentioned: (1) birth and maternity period, (2) infant on the way, (3) contact with your infant, (4) toddlers with temperament or (5) toddler emotions. It was questioned if the CHC professionals knew the content of these interventions provided by Zwanger in Twente and Cursusbureau Twente and if these actors focus enough on the concept of secure parental attachment. Lastly, it was questioned whether CHC professionals thought that they focus enough on secure parental attachment during their own work activities.

4. The fourth topic focused on developing or improving a persuasive strategy to educate and inform (expectant) parents about secure parental attachment. CHC professionals were asked to share their opinions of how to reach parents and to ask what they thought that (expectant) parents would find important during collective parent education interventions. The five components for developing a persuasive strategy were introduced and CHC professionals were asked to share their ideal preventive parent education intervention based on these five components.

5. The fifth topic was the conclusion of the interview. Any recommendations, tips or other not earlier mentioned topics could be discussed before the audio recorder stopped recording.

After the interview, the researcher thanked the CHC professional for the participation and emphasized the personal contact information of the researcher if the CHC professional had any further questions or recommendations that would possibly improve the research. It was asked if the CHC professional wanted to receive a copy of the final research paper and if so, the contact information of the CHC professional was saved in an Excel file. After completion of the research, the Excel file with the contact information of the involved CHC professionals was deleted.

3.3.4 Coding the interviews

The semi-structured interviews were recorded and with the use of the software 'Express scribe transcriptor', the recordings were transcribed word for word. The transcripts were then coded with the use of the software of 'Atlas.ti'. One researcher read each transcript and coded the text fragments. In Table 6, the coding scheme is shown. There were four theme's and these themes were derived of the topic-guide of the interview. In total, 33 codes were used for the analysis of the interviews. With the use of the coding scheme, statements of CHC professionals were derived and these statements provided the answers to sub-question 2 and 4.

Table 6: *Coding scheme for semi-structured interviews*

Coding scheme for semi-structured interviews		
Theme	*Code*	
1. Parental attachment	- Concept of parental attachment - Importance of parental attachment	- Practical experiences related to parental attachment
2. Factors of secure parental attachment	-Factors mentioned by CHC professionals 1. Mental health 2. Childhood history 3. Representation of (unborn) infant 4. Planning of pregnancy 5. Number of pregnancies 6. Breastfeeding 7. Bedsharing 8. Age	9. SES/education 10. Hormone composition 11. Infant temperament 12. Preterm birth 13. Marital relationship 14. Parenting stress 15. Household size 16. Job situation
3. Local preventive parent education interventions	- Reaching (expectant) parents - Opinions about current interventions a. LOES b. Zwanger in Twente	c. Cursusbureau Twente - Prenatal interventions - Sub-interventions - Recommendations
4. Persuasive strategy	- Length of intervention - Setting of intervention - Method of intervention	- Content of intervention - Expertise of the professional

3.4 Research method for the literature-driven approach: in-depth analysis of international and national preventive parent education interventions

The third sub-question of the present research was: **SQ3**: "*in what way are the factors of secure parental attachment mentioned by the CHC professionals in Twente shaped in current international and national preventive parent education interventions?*" In order to answer this third sub-question, the semi-structured interviews with CHC professionals had to be conducted first. During the semi-structured interviews, the CHC professionals indicated which factors of secure parental attachment should be integrated in current local collective preventive parent education interventions. For answering this sub-question, international and/or national preventive parent education interventions were used to provide practical interpretations or suggestions as to how the factors of secure parental attachment mentioned by CHC professionals in Twente could be given shape in current local collective preventive parent education interventions.

However, before the international and/or national preventive parent education interventions could be used, they must be analysed with the use of the causal model of Pepers (2019). The international preventive parent education interventions were previously collected in Pepers (2019), who included thirteen international preventive parent education interventions that strive for optimal attachment behaviour between parents and (unborn) infant. The national preventive parent education interventions were collected in the present research by screening two responsible actors on the national level: the Dutch Youth Institute and the Dutch Youth healthcare centrum (for the organizational context on the national level, see Appendix 9.1).

3.3.1 Inclusion and exclusion criteria for national preventive parent education interventions

The inclusion and exclusion criteria for national preventive parent education interventions can be found in Table 7. The national preventive parent education interventions were derived from the websites of the Dutch Youth Institute and the Dutch Youth Healthcare centrum.

Table 7: Inclusion and exclusion criteria for national preventive parent education interventions

National preventive parent education interventions	
Inclusion criteria	*Exclusion criteria*
- Intervention focused on attachment-related matters - Intervention is aimed for (expectant) parents - Intervention focused on the first 1001 critical days after conception	- Intervention focused on a time phase other than the first 1001 critical days after conception

3.3.2 In-depth analysis of international and national preventive parent education interventions

Regarding the inclusion and exclusion criteria, eight national preventive parent education interventions were included for the in-depth analysis. To get a thorough understanding of the characteristics of every included national preventive parent education intervention, the features of the included interventions were summarized. The features mentioned were the name of the preventive parent education intervention, objective, target group, method, content and whether the intervention was proven to be effective. The included national preventive parent education interventions can be found in Appendix 9.2. The national preventive parent education interventions were analysed using the causal model of Pepers (2019) represented in Table 1. An overview of the included international preventive parent education interventions can be found in Pepers (2019).

3.5 Ethics

Approval for proceeding research was granted by the Ethical committee of the Faculty of Behavioural, Management and Social Sciences of the University of Twente under file number 191124. Ethical approval was needed since this research involves humans.

4. Results

4.1 Sub-question 1: Current local collective preventive parent education interventions that use the sixteen factors of secure parental attachment in their intervention to ensure secure parental attachment in the first 1001 critical days after conception.

The first sub-question of the present research was to investigate: *which of the sixteen factors of secure parental attachment are used in current local collective preventive parent education interventions to ensure secure parental attachment in the first 1001 critical days after conception?*

To answer this question, five current local collective preventive parent education interventions were analysed. Three interventions were held during the prenatal phase, which meant that the interventions were developed by Zwanger in Twente and aimed at expectant parents. Two interventions were held during the postnatal phase, which meant that the interventions were developed by Cursusbureau Twente and aimed at parents with infants or toddlers. The target groups for the interventions were (expectant) parents, who were not at-risk for problems or difficulties during the first 1001 critical days. The length of the intervention consisted of one meeting or three meetings. All the interventions were collective face-to-face group meetings and the CHC professional that provided the intervention was a midwife, maternity nurse or behavioural scientist such as an orthopedagogue.

Each current local collective preventive parent education intervention was analysed based on the determinants of Belsky (1984) and then by using the causal model consisting of the sixteen factors of parental attachment of Pepers (2019). The results of the analysis and justification of the analysis can be found in and below Table 8.

Table 8: *Identification of which preventive parent education interventions used the factors of secure parental attachment*

Which current local collective preventive parent education interventions use the factors of secure parental attachment						
		Birth and maternity period	*Infant on the way*	*Contact with your infant*	*Toddlers with temperament*	*Toddler emotions*
Individual characteristics mother/father	1.Mental health					
	2.Childhood history					
	3.Representation of (unborn) infant		X	X	X	X
	4.Planning of pregnancy	X				
	5.Number of pregnancies					
	6.Breastfeeding	X	X			
	7.Bedsharing	X	X		X	
	8.Age					
	9.SES/Education					
	10.Hormone composition	X				
Individual characteristics of the infant	11.Infant temperament	X	X	X	X	X
	12.Preterm birth					
Contextual sources of stress and support	13.Marital relationship					
	14.Parenting stress					
	15.Household size					
	16.Job situation					
Total:		N=5	N=4	N=2	N=3	N=2

- <u>Birth and maternity period</u>

  The birth and maternity period intervention used five factors of secure parental attachment. The intervention prepares parents for the upcoming birth and maternity period, in which the midwife and maternity nurse provide practical knowledge about the birth of the infant. Regarding the individual characteristics of the mother/father, the midwife addressed the factor '*hormone composition'* by explaining how the involved hormones work during the birth of the infant. The factor of

'breastfeeding' was addressed by aiming attention at direct skin-to-skin contact after birth including the possibility to breastfeed immediately after birth. The factor '*planning of pregnancy'* was addressed by talking about an anticonception possibility after birth to prevent an unintended pregnancy. The maternity nurse addressed the factor of *'bedsharing'* by explaining that sleeping together with your infant is prohibited since this can lead to sudden infant death syndrome (SUDI) (in the intervention it is mentioned that a safe sleeping environment for an infant is a separate infant crib). The factor *'breastfeeding'* was addressed by the maternity nurse to support the mother to breastfeed and to assist the mother in the home-situation by breastfeeding difficulties. Regarding the individual characteristics of the infant, the maternity nurse addressed the factor *'infant temperament'* by explaining that rotating care leads to a better social development and a calmer infant. There was no factor addressed that focused on the contextual sources of stress and support.

- <u>Infant on the way</u>
  The infant on the way intervention used four factors of secure parental attachment. Regarding the individual characteristics of the mother/father, the factor '*representation of the (unborn) infant*' was addressed by preparing the expectant parents about infant-related topics such as the safety of the infant, restlessness and rotating care. These topics are discussed in the intervention, so that expectant parents get used to the idea that there will soon be a little infant in their home. The factor of *'breastfeeding'* was addressed by sharing information about breastfeeding and formula feeding opportunities. The factor *'bedsharing'* was addressed by explaining why sleeping in the same bed with your infant is dangerous. Regarding the individual characteristics of the infant, the factor *'infant temperament'* was addressed by explaining why infants cry and what you as a (expectant) parent can do to calm down your infant, for instance by rotating care. Tips about rest and regularity are mentioned to prevent the infant from heavily crying. There was no factor addressed that focused on the contextual sources of stress and support.

- <u>Contact with your infant</u>
  The intervention contact with your infant used two factors of secure parental attachment. Regarding the individual characteristics of the mother/father, the factor *'representation of (unborn) infant'* was addressed by explaining why infants experience restlessness and why rest and regularity are important matters for the development of infants. Regarding the individual characteristics of the infant, the factor '*infant temperament'* was addressed by the same reason. Mainly, to prepare expectant parents about the behaviours of the infant and why rotating care can lead to more rest in the temperament of infants. There was no factor addressed that focused on the contextual sources of stress and support.

- <u>Toddlers with temperament</u>
  The intervention toddlers with temperament used three factors of secure parental attachment. Regarding the individual characteristics of the mother/father, the factor *'representation of the (unborn) infant'* was addressed by providing knowledge about the social-, emotional-, and motor development of the infant and by sharing tips how parents could strengthen the affective bond with their infant. It is mentioned that smartphones function as an impeding factor for strengthening the affective bond. The factor *'bedsharing'* was addressed by explaining why infants should sleep for around 16 hours a day. Regarding the individual characteristics of the infant, the factor *'infant temperament'* was addressed by explaining how parents can cope with their infant's or toddler's behaviour. Tips are provided for parents about dealing with the temperament of the infant/toddler. There was no factor addressed that focused on the contextual sources of stress and support.

- Toddler emotions: happy, sad, afraid and angry
  The intervention toddler emotions: happy, sad, afraid and angry used two factors of secure parental attachment. Regarding the individual characteristics of the mother/father, the factor *'representation of (unborn) infant'* was addressed by explaining the toddler emotions and to advise parents how to cope with the emotions. This factor is linked with the factor *'infant temperament'*, which is accompanying the category of the individual characteristics of the infant. Infant temperament was addressed with the same reason, namely, to teach parents how to cope with the behaviour of their infant. There was no factor addressed that focused on the contextual sources of stress and support.

4.1.1 Conclusion sub-question 1

The first sub-question was: *which of the sixteen factors of secure parental attachment are used in current local collective preventive parent education interventions to ensure secure parental attachment in the first 1001 critical days after conception?*
The findings of the first sub-question reveal that six of the in total sixteen factors of secure parental attachment were addressed in one or more current local collective preventive parent education interventions. Only one factor 'infant temperament' was addressed in all the five preventive parent education interventions. Respectively, the factor of 'representation of the (unborn) infant' was addressed four times, 'bedsharing' three times, 'breastfeeding' two times and the factors 'planning of pregnancy' and 'hormone composition' were addressed once in the same current local collective preventive parent education intervention.

While looking at each current local collective preventive parent education intervention, there is room for improvement, since each intervention addressed two, three, four or five factors of secure parental attachment in their current local collective preventive parent education intervention. The in-depth analysis of the current local collective preventive parent education interventions has led to the understanding that based on the determinants of parenting of Belsky (1984), the most important factors of secure parental attachment are the representation of (unborn) infant and infant temperament. In not one current local collective preventive parent education intervention, a factor that accompanied the determinant of the contextual sources of stress and support for both parents is addressed. Thus, this means that the current local collective preventive parent education interventions can be improved, in which the integration of the sixteen factors of secure parental attachment of Pepers (2019) is a first essential step. Therefore, the next step of the present research is to ask CHC professionals in Twente to share their opinions and practical experiences about the integration of the sixteen factors of secure parental attachment in the current local collective preventive parent education interventions.

4.2 Sub-question 2: In what way can the sixteen factors of secure parental attachment be integrated in current local collective preventive parent education interventions according to CHC professionals in Twente?

The second sub-question was to investigate: *in what way can the sixteen factors of secure parental attachment be integrated in current local collective preventive parent education interventions according to CHC professionals in Twente?*

In order to answer this question, the opinions and practical experiences of CHC professionals in Twente regarding the concept of secure parental attachment were questioned. The importance of secure parental attachment during the first 1001 critical days was questioned. The opinions and practical experiences of CHC professionals about how the current local collective preventive parent education interventions could be improved by means of the inclusion of the sixteen factors of secure parental attachment were gathered. Furthermore, the opinions and practical experiences of the courses of LOES Opvoedondersteuning including Zwanger in Twente and Cursusbureau Twente were questioned.

In total, eight supportive or executive CHC professionals in Twente were asked to participate for an interview. The opinions and practical experiences of CHC professionals were collected and summarized to provide a concrete answer for this sub-question.

4.2.1 Concept of parental attachment

The CHC professionals in Twente were asked to share their opinions and practical experiences about where they thought of when we talk about parental attachment between parents and (unborn) infant. All the CHC professionals mentioned that by parental attachment, they mean growing up in a secure environment, where parents make contact with their infant in all forms, including verbal and non-verbal communication and where parents learn to interpret their infant's needs. One CHC professional argued that "parental attachment can be characterized in one word, namely cuddling" (Interview 3, line 28).

4.2.2 Importance of parental attachment

All the CHC professionals mentioned that parental attachment is incredibly important, since secure parental attachment between parents and (unborn) infant leads to advantages for in the future infant's life. In more detail, optimal parental attachment between parents and (unborn) infant influences the future infant's social-, emotional-, motor- and cognitive development in which a secure base can lead to an infant who will discover the world independently and confidently. CHC professionals argued that the prenatal phase is important for developing a secure parental attachment bond, since expectant parents should talk and develop feelings towards their (unborn) infant. One CHC professional argued: "If (expectant) parents do not focus on developing attachment relationships, this can have negative results for the development of the infant" (Interview 3, line 35-37).

Practical experience

"What I have often seen is that for example parents say no I am not angry, but meanwhile they are exploding. Yes, that makes no sense to say that to an infant, because that infant already feels and already sees that you are angry at something the infant has done. So that does not work and is not clear for the infant. No clarity gives no safety and safety is most important!" (Interview 3, line 46-49)

Furthermore, CHC professionals were asked to share their opinions about factors that could be of importance for developing an attachment relationship (this was asked before the causal model with the sixteen factors of secure parental attachment was shown). All the CHC professionals mentioned that direct contact immediately after birth is a very important factor, since the infant recognizes the voices of the parents and the mother starts breastfeeding. Two CHC professionals argued that parents must act responsive and must be able to observe and signalize the demanding behaviours of the infant. However, it can be difficult to be affective towards your infant, if you have never known or learned it from your own parents. Furthermore, four CHC professionals categorized important factors and they indicated that factors of secure parental attachment can be categorized based on: (1) the well-being of the parents, thus how do they feel and can they cope with parenting the infant; (2) characteristics of the infant, thus what is the temperament of the infant, was it a preterm birth or was the infant born with medical complications; (3) other circumstances, thus was the family living in poverty or did the parents experience stress.

4.2.3 Inclusion of the sixteen factors of parental attachment

For each factor of secure parental attachment, the CHC professionals were asked to share their opinions and practical experiences with regard to the inclusion and integration of the sixteen factors of secure parental attachment for in current local collective preventive parent education interventions. The sixteen factors of secure parental attachment were categorized based on the determinants of parenting of Belsky (1984).

Individual characteristics of the mother/father

1.Mental health

All the CHC professionals indicated that the factor mental health must be addressed in current local collective preventive parent education interventions. The CHC professionals argued that the mental health state of the mother or father is essential for the formation of attachment relationships. Even though, they mentioned that this factor deserves extra attention and is characterized as an underexposed factor influencing parental attachment. One CHC professional argued that "parents are ashamed to talk about their mental health state, because they think it is not important, since the health of the infant is of importance. However, how parents feel and express themselves and respond to their infant is a crucial part: Infants are a mirror of their parents" (Interview 6, line 73-76).

For the inclusion of this factor in current local collective preventive parent education interventions, one CHC professional pointed out that the midwife has a crucial role: "When expectant parents visit the midwife for the first time, the midwife asks the (expectant) parents to fill in an online questionnaire. This Mind2Care questionnaire is filled in by expectant parents and the midwife can in a follow-up meeting discuss the results with the expectant parents" (Interview 7, line 49-56). Also, when parents go to the child health clinic to meet the child healthcare physician, the parents are asked to fill in the Edinburg Postpartum Depression Scale (EPDS). One CHC professional argued that "the child healthcare physician focuses on the mental health state, since the child healthcare physician discusses the results of the EPDS with the parents and refer if necessary, to other healthcare professionals" (Interview 8, line 82-83).

Thus, all the CHC professionals mentioned that the mental health state must be addressed in current local collective preventive parent education interventions to make expectant parents aware of the importance of their own mental health. CHC professionals argued that this can be done by asking open questions and suggesting to fill in the Mind2Care or EPDS and a latter step to refer the (expectant) parents to other healthcare professionals.

2.Childhood history

All the CHC professionals indicated that the factor childhood history is a strong precursor for parenting problems. One CHC professional explained that: "when (expectant) parents were not securely attached themselves or did not experience any warmth or love during their own childhood, it can be very difficult to pass this on to your own infant" (Interview 7, line 242-244). As a result, one CHC professional indicated "mental health problems are caused by problems during their own childhood" (Interview 1, line 66-67).

For the inclusion of this factor in current local collective preventive parent education interventions, one CHC professional indicated that: "showing expectant parents short video's about their own childhood can make them more aware of the importance of this factor in relationship to parental attachment, for instance a video about a screaming child in which they recognize themselves" (Interview 2, line 75-77). Another CHC professional mentioned that "some parents who did not experience a warm childhood themselves, can think and talk about how they would change their parenting skills to give their own children a pleasant childhood and sometimes they are encouraged by friends to change their parenting behaviour" (Interview 5, line 102-108).

Practical experience

"When an infant cry a lot and parents go to CHC professionals they say: "Well my infant is so restless and cries so much and I feel powerless because I cannot comfort him". The CHC-professional replies with: that must give a very powerless feeling, how were you comforted in the past? what kind of experiences do you have with that? If you are just curious you can ask a lot of questions to (expectant) parents. For parents, it can feel liberating to talk about issues during their own childhood history" (Interview 4, line 93-97)

3.Representation of (unborn) infant

CHC professionals argued that expectant parents want to know as much as possible to get grip on what awaits them, in which expectant parents are busy with preparations of the upcoming birth and live on a 'pink cloud'. One CHC professional called pregnant women 'sponges' (Interview 3, line 196), since they want to know everything about the pregnancy period and birth. However, one CHC professional indicated that: "parental attachment can be a topic where parents are not yet concerned about. The question is whether or not expectant parents will understand what awaits them after the time of pregnancy and birth" (Interview 2, line 193-196).

Practical experience

"CHC professionals can ask: "What kind of expectations do you have about parenting. Do you know that children cry and that it is not always easy and that you do not always have to sit on a 'pink cloud' or do you expect that you will get a little princess? Thus, a 'dream baby' that never cries and only drinks and sleeps? Yes, then of course your expectation about the representation of the infant is very different and then you get a reality check" (Interview 5, line

For the inclusion of this factor in preventive parent education interventions, one CHC professional argued that the factor of the representation of (unborn) infant can be addressed by showing parents videos: "for instance, a video about infants who cry a lot, in which the video shows the expectant parents how parenthood will look like in the future can be a good solution" (Interview 4, line 134-136). Furthermore, CHC professionals mentioned that this factor can be improved for in collective preventive parent education interventions.

4.Planning of pregnancy

All the CHC professionals mentioned that the first question is whether or not the pregnancy is desired or undesired, since the CHC professionals indicated that regarding an unplanned pregnancy, it can be that the infant is undesired and then the mother can be totally unprepared. The parents can be very overwhelmed by the idea of pregnancy and some parents are not so far that they are happy with it, they really must get used to the pregnancy. If this is the case, the CHC professional argued that then you have already lost a lot of time, that you should actually put in the attachment relationship. The midwife indicated that the planning of pregnancy is not explicitly asked during the first prenatal visit, but "the mother explains it when we talk about the last menstruation or she brings it up herself" (Interview 7, line 134-136). Furthermore, one CHC professional explained about a connection between the representation of (unborn) infant and the planning of pregnancy. The CHC professional explained: "I can imagine that when a pregnancy is planned or long-term planned (IVF-pregnancy), then it does something with your patterns of expectations. It can be that the pregnant women are only busy with the technical issues and not so much with the fact of becoming a mother, thus the transition of becoming a parent" (Interview 1, line 86-88).

Overall, CHC professionals indicated that the factor planning of pregnancy does not have to be addressed in current local collective preventive parent education interventions, but special attention has to be ensured for the pregnancies that remain unintended: "If the pregnancy is undesirable for a certain reason, then you definitely have to do something with it, otherwise the parent will project it on the child and that will have major consequences for the attachment relationship" (Interview 8, 197-199).

5.Number of pregnancies

All the CHC professionals shared the same opinion that to form a parental attachment relationship, this requires attention and time and when there are more children, there is just less attention and less time for the following child. In contrast, one CHC professional argued that: "parent can feel that the birth of the first child is much more stressful and your second child is much more relaxing" (Interview 1, line

93-96). All in all, CHC professionals do not think that the number of pregnancies is related to parental attachment and argued that the factor does not have to be addressed in current local collective preventive parent education interventions.

6.Breastfeeding

All the CHC professionals mentioned that breastfeeding is a commitment of the mother towards her infant. The mother must work for it, but it is a natural process. One CHC professional argued that the role of the factor can be difficult, since " it can be difficult to watch your wife feeding the infant all the time" (Interview 3, line 120-22), thus this CHC professional indicated that father should also receive a role. Four CHC professionals mentioned that breastfeeding is a lot harder than formula feeding and sometimes formula feeding is a good option when breastfeeding causes stress or problems. However, the four CHC professionals argued that you cannot say that formula feeding is a risk factor for parental attachment, since also during the formula feeding moments, skin-to-skin contact can be guaranteed. The involved CHC professionals mentioned that in collective preventive parent education interventions that specifically focus on breastfeeding, a connection must be made with secure parental attachment.

Practical experience

"Breastfeeding is a beautiful attachment-moment that is shared between mother and infant by skin-to-skin contact. The mother is fully available for her infant" (Interview 4, line 184-189).

7.Bedsharing

All the CHC professionals shared the same opinion that there is no direct link between bedsharing and attachment, because they argued that bedsharing is prohibited, since bedsharing impedes the safety of the infant. One CHC professional argued that "When parents sleep in the same bed as their infant, the infant could choke or it could lead to cot death" (Interview 2, line 145-146) and another CHC professionals mentioned that bedsharing is not good for the partner relation. Thus, in current local collective parent education interventions the factor of bedsharing is discussed, but mainly because it is unsafe behaviour and CHC professionals argued that the factor bedsharing is not connected to parental attachment.

Practical experience

"Bedsharing is often seen in practice. Especially by children who have sleeping problems, these are mainly infants from 0-2 years old. As a parent, if you want to sleep a bit during the night, well, then a lot of infants are taken to bed with you" (Interview 6, line 140-142).

8.Age

All the CHC professionals indicated that very young parents and very old parents are a vulnerable group, since they will experience difficulties regarding parental attachment. They indicated that for instance "young mothers are sometimes not yet ready for an independent life with an infant" (Interview 6, line 150-151) and "older mothers can experience anxiety and are then overprotective towards their infant" (Interview 7, line 215-216). Since this is a very specific and unadaptable factor, CHC professionals argued that the age of (expectant) parents do not have to be addressed in current local collective preventive parent education interventions.

Practical experience

"Imagine you work with parents who have been wishing for a child for a long time and then they finally succeed when the mother is 40 years old. Then I believe it can be fine and the child can be well attached. It has everything to do with the history of the parents, also it does not have to be that very young parents are not good parents. But I do believe that there are several other factors that play a role that impacts parental attachment" (Interview 6, line 153-155).

9.SES/Education

The CHC professionals shared the same opinion that parental attachment problems occur in all the layers of the population and it does not matter what the SES or level of education is, when parents share one common goal: take good care of their infant. In current local collective preventive parent education interventions, the factor SES/education does not have to be addressed.

10.Hormone composition

Three CHC professionals mentioned that the composition of hormones can impact attachment, especially the level of oxytocin is stimulated by breastfeeding or during birth-giving. In contrast, one CHC-professional mentioned that "oxytocin is used to initiate the birth and this can be a culprit for the future parental attachment" (Interview 7, line 257-261). However, the CHC professionals argued that not so much is known about this factor and therefore this factor does not have to be addressed in current local collective preventive parent education interventions.

<u>Individual characteristics of the infant</u>

11.Infant temperament

All the CHC professionals agree with each other and mentioned that the temperament of an infant is an important factor for secure parental attachment. Multiple CHC professionals argued that when you have a very sensitive infant who is sensitive to stimuli, the infant can degenerate into an overwhelmed infant, which is often called a 'cry baby'. Especially the first six weeks can be very difficult and one CHC professional argued that "infants cry a lot in this period and mothers are often not yet emotionally balanced and fathers are not always around" (Interview 2, line 188-190).

> **Practical experience**
>
> "Yes, a cry baby is much harder to attach to, than to attach to a baby that wakes you up laughing. That can really make a difference for parental attachment" (Interview 1, line 156-157).

For the inclusion of this factor in current local collective preventive parent education interventions, the factor infant temperament can be addressed by: "teaching and assisting parents how they can cope with the temperament of the infant" (Interview 2, line 370-373) and "teaching how parents can signal and observe demands of the infant, however, you cannot always change the temperament of your infant, but you can watering down the behaviour by reacting to it differently" (Interview 3, line 178-182). One CHC professional also mentioned that current topics that are discussed in collective preventive parent education interventions are: "holding your infant and rotating care" (Interview 6, 185-187).

12.Pre-term birth

All the CHC professionals mentioned that the nurses of the NICU ward of the hospital have an important role, since they assist new parents by dealing with a pre-term born infant. One CHC professional argued that "parents have to deal with the situation and see their own infant laying in an incubator. Parents can sit next to the incubator, but it cannot replace the original attachment process" (Interview 2, line 205-207). Also, a CHC professional mentioned that "parents experience anxiety, since they can possibly lose their infant. Future developmental problems of the pre-term born infant will also always be linked to the pre-term birth" (Interview

> **Practical experience**
>
> "I was in contact with parents of a premature infant, who was in the NICU ward of the hospital. These parents just did not have the money to go there a lot, so they went to their premature infant once a week, because they also had more children who had to go to school. Then you realize that this infant has seen the parents only once per week for a period of three months. What are then the consequences for parental attachment?" (Interview 5, line 285-291).

4, line 297-299). The CHC professionals argued that this factor does not have to be addressed in current local collective preventive parent education interventions.

<u>Contextual sources of stress and support for parents</u>

13.Marital relationship

One CHC professional indicated that "a healthy marital relationship, thus a strong partner relationship, can serve as an exemplary function. When there is tension or pressure in the marital relationship, a consequence can be that the infant will be more attached to one parent instead of both parents" (Interview 2, line 216-220). Furthermore, one CHC professional explained that tension or pressure within the marital relationship takes a lot of energy and time: "actually, the infant deserves the energy and time of the parents" (Interview 6, line 198-200).

> **Practical experience**
>
> "Parents also do their best to keep that away by saying yes, but when we have a fight together, the baby is in bed and is not there. The infant does not hear that." (Interview 4, line 305-306)

All the CHC professionals argued that this factor must be addressed in current local collective preventive parent education interventions, but it is a difficult factor. One CHC professional argued: "it is difficult to ask (expectant) parents about their (marital) relationship, but accurate information-giving can make (expectant) parents more aware of the potential consequences for the infant and also as a CHC professional, you cannot force parents to work on a good marital relationship, but you can refer (expectant) parents to a relationship therapist" (Interview 6, line 205-213).

14.Parenting stress

The CHC professionals mentioned that parents are chronically tired after the birth of the first infant and this fatigue often causes stress. One CHC professionals argued that "parenting stress is different than normal stress, since normal stress is related to having a busy life. Parenting stress may be related to the fact that as a parent you do not understand what you are doing, you are unable to calm down your infant or you do not understand whether your baby is hungry" (Interview 1, line 194-199).

> **Practical experience**
>
> "Yet I also say that parents should also think carefully about themselves and sometimes get help. Parents sometimes have to take a break to make time for themselves, so that they can relax for a while" (Interview 7, line 282-283).

For the inclusion of this factor in current local collective preventive parent education interventions, CHC professionals indicated that the factor parenting stress must be addressed in current local collective preventive parent education interventions. The CHC professionals argued that (expectant) parents can share their parenting difficulties with other parents. One CHC professional mentioned that "parenting stress receives too little information in current local collective preventive parent education interventions" (Interview 7, line 324).

15.Household size

The CHC professionals indicated that the household size can affect parental attachment. One CHC professional argued: "one the one hand, how bigger the size of your household, the more family members get involved about nurturing and parenting the infant, but on the other hand, when there is an one-parent family, the parent can experience more parenting stress" (Interview 3, line 213-218). Overall, the CHC professionals do not think that this factor must be addressed in current local collective preventive parent education interventions.

16.Job situation

All the CHC professionals shared the opinion that then the parents work a lot during the postnatal phase, this can impact the level of secure parental attachment between the parents and infant. The CHC professionals indicated that parents who work full-time are less time at home to be with their infant. Besides the CHC professional argued: "the job situation of parents can affect the mental health state or can cause stress. Parents who experience stress can react less sensitive or responsive towards their infant, which can impede the attachment process" (Interview 4, line 339-344). In the Netherlands, there are good childcare possibilities, but the best idea as indicated by six CHC professionals would be to extend the maternity period, because nowadays the childbearing mother starts working after six weeks and the father has five days of paternity leave. CHC professionals indicated that six weeks is too short and when the maternity period will be extended, there will be better attached infants in the future. One CHC professional argued: "if you look at Scandinavian countries, parents have much longer parental leave there. I think they should do the same in the Netherlands, especially because the level of secure parental attachment will increase between parents and infant. I think that it is very important that a parent must be able to stay at home for a year or so. It sounds flat, but it would be amazing for parental attachment" (Interview 2, line 263-267). Overall, CHC professionals indicated that this factor does not have to be addressed in collective preventive parent education interventions.

4.2.4 Current local collective preventive parent education interventions in Twente

The CHC professionals were also questioned about the actors LOES Opvoedondersteuning including Zwanger in Twente and Cursusbureau Twente to indicate how the CHC professionals thought of the current local collective preventive parent education interventions as a whole.

Practical experience

"The current local collective preventive parent education interventions are accessible for every (expectant) parent. It is approachable and normalising, so if you have a very problem then these interventions can help you as a parent. However, these collective interventions are not really aimed for vulnerable groups of parents, since they need extra support" (Interview 1, line 272-275).

LOES Opvoedondersteuning

All the CHC professionals were aware of the possibilities that LOES Opvoedondersteuning provides. However, one CHC professional indicated that LOES Opvoedondersteuning needs more publicity and especially on social media. One CHC professional mentioned that "expectant parents need to know LOES Opvoedondersteuning for instance through advertisements on social media and online advertisements in the waiting room of the GP" (Interview 2, line 317-320). Also, three CHC-professionals indicated that they could refer (expectant) parents more often to the website of LOES Opvoedondersteuning and tell (expectant) parents about the preventive parent education interventions of Zwanger in Twente and Cursusbureau Twente.

Zwanger in Twente

CHC professionals mentioned that expectant parents are eager for information about the pregnancy and birth. Especially for the current local collective preventive parent education intervention 'birth and maternity period', the CHC professionals mentioned that a lot of expectant parents attend this intervention. Only a select group is going to other deepening preventive parent education interventions. On the one hand, a CHC professional argued that "I struggle with the fact whether or not expectant parents are receptive for information about parental attachment and whether or not the concept attachment is too abstract to mention during the prenatal phase" (Interview 3, line 258-261). On the other hand, one CHC professionals indicated that "parental attachment has to be mentioned as much as

possible, in which expectant parents are becoming more aware of its importance" (Interview 3, line 253-254).

- CHC professionals indicated that prenatal interventions deserve more attention. One CHC professional said: "when there is attention for parental attachment in the prenatal phase, this can positively influence the level of attachment in the postnatal phase. CHC professionals need to be more aware of the importance of parental attachment" (Interview 7, line 397 and 425).

Cursusbureau Twente
One CHC professional mentioned that "when expectant parents learn about parental attachment during the prenatal phase, then it must be a recurring aspect for in the postnatal phase" (Interview 7, line 379). Besides, it was mentioned by a CHC professional that Cursusbureau Twente organizes also together with LOES Opvoedondersteuning theme-meetings about specific topics. In October 2019, the theme meeting about parental attachment was organized. This meeting was aimed for (expectant) parents and CHC professionals. One CHC professional mentioned that in interventions of Cursusbureau Twente, "there is an indirect link with parental attachment, but it is not explicitly mentioned as parental attachment" (Interview 4, line 385-387).

Practical experience

"More information must be provided about the concept of parental attachment It is very abstract and difficult to understand. Still, I think that the intervention 'contact with your infant' is one of the designated interventions that actually tries to focus on attachment behaviour. Making contact and hugging your infant, that is attachment. If you use the word attachment very often and also explain what it is and what it means, I think that people will become increasingly aware of it" (Interview 3, line 273-277).

Practical experience

"For the factor infant temperament, as a CHC professional, you have to create awareness about how to cope with the temperament of your infant during the prenatal phase and also during the postnatal phase, so pay attention to this factor, but do not scare the (expectant parents), because then you might start discouraging them and you don't want that either" (Interview 1, line 169-172).

4.2.5 Conclusion sub-question 2
The second sub-question was: *in what way can the sixteen factors of secure parental attachment be integrated in current local collective preventive parent education interventions according to CHC professionals in Twente?* All CHC professionals agreed that the concept of parental attachment is very important to ensure optimal developmental outcomes of the infant's future life. Especially during the first 1001 critical days, attention should be paid to parental attachment, since in this period the basis is laid for the formation of attachment relationships.

CHC professionals mentioned that six factors must be addressed in current local collective preventive parent education interventions to ensure secure parental attachment. The most important aim is to create awareness among (expectant) parents. It was said that awareness can be created by showing videos and facilitating group-discussions. For each factor that the involved CHC professionals mentioned, it is explained how this factor can be addressed in current local collective preventive parent education interventions of Zwanger in Twente and Cursusbureau Twente, see Table 9.

Besides, when a current local collective preventive parent education intervention addresses another factor of secure parental attachment, such as for instance breastfeeding, this would foster the overall level of parental attachment. However, according to CHC professionals, it can thus be concluded that the integration of the six factors of secure parental attachment will improve the content of current local collective preventive parent education interventions.

Table 9: *Explanation of the possibilities to integrate the six factors of secure parental attachment*

Factors of secure parental attachment that can be integrated in current local collective preventive parent education interventions according to CHC professionals	
Factor	*In what way should the factor be integrated?*
1.Mental health	Explain about the potential consequences for parental attachment, when you as a parent do not focus on your own mental health state. In prenatal interventions, the Mind2Care must be mentioned, since (expectant) parents fill in this questionnaire when they visit the midwife and the midwife must explain about the topic of a postpartum depression. In postnatal interventions, CHC professionals can mention the EPDS, since parents fill in this questionnaire when they visit the child healthcare physician at the child health clinic.
2.Childhood history	Make (expectant) parents aware of the fact that their own childhood history can possibly influence their own parenting behaviour and level of parental attachment. By showing (expectant) parent's videos about for instance a screaming child, they are encouraged to think about their own childhood and they can reflect on the feelings that they felt when they watched the video.
3.Representation of (unborn) infant	Make (expectant) parents aware of how infants behave by showing videos about the behaviour of infants and show how being a parent will look like. Make room for group-discussions about the expectations of (expectant) parents towards the pregnancy and birth and explain that thoughts and feelings about the (unborn) infant already fosters the level of parental attachment.
4.Infant temperament	Make (expectant) parents aware of the potential difficult temperament of the infant and what they can do to react sensitive and responsive towards their infant. Explain that for instance rotational care contributes to parental attachment and practice this behaviour.
5.Marital relationship	Share information about the potential consequences of parental attachment by showing a video about parents who have an argument and the infant is around. Clearly explain that this impacts the level of parental attachment of the infant.
6.Parenting stress	Facilitate group discussions and especially during the postnatal phase, it is valuable to share parenting problems with other parents and talk about these parenting issues.

4.3 Sub-question 3: In what way are the factors of secure parental attachment mentioned by the CHC professionals in Twente shaped in current international and national preventive parent education interventions?

The second sub-question was to determine: *in what way are the factors of secure parental attachment mentioned by the CHC professionals in Twente shaped in current international and national preventive parent education interventions?*

In order to answer this question, the focus was on the six factors of secure parental attachment that CHC professionals in Twente mentioned that should be integrated in current local collective preventive parent education interventions. These six factors were: (1) mental health, (2) childhood history, (3) representation of (unborn) infant, (4) infant temperament, (5) marital relationship and (6) parenting stress. The next step was to conduct an in-depth analysis of international and national preventive parent education interventions about secure parental attachment and look at how the six factors of secure parental attachment are shaped in these international and national preventive parent education interventions. Moreover, these current international and national preventive parent education interventions can provide practical interpretations or suggestions as to how the six factors of secure parental attachment mentioned by CHC professionals in Twente can be given shape in the current local collective preventive parent education interventions in the region of Twente. The included international preventive parent education interventions were previously studied by Pepers (2019) and the included national preventive parent education interventions can be found in Appendix 9.2.

1.Mental health

In international preventive parent education interventions, the factor of the mental health state was addressed as a psycho-educational factor focusing on mood monitoring and the early detection of anxiety

or depression. The Edinburgh Postnatal Depression Scale (EPDS) is used to identify whether or not the individual mother or father developed a postnatal depression (Thomas, Komiti, & Judd, 2014). Besides, professionals can identify unpleasant emotions in (expectant) parents and can address the importance of a positive mental health state in collective preventive parent education interventions or during home visits (Macdonald et al., 2018; Mihelic, Morawska, & Filus, 2018). The coping skills of (expectant) parents can be addressed by discussing about the personal adjustment difficulties such as depression and anxiety (Sanders, 1999).

In the national preventive parent education intervention, the factor of the mental health state was addressed by talking about a positive mental health state (Crijnen, van den Heijkant, Struijf, & Timmermans, 2015) and by cognitive restructure in which techniques of cognitive therapy are used to restructure negative thoughts and to convert these thoughts into a more positive way of thinking (Nikken, 2009).

2.Childhood history

In international preventive parent education interventions, the factor of the own childhood history was addressed by talking about the (expectant) parents' own childhood history. Also, professionals explained how the childhood history can affect their caregiving behaviour (Erickson & Egeland, 2004; Hoffman, Marvin, Cooper, & Powell, 2006; Svanberg, Mennet, & Spieker, 2010; Torres, Alonso-Arbiol, Cantero, & Abubakar, 2011). (Expectant) parents are also encouraged to explore their past experiences in which they should try to explain how their past experiences influence their current parenting behaviour (Suess, Bohlen, Carlson, Spangler, & Frumentia Maier, 2016).

In national preventive parent education interventions, the factor of the own childhood history was addressed by talking about the childhood of (expectant) parents to prevent transgenerational transfer (Bouwmeester-Landweer, 2017; Crijnen et al., 2015).

3.Representation of (unborn) infant

In international preventive parent education interventions, the factor of the representation of (unborn) infant was addressed by talking about individual survival skills in relation to parenting behaviour. Furthermore, the (expectant) parents have received appropriate information and advice on the infants' nutrition, health, growth and development and information about how to prepare themselves for the upcoming birth and the early parenthood period (Macdonald et al., 2018; Mihelic et al., 2018). Also, the empathy of (expectant) parents was addressed by discussing about the their expectations of being an sensitive parent (Hoffman et al., 2006).

In national preventive parent education interventions, the factor of the representation of (unborn) infant was addressed by focussing on the future role of the (expectant) parents, in which situations are practiced in which (expectant) parents must apply the learned parenting skills. Also the expectations of (expectant) parents are questioned, which would facilitate a group discussion (Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2017; Bouwmeester-Landweer, 2017; Crijnen et al., 2015).

4.Infant temperament

In international preventive parent education interventions, the factor of infant temperament was addressed by providing information about the infant's behaviour. A question that can be discussed is for instance: why do infants cry? The main aim is to improve the parental knowledge and assist by the understanding of the behaviour of the infant (Sanders, 1999). Also parenting do and don't skills, based on PRIDE (i.e. Praising the infant, Reflecting the infant's speech, Imitating the infant's play, Describing the infant's behaviour and Enjoyment in the play) were addressed, which can influence the infants' temperament (Blizzard, Barroso, Ramos, Graziano, & Bagner, 2018). (Expectant) parents need to

understand infant communication, in which sensitive and responsive caregiving behaviour is mentioned (O'Neill, Swigger, & Kuhlmeier, 2018).

In national preventive parent education interventions, the factor infant temperament was addressed by advising about sensitive and responsive parenting behaviour and skills to cope with problems. With the use of video's, signals of infants are shown and (expectant) parents are asked about how they would react on these signals (Bouwmeester-Landweer, 2017; Draaisma, 2014; Nikken, 2009; Roeland & de Lange, 2015). This means that the observational capabilities of (expectant) parents will increase, which can foster adequate parenting skills (Bakermans-Kranenburg et al., 2017).

5.Marital relationship

In international preventive parent education interventions, the factor of the marital relationship was addressed by interpersonal therapy addressing the couple's communication, role transition and awareness between the couple with regard to mental health warnings (Thomas et al., 2014). Also, it was discussed how the relationship of parents can influence their responses to the infant (Erickson & Egeland, 2004). Support for the other parent is an important factor in which (expectant) parents are assisted in improving their communication skills to each other (Sanders, 1999).

In national preventive parent education interventions, the marital relationship was addressed by talking about a supportive network for a partner (Bouwmeester-Landweer, 2017; Crijnen et al., 2015). Besides, practical exercises can be performed, for instance how do you as a parent, deal with disagreements within your social network?

6.Parenting stress

In international preventive parent education interventions, the factor parenting stress was addressed by screening (expectant) parents for domestic violence and other sources of stress and to discuss alternative strategies to deal with stress (Macdonald et al., 2018). (Expectant) parents are empowered to take appropriate action to reduce the parenting stress. Besides, coping strategies such as relaxations, stress inoculation training and challenging unhelpful thoughts and coping plans are discussed (Sanders, 1999).

In national preventive parent education interventions, the factor parenting stress was addressed by talking about everyday parenting difficulties. With the use of videos, parents can learn of difficult situations, situations when they can experience stress, and improve their parenting behaviour and skills (Bakermans-Kranenburg et al., 2017; Bouwmeester-Landweer, 2017; Eliens & Prinsen, 2017). Besides, CHC professionals talk with (expectant) parents about violence and neglect and assisted them in developing a bearable living and financial situation (Crijnen et al., 2015).

4.3.1 Conclusion

The third sub-question was: *in what way are the factors of secure parental attachment mentioned by the CHC professionals in Twente shaped in current international and national preventive parent education interventions?*

In order to answer this sub-question, international and national preventive parent education interventions were analysed to indicate how these interventions addressed the six factors of secure parental attachment that CHC professionals mentioned in the current international and national preventive parent education interventions. The following practical interpretations and suggestions were provided and derived from the international and national preventive parent education interventions about secure parental attachment. The six factors can be shaped in current local collective preventive parent education interventions as shown in Table 10:

Table 10: *Summary of findings in which international and national preventive parent education interventions shape the six factors of secure parental attachment*

Current international and national preventive parent education interventions	
Factor	*In what way are the mentioned factors shaped?*
1.Mental health	can be addressed by asking (expectant) parents to fill in the Edinburgh Postnatal Depression Scale (EPDS) and discuss the importance of mood monitoring to prevent a postnatal depression. The CHC professional can aim attention at talking about a positive mental health state and refer (expectant) parents to other healthcare professionals for tailored advice.
2.Childhood history	can be addressed by explaining (expectant) parents why their own childhood history can possibly affect their own caregiving behaviour. Since the preventive parent education intervention is aimed at a collective group, the CHC professional can refer the (expectant) parents to other healthcare professionals for tailored advice and to talk about their own childhood history
3.Representation of (unborn) infant	can be addressed by providing appropriate information and facilitate discussions about parenting behaviour and being a sensitive parent, also situations can be practiced in which (expectant) parents must apply their parenting skills.
4.Infant temperament	can be addressed by providing information about behaviour of infants, to improve parental knowledge and to advise about sensitive and responsive parenting behaviour in which the use of video's is mentioned. When (expectant) parents learn from video's what the needs of infants can be, this can foster developing adequate parenting skills.
5.Marital relationship	can be addressed by explaining how the relationship of parents can influence their responses to infants and practice situations where you as a parent need to support the other parent and focus on the communication skills to each other.
6.Parenting stress	can be addressed by discussing about coping strategies, such as relaxations to handle the parenting stress. Besides, with the use of videos, (expectant) parents can learn from difficult situations in which they have experienced stress and are asked to discuss about their own parenting behaviour and how they can change their own behaviour to experience less parenting stress

This literature-driven approach provides direction for the improvement of current local collective preventive parent education interventions. The current local preventive parent education interventions can thus be improved according to the six factors mentioned by CHC professionals and can be shaped based on examples derived from international and national preventive parent education interventions about secure parental attachment.

4.4 Sub-question 4: In what way can a persuasive strategy to inform (expectant) parents about the importance of secure parental attachment be improved according to CHC professionals in Twente?

The fourth sub-question was to investigate: *in what way can a persuasive strategy to inform (expectant) parents about the importance of secure parental attachment be improved according to CHC professionals in Twente*?

In order to answer this question, eight supportive or executive CHC professionals in Twente were asked to share their opinion about how they would improve or develop a persuasive strategy to educate (expectant) parents about parental attachment. The components – length, setting, teaching/learning method, content and expertise of Gagnon and Sandall (2007) – were used to provide a concrete answer for this sub-question.

Length

All the CHC professionals mentioned that the length of the collective preventive parent education intervention is important and they mentioned the following reasons: "At a given moment of time, the (expectant) parents will quit with the intervention when the intervention is too long" (Interview 2, line 334-335) and "(expectant) parents have several needs, but mostly are in need of rest and want to focus on the development of their infant" (Interview 2, line 343-344). Two CHC professionals argued that the length of the intervention must not be too long, in which a maximum of three meetings is preferred and

every intervention must last 1,5-2 hours per meeting. One CHC professional argued that the intervention must start during the prenatal phase, because “then you can respond to the expectations of the expectant parents” (Interview 5, line 428-483). Besides, one CHC professionals argued that “next to the current local collective preventive parent education interventions, a prenatal and postnatal home-visit of the CHC nurse have to be an option, because at the moment, the CHC nurse visits parents at their home in the first weeks of parenthood, but it would be a good step to prenatally arrange a home visit as well” (Interview 8, line 486-488).

Setting

All the CHC professionals shared the same opinion that a face-to-face setting is preferred and CHC professionals indicated the following reasons: “professionals start with building a relationship of trust and start to level with the (expectant) parents and then it is important to make contact with the (expectant) parents and show your expertise and empathy” (Interview 2, line 347-349) and “A group-setting is preferred, since (expectant) parents can learn from each other and hear the issues that other (expectant) parents are facing. Groups of 8-12 (expectant) parents are favoured” (Interview 3, line 343-346). One CHC professional argued “an experience-expert can also provide valuable information, since an experience-expert understands how parenting works, and the experience-expect can approach the (expectant) parents in an accessible way, in which an inter-active way of information giving is preferred” (Interview 1, line 307-310). After the face-to-face group setting, one CHC professional argued that it would be a good solution to refer the (expectant) parents to an online environment or an app, which provides them extra information, or request if possible, a prenatal home-visit.

Moreover, one CHC professional argued “at the moment there are so many preventive parent education interventions and everyone develops more and more of these interventions. I think it would be much better to work together with all the CHC professionals and focus on an integral approach. I think Centrering Pregnancy is a good solution” (Interview 2, line 382-387 and line 408).

Teaching/learning method

The learning-method for a group-setting as indicated by all the CHC professionals is that the (expectant) parents are sitting in a circle and the CHC professional-instructor provides information. The following ideas were mentioned by the CHC professionals: “the CHC professional-instructor let the (expectant) parents think of the specific case and then show them how the behaviour should be done” (Interview 6 line 344-346). Also, one CHC professional indicated that the teaching-method should consist of videos and actual footage of parenting behaviour, since “(expectant) parents really have to understand the topics of parenting behaviour, they are discussing the topics and the usage of videos is good way to provide understanding” (Interview 4, line 418-420).

Content

CHC professionals mentioned that the most important factors that must be addressed in collective preventive parent education interventions are the adaptable factors. A summary of the factors that CHC professionals mentioned were: mental health state, childhood history, representation of (unborn) child, infant temperament, marital relationship, parenting stress and the work situation. One professional indicated: “most importantly, is the dynamics within the family, infants have to be able to grow up in a secure, restless and pleasant atmosphere” (Interview 6, line 349-351) and “a collective preventive parent education intervention have to be easily accessible and have to address a combination of practical tips and tips about sensitive and responsive parenting” (Interview 1, line 332-338).

Expertise of the professional
The CHC professionals mentioned that the CHC professional/instructor that provides the collective preventive parent education intervention must have several skills, namely: "the CHC professional/instructor must have experiences with working with groups (of expectant parents)" (Interview 6, line 353) and "the CHC professional/instructor must be able to estimate what kind of information the (expectant) parents need" (Interview 2, line 354) and "the CHC professional/instructor must have easy accessible communication skills by asking the right questions and ask further to know more about specific topics without to condemn the (expectant) parents" (Interview 8, line 521) and also "it is preferable that the CHC professional/instructor has a bit of life-experience" (Interview 7, line 474).

Practical experiences

(1)"Professionals need to improve their knowledge about parental attachment. We all know the term, but how do you handle situations? Then I think that this can be done much better and that we often think too difficult. Often you initially think about theories of secure attachment and type of attachments. Maybe you shouldn't think so hard at all. Those difficult terms are what you hold back. (Interview 6, line 358-363).
(2)" I think professionals should apply it more and more in their daily work. That is also helpful for parents. You will certainly reach them if you continue to name parental attachment" (Interview 4, line 405-407).

4.4.1 Conclusion
The fourth sub-question was: *in what way can a persuasive strategy to inform (expectant) parents about the importance of secure parental attachment be improved according to CHC professionals in Twente*? The interpretation of the components – length, setting, teaching/learning method, content and expertise of the professional – can lead to a strategy that is persuasive for (expectant) parents. The findings reveal that overall, CHC professionals indicated that the length of the collective preventive parent education intervention must be a maximum of three meetings, each consisting of 1,5-2 hours. The setting had to be face-to-face and an interactive group-setting was preferred. After the face-to-face information giving, (expectant) parents must get an option to participate in online courses, request a telephone call or a home-visit. The teaching/learning method must contain information, facilitate discussion about the information and showing how the information can be used by practicing parenting behaviour. The content was previously discussed in sub-question 3, but the adaptable factors should receive attention. Regarding the expertise of the professional, the CHC professional must have several skills in which they can be trained, but most importantly, the CHC professional must be open-minded, easy accessible and should be able to ask the right questions to estimate what the (expectant) parents in a collective group need.

5. Conclusion

5.1 General conclusion
The research question was: *which persuasive strategy can be used to improve the current local preventive parent education interventions provided by CHC professionals in Twente to ensure secure parental attachment between parents and (unborn) infant in the first 1001 critical days after conception?*

The findings of the present research provide direction for the responsible actors – GGD Twente, Academische Werkplaats Jeugd in Twente (AWJT) and LOES Opvoedondersteuning – who are the actors that commissioned the research. In this multi-method research, a literature-driven approach and qualitative approach was performed. The causal model including the sixteen factors of secure parental attachment of Pepers (2019) was used to analyse current local collective preventive parent education interventions and international and national preventive parent education interventions were used to

indicate how the factors of secure parental attachment were shaped within these interventions. Besides, the opinions and practical experiences of CHC professionals in the region of Twente who work with (expectant) parents and their (unborn) infants or toddlers in Twente concerning the sixteen factors of secure parental attachment and persuasive strategy were used.

In order to answer the research question, the results of the qualitative approach and literature-driven approach were combined. The persuasive strategy that needs to be used to improve the current local collective preventive parent education interventions that strive for optimal parental attachment between parents and (unborn) infant during the first 1001 critical days after conception consists of five components. In Table 11, an ideal general persuasive strategy can be found.

Table 11: *General persuasive strategy to improve current local collective preventive parent education interventions*

General persuasive strategy to improve current local collective preventive parent education interventions	
Component	*Explanation*
Length	The ideal length for a local collective preventive parent education intervention consists of one to three meetings, each lasting 1.5-2 hours per meeting.
Setting	The ideal setting for a local collective preventive parent education intervention is a face-to-face group-based setting of groups consisting of 8-12 (expectant) parents.
Teaching/Learning method	The ideal teaching/learning method for a current local collective preventive parent education intervention is that (expectant) parents are sitting in a circle and the CHC professional/instructor provides information, in which the (expectant) parents reflect on the information and then the CHC professional/instructor shows how the information can be used in daily practice. Furthermore, the use of videos is promising for a general understanding of parenting difficulties, in which group-discussions are facilitated to talk about the video.
Content	The content of a local collective preventive parent education intervention must ideally focus on six factors of secure parental attachment: (1) **Mental health:** explain about the importance of your own mental health state regarding parental attachment by providing information about a postpartum depression and the potential consequences of your own mental health state for the development of your infant. Prenatally address the importance of filling in Mind2Care questionnaire and postnatally address the importance of filling in the Edinburgh Postnatal Depression Scale (EPDS). (2) **Childhood history**: explain why the childhood history of the (expectant) parents themselves can affect their caregiving behaviour. Use videos to encourage (expectant) parents to think of their own youth and talk about the content of the video by asking what kind of feelings the (expectant) parents experienced when the saw the video. If necessary, refer the (expectant) parents to other healthcare professionals. (3) **Representation of (unborn) infant:** provide appropriate information and show videos and facilitate discussions about parenting behaviour and difficulties and explain how you can become a sensitive parent, also situations can be practiced in which (expectant) parents must apply their parenting skills (4) **Infant temperament**: provide information about the behaviour of infants and make (expectant) parents aware of the potential difficult temperament of an infant by showing them videos. Also advise the (expectant) parents about sensitive and responsive parenting behaviour, such as rotational care. By showing videos, (expectant) parents learn to signalize the needs of the infant which can foster the parenting skills. (5) **Marital relationship**: explain how the relationship of parents can influence their responses to infants by showing videos of parents who have an argument and practice situations where you as a parent need to support the other parent and focus on the communication skills to each other. (6) **Parenting stress**: provide information about coping strategies and facilitate group discussions or show videos in which parents can learn from hard situations, discuss about their own parenting behaviour and how they can change their behaviour to experience less parenting stress.
Expertise of professional	The expertise of the professional who provides the current local collective preventive parent education intervention must have experience with working with groups of (expectant) parents, must be able to ask open questions, must be able to indicate what the individual parent needs and must have life-experience.

5.2 General recommendations

The first general recommendation is that the current local collective preventive parent education interventions must support routine care. (Expectant) parents see diverse CHC professionals during the first 1001 critical days and have individual sessions with for instance a midwife, maternity nurse, CHC nurse and CHC physician. All the involved CHC professionals must direct or refer the (expectant) parents to current local collective group-oriented preventive parent education interventions, in which it is thus important that the current local collective preventive parent education interventions fit into the routine care of CHC professionals.

The second general recommendation is to benefit of the variety between individual sessions with CHC professionals and the current local collective preventive parent education interventions. (Expectant) parents receive information during routine care and during current local collective preventive parent education interventions. The provided information about parenting skills and behaviour in general is then shortly repeated and practiced, in which (expectant) parents can train the desired parenting skills and behaviour in group settings. The current local collective preventive parent education interventions should not only focus on knowledge transfer, since it is very valuable to practice desired parenting skills and behaviour in groups. A group-oriented setting leads to peer support and by establishing small groups of (expectant) parents, this can be a precursor of an in-depth exploration of the information and education about parenting skills and behaviour to ensure secure parental attachment during the first 1001 critical days (Gilmer et al., 2016).

The third general recommendation is to focus on six main topics during current prenatal local collective preventive parent education interventions of Zwanger in Twente. Pålsson et al. (2019) indicated the six main topics and these are the following: (1) Labour and birth; (2) Mother; (3) Infant; (4) Family; (5) Breastfeeding and (6) Practical information (see Table 2 about what kind of information belong to the six main topics). Regarding the topics that the current local collective preventive parent education interventions address, there is a lot of overlap in the content between several current local collective preventive parent education interventions. A recommendation is to address these six main topics of Pålsson et al. (2019) in renewed current local collective preventive parent education interventions of Zwanger in Twente. For instance, a triptych of the interventions 'birth and maternity period', 'infant on the way' and 'contact with your infant' can be created by discussing all the main topics during three sessions. In the ideal persuasive strategy it was also mentioned to provide three sessions. Thus, by doing this, it prevents overlap and (expectant) parents are eager to know more since these six main topics are important during the prenatal phase. Also, it is wise to provide the (expectant) parents a list of these six main topics and accompanying information in which they can review these topics when they are at home. This list can be provided on the internet or with the use of a mobile app. Moreover, the six main topics of Pålsson et al. (2019) can accompany the six factors of secure parental attachment. The factors mental health, childhood history fit to topic 2, the mother. The factor representation of (unborn) infant fit to topic 2 and 3, the mother and infant. The factor infant temperament fit to topic 3, the infant and lastly the factors marital relationship and parenting stress fit to topic 4, family.

The fourth recommendation is to make a reward system for the (expectant) parents. Woolley and Fishbach (2017) indicated that when (expectant) parents will be immediately rewarded, this can influence their intentions to participate in an intervention. For instance, when the (expectant) parents participated in the triptych of the renewed local collective preventive parent education interventions, they receive a package with supplies for the birth of the infant or they receive 25 free birth announcements cards. Furthermore, when the expectant parents participated in the last session of the triptych, they get a tour in the delivery rooms at the hospital. Also, for the postnatal sessions, parents can be rewarded by receiving free tickets to the swimming pool or other solutions.

The last recommendation is to use a lot of videos during the current local collective preventive parent education interventions. One recommendation is to use the video 'Een Kind! Over hechting in het eerste levensjaar' of Stichting Kinderleven (2019). This video is especially made to highlight the importance of secure parental attachment in the first year of an infant. This video can be shown to (expectant) parents during the current local collective preventive parent education intervention 'contact with your infant'. Other videos can be created or developed by GGD Twente or LOES Opvoedondersteuning or by working together with Family Factory, online courses Pinkcloud and Positief Opvoeden.

5.3 Recommendations per current local collective preventive parent education intervention

The recommendations per current local collective preventive parent education intervention are divided between the current local prenatal and postnatal collective preventive parent education interventions.

5.3.1 Zwanger in Twente

The current prenatal local collective preventive parent education interventions were: 'birth and maternity period', 'infant on the way' and 'contact with your infant'. The recommendations of each current prenatal local collective preventive parent education intervention are mentioned in Table 12, 13 and 14. A justification is given about how the new approaches of the current prenatal local collective preventive parent education interventions are set up, in which the previously mentioned general recommendations are incorporated. The new approaches are structured based on the components of a persuasive strategy of Gagnon and Sandall (2007).

Regarding the *length*, it is suggested to create a triptych of the three current prenatal local collective preventive parent education interventions. CHC professionals in Twente argued that the length of the intervention must not be too long, in which a maximum of three meetings is preferred and every intervention must last 1,5-2 hours per session. The titles of the interventions are changed to Zwanger in Twente 1, 2 and 3, to make the triptych more obvious. (Expectant) parents are by this way more inclined to think that the other interventions are also important and necessary to go to. Another idea is to realize a reward system for (expectant) parents when they participate in all the three prenatal sessions. When (expectant) parents will be immediately rewarded, this can influence their intentions to participate in an intervention (Woolley & Fishbach, 2017). For instance, a reward can be to give (expectant) parents free birth announcements cards or a tour through the childbirth ward at the hospital.

Regarding the *setting*, it is suggested to create a group-oriented setting. One CHC professional indicated that "a group-setting is preferred, since (expectant) parents can learn from each other and hear the issues that other (expectant) parents are facing. Groups of 8-12 (expectant) parents are favoured" (Interview 3, line 343-346). Besides, Gilmer et al. (2016) found that learning and discussing in small groups leads to an in-depth exploration of issues with a general understanding of topics.

Regarding the *teaching/learning method*, the suggestions of CHC professionals in Twente are used, since CHC professionals argued that "the CHC professional-instructor let the (expectant) parents think of the specific case and then show them how the behaviour should be done" (Interview 6 line 344-346) and "(expectant) parents really have to understand the topics of parenting behaviour, they are discussing the topics and the usage of videos is good way to provide understanding" (Interview 4, line 418-420). In Zwanger in Twente 2, a video of 30 minutes is shown which emphasizes the importance of parental attachment in the first year of an infant's life.

Regarding the *content*, the six main topics of Pålsson et al. (2019) are incorporated in the three sessions to prevent overlap between sessions and to address the six main topics during the prenatal phase. The six main topics are necessary to structure and categorize the information-giving and this is the most important improvement regarding the content. The information that is given is now better organized and new topics are added which address the six factors of secure parental attachment that

CHC professionals in Twente mentioned that must be addressed in a renewed local collective preventive parent education intervention. However, the content of the current approach is not deleted, but the content of the current approach is restructured, so that it fits the six main topics. The content of the current approaches can be found in Appendix 9.7. Moreover, for the renewed approach, each session focuses on three or four topics of Pålsson et al. (2019) to prevent information-overload. The content of every renewed session is explained below and the six factors of secure parental attachment are incorporated as presented in Table 11.

1. Zwanger in Twente 1, Table 12: This session focuses firstly, on the (1) labour and birth, by explaining about the preparations for giving birth, the childbirth and woes and what happens after the birth of the infant (this information is exactly copied from the current approach). Secondly, the focus is on (2) the mother, by explaining about the birth of the placenta and the first skin-to-skin contact. What is added are the factors (2b) mental health state and (2c) childhood history, since CHC professionals in Twente argued that these two factors of secure parental attachment must be addressed in collective preventive parent education interventions. Thirdly, the focus is on (3) the family, this topic is added in this renewed approach to explain about parental attachment and to explain about the marital relationship of parents. Lastly, (4) practical information is given about the birth-giving ward at the hospital and the rewarding system. Thus, in the session of Zwanger in Twente 1, three factors – mental health, childhood history and marital relationship – are added and the information about labour and birth is not changed.

2. Zwanger in Twente 2, Table 13: This session starts with watching the video 'Een Kind! Hechting in het eerste levensjaar' of Stichting Kinderleven (2019) and to facilitate a group discussion to talk about parental attachment. During this session, the concept of parental attachment is explained in which five factors of secure parental attachment that CHC professionals in Twente mentioned are addressed. After watching the video, the focus is on (1) the mother, by explaining about (1a) mental health state and (1b) the childhood history. Secondly, the focus is on (2) the infant, by talking about (2a) the representation of the unborn infant and by (2b) explaining about the temperament of infants. Thirdly, the focus is on the (3) family aspects, in which the (3a) marital relationship is addressed. Lastly, the focus is on (4) breastfeeding and it is mentioned that skin-to-skin contact during breastfeeding/formula feeding moments fosters parental attachment. The content of this session is entirely new and the aim of this session is to educate and inform expectant parents about parental attachment.

3. Zwanger in Twente 3, Table 14: This session focuses firstly on (1) practical information, by explaining about the safety of the infant, by addressing safe equipment, a safe sleeping environment and a safe home environment. Secondly, the focus is on the behaviour of (2) the infant, by discussing about the (2a) representation of expectant parents towards their unborn infant and (2b) by providing information about the temperament of infants, in which expectant parents practice rotational care. Lastly, the focus is on (3) the family, by talking about coping strategies to prevent (3a) parenting stress. The content of this session is derived from the current interventions 'birth and maternity period' and 'contact with your infant' (see Appendix 9.7).

Overall, this means that all the information derived from the current approaches is used, but by structuring it differently, there is no overlap and every session addresses new important information.

Regarding the *expertise of the professional*, it is suggested that the maternity nurse, midwife or CHC nurse provides the session. According to a CHC professional in Twente is it important that "the CHC professional/instructor must have easy accessible communication skills by asking the right questions and ask further to know more about specific topics without to condemn the (expectant) parents" (Interview 8, line 521). Besides, the CHC professional has the knowledge and skills to support parents during the transition to parenthood by using evidence-based guidelines, while focusing on the specific needs of individual parents (Gilmer et al., 2016).

Table 12: *Recommendation to improve current local collective preventive parent education interventions*

Recommendation for Zwanger in Twente 1 (Birth and maternity period)	
Components	*Explanation of the new approach*
Length	Create a triptych of the three current prenatal local collective preventive parent education interventions and every intervention takes around 1,5-2 hours per meeting.
Setting	Group-oriented setting with 10-12 expectant parents.
Teaching/ Learning method	The CHC professional/instructor provides information, shows the (expectant) parents several parenting skills and behaviour and practices the parenting skills and behaviour with the (expectant) parents. Video's are used to explain or show certain parenting skills and behaviour.
Content	**(1) Labour and birth**: (a) preparations for giving birth; information about a birth-plan, where do you want to give labour (hospital/at home?), video about hospital MST, practical information for the preparation of childbirth at home and in the hospital. (b) the child-birth; infant will engage before labour and the first woe, information about when the labour starts (woes every 4-5 minutes, start-up and active phase), when do you call the midwife, how do the hormones work during childbirth, what can you do when you experience pain and pain medication, dilation and pushing and short video about a childbirth. (c) the period shortly after the birth: cutting the umbilical cord, Apgar score and infant measurements. **(2) Mother**: (a) birth of placenta, suturing, start breastfeeding and skin-to-skin contact. (b) information about Mind2Care and EPDS, signalling mental health problems important for parenting the infant (c) childhood history, explain about why the childhood history of expectant parents can influence their caregiving behaviour → show video **(3) Family:** (a) what is parental attachment, importance of parental attachment for developmental outcomes of the infant. (b) Marital relationship, explain about the relationship of parents → show video **(4) Practical information**: Information about the birth-giving ward at the hospital and provide a list to sign up for excursion to the birth ward after intervention Zwanger in Twente 3.
Expertise of professional	The midwife provides this session. Expectant parents can ask all pregnancy-related questions and the midwife is most specialized in this kind of questions.

Table 13: *Recommendation to improve current local collective preventive parent education interventions*

Recommendation for Zwanger in Twente 2 (Contact with your infant)	
Components	*Explanation of the new approach*
Length	Create a triptych of the three current prenatal local collective preventive parent education interventions and every intervention takes around 1,5-2 hours per meeting.
Setting	Group-oriented setting with 10-12 expectant parents.
Teaching/ Learning method	The CHC professional/instructor provides information, shows the (expectant) parents several parenting skills and behaviour and practices the parenting skills and behaviour with the (expectant) parents. Videos are used to explain or show certain parenting skills and behaviour and group discussions are facilitated to talk about the experiences of (expectant) parents. Use the video: 'Een Kind! Hechting in het eerste levensjaar' of Stichting Kinderleven (2019)
Content	→ Show video of 'Een Kind! Hechting in het eerste levensjaar' of Stichting Kinderleven (2019) Explain why parental attachment is important and facilitate a group discussion about parental attachment **(1) Mother**: (a) address the Mind2Care and EPDS and the connection between the mental health state and parent-infant attachment. (b) provide information about the childhood history and how this can affect the level of parental attachment. **(2) Infant**: (a) representation of (unborn) infant: talk about the transition to parenthood and facilitate group discussion about what the expectations of expectant parents are of the infant and their transition to parenthood, (b) explain that the temperament of infants can influence the level of how you attach to them. **(3) Family**: (a) marital relationship: how do you talk with your partner and practice situations where you as a parent need to support the other parent and focus on the communication skills to each other. **(4) Breastfeeding**: (a) provide skin-to-skin contact during breastfeeding moments or formula feeding moments (information about breastfeeding itself and how you breastfeed your infant are discussed in another intervention, which is not mentioned in the present research). → refer expectant parents to Family Factory or the online course Pinkcloud
Expertise of professional	The maternity nurse, midwife or CHC nurse provides the intervention.

Table 14: *Recommendation to improve current local collective preventive parent education interventions*

Recommendation for Zwanger in Twente 3 (Infant on the way)	
Components	*Explanation of the new approach*
Length	Create a triptych of the three current prenatal local collective preventive parent education interventions and every intervention takes around 1,5-2 hours per meeting.
Setting	Group-oriented setting with 10-12 expectant parents.
Teaching/ Learning method	The CHC professional/instructor provides information, shows the (expectant) parents several parenting skills and behaviour and practices the parenting skills and behaviour with the (expectant) parents. Videos are used to explain or show certain parenting skills and behaviour.
Content	(**1) Practical information** about the safety of the infant: (a) purchase infant equipment, thus what kind of crib do you buy, mattresses, supplies to keep your infant warm, supplies that you need to care for your infant, clothing for your infant,(b) safe sleeping → video about safe sleeping, explain why safely sleeping is so important, (c) a safe home environment, think of animals, fire safety and (d) safe transportation, in a baby carrier and in the car with the use of a car-chair for infants. **(2) Infant:** (a) representation of (unborn) infant/infant temperament: experiences with crying infants, facilitate group discussion about earlier experiences of infants who cry massively, explain that crying is normal, especially during the first six weeks, (b) rest and regularity, preventing unnecessary infant crying by daily routines and avoid stimuli, (c) Sleeping and sleeping signals, what are these signals → show video. (d) turning care and talking to the infant: what, why, how do you do that? What is rotational care, why rotational care and practice the rotational care. How do you dress and undress your infant and practice? Talk to your infant, by providing information, showing how you talk to an infant and practice the behaviour → show videos **(3) Family**: (a) talk about coping strategies to prevent parenting stress and facilitate group discussions or show videos in which parents can learn from hard situations → show video
Expertise of professional	The maternity nurse, midwife or CHC nurse provides the intervention. During the intervention, the CHC professional/instructor refers the expectant parents to the website of LOES Opvoedondersteuning and Family Factory and to the online courses of Pinkcloud/Positief opvoeden.

5.3.2 Cursusbureau Twente

The current postnatal local collective preventive parent education interventions were: ‘toddlers with temperament’ and ‘toddler emotions’. The content of both interventions has a lot of overlap and since the ‘toddlers with temperament’ intervention already consists of three sessions, this intervention is favoured. The intervention ‘toddler emotions’ can thus be deleted, because the content of this intervention is also addressed in the intervention of ‘toddlers with temperament’. Thus, the recommendation for improvement of the current postnatal local collective preventive parent education intervention can be found in Table 15. A justification is given about how the new approach of the current postnatal local collective preventive parent education intervention is set up, in which the general recommendations are incorporated. The new approach is structured based on the components of a persuasive strategy of Gagnon and Sandall (2007).

Looking at the general ideal persuasive strategy as mentioned in Table 11 and looking at the current approach of the ‘toddlers with temperament’ intervention, the components length, setting, teacher/learning method and expertise of the professional do not have to be improved. Regarding the *length*, the intervention consists of three sessions, each consisting of 1,5-2 hours. Regarding the *setting*, the intervention consists of a group-oriented setting with groups of 10-12 parents. Regarding the *teacher/learning method*, information is provided by showing parenting skills and practicing the parenting skills with the use of videos and to facilitate group discussions. Regarding the *expertise of the professional*, the CHC professional that provides the intervention is a behavioural scientist who has experience with working with parents and has a lot of knowledge about difficult temperaments of infants/toddlers. However, regarding the *content*, the current approach mainly focuses on coping with the temperament of the infant and the representation of the infant. The main question is: How do you as a parent handle the temperament of your infant? This question is answered in three sessions;

Toddlers with temperament 1, 2 and 3. The current content of the sessions remains the same, but factors of parental attachment as indicated by CHC professionals in Twente are going to be incorporated. The first recommendation is to integrate a general part with information about the mental health state of the parents, the role of their own childhood history on the caregiving behaviour and the impact of the marital relationship on parenting skills and behaviour. When parents experience these kinds of problems, the CHC professional can then refer the parents to other healthcare professionals, which will assist them to work on; for instance their mental health state. It is suggested to call this general part the 'introduction' of every session. Moreover, it is suggested to address the factor parenting stress explicitly, for instance when parents must deal with difficult toddler behaviour, do they experience parenting stress and if so, what are coping strategies to deal with the parenting stress. Besides, it is suggested to show more videos and practice situations more often, since parents can learn from other parents. This can lead to peer support and for parents, it can be valuable to receive support from other parents. The last suggestion is to explicitly mention parental attachment, by explaining what it is and how parents can ensure optimal attachment behaviour. In session 1, the concept of parental attachment receives attention, but is must be a recurring subject in session 2 and 3, see Table 15 for the recommendation of the renewed approach.

Table 15: *Recommendation to improve current local collective preventive parent education interventions*

Recommendation for Cursusbureau Twente – Toddlers with temperament	
Components	*Explanation of the new approach*
Length	Three sessions, each consisting of 1,5-2 hours
Setting	Group-oriented setting with 10-12 expectant parents.
Teaching/ Learning method	The CHC professional/instructor provides information is provided through showing the parenting skills and practicing the parenting skills with the use of videos and to facilitate group discussions.
Content	**Session 1: Strengthening the development of the toddler and increasing the attachment bond:** (0) Introduction and focus on the mental health state, childhood history and marital relationship (1) Development of the toddler including information about brain development, facilitate discussion about what happens in the brain of the infant, (b) the socio-emotional development, discuss and explain what parents can do to cope with the emotions of toddlers → show video; (2) play and exercise, (a) explain what toddlers learn during play and exercise moments and facilitate group discussions about plays that stimulate the development of toddlers, ask parents how they handle arguments during plays of several toddlers, (b) the motor development, provide information about the motor development of toddlers, (3) strengthening the attachment bond with the toddler → show video, (a) giving time and attention, at what kind of moments do you give your toddler attention, facilitate a group discussion about how you compliment your toddler and how toddlers react on compliments. **Session 2: Toddler emotions and the stimulation of development of the toddler:** (0) Introduction and focus on the mental health state, childhood history and marital relationship (1) Language-speech development, how do you stimulate the development of speech of your toddler; (2) pre-school emotions, happy, sad, scared and angry, what are the emotions that toddlers have, how do you do when your toddler cries, how do you cope with moments of jealousy of your toddler; what do you do if your toddler is afraid or angry → show video and do you experience parenting stress? (3) stimulate development by spontaneous learning moments, reward cards and basic rules; **Session 3: Preschool skills and difficult toddler behaviour:** (0) Introduction and focus on the mental health state, childhood history and marital relationship (1) Eating, sleeping, becoming toilet-trained; (a) facilitate group discussions about how you handle your toddler if your toddler does not want to eat, (b) discuss sleeping problems and provide tips about what helps, (c) what can you do to make your toddler toilet-trained, facilitate group discussions and ask parents how they would deal with this by focusing on parenting stress. (2) dealing with difficult behaviour, ignore, direct address, obedience routine; provide tips and facilitate group discussions and practice a roadmap with how parents can cope with difficult behaviour, by addressing coping strategies to deal with parenting stress (3) difficult toddler behaviour such as crying and temper tantrums: facilitate group discussions
Expertise of professional	The CHC professional that provides the intervention is a behavioural scientist who has experience with working with parents and has a lot of knowledge about difficult temperaments of infants/toddlers.

6. Discussion

6.1 Factors of secure parental attachment that must be addressed in local collective preventive parent education interventions

Since the understanding that secure parental attachment between parents and (unborn) infant during the first 1001 critical days is important for ensuring optimal developmental outcomes of the infant's future life, Pepers (2019) developed a causal model with sixteen factors of secure parental attachment. With the use of the causal model of Pepers (2019), five current local collective preventive parent education interventions in the region of Twente were analysed. A total of six various factors of secure parental attachment of Pepers (2019) were addressed in one or multiple current local collective preventive parent education interventions. The six factors were infant temperament, representation of the (unborn) infant, bedsharing, breastfeeding, planning of pregnancy and hormone composition.

To improve the current local collective preventive parent education interventions, the concept of parental attachment including the sixteen factors of secure parental attachment must be integrated in the interventions. That is why CHC professionals in Twente were interviewed and they shared their opinions and practical experiences concerning the sixteen factors of secure parental attachment. The CHC professionals indicated that six factors of secure parental attachment of Pepers (2019) must be addressed in current local collective preventive parent education interventions. The factors that must be integrated according to the CHC professionals were: mental health, childhood history, representation of (unborn) infant, infant temperament, marital relationship and parenting stress. This means that there is a discrepancy between the factors that CHC professionals in Twente mention that should be integrated and the factors that are currently integrated in the local collective preventive parent education interventions. The discrepancy is shown in Table 16.

Table 16: *Discrepancy with the factors of secure parental attachment*

Discrepancy between the factors that current local preventive parent education interventions address and the factors of secure parental attachment that CHC professionals indicated that should be integrated			
Determinants of parenting	*Sixteen factors of secure parental attachment of Pepers (2019)*	*Current local preventive parent education interventions in Twente*	*CHC professionals in Twente*
Individual characteristics mother/father	1.Mental health		**X**
	2.Childhood history		**X**
	3.Representation of (unborn) infant	**X**	**X**
	4.Planning of pregnancy	**X**	
	5.Number of pregnancies		
	6.Breastfeeding	**X**	
	7.Bedsharing	**X**	
	8.Age		
	9.SES/Education		
	10.Hormone composition	**X**	
Individual characteristics of the infant	11.Infant temperament	**X**	**X**
	12.Preterm birth		
Contextual sources of stress and support	13.Marital relationship		**X**
	14.Parenting stress		**X**
	15.Household size		
	16.Job situation		

The current local preventive parent education interventions address four other factors than what CHC professionals in Twente suggest that should be integrated in interventions to improve the content of current local preventive parent education interventions. The two factors that they both mention are: representation of (unborn) infant and infant temperament. It was expected that these two factors were mentioned, because prenatal interventions focus mainly on the preparations for birth and that includes a

bit of expectation-management. The same applies to the postnatal phase, since you want to know a lot about your infants/toddler's behaviour. Although, the discrepancy is mainly observable in (a) the individual characteristics of the mother/father, since CHC professionals argued that the factors of the mental health state and own childhood history must be integrated and (b) the contextual sources of stress and support of parents, since CHC professionals argued that the marital relationship and parenting stress are two factors that must be addressed in local collective preventive parent education interventions. Thus, CHC professionals emphasize the factors of secure parental attachment that focus mainly on feelings during the transition to parenthood. In contrast, the current local collective preventive parent education interventions have a more practical nature, since the concept of parental attachment is quite new and not yet explicitly stated in the interventions. Moreover, the content of current local collective preventive parent education interventions is not wrong, however if the concept of parental attachment has to be more integrated in the interventions, then the six factors of secure parental attachment that CHC professionals mention must be integrated to improve the current local collective preventive parent education interventions. In addition, this discrepancy was not expected, since the current local collective preventive parent education interventions were developed by supportive CHC professionals.

Based on the opinions and practical experiences of CHC professionals in Twente, the current local collective preventive parent education interventions can be improved. The CHC professionals in Twente indicated that six factors of secure parental attachment of Pepers (2019) must be addressed in current local collective preventive parent education interventions. The factors that must be integrated were: mental health, childhood history, representation of (unborn) infant, infant temperament, marital relationship and parenting stress. Although, in Pepers (2019) it was investigated that five factors of secure parental attachment must be integrated to improve preventive parent education interventions. Pepers (2019) indicated the same factors as the CHC professionals in Twente, but the CHC professionals in Twente added one extra factor, which is parenting stress. In Figure 5, the renewed model with the six most important factors of secure parental attachment according to CHC professionals in Twente is shown, based on the determinants of parenting of Belsky (1984).

The factor 'parenting stress' is added to the model, since CHC professionals in Twente indicated that parenting stress is an important factor for secure parental attachment and in academic literature this is supported. Evidence was found that insecure attachment styles have a negative impact on parenting behaviour and leads to parenting stress (Moe, Von Soest, Fredriksen, Olafsen, & Smith, 2018; Rossen et al., 2016). More evidence was found concerning the factor parenting stress and the other five factors mentioned in Figure 7. First, it was found that parenting stress was related to the mental health state of parents. In the study of Leigh and Milgrom (2008), it was found that the relationship between parenting stress and mental health problems such as a postnatal depression appeared to be reciprocal, in which a postnatal depression was the strongest predictor for parenting stress. Second, it was found that parenting stress was related to a negative childhood history, including childhood maltreatment, since mothers who experienced a negative childhood history endorsed higher parenting stress and were less sensitive towards their infant (Pereira et al., 2012). Third, it was found that parenting stress was related to optimistic expectations of the transition to parenthood (Harwood, McLean, & Durkin, 2007).

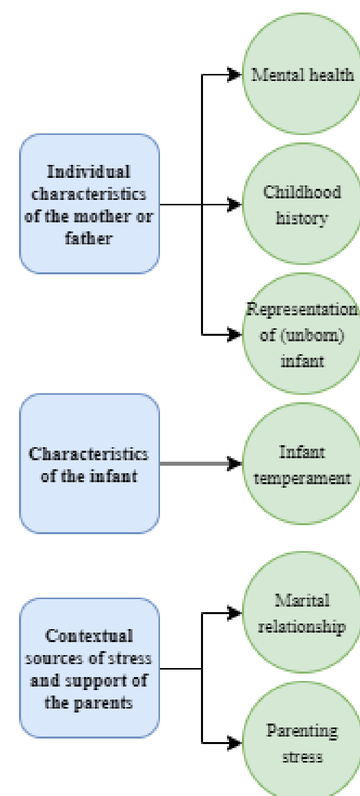

Figure 5. *Factors of secure parental attachment that must be addressed in collective preventive parent education interventions as indicated by CHC professionals in Twente*

Fourth, it was found that parenting stress was highly influenced by the temperament of infants, indicating that behavioural problems within infants are an antecedent and consequence of parenting stress and the other way around (Neece, Green, & Baker, 2012). Furthermore, the parents' description of their infants temperament have to be taken seriously, when parents describe their infant as fussy and difficult, the parents need help to cope with behavioural problems of the infant and this might reduce the parenting stress (Östberg & Hagekull, 2000). Last, it was found that parenting stress influenced the marital relationship and significant associations were found between the father's or mother's parenting stress, as well as an effect on their perceived marital relationship quality on each other (Lavee, Sharlin, & Katz, 1996). Thus, based on these reasons it could be that CHC professionals mentioned this factor since they assist and help (expectant) parents by reducing parenting stress or other parenting difficulties. This was supported by literature since Dempsey, Keen, Pennell, O'Reilly, and Neilands (2009) found that the way in which CHC professionals relate to parents could impact the level of parenting stress of parents.

In short, the renewed model with six factors of secure parental attachment is used to provide recommendations for the improvement of the current local collective preventive parent education interventions in Twente. For follow-up research, this renewed model must be used, since parenting stress is an undisputed factor for in interventions that ensure secure parental attachment in the first 1001 critical days after conception. Therefore, this leads to a correction of Pepers (2019).

6.2 Strengths and limitations

In the present research there are several strengths and limitations that should be acknowledged. The three most important strengths and three most important limitations are described.

6.2.1 Strengths

The first strength of the present research was the execution of a multi-method research design consisting of a literature-driven and qualitative approach. The combination of these two methods was promising, since: (1) Interviews with CHC-professionals gave insight in the thoughts of CHC professionals on the integration of the sixteen factors of secure parental attachment in current local collective preventive parent education interventions and how these factors should be integrated in the current local collective preventive parent education interventions, and (2) earlier international and national preventive parent education interventions were analysed in order to indicate how these particular international or national preventive parent education interventions handled the factors of secure parental attachment that the CHC professionals mentioned in their intervention, which provided practical interpretations and suggestions. The results of both methods were combined in which one recommendation was given about which factors of secure parental attachment must be addressed for in the content of current local collective preventive parent education intervention to ensure secure parental attachment in the first 1001 critical days in Twente.

The second strength of the present research was that not only the content of current local collective preventive parent education interventions was analysed, but the focus was also on the entire persuasive strategy. The other components – length, setting, teaching/learning method and expertise of professional – are indeed important components that determine whether a current local collective preventive parent education intervention about secure parental attachment is going to be successful or not. However, more research is preferable to indicate what the opinions and experiences are of (expectant) parents to improve the current local collective preventive parent education interventions, since present research focused on opinions and practical experiences of CHC professionals regarding developing a successful persuasive strategy.

The third strength of the present research was related to the causal model including the sixteen factors of secure parental attachment. The present research shows that the findings of Pepers (2019) (in

which at least five factors of secure parental attachment must be addressed in preventive parent education interventions) are supported. By asking CHC professionals in Twente about which of the sixteen factors of secure parental attachment must be included and integrated in current local collective preventive parent education interventions, they mentioned that at least the five most important factors that Pepers (2019) also mentioned must be addressed in current local collective preventive parent education interventions within the region of Twente. In addition, the CHC professionals mentioned one extra factor: parenting stress. This means that the CHC professionals agree with Pepers (2019) but mentioned one extra factor. Through the opinions and practical experiences of CHC professionals in Twente, the present research underlined the strength of the causal model of Pepers (2019). This makes the findings of the present research, thus the factors of secure parental attachment that CHC professionals mentioned that must be integrated in current local collective preventive parent education interventions generalizable for other regions in the Netherlands. However, due to this present research a renewed model with the six factors of secure parental attachment must be used in follow-up research.

6.2.2 Limitations

The first limitation of the present research was related to the small sample size of included CHC professionals. The CHC professionals that were involved during the 1001 critical days, thus during the prenatal and postnatal phase were the following: midwife, maternity nurse, gynaecologist, paediatrician, child healthcare physician, child healthcare nurse and a behavioural scientist (College Perinatale Zorg (CPZ), 2018; Nederlands Centrum Jeugdgezondheidszorg, 2018). In the present research, the gynaecologist and paediatrician were not invited, since they do not provide, perform or develop the current local collective preventive parent education interventions. The maternity nurse was invited, however unfortunately, the maternity nurse was not able to arrange an appointment for an interview. This means that eight diverse disciplines participated in an interview. Concerning the validity and reliability, the sample size of eight diverse disciplines was not large enough, since it is suggested that 20-50 interviews were recommended (Mason, 2010). Since the sample size was not large enough, the conclusions of present research should be carefully interpret, in which it is not clear whether or not all the mentioned factors of secure parental attachment and opinions and practical experiences of CHC professionals related to current local collective preventive parent education interventions are gathered. For a follow-up research, it will be better to include all the involved disciplines and to include multiple professionals per discipline, to reach at least a total of 20 interviews.

The second limitation of the present research was related to the inclusion of international and national preventive parent education interventions. These international and national interventions were used to provide suggestions and practical interpretations to improve the current local collective preventive parent education interventions. However, all the included international and national preventive parent education interventions were individual interventions, which meant that individual (expectant) parents received information and education based on a 1:1 setting. In the present research, the focus is on collective preventive parent education interventions, thus a group-based setting. This means that international and national preventive parenting interventions were used to provide suggestions and practical interpretations about the design of the six factors of secure attachment that are integrated into current local collective preventive parenting interventions. This comparison is a limitation of this present research, because group-oriented interventions were compared with individual interventions. In follow-up research, it is suggested to include only international and national collective group-oriented preventive parent education interventions about parental attachment, such as for instance Centering Pregnancy and Centering Parenting (Rising, 1998).

The third limitation of the present research was related to the groups of (expectant) parents for which the collective group-oriented preventive parent education interventions were intended. Since the

focus was on the large group of (expectant) parents, the collective preventive parent education interventions were not suitable for vulnerable or risk-groups of (expectant) parents. These kind of (expectant) parents could experience difficulties regarding the type of information-giving or were not reached by the actors that provided the collective preventive parent education intervention. In order to respond to this problem, follow-up research must look specifically at how these vulnerable or risk-groups of (expectant) parents will be reached. Thus, next to the current local collective preventive parent education interventions for the large group of (expectant) parents, also individual preventive parent education interventions must be offered especially for vulnerable or risk-groups of (expectant) parents.

6.3 Implications

The findings of the present research have implications for youth health care in the region of Twente. Since the municipalities in the region of Twente are responsible for youth health care based on the 'Wet Publieke Gezondheidzorg' (Ministry of Health Welfare and Sport, 2019c) and 'Jeugdwet'(Ministry of Health Welfare and Sport, 2019a), the municipalities have a crucial role to determine which preventive policy should be implemented on the local level. However, in 2018, the ministry of Health, Welfare and Sport established the action program 'Kansrijke start'. In this action program, it is mentioned that every infant deserves the best possible start of his/her life, an optimal chance for a good future in which the first 1001 days are critical for a good start and also the concept of secure parental attachment is addressed in 'Kansrijke Start'. To accomplish this action plan, it is mentioned that the municipality or specific region have to build a local coalition with important local representatives of organizations, care providers, health insurers and CHC professionals (Ministry of Health Welfare and Sport, 2018). Looking at the municipalities in the region of Twente, the municipalities Enschede, Hengelo, Almelo, Oldenzaal, Losser and Twenterand have started with building a local coalition to ensure a promising start for infants during the first 1001 critical days (Ministry of Health Welfare and Sport, 2019b). For instance in the municipality of Hengelo, they have established the goal: 'Good and Healthy Start', in which the municipality has the ambition to identify vulnerable (expectant) parents earlier, so that suitable low-threshold support can be offered (Gemeente Hengelo, 2019). Overall, it is very important that municipalities in the region of Twente acknowledge that the first 1001 critical days are essential for promising start of every infant, in which the concept of secure parental attachment is embedded. The formation of a local coalition must be a high-noted agenda point in municipalities for in the year 2020.

More specifically, in the progress report of 'Kansrijke Start' (2019), it is mentioned that the intervention during the preconception phase 'Nu Niet Zwanger' should be implemented in municipalities in the Netherlands (started in 63 municipalities, 18%). The 'Nu Niet Zwanger' intervention supports vulnerable potential expectant parents to take control of their child's desire so that they do not become unwantedly pregnant. According to the region of Twente, this intervention is not yet implemented in the municipalities that belong to this region. Thus, the municipalities within the region of Twente should take a lead and start with the intervention 'Nu Niet Zwanger'. The action program 'Kansrijke Start' also mentions the interventions 'Voorzorg' (started in 117 municipalities, 33%), 'Stevig Ouderschap' and 'Centering Pregnancy/Parenting', and all these interventions are not yet implemented in municipalities in the region of Twente. Therefore, when looking at the action program of 'Kansrijke Start', it is suggested that the municipalities in the region Twente must work hard in the coming period to increase their range of preventive parent education interventions.

Furthermore, in the progress report of 'Kansrijke Start' it is mentioned that the ministry works on a legislative proposal to modify the 'Wet Publieke Gezondheidszorg' (Ministry of Health Welfare and Sport, 2019c), to add the task to municipalities for offering a prenatal home visit by CHC professionals (PHB JGZ) to vulnerable families (College Perinatale Zorg (CPZ), 2019). In the present research, the CHC professionals also indicated that a prenatal home visit would be a great following

step for the health of infants during the first 1001 critical days. They also mentioned that by making a prenatal home visit possible, this would be a great following step for the Youth Healthcare department of GGD Twente, because they will be more involved during the prenatal phase. Another important step for GGD Twente is that they have to offer the maternal whooping cough vaccination to expectant mothers in the twenty-second week of the pregnancy (National Institute of Public Health and Environment, 2019). This means that the role of the youth healthcare department of the GGD Twente changes in which they will be more involved during the prenatal and postnatal phase, which means that CHC professionals of the GGD Twente can identify vulnerable (unborn) infants or toddlers earlier.

Lastly, in the present research the focus lies on current local collective preventive parent education interventions and these collective preventive parent education interventions are not explicitly named in the action program 'Kansrijke Start'. However, the action program makes it clear to what the municipalities should focus on in order to implement preventive policies for the youth domain. By building a local coalition and by collaborations within the entire youth domain, the care for infants will be better and more effective. The collective preventive parent education interventions are an important point of focus in the municipalities and by working together in local coalitions, the youth healthcare in the regions will fit better to the interests of the municipality and (expectant) parents. This is an important step for in the future, since all the preventive parent education interventions will be improved. The present research underlines the importance of current local collective preventive parent education interventions, including the critical role of the concept of secure parental attachment in the collective preventive parent education interventions to ensure a promising start for every (unborn) infant by focussing on secure parental attachment between parents and (unborn) infant during the first 1001 critical days after conception.

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9. Appendix

9.1 National organizational context of youth healthcare and preventive parent education interventions.
Three actors play an important role in youth healthcare, namely the Dutch ministry of Health, Welfare and Sport, the Dutch Youth Institute and the Dutch Youth healthcare centre.

The ministry of Health, Welfare and Sport is a prominent actor in developing preventive policy for the population of the Netherlands. One subject of the ministry is 'Pregnancy and birth', in which they distinguish between two major themes. First, improving the healthcare during pregnancy and second, the best healthcare for infant before and after birth. The first theme is about the promotion of the health of mother and (unborn) infant. Topics within this theme are improvements of care to reduce infant death, improvements of health of expectant mothers and their fetus during pregnancy and the detection of disorders of the fetus. The research institute ZonMw assists the ministry in developing (action) plans and advices the ministry to ensure the best health as possible for the childbearing population in the Netherlands. Moreover, the ministry finances research about the causes of infant death and better healthcare during pregnancy, such as the research team of ZonMw and the Healthy Pregnancy 4 All project. The ministry funds the organizations of College Perinatale Zorg (CPZ) and Perined, who focus on integral care and prevention regarding pregnancy and birth. Also, the ministry funds the website of 'Stichting Opvoeden' that share evidence-based guidelines about how to raise and educate the infant. The second theme is about assisting expectant parents, with the aim that infants start their lives as healthy as possible, in which the first 1001 days of the infant are critical. Therefore, the Ministry of Health Welfare and Sport (2018) established the action program 'Promising Start', which focuses on the healthcare and support for (vulnerable) families during the first 1001 critical days after conception. In the action program 'Promising Start', an cooperation between multiple organizations (municipalities; healthcare providers such as general practitioners, obstetricians, gynaecologists, maternity care and district teams; health insurers; research institutes such as ZonMw and TNO) is needed to establish the best possible care before, during and after pregnancy.

The second actor is the youth institute of the Netherlands. This is a national public organization that collects, enriches, explains and shares current knowledge about the field of youth healthcare. The Youth institute fulfils a public task and they receive a subsidy from the Dutch government (ministry of Health, Welfare and Sport). The knowledge that is obtained by the youth institute has to be available for everyone, thus the information is shared through the website, through meetings and lectures, dialogue sessions and debates and through a range of publications (Nederlands Jeugdinstituut, 2018). The youth institute focuses on four pillars: (1) providing up-to-date and reliable knowledge about youth healthcare, professionalism and organization of the youth field; (2) quality and effectiveness of policy, organization and implementation in the youth field; (3) supporting growing up and parenting education in the Dutch community and (4) appropriate help for children, young people and parents who need extra support (Nederlands Jeugdinstituut, 2019).

The third actor is the youth healthcare centre of the Netherlands. This is an independent actor of the youth healthcare sector, especially established for (CHC) professionals in the youth healthcare. This means that youth healthcare centre can develop, maintain and disseminate knowledge and guidelines, encourage innovation and professional growth. Also, they take a lead in the national approach of today's challenges regarding youth healthcare, including a strong commitment to the preventive pillars of parenthood, attachment, resilience and health (Nederlands Centrum Jeugdgezondheidszorg, 2019). Overall, national preventive parent education interventions about secure parental attachment are developed by these actors on the national level.

Appendix 9.2. *National preventive parent education interventions about secure parental attachment*

Intervention	Objective	Target group	Method	Content of the intervention	Evidence-based
1.VIPP-SD (Video-feedback Intervention to Promote Positive Parenting and Sensitive Discipline) (0-6 yo) *Youth institute* (Bakermans-Kranenburg et al., 2017)	Aim to improve discipline strategies of parents, with the goal of promoting positive interactions between parents and infant/child and preventing or reducing behavioural problems of the infant/child.	Parents with problems regarding sensitive nurturing or setting limits, resulting in problems in the parent-infant/child relationship and (an increased risk of) externalizing behavioural problems in the infant/child.	VIPP-SD is performed at home by trained VIPP-SD educators in seven visits of approximately two hours per visit. (Ortho) pedagogues, psychologists, (social psychiatric) nurses, social workers, sociotherapists, pedagogical staff, consultation office staff, child psychiatrists or behavioural scientists could provide the intervention	VIPP-SD has the following structure: 1. Introduction and information about the way of working with video feedback; 2. Attachment and exploration and distracting, explaining, giving alternatives and showing understanding; 3. "Speaking for the child" discipline: procrastination and positive reinforcement (compliments); 4. "Sensitivity chain" and sensitive timeout; 5. Sharing feelings and explaining and showing understanding; 6 & 7. Repeat the above topics	Proven to be effective to strong indications
2.VoorZorg (0-2 yo) *Youth institute* (Crijnen et al., 2015)	Aim is to reduce the risk of child maltreatment of a specific target group of high-risk pregnant woman and to increase the developmental and health opportunities of (unborn) infants	(Expectant) mothers and their (unborn) infants, who are confronted with risk factors, such as abuse and neglect, such as low education level, domestic violence, substance use in pregnancy, limited affective and pedagogical skills	VoorZorg consists of structured and flexible home visits, which starts during pregnancy (week 13-16) and finish when the infant is two years old. The home visits are originally twice a month, but in the first six weeks after birth the home visits are on a weekly basis. In total, 40-60 home visits are conducted by the VoorZorg-nurse.	The following six domains are used to educate mothers: 1. Health of the mother (healthy lifestyle, healthy nutrition, stress-reduction); 2. Healthy environment (home situation, safety); 3. Life of the mother (self-reflection, education and job situation); 4. Motherhood (care, attachment, game and exemplary behaviour); 5. Family and friends (supporting social network) and 6. Use of community-services.	Proven to be effective according to good indications
3.ITGG (Integratieve Therapie voor Gehecht heid en Gedrag, 0-18 yo) *Youth institute* (Sterkenburg, 2013)	Aim is to reduce behavioural problems and to (re)build the attachment relationship between parents and infant/child	Infants/children with multiple problems such as: severe mental impairment and behavioural attachment problems, in which pathogenic care is desired. Parents are involved in the intervention.	ITGG consists of three sessions of one hour a week and is offered in the daily living environment of the infant/child, in a place with few ambient noises and where the child feels safe and comfortable. Primary caregivers support the infant/child during the treatment period of one year.	ITGG is a psychotherapeutic treatment that consists of three phases: 1. Building an attachment relationship and is made up of three sub-phases: "bonding and making contact", "symbiosis" and "stimulation to individuation."; 2. Behavioural therapy and; 3. Generalization and completion, involving parents and supervisors.	Proven to be effective according to first indications
4.Ouder-baby interventie (0-1 yo) *Youth institute* (Nikken, 2009)	Aim to improve the interaction between depressive mothers and their infant, in which the mother improves her sensitive responsiveness, the social and emotional development of the infant improves and the secure parental attachment is ensured	Depressive mothers and their infant	Ouder-baby interventie consists of accompaniment of the family in the home situation, during 8 to 10 home visits of 1 to 1½ hours. The partner and important others are involved in counselling as much as possible. The counselling is provided by a social psychiatric nurse from the mental health care institution, who specializes in counselling families with young children.	Ouder-baby interventie consists of three phases: Phase 1 (1-2 visits): Introduction, motivating the mother, explanation about the guidance and first observation of the mother-baby interaction. Phase 2 (4-6 visits): Empowering and expanding positive interactions between mother and child, stimulating new interactions. Phase 3 (1-2 visits): Review, evaluation and conclusion.	Proven to be effective according to first indications

5. Stevig Ouderschap *Youth healthcare centre* (Bouwmeester-Landweer, 2017)	Aim to reduce the risk of parenting problems among parents at risk of these problems (parents with low social support, psychosocial problems, drug/alcohol use, negative feelings towards pregnancy, problematic history and/or a preterm child or child with low birthweight)	Parents with problems such as low social support, psychosocial problems, drug/alcohol use, negative feelings towards pregnancy, problematic history or preterm born infant or low birthweight of the infant	Stevig Ouderschap consists of four prenatal and 6-10 postnatal home visits duration of 90 minutes per visit, planned in consultation with the parents. The home visits consist of a fixed and flexible part.	Fixed part: following topics are discussed: history of the parents, experience of parenthood, expectations towards the development of the child, social support and professional support. Information is given about the different developmental stages of children and the corresponding specific parenting tasks. Flexible part: client-centred. Empowering experiences as well as worrisome experiences are addressed by the parents	Proven to be effective according to first indications
6.NIKA (0-6 yo) *Youth institute* *(*Draaisma, 2014)	Aim to prevent or reduce physical and behavioural problems of the infant/child as a result of disoriented attachment	Families with maltreatment, neglect, domestic violence and/or multiple risks in the parenting context whereas the parent shows "disruptive parenting behaviour" that is confusing or frightening for infants/children	NIKA is a briefly recorded cognitive behavioural therapy intervention that uses video feedback. In total, six sessions at the home situation. The CHC professionals that provide the intervention are behavioural scientists (psychologists or orthopedagogues)	NIKA consists of four phases: 1. Introduction including a pre-measurement; 2. Intervention sessions, weekly recording and discussing about the video observations; 3. Post-measurement and 4. Conclusion and discussing the results.	Well substantiated
7.Shantala babymassage (0-1 yo) *Youth institute* (Roeland & de Lange, 2015)	Aim to reduce the risk of an unsecure attachment relationship and promoting a secure attachment relationship between mother and infant/child, by increasing the sensitivity of the mother during the care of the infant	Mothers who experience problems or stress in the care of the baby or parenthood, and mothers where there are signs of interaction problems between the mother and her infant, such as mothers with a crying infant or an irritable infant	Shantala babymassage consists of parenting education and three home visits of 1,5 hour that occur on a weekly basis. During the intervention, the needs of the mother are placed central.	Topics that are related to the care of the infant are discussed. These are the topics of crying, body language and basic communication. Other topics are the needs of the mother. The mother also gets the space to ask (educational or care) questions. The teacher addresses these questions and, if necessary, refers the mother to other professionals.	Well substantiated
8.K-VHT (Kortdurende Video-Hometraining) (0-4 yo) *Youth institute* (Eliens & Prinsen, 2017)	Aim to improve the socio-emotional development of infants, by improving contact between parents and infant and thereby preventing or reducing problem behaviour.	Parents who experience parenting tensions. This concerns infants who cry a lot or infants with a difficult temperament. Also, premature infants and toddlers with difficult behaviour are included	K-VHT consists of eight home visits and in these home visits short videos are recorded. The video recording is reviewed with the parents, with the focus on the infant's initiatives to make contact with the parents	During the home visits, video tapes are recorded and reviewed. Pedagogic information is provided, such as diverse communication skills.	Well substantiated

9.3 National preventive parent education interventions that use the factors of secure parental attachment

Each national preventive parent education intervention was analysed based on the determinants of Belsky (1984) and then on the causal model consisting of the sixteen factors of parental attachment of Pepers (2019). The results of the analysis and justification of the analysis can be found in and below Table 17.

Table 17:*National preventive parent education interventions that used factors of secure parental attachment*

Which preventive parent education interventions use the factors of secure parental attachment									
		VIPP-SD	*Voorzorg*	*ITGG*	*Ouder-baby interventie*	*Stevig ouderschap*	*NIKA*	*Shantala babymassage*	*K-VHT*
Individual characteristics mother/father	1.Mental health		X		X				
	2.Childhood history		X			X			
	3.Representation of (unborn) infant	X	X			X			
	4.Planning of pregnancy								
	5.Number of pregnancies								
	6.Breastfeeding								
	7.Bedsharing								
	8.Age		X						
	9.SES/Education		X						
	10.Hormone composition								
Individual characteristics of the infant	11.Infant temperament	X	X	X	X	X	X	X	X
	12.Preterm birth								X
Contextual sources of stress and support	13.Marital relationship		X			X			
	14.Parenting stress	X	X			X		X	X
	15.Household size								
	16.Job situation		X						
Total:		N=5	N=4	N=2	N=3	N=2	N=1	N=2	N=3

Eight national preventive parent education interventions were analysed to investigate whether or not the intervention addressed the factors of secure parental attachment.

- **VIPP-SD intervention**

  Three factors of secure parental attachment were addressed in this intervention (Bakermans-Kranenburg et al., 2017). Regarding the individual characteristics of the mother/father, the factor *'representation of (unborn) infant'* was addressed in the intervention by increasing the knowledge of the parents about parenting behaviours in general and the development of infants/toddlers. Also, the ability of parents to show empathy towards their infant was an important aspect. Regarding the individual characteristics of the infant, the factor *'infant temperament'* was addressed by increasing the observational capabilities of parents and to foster adequate parenting skills by means of sensitive responsiveness. The attitudes of parents are questioned and with the use of the video's parents learn how to cope with their infant/toddler. Regarding the contextual sources of stress and support, the factor '*parenting stress'* was addressed by the intervention. With the use of the video-feedback sessions, parents learn about parenting difficulties.

- **Voorzorg**

  Nine factors of secure parental attachment were addressed in this intervention (Crijnen et al., 2015). Regarding the individual characteristics of the mother/father, the intervention addressed the factor '*mental health'* by aiming attention at the health of the mother. Psychical problems such as depression and anxiety are risk factors for parenting problems and for a job or education. Voorzorg

does not treat any psychical problems, but talks about the problems and refer if possible, to specialized medical assistance. The factor *‘childhood history’* was addressed by talking about the youth of the mother. Together with the mother, work is done on awareness of one's own upbringing and the influence that this could have on the upbringing of the child. From this strengthened awareness, the mother can take more distance from her own childhood and deal with her child in a more positive way. The factor ‘*representation of (unborn) infant’* was addressed by focussing on the role of the mother as a primary upbringing parent. Situations were practiced were parents must apply parenting skills. Besides, unrealistic expectations of the pregnancy and motherhood were discussed by focussing on information about a healthy pregnancy and by talking about expectations about the upbringing of an infant. Furthermore, the unadaptable factors ‘*SES/education’* and ‘*age*’ were addressed in this intervention since this intervention was especially designed for (expectant) mothers who are aged below 25 years old and their education level was low or they did not finish any education. The SES was addressed by talking about the financial situation of (expectant) mothers.

Regarding the individual characteristics of the infant, the intervention addressed the factor *‘infant temperament’* by talking about the health of the infant and by generating a more sensitive and responsive parenting style in which the relation, the communication and playing with the infant was discussed.

Regarding the contextual sources of stress and support, the intervention addressed the factor *‘parenting stress’* by talking about possible violence, abuse or neglect and to assist mothers by the living- and financial situation. The factor ‘*marital relationship’* was addressed by talking about a supportive network of a partner, family and friends. The topic received attention by practical exercises in the home situation, for instance how you deal with disagreements within your social network. The factor *‘work situation’* was addressed by talking about the personal development of the mother, thus by searching for a job. The lack of a basic qualification and/or daytime activities (education/work) have far-reaching financial and emotional consequences. Through awareness sessions, the mother was supported by thinking about an education or job.

- **ITGG**
  This intervention was developed for infants/toddlers/children with multiple problems (Sterkenburg, 2013). This means that this intervention addressed the factor *‘infant temperament’*, in which the intervention tried to treat serious problem behaviours of infants by rebuilding the attachment relationship between the infant and the parents or primary caregiver.

- **Ouder-baby interventie**
  In this intervention, two factors of secure parental attachment were addressed (Nikken, 2009). Regarding the individual characteristics of the mother, this intervention addressed the factor *‘mental health’*, since this intervention is especially developed for depressive mothers. The intervention addressed this factor by cognitive restructure. Depressive mothers often think negatively about themselves as mothers but also about their child. An explanation was given that these thoughts maintain and sometimes even reinforce depressive feelings. With the help of techniques from cognitive therapy, an attempt is made to restructure the negative thoughts and to convert them into a more positive way of thinking. Regarding the individual characteristics of the infant, the intervention addressed the factor *‘infant temperament’* by advising the mother about how to cope with infants who cry a lot or experience sleeping or eating problems. There was no factor addressed focused on the contextual sources of stress and support.

- **Stevig Ouderschap**
  In this intervention, five factors of secure parental attachment were addressed (Bouwmeester-Landweer, 2017). Regarding the individual characteristics of the mother/father, the factor '*childhood history'* was addressed by talking about the parent's own childhood and development history in which this could prevent transgenerational transfer. The factor '*representation of (unborn) infant'* was addressed by discussing the process and experiences of the pregnancy and by providing tips for expectant parents to prepare for parenthood. Regarding the individual characteristics of the infant, the intervention addressed the factor *'infant temperament'* by supporting and advising the parent about the behaviour of the infant. Regarding the contextual sources of stress and support, the factor *'marital relationship'* was addressed by discussing the support of the social network including the relationship between the parents themselves. The factor *'parenting stress'* was addressed in the intervention by talking about moments of stress and how the parents could prevent the moments of stress.

- **NIKA**
  This intervention focused on the individual characteristics of the infant. The intervention targets mothers with young infants/toddlers who experience difficulties by sensitive parenting and upbringing skills (Draaisma, 2014). The factor '*infant temperament'* was addressed in this intervention by showing signals of infants and how to react on these signals. With the use of videos, the mother sees her own negative disruptive parenting behaviour and with psychoeducation this behaviour was discussed and adjusted.

- **Shantala babymassage**
  In this intervention, two factors of secure parental attachment were addressed (Roeland & de Lange, 2015). Regarding the individual characteristics of the infant, the factor *'infant temperament'* was addressed by assisting the mother or father to recognize signals of the infant and to be more aware of these signals. Regarding the contextual sources of stress and support of parents, the intervention addressed the factor '*parenting stress'* by focussing on topics that lead to parenting stress. The professional handles topics that parents mention themselves during the home meetings. There was no factor addressed focused on the individual characteristics of the mother/father.

- **K-VHT**
  This intervention addressed three factors of secure parental attachment (Eliens & Prinsen, 2017). Regarding the individual characteristics of the infant, the intervention addressed the factor *'infant temperament'* by focussing on infants with a difficult temperament or who cry a lot. The target group also includes premature born infants (the factor *'preterm birth')* and toddlers with difficult behaviour and children who have problems with eating, sleeping and toilet training. K-VHT focused on the parents of these children. Regarding the contextual sources of stress and support, the factor *'parenting stress'* was addressed in this intervention by talking about everyday parenting difficulties. With the use of videos, parents could learn of difficult situations, situations when they experienced stress, and improve their parenting behaviour and skills. There was no factor addressed focused on the individual characteristics of the mother/father.

9.4. Invitation and information letter for participants (in Dutch)
9.5 Informed consent (in Dutch)
9.6 Topic guide (in Dutch)

Informatie en uitnodigingsbief 'Hechting'

Centrale onderzoeksvraag: hoe kunnen JGZ professionals uit Twente aanstaande/prille ouders het beste voorlichten zodat veilige ouderlijke hechting wordt gewaarborgd gedurende de 1001 kritieke dagen?

Beste JGZ professional,

U ontvangt deze informatie en uitnodigingsbrief omdat u als JGZ professional te maken heeft met aanstaande/prille ouders. Om deze reden zou ik u willen vragen deel te nemen aan dit onderzoek. Deelname aan dit onderzoek is vrijwillig en schriftelijke toestemming is nodig. In onderstaande tekst vindt u informatie over het onderzoek. Wilt u deze informatie rustig doorlezen en wanneer nodig contact opnemen met de onderzoeker? De contactgegevens vindt u onderaan deze brief.

Algemene informatie,
Mijn naam is Marlies Pepers en ik ben Masterstudent Public Administration (Bestuurskunde) en recentelijk MSc Health Sciences (Gezondheidswetenschappen) aan de Universiteit in Twente. Sinds februari 2019 ben ik bezig met een gecombineerd afstudeertraject over veilige ouderlijke hechting. Dit onderzoek vindt plaats in samenwerking met GGD Twente, de Academische Werkplaats Jeugd in Twente (AWJT) en LOES.

Achtergrond informatie onderzoek
Veilige hechting tussen ouders en kind tijdens de eerste jaren van het leven van een baby is van cruciaal belang voor de constructie van gehechtheids-representaties, omdat in deze periode de hersenen worden gevormd, hetgeen de toekomstige sociale, emotionele en cognitieve ontwikkeling van de baby beïnvloedt.
Laagdrempelige preventieve (evidence-based) interventies, ook wel opvoedings-educatie, wordt op dit moment aangeboden door JGZ professionals van GGD Twente/LOES in samenwerking met verloskundigen in de regio Twente. Om te achterhalen in hoeverre het concept veilige ouderlijke hechting wordt besproken in deze interventies worden alle interventies vanuit de regio Twente die te maken hebben met hechtingsprocessen geanalyseerd. Daarbij worden JGZ professionals geïnterviewd over hun visie over hechtingsprocessen in de praktijk en op welke manier aanstaande/prille ouders het beste voorgelicht kunnen worden om die veilige hechting te waarborgen in de 1001 kritieke dagen.

Doel van het onderzoek
Academische kennis vanuit eerder verricht onderzoek over veilige ouderlijke hechting combineren met praktijkervaringen van JGZ professionele zorgverleners met het uiteindelijke doel om een aanstaande/prille ouders voor te lichten over het belang van een veilige hechtingsrelatie in de 1001 kritieke dagen.

Wat betekent uw deelname
Uw ervaringen en aanbevelingen zijn zeer waardevol voor dit onderzoek. Om inzicht te krijgen in uw visie over veilige ouderlijke hechting wordt u 1 op 1 geïnterviewd.
Dit interview vindt plaats op een plek die volgens u geschikt is. Het interview duurt ongeveer 30-45 minuten en wordt opgenomen met een audio-recorder op de telefoon.

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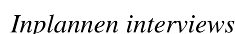

Inplannen interviews
De interviews kunnen gepland worden in de **periode van 21 oktober tot 9 november**.

Mogelijke risico's
De risico's van dit onderzoek zijn voor u minimaal, aangezien u alleen uw visie deelt over veilige ouderlijke hechting in de praktijk.

Mogelijke voor- en nadelen
Het voordeel van uw deelname aan dit onderzoek is dat de resultaten bijdragen aan een verbeterde voorlichting voor aanstaande/prille ouders om veilige ouderlijke hechting te waarborgen. Een nadeel is dat het u tijd kost om geïnterviewd te worden.

Deelname onderzoek
U beslist zelf of u deel wilt nemen aan dit onderzoek. Als u besluit deel te nemen dan ontvangt u voor aanvang van het interview een formulier waarin u verklaart toestemming te geven voor deelname aan dit onderzoek. U kunt op elk moment beslissen om te stoppen met deelname aan het onderzoek, hier is geen verklaring voor nodig.

Einde van het onderzoek
Uw deelname aan het onderzoek stopt wanneer: (1) het interview is opgenomen, (2) u besluit te stoppen met deelname aan het onderzoek; (3) de onderzoeker aangeeft dat het beter is om te stoppen; (4) GGD Twente/AWJT/LOES of de Universiteit Twente besluit het onderzoek te stoppen.
Het gehele onderzoek is afgerond wanneer alle interviews zijn opgenomen. Wanneer de resultaten hiervan verwerkt zijn, ontvangt u een update met informatie over de resultaten.

Gebruik en bezwaren persoonsgegevens
Alle interviews zullen worden uitgeschreven en anoniem worden opgeslagen. U krijgt een identificatienummer dat met uw persoonlijke gegevens wordt gekoppeld. Uw persoonlijke gegevens worden weggelaten uit de uitgeschreven interviews. Deze persoonlijke gegevens zijn vertrouwelijk en worden alleen gedeeld met het onderzoeksteam bestaande uit de onderzoeker en de begeleiders vanuit de Universiteit Twente en GGD Twente.

Ethische commissie
Het onderzoek is goedgekeurd door de ethische commissie van de faculteit BMS van de Universiteit Twente.

Vragen?
Wanneer u vragen heeft omtrent dit onderzoek kunt u contact opnemen met Marlies Pepers, m.a.pepers@student.utwente.nl of +31615452932.

Hartelijk dank voor het lezen van deze informatie en ik plan graag een moment in om het interview te laten plaatsvinden midden oktober

Met vriendelijke groet,
Marlies Pepers, Master student Universiteit Twente

Begeleiding vanuit de Universiteit Twente/GGD Twente
Dr. Pieter-Jan Klok, Universiteit Twente
Prof. dr. Ariana Need, Universiteit Twente
Dr. Sandra Gijzen, GGD Twente

Toestemmingsverklaring 'Hechting'

Door dit toestemmingsformulier te ondertekenen erken ik het volgende:

- Ik ben voldoende geïnformeerd over het onderzoek door middel van een separaat informatieblad. Ik heb het informatieblad gelezen en heb daarna de mogelijkheid gehad vragen te kunnen stellen. Deze vragen zijn voldoende beantwoord.

- Ik neem vrijwillig deel aan dit onderzoek. Er is geen expliciete of impliciete dwang voor mij om aan dit onderzoek deel te nemen. Het is mij duidelijk dat ik deelname aan het onderzoek op elk moment, zonder opgaaf van reden, kan beëindigen. Ik hoef een vraag niet te beantwoorden als ik dat niet wil.

- Ik geef toestemming om de gegevens die gedurende het onderzoek bij mij worden verzameld te verwerken zoals is opgenomen in het bijgevoegde informatieblad.
  Ja ◯ Nee ◯
- Ik geef toestemming om tijdens het interview opnames (geluid/ beeld) te maken en mijn antwoorden uit te werken in een transcript.
  Ja ◯ Nee ◯
- Ik geef toestemming om mijn antwoorden te gebruiken voor quotes in de onderzoek publicaties.
  Ja ◯ Nee ◯
- Ik geef toestemming om de bij mij verzamelde onderzoeksdata te bewaren en te gebruiken voor toekomstig onderzoek en voor onderwijsdoeleinden.
  Ja ◯ Nee ◯
- Ik geef toestemming voor alles dat hierboven beschreven staat.

Naam Professional:	Naam Onderzoeker:
Handtekening:	Handtekening:
Datum:	Datum:

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Interviewprotocol/Topic guide ‘Hechting’

Centrale onderzoeksvraag: hoe kunnen JGZ professionals uit Twente aanstaande/prille ouders het beste voorlichten zodat veilige ouderlijke hechting wordt gewaarborgd gedurende de 1001 kritieke dagen?

Schriftelijk interviewprotocol voor onderzoek uitgevoerd door Marlies Pepers
Master student Bestuurskunde aan de Universiteit Twente

Introductie

Datum:……………………………………………………………………………………
Tijdstip:…………………………………………………………………………………..
Locatie:…………………………………………………………………………………..
Namen van deelnemers:………………………………………………………………….
……………………………………………………………………………………………

Belangrijke informatie

Voorstellen: Mijn naam is Marlies Pepers en ik ben master student Bestuurskunde aan de Universiteit Twente. Voor mijn master thesis voer ik dit onderzoek uit in samenwerking met GGD Twente, de Academische Werkplaats Jeugd in Twente (AWJT) en LOES Opvoedondersteuning.

Doel van onderzoek: Visie en praktijkervaringen van JGZ professionals uit Twente achterhalen met het uiteindelijke doel om aanstaande en prille ouders voor te lichten over het belang van een veilige ouderlijke hechting in de 1001 kritieke dagen.

Content: Dit interview bestaat uit vijf delen, waaraan een aantal vragen zijn gekoppeld. De vijf delen bestaan uit enkele kennismakingsvragen, het concept hechting, interventies over hechting in Twente, een strategie om aanstaande en prille ouders preventief voor te lichten en enkele afsluitende vragen.

Duur van het interview: Het interview duurt ongeveer 45 minuten.

Audio-opname: Ik wil u vragen of u ermee instemt dat dit interview wordt opgenomen. Het interview wordt namelijk uitgeschreven. Aan het einde van het onderzoek wordt de audio-opname verwijderd. Gaat u akkoord met het opnemen van dit interview?

Toestemmingsformulier: Ik wil u vragen dit toestemmingsformulier goed door te lezen en vervolgens te ondertekenen. In het toestemmingsformulier staat onder andere dat u ermee akkoord gaat dat dit interview wordt opgenomen, dat u recht heeft om op elk gewenst moment het interview stop te zetten en dat uw gegevens vertrouwelijk worden behandeld door het onderzoeksteam.

Vervolgens starten van de audioapparatuur en starten met het interview

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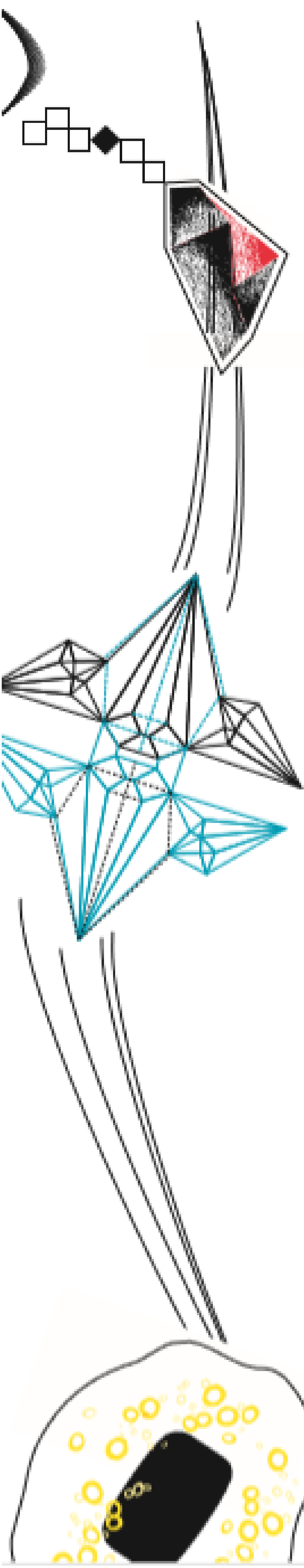

Deel 1: Kennismaking
Ik zou graag enkele algemene gegevens van u willen noteren.

Geslacht:………………………………………………………………………………….
Leeftijd:…………………………………………………………………………………..
Opleiding:………………………………………………………………………………...
Functie:…………………………………………………………………………………...
Hoelang bent u al werkzaam in deze functie:……………………………………………

1. Wat zijn uw werkzaamheden binnen deze functie?

2. Komt u tijdens uw werkzaamheden regelmatig in aanraking met aanstaande en prille ouders?
   Zo ja: Hoe? Wat voor type ouders dan met name?
   Zo nee: Waarom niet? Welke rol heeft u dan?

Deel 2: Hechting

3. Zou u mij in uw eigen woorden kunnen omschrijven waaraan u denkt bij het begrip 'hechting' als we kijken naar een relatie tussen ouders en kind?

4. Waarom denkt u dat veilige hechting tussen ouders en (ongeboren) kind zo belangrijk is?
   ➔ Bent u bekend met de 1001 kritieke dagen?
   Zo ja: Deelt u de mening dat hechting extra aandacht verdiend in deze periode?
   Zo nee: [Marlies geeft uitleg over de 1001 kritieke dagen]

5. Wat voor factoren zijn volgens u van belang die een veilige hechting bevorderen en of belemmeren in de 1001 kritieke dagen?

Parafraseren en deze factoren structureren op basis van de determinanten van ouderschap van Belsky (1984): factoren afhankelijk van individuele karakteristieken van de vader/moeder, over de (ongeboren) baby of de sociale context van beide ouders

6. In eerder verricht onderzoek heb ik gekeken naar factoren die van invloed zijn op veilige ouderlijke hechting in de eerste 1001 kritieke dagen, dit zijn de volgende 16 factoren [poster meenemen met daarop de 16 factoren].
   Waar denkt u aan bij de eerste factor [X], de tweede factor [X] enzovoort en in hoeverre denkt u dat deze factor van belang is? En waarom?
   ➔ Bij elke factor die u noemt, hoe zou u die benadrukken in een preventieve voorlichtingsinterventie om de veilige ouderlijke hechting te waarborgen in de eerste 1001 kritieke dagen?
   Onderscheiden tussen aanpasbare en niet-aanpasbare factoren

7. Denkt u dat er op dit moment voldoende aandacht wordt geschonken aan deze 16 factoren in preventieve voorlichtingsinterventies om veilige ouderlijke hechting te waarborgen in algemene zin, dus in Nederland?
   ➔ Voor welke factoren geldt dit wel en voor welke factoren geldt dit niet?

Deel 3: Interventies gericht op hechting in Twente

8. Wanneer u kijkt naar uw eigen werkzaamheden, hoe en op welke manier schenkt u aandacht aan veilige ouderlijke hechting?
   - ➔ En op welk moment gedurende de 1001 kritieke dagen (pre/postnataal)

9. Bent u bekend met de cursussen van Zwanger in Twente en Cursusbureau Twente?
   - ➔ Zo ja: wat vindt u van deze cursussen?
   - ➔ Verwijst u aanstaande en prille ouders vaak door naar deze cursussen?

10. Kijkend naar de preventieve voorlichtingsinterventies die gegeven worden in Twente, denkt u dat deze voldoende gericht zijn op veilige ouderlijke hechting?
    - ➔ Waarom denkt u dat?

11. Wat zijn naar uw mening de sterke punten van dergelijke preventieve voorlichtingsinterventies uit Twente?
    - ➔ Wat kan er beter?

Deel 4: Strategie om aanstaande/prille ouders voor te lichten

12. Als JGZ professional, hoe denkt u dat we aanstaande en prille ouders het beste kunnen voorlichten om het belang van veilige ouderlijke hechting over te brengen?
    - ➔ Wat vinden volgens u aanstaande en prille ouders belangrijk?

13. Een strategie om aanstaande en prille ouders voor te lichten bestaat normaliter uit vijf componenten: de lengte van de interventie, setting (individueel/groep), leermethode, inhoud en de expertise van de professional [uitleg geven over componenten].
    - ➔ Op basis van deze componenten, hoe zou dan volgens u de ideale preventieve voorlichtingsstrategie eruit moeten zien om aanstaande en prille ouders voor te lichten over het belang van veilige ouderlijke hechting?

      Onderscheid maken in de volgende vijf componenten
      - Lengte van de interventie
      - Setting
      - Leermethode (online, DVD, zelf)
      - Inhoud → benadrukken 16 factoren van veilige ouderlijke hechting
      - Expertise van de professional

Deel 5: Afsluiting

14. Zijn er nog andere punten, die we niet besproken hebben in het interview, die van invloed kunnen zijn op de veilige ouderlijke hechting in de eerste 1001 kritieke dagen?

15. Heeft u nog aanbevelingen? Vragen?

<u>Bedankt voor uw deelname aan dit interview. De audio-opname wordt nu gestopt.</u>

9.7 Current approach of prenatal and postnatal collective preventive parent education interventions

Table 18: *Recommendation to improve current local collective preventive parent education interventions*

Recommendation for Zwanger in Twente 1 (Birth and maternity period)	
Current situation: Birth and Maternity period	By the midwife are (1),(2),(3), by the maternity nurse are (4),(5) and (6): (1) preparations for giving birth; information about a birth-plan, where do you want to give labour (hospital/at home?), video about hospital MST, practical information for the preparation of childbirth at home and in the hospital. (2) the child-birth; infant will engage before labour and the first woe, information about when the labour starts (woes every 4-5 minutes, start-up and active phase), when do you call the midwife, how do the hormones work during childbirth, what can you do when you experience pain and pain medication, dilation and pushing and short video about a childbirth. (3) the period shortly after the birth: cutting the umbilical cord, Apgar score and infant measurements. For the mother, birth of placenta, suturing, start breastfeeding and skin-to-skin contact. (4) the maternity nurse: during the delivery and during the maternity period; what are the duties of the maternity nurse during the first hours and in the first week of the maternity period. (5) sleeping and safety: sleeping place, what is a safe sleeping place and how do infants sleep, making a bed, which kind of mattresses - sleeping safely – jars, not too hot; (6) care and feeding: rotating care: what is rotational care, why rotational care and how do you do that, breastfeeding or formula feeding, explain how the mother would feed her infant.

Table 19: *Recommendation to improve current local collective preventive parent education interventions*

Recommendation for Zwanger in Twente 2 (Contact with your infant)	
Current situation: Contact with your infant	The topics that are discussed are: (1) restlessness: experiences with crying infants, facilitate group discussion about earlier experiences of infants who cry massively, explain that crying is normal, especially during the first six weeks; (2) rest and regularity, preventing unnecessary infant crying by daily routines, avoid stimuli and put your infant in bed when the infant is still awake. Sleeping and sleeping signals, what are these signals. (3) turning care and talking to the infant: what, why, how do you do that? What is rotational care, why rotational care and practice the rotational care. How do you dress and undress your infant and practice. Talk to your infant, by providing information, showing how you talk to an infant and practice the behaviour.

Table 20: *Recommendation to improve current local collective preventive parent education interventions*

Recommendation for Zwanger in Twente 3 (Infant on the way)	
Current situation Infant on the way	The topics that are discussed are: (1) your infant and safety: (a) purchase infant equipment, thus what kind of crib do you buy, mattresses, supplies to keep your infant warm, supplies that you need to care for your infant, clothing for your infant,(b) safe sleeping → video about safe sleeping, explain why safely sleeping is so important, (c) a safe home environment, think of animals, fire safety and (d) safe transportation, in a baby carrier and in the car with the use of a car-chair for infants. (2) breastfeeding or formula feeding: (a) making a choice about the feeding possibility; (3) maternity period: (a) maternity care, what are the duties of the maternity nurse, (b) restlessness, why do infants cry, (c) rotating care, why rotational care and how do you do that, (d) rest and regularity (a) prevent heavily crying, sleeping patterns and being awake and sleeping signals.

Table 21: *Recommendation to improve current local collective preventive parent education interventions*

Recommendation for Cursusbureau Twente – Toddlers with temperament	
Current situation Toddlers with temperament	The topics that are discussed in the three sessions of this intervention are: **Session 1: Strengthening the development of the toddler and increasing the attachment bond:** (1) Development of the toddler including information about brain development, facilitate discussion about what happens in the brain of the infant, (b) the socio-emotional development, discuss and explain what parents could do to cope with the emotions of toddlers; (2) play and exercise, (a) explain what toddlers learn during play and exercise moments and facilitate group discussions about plays that stimulate the development of toddlers, ask parents how they handle arguments

	during plays of several toddlers. (b) the motor development, provide information about the motor development of toddlers, (3) strengthening the attachment bond with the toddler → show video, (d) giving time and attention, at what kind of moments do you give your toddler attention, facilitate a group discussion about how you compliment your toddler and how toddlers react on compliments. **Session 2: Toddler emotions and the stimulation of development of the toddler:** (1) Language-speech development, how do you stimulate the development of speech of your toddler; (2) pre-school emotions, happy, sad, scared and angry, what are the emotions that toddlers have, how do you do when your toddler cries, how do you cope with moments of jealousy of your toddler; what do you do if your toddler is afraid or angry → show video. (3) stimulate development by spontaneous learning moments, reward cards and basic rules; **Session 3: Preschool skills and difficult toddler behaviour:** (1) Eating, sleeping, becoming toilet-trained; (a) facilitate group discussions about how you handle your toddler if your toddler does not want to eat. (b) discuss sleeping problems and provide tips about what helps, (c) what can you do to make your toddler toilet-trained, facilitate group discussions and ask parents how they would deal with this. (2) dealing with difficult behaviour, ignore, direct address, obedience routine; provide tips and facilitate group discussions and practice a roadmap with how parents could cope with difficult behaviour. (3) difficult toddler behaviour such as crying and temper tantrums: facilitate group discussions

Table 22: *Recommendation to improve current local collective preventive parent education interventions*

Recommendation for Cursusbureau Twente – Toddlers emotions	
Toddler emotions	The topics that are discussed during the meeting are: (1) ensuring a secure environment; (2) Happy and sad, joy, crying, jealousy; (3) being afraid is part of it, fear of separation, fear of unknown things; (4) angry toddler, it is normal to be angry, temper tantrums, how do you handle them?