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Early Family Interaction – How to Practise It?

Thesis

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Thesis abstract

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The aim of this thesis is to determine what kind of important activities should be practiced in young family groups in order to act as a future model for young and inexperienced families. This thesis tackles the importance of early interaction for the development of babies, and suggests the crucial activities to integrate them into daily routines. Using the method of literature review, ten (n=10) research articles were reviewed. The result from reviewing these 10 articles recommended eight main important activities to practise, namely eye contact, baby massage, reading to baby, limiting mobile usage when interacting with babies, breastfeeding, infant skin care, skin-to-skin contact, baby talk and “parentese” language. These activities should be performed together or with other daily routines involving the parents and the babies.

Keywords: parenting, family interactions, early childhood intervention, parent-child relation

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1 INTRODUCTION

The topic of the thesis is about early interactions within the family, the benefits it brings, and how to practise and develop it. This thesis tackles the importance of early interaction on the development of babies, and suggests the methods to practise early interaction through literature review. As a result, this thesis can act as a reference for future parents and health care professionals to gain a deeper insight into the practice of early interactions inside the family, and its benefits in children development.

The practical purpose of this thesis was to answer the question:

- *What are the main factors of early interaction activities by using literature review as a method?*

The purpose of the thesis was to produce a poster for young families about early interaction activities by using evidence-based knowledge produced by results of literature review. Therefore, background information about Finland and the South Ostrobothnia region regarding family statistics and children's wellbeing will be discussed, especially Finland's culture reflected in its tradition. The main and most challenging issue that was tackled in this thesis is how to recognize different methods for practicing early interactions in a family through literature reviews.

2 THEORETICAL FRAMEWORKS

2.1 Early family interactions

To understand the concept of early interactions within a family, the definition of family interaction is introduced. Family interaction belongs to the definition of family functioning, which is a process that requires the interactions of family members in order to achieve a common goal, such as basic needs, decisions making and rules establishing, at the same time promoting individual and family development (Carvalho, 2014). Family functioning includes family communication, family cohesion, family roles, rules and intergenerational conflicts, and family boundaries.

It is suggested that early interactions between infants, children and adolescents with their parents have a beneficial impact on health across their lifespan (Chen et al, 2017). Comforting relationships during childhood should result in better physiological and health development for children, while constant abuse and conflict pose a higher risk of adverse health outcomes across their course of life. These so-called interactions also include interaction between mother and father, as constructive resolution of marital conflict would positively affect children's social adjustment in the future (McCoy et al, 2009).

Therefore, early interaction is every interaction between baby and parents in order for the child to convey its needs to the parents and the parents to learn how to identify these needs (hel.fi, 2019). Interaction happens when both parties have the time and space to express themselves. Even though babies have their own methods of expressing their needs through basic interactions, namely curious looking, touching, making noises, expressing simple emotions like smiling and crying, their hunger cues (the signals they make to suggest that they are hungry) are mostly similar. It is the parents' responsibilities to learn to recognize their babies' methods of communication and interact accordingly.

Moreover, according to the Family Support guidelines published on the website of the city of Helsinki (2019), early interaction should start already when the baby is still in the womb, as infants' physical growing and psychological development are

rapid, even on a daily basis. Babies would already learn to recognize their parents' voice and, furthermore, listening to parents' daily conversation would support babies in speech practicing in the future. Even though babies' comprehension is still not adequate, they can still feel the affection and emotion through parents' verbal communication to them and hence, parents are encouraged to always express their affection and love to let the babies know they are important and special since the babies are still in the mother's womb. This early interaction can help promote a healthy development for the child's self-esteem in the upcoming years.

In this thesis, early interaction is classified into: communication (e.g. baby talk), affection (e.g. skin-to-skin contact) and participation (e.g. breastfeeding, vauvatus, baby play). These interactions are often interlaid with each other during any of the activities between the parents and the babies.

2.1.1 Baby talk

Gradually when babies develop, the mentioned early passive interactions can be further integrated into more active and exchanging interactions, including games and rhymes as babies start to acquire their own baby talk (Brennan, 2019). Acquiring early speech and language skills means better chance of success in developing reading, writing and interpersonal skills later in life. Some methods that parents can adopt to encourage the development of speech and language skills in their newborns are:

- Smiling and paying attention to the baby;
- Coo-ing and vocalizing with babies' talk (even though they are random sounds and meaningless words);
- Being patient and always looking into the baby's eyes (eye contact)
- Having back-and-forth conversation with the baby by imitating the baby's vocalizations such as "ba-ba" or "goo-goo", at the same time consolidating communication by smiling and mirroring facial expressions, and even imitating

the baby's gestures. Slowly, as the babies grow and develop, the complexity of the conversation can also improve accordingly, even adults' talk.

- Speaking to babies slowly throughout the day with stressing and intonation; engaging with and narrating to babies also in daily routines; reading to them; demonstrating and explaining pictures from a book; introducing different objects; celebrating and encouraging babies when they interact back; using positive statements to direct their behaviour (instead of saying "don't go there", say "go there or come here"). The more babies listen to their parents' talk, the faster they acquire speech and language skills.
- Singing songs.

The Australian parenting website raisingchildren.net.au (raisingchildren, 2018) suggests playing with new-borns through different simple yet effective methods, which does not necessarily involve toys. Playing with new-borns also helps in strengthening the parental bonds with the child and simultaneously create a safe environment of trust. Moreover, it is one reliable method to detect the babies' personalities, whether they are quiet or calm or funny and noisy. Some simple methods to play with the new-borns are singing, tickling, counting toes, blowing raspberries, making funny faces (peekaboo, as new-borns enjoy watching faces), letting baby touching and feeling objects, putting and monitoring babies and reading to babies. It should be noted that diaper changing is one of the many great opportunities to spend time playing with babies face-to-face.

2.1.2 Skin-to-skin contact

It is not exaggerated to say that new-borns' best place is in the arms of their parents, as skin-to-skin contact is one of the most important interactions. Gavin (2019) noted that with every touch comes a new lesson about life and its surroundings for the babies, as they also learn to recognize their primary caregivers, adapting to feeling comfortable with physical interaction and feeling safe, soothing, and calm. It strengthens the bond between parents and babies. Therefore, WHO (2009) recom-

mends that skin-to-skin interaction between mothers and babies should start immediately and uninterrupted since the moment of birth for a minimum amount of one hour, regardless of feeding preferences and birthing methods. This sensitive moment is often regarded as the “magical hour”, “golden hour” or “sacred hour”.

The definition of skin-to-skin care is to place dried, unclothed new-borns onto their mothers' bare skin (specifically the chest area) with reasonable heated blankets or towels covering the new-born's back. Because of its nature, skin-to-skin contact is often called kangaroo care. Skin-to-skin interaction is further encouraged whenever possible beyond the moments of birth (Crenshaw, 2014). Keeping mothers and babies together even 24 hours a day (so called rooming-in) brings numerous benefits to both parties. Exchanging looks is significant during this growing time, as babies start developing their sight day by day, and they are able to see things already from 20 to 30 centimetres away (Gavin, 2019). Therefore, it is encouraged to give new-borns appealing things to look at including human faces, bright colours, contrasting patterns, movements and especially gazing into the eyes of mother and father.

2.1.3 Breastfeeding and interaction through feeding

Breastfeeding has undoubtedly been the most important early interaction between mother and baby with many well-established benefits for both parties. Besides supporting bonding between mothers and babies, breast milk is believed to be the best source of nutrients for babies' growth, while at the same time boosting babies' immunity and regulating healthy bacteria in the intestines (Breiner et al, 2016). Breastfeeding is associated with a small increase in performance on intelligence test later in life, decreased risk for developing type 2 diabetes or obesity in later years, and a decreased risk for developing cardiovascular diseases (Horta et al, 2013). Moreover, according to the U.S Department of Health and Human Services (2011), breastfeeding has been proven beneficial to mothers' health, for instance reducing the risk of postpartum depression, certain cancers, and chronic diseases such as diabetes. WHO (2011) also recommend breastfeeding exclusively for infants under 6 months, and continuing breastfeeding while gradually introducing alternative nutrition for chil-

dren from 6 months to 2 years. Breastfeeding introduces opportunities for more interactive behavior between mothers and infants such as touching, gazing (eye contact), telling stories, reading, or just sharing moments together (Crenshaw, 2014).

Fathers' roles in breastfeeding should not be neglected, as this is a great opportunity for fathers to bond with mothers and babies. In fact, studies have suggested that fathers' attitudes towards breastfeeding are mostly supportive, interested and involving even though they do not have much experience with it. The reason is understandable, as fathers tend to feel excluded, embarrassed and nervous with breastfeeding, as they do not know how to support their partners during the process. DeMontigny et al (2018) pointed out that lack of involvement in breastfeeding process might facilitate paternal postpartum depression and might negatively affect father-infant bonding. Datta et al (2012) suggested that the perceived main roles of father in breastfeeding is important but often overlooked. Fathers' role in breastfeeding is to be supporters and facilitators of the process. These responsibilities include providing a calm and comfortable environment for the mothers during breastfeeding by performing house chores, taking care of older children, and ensuring mothers' comfort. Moreover, emotional support such as encouragement, affection, and anticipating mothers' needs are also needed (deMontigny et al, 2018). Besides, fathers are encouraged to bond with infants during breastfeeding by calming babies before feeding, ensuring comfortable positioning of both mother and baby while performing gentle touch and physical proximity during feeding. Burping and changing diapers, bathing, massaging, cuddling, putting the babies to bed, and singing or playing with the babies after feeding are activities that can easily be carried out by fathers.

2.2 Family interactions during daily routines

2.2.1 Baby care

As stated in the previous parts of this thesis, babies need touch, skin contact, physical and verbal interaction, and eye contact through daily routines. Daily routines as defined in Addessi's study (2009) is the cyclical repetition of daily activities variedly and changeably. This institutes a solid foundation in the babies' development, which

allows them to establish the very first connections with the people around them. Gradually, they will learn to adapt and develop perception to events and rhythms, understanding and acting accordingly to the sequences performed. Some of the basic daily routines to provide fundamental care to the babies include changing babies' diapers, bathing the babies, caring for babies' skin after bathing, and treating the baby's umbilical stump.

Changing diapers is a crucial daily routine activity, through which a reciprocal relationship between the parents and baby would be established (Rime, 2018). This represents an excellent opportunity for babies to acquire affectionate exchanges and socioemotional skills, and for the parents to generate a better sense of parental self-efficacy in order to release the strains on parents-babies' relationship if there are any. During diapers changing, it is encouraged to found a connection with the baby, by looking into their eyes, encourage the baby's participation in the process, and communicate either through conversations or through baby talk. Addressi (2019) suggests singing or playing music during diapers changing to enhance the baby's experiences and give rhythm to temporal organization.

Bathing babies and after care, if done right, will become a valuable experience for both parents and the baby. The Family Support guidelines published on the website of the city of Helsinki (2019) suggest that a baby should be bathed daily with suitable bath water temperature (37°C). During this activity, babies should be held securely and safely, and the task should be performed gently and affectionately. Communication is important, since babies could be scared and crying. Thus, parents are advised to talk to the baby in a tender and calm manner while also try to engage the baby in the activities which, if done right, the babies would enjoy bathing much more. Such interaction is advised during the process of skin care after bathing, and also during treating the baby's umbilical stump.

One baby care practice that could be taken into consideration is baby swaddling, as it shows some beneficial values for the sleeping quality of the babies and strengthens the parental bond with the infant. Meyer (2011) presented one definition of swaddling as "a close wrapping of an infant, usually with a light cloth and the head exposed". This practice gives parents an intimate touch with the baby, where connection, communication and participation can be performed. Besides, Pease et al

(2016) mentioned in their study some noticeable benefits of baby swaddling, which include higher quality of sleep, more quiet sleep, fewer spontaneous arousals and crying during sleep. Further benefits are improvement in neuromuscular development for very low birth weight infants, reduced physiologic and behavioural distress among premature infants, and improved calming and sleep for infants with neonatal abstinence. However, there is an alleged risk associated with swaddling regarding sudden infant death syndrome and thus, the advice is to avoid positioning babies on their front or side to sleep, especially during swaddling. Furthermore, Nelson (2017) suggested that swaddling practice models should be based on evidence, while maternity and neonatal nurses should promote informed decision-making among infant caregivers regarding swaddling. Some precautions with baby swaddling are swaddling securely to minimize the risk of unwrapping, avoiding overheating, placing infants to sleep supine, and discontinuing swaddling when infants show signs of rolling over.

2.2.2 Vauvatus

When this thesis is to be presented in Alajärvi health care centre, another family interaction called “vauvatus” in Finnish will also be introduced. The Family Support guidelines published on the website of the city of Helsinki (2019) defines vauvatus as a parent-baby interaction method that facilitates family interaction, thereby strengthening the parental bond with the baby. This is a rewarding experience for both parties, as the baby would be heard and appreciated, while the carer would understand and learn to communicate and interact better with the baby in the future. This practice’s principles are that a baby perceives its own experiences about the external environment through various and repetitive series of movements. Hence, gradually it acquires the ability to recognize and react to those movements.

In the vauvatus practices (brochure included in the appendixes), babies from two months old would be taught 4 separate moves which would be repeated as a series of movements 5 to 7 times, two or three times a day and always in the same steps. During such interaction, eye contact, tenderness and a calm manner are important factors. The aim is to allow the babies to eventually learn the movements within two

weeks and then start to lead back to the carers. As a result, the adults and baby would have the opportunity to communicate via baby talk, and parental bond would be consolidated. The practice of *vauvatus* would generate the most desirable outcome when the baby's wellbeing is good. It should be avoided when the baby is ill, tired, hungry or has just eaten.

2.2.3 Mobile phones and its effect on children's development

The introduction of mobile phones into human's life has been proven to pose both positive and negative effects on daily interactions. In one study from 2016 by Myruski et al about mothers' excessive use of mobile phones, it turns out that children tend to express distress behaviour and less resilience when the mothers were on the phones all the time. This highlights the idea that mobile phones could be another form of maternal withdrawal and unresponsiveness, which could harm the infant social-emotional functioning and parent-child interaction. Another study from 2015, conducted by AVG on a more international scale, suggested that children feel unimportant when parents use the phone inappropriately, and often have the needs to compete with technology for parents' attention. More than 505 of the children claimed that their parents spend too much time on the phone.

Mobile phone can be a distraction, and distracted parental attention might harm babies' development and negatively affect their ability to engage in social activity. Bazam(2016) concluded in one of her studies that "fragmented and chaotic maternal care disrupts brain development, which can lead to emotional disorders later in life". Radesky (2014) backed this theory by her own study, whose findings also suggest that parents should put down their phones to pay more attention to their children, as cell phone use interferes with healthy parenting. Face-to-face interactions are the primary way babies learn about emotions and language, and if not possible, babies would be missing a major foundation on a healthy development.

2.2.4 Shaken Baby Syndrome

One common question that many young parents would ask is how safe it is to play with the baby by tossing them in the air. Tossing babies in the air is considered to be fun to play, despite many warnings about its association with shaken baby syndrome. Joyce (2019) introduced one definition of shaken baby syndrome as paediatric abusive head trauma, which involves brain injury of infants and young children. These can be caused by violent shaking, blunt impact (injuries from dropping from a high level or throwing a child), or a combination of both. The consequences of the shaken baby syndrome ranges from complete recovery to severe brain damage and even death. However, it is suggested that bouncing a child on the knees, minor falls, even rough play like tossing babies in the air, might not pose a serious risk of shaken baby syndrome. Still, parents are advised not to toss the babies in position that might cause the head to whip back and forth as it might cause shaken baby syndrome, and also to play in a safely environment with safety precautions.

2.3 Finnish families

2.3.1 Statistics of families in Finland

The information presented in this thesis could be beneficial for any types of family with children, especially in Finland. According to Statistics Finland's data (2018), at the end of 2017, there were 1,472,000 families in Finland with a total of 39 percent of the population belonging to a family with children. A deeper look into these data also shows that the type of family formed by a married couple of opposite sexes is still the most dominant, with 58% of families of children, followed by families of cohabiting couples with children (20%), and families of a mother and children (19%). Single families consisting of a father and children was not that common, with only 3%, but that does not diminish the importance of acquiring knowledge regarding father and children interaction within families. Statistics Finland's data also shows that the number of underage children with families in Finland is 1,046,000 in 2017, and the average number of children in families is 1.85. Within the figures of families

with children, 43 per cent had 1 child, 39 per cent 2 children, and 13 per cent 3 children. Parents-child interaction is more important in families with only one child, and North, Central and South Ostrobothnia (where Alajärvi is situated) are the regions with the lowest proportions of families with only one child.

According to a survey done by YLE at the end of 2018, the wellbeing of the majority of children in Finland is at a good level, except for the fact that the past two decades have been witnessing a steady increase in the number of children diagnosed with psychological issues. Furthermore, the number of incidents of children conducting self-harming practices have also increased and it is not limited only to teenagers as in the past. There are several causes for this, one of which is the hectic schedules and the demands of parenthood of the parents which might result in a lack of family interaction, and consequently apply an inevitable pressure on their children. Thus, family interaction should be practiced well in Finland.

2.3.2 Father's role in Finland

Mesiäislehto-Soukka (2005) presented the experiences of Finnish fathers in the context of family life after the babies were born. Using the method of phenomenological analysis, with data collected from both first-timers and fathers that are more experienced, this study suggested that there were 15 individual situational meaning structures concerning the experiences from the fathers' point of view, which can be constructed into general situational meaning structures concerning the fathers' experiences of family life. Namely, the meaning of obtaining and building a home which produced joy, happiness, but also responsibility and concern. The meaning of growing and developing as a man in handling the wife's pregnancy, the delivery and the new child. The meaning of adjusting to the changed situation, based on their own childhood experiences and upbringing, their growth into fatherhood and their actions as fathers, and the meaning of appreciating the professionals' methods of meeting and caring for the expectant family from the healthcare professionals. However, it is vital to note that fathers in the study also voiced their concerns about how the approaches during these meetings were mother-oriented and more often ignored the fathers' participation. Therefore, in the span of this thesis, most of the important

early family interactions will be introduced concerning also the involvement of fathers, even during breastfeeding.

3 METHODS OF LITERATURE REVIEW

3.1 Literature review

This Bachelor's thesis utilizes the method of literature review to find the answer to the research question: What are the main factors of early interaction activities by using literature review as a method. The purpose of the thesis was to produce a poster for young families about early interaction activities by using evidence based knowledge produced by results of literature review.

Dewey (2016) proposed that “a literature review identifies, selects and critically appraises research in order to answer a clearly formulated question”. In other words, it aims to collect relevant information about a particular topic based on research articles. As such, it should be a transparent and cohesive search from various reliable databases, with an effective search strategy accentuated on answering the given question. The steps involved in a literature review include identifying information searched, assessing information searched, and documenting information searched within known timeframes. The review should include all the search terms, search strategies with database names, platforms, dates of search and limitations. Briefly speaking, a literature review is expected to present a summary of the already existing materials written about a particular topic related to the thesis question.

Grant et al (2009, p91) points out that literature reviews originated in the field of medicine and are connected to evidence-based practice. Consequently, literature reviews have proven to be a reliable source of information especially in the field of social and health care. It is recommended for healthcare professionals to read and study about the new researches coming daily related to their work, even though it might be time consuming and difficult to process and understand. Therefore, a well-executed literature review will assist the health care professionals tremendously in viewing pieces of research in relation and within context of other research to draw a complete picture about the mentioned topic.

3.2 Methods of the review

The main idea from the beginning was to search for a minimum of 10 articles discussing the importance of early family interaction and their principles in practicing it, especially among young parents who have little experience with infants. The search for these articles happened during the period of September 2019 to April 2020. The articles were searched from three main databases: PubMed, Academic Search Elite (Ebsco host) and through the library web pages of Seinäjoki University of Applied Sciences SEAMK Finna. The reason was that these databases are easy to use, and provide reliable and cost-free full text articles. Another database utilized during this search period was through the published academic journal "Parenting: Science & Practice", where researches and studies from the year of 2010 to 2019 were collected and reviewed.

The main key concepts of this thesis are parenting, family interactions, early childhood intervention, and parent-child relations. These concepts also shaped the key words used during the search process, which were family interactions, early childhood, communication, affection, and participation. The search terms were:

- family interaction AND early childhood AND communication
- family interaction AND early childhood AND affection
- family interaction AND early childhood AND participation
- family interaction or family involvement or family relationship AND family relationships or family relations or family dynamics or family functioning AND early childhood

However, the search shew no promising results, as most of the articles searched discuss mainly about theory, circling the themes of family interaction and early childhood without practical information about how to practice it and what activities are recommended to young parents to interact with their children. Therefore, the original search terms were modified into simpler words and terms to generate better outcomes. These terms were:

- infants or babies or new-borns AND skin-to-skin contact or skin contact or kangaroo care or baby care
- infants or babies or new-borns AND baby talk or communication or mobile phones
- infants or babies or new-borns AND eye contact
- infants or babies or new-borns AND breastfeeding

These modified search terms were chosen because they resonate closely with the topic of this thesis about how to practise early interaction within families. As mentioned earlier in the previous parts of the thesis, interaction can be categorized into three main factors: communication (baby talk), affection (skin-to-skin contact, eye contact) and participation (baby care, breastfeeding, mobile phones). Following this modified searching terms, more relevant research articles emerged. The next step would be to apply the inclusion and exclusion criteria to select the most appropriate in the scope of this thesis.

Inclusion criteria to accept the research articles were:

1. The research articles were published in a scientific journal between the years 2009 – 2019.
2. The sample of the family participating in the research should consists of families with babies or infants less than 3 years old.

Exclusion criteria for the research articles were:

1. Studies focus mainly on the theoretical frameworks of family interactions without practical activities for young families.

Altogether, 19 studies were collected. Abstracts were then read to select the most suitable research articles. Out of these 19 studies, five studies indicated promising contents from the headlines, but were not chosen eventually because of the exclusion criteria. Among the remaining 14 studies, one was rejected, because it was not real research but an article for a magazine. One article was also deemed not relevant for this thesis since the babies chosen in the study suffered from hearing loss.

Two more research articles were not chosen for this thesis because they shared the same findings and were included in one review article which was already chosen for this thesis. In the end, ten research articles were selected for analysis.

3.3 Analysis of the material

The ten articles selected were relatively new. The oldest one was conducted in 2011, and the latest one was published in February 2010. Table 1 in Appendixes shows how many articles were published and the year of publication.

Table 1. Years of publication for the selected research articles

Year of publication	2011	2012	2015	2017	2018	2019	2020
Number of research studies	1	1	1	2	1	3	1

All eight of these articles were published in different journals, namely Environment International, Parenting, Proceedings of the National Academy of Sciences (2 articles), Journal of Clinical Chiropractic Pediatrics, Obzornik Zdravstvene Nege Journal, Infant Behavior & Development, Opinion in Pediatrics, Publishing online, and the journal of Early Human Development. Table 2 in Appendixes illustrates briefly the method of research, the samples, the purposes and the results of each of these studies, in chronological order.

Table 2. Details regarding the research articles selected

Authors and their research	Method of research	Sample of research	Main objective	Main results

<p>Guellai, B., & Streri, A. (2011)</p> <p>Cues for early social skills: direct gaze modulates newborns' recognition of talking faces.</p>	<p>Experimental research</p>	<p>24 full-term newborns (14 males)</p>	<p>How important are speech and eye gaze in guiding early face processing and social cognition development from birth?</p>	<p>The results highlight the importance of both speech and eye gaze as socio-communicative cues by which infants identify others. They suggest that gaze and infant-directed speech experienced together are powerful cues for the development of early social skills.</p>
<p>Dosler, A. J., Skubic, M., & Zidaric, T. S. (2012)</p> <p>Massage - the bond between mother and child: a pilot study</p>	<p>A descriptive and non-experimental causal research method</p>	<p>12 mothers and 12 babies Ljubljana Faculty of Health Sciences - Slovenia</p>	<p>To study about the reactions of babies to massage as perceived by mothers, the reasons mothers opted to take part in the massage programme and the quality of the latter.</p>	<p>Baby massage has a positive effect on parent-infant reciprocal interaction and the baby's overall well-being. Baby massage should become part of the holistic family care.</p>
<p>Gottfried, A. W., Schlackman, J., Gottfried, A. E., & Boutin-Martinez, A. S. (2015).</p>	<p>Longitudinal Study</p>	<p>Data from the 28-year Fullerton Longitudinal Study were analyzed using structural</p>	<p>The quantity of time mothers read to their young children and the print environment in their homes were examined</p>	<p>The specific experience of being read to during the early years has long-term educational benefits that traverse the academic lifespan.</p>

<p>Parental provision of early literacy environment as related to reading and educational outcomes across the academic lifespan.</p>		<p>equation modeling.</p>	<p>for their relations to reading achievement and intrinsic motivation across the school years and to educational attainment in adulthood.</p>	
<p>Birks, L. et al (2017)</p> <p>Maternal cell phone use during pregnancy and child behavioral problems in five birth cohorts</p>	<p>Generalized EMF Research using Novel Methods.</p>	<p>83,884 mother-child pairs in the five cohorts from Denmark (1996–2002), South Korea (2006–2011), the Netherlands (2003–2004), Norway (2004–2008), and Spain (2003–2008)</p>	<p>Assessment of associations between prenatal cell phone use and child behavioral problems.</p>	<p>Maternal cell phone use during pregnancy may be associated with an increased risk for behavioral problems, particularly hyperactivity/inattention problems, in the offspring.</p>
<p>Leong, V. et al (2017)</p> <p>Speaker gaze increases information coupling</p>	<p>Experimental research</p>	<p>2 experiments. One with 17 infants and the second one</p>	<p>To determine whether direct gaze increases neural coupling between adults and infants during</p>	<p>Direct gaze strengthens bi-directional adult-infant neural connectivity during communication. Ostensive social signals could act to bring</p>

<p>between infant and adult brains</p>		<p>with 19 infants</p>	<p>screen-based and live interactions.</p>	<p>brains into mutual temporal alignment, creating a joint-networked state that is structured to facilitate information transfer during early communication and learning.</p>
<p>Choi H.J., Kang S.K., Chung M.R. (2018)</p> <p>The relationship between exclusive breastfeeding and infant development: A 6- and 12-month follow-up study</p>	<p>A longitudinal study conducted over 12 months</p>	<p>255 mothers and their infants living in South Korea were seen at three time-points based on infants' age (4, 6, and 12 months).</p>	<p>To identify the beneficial relationship between exclusive breastfeeding and infant development.</p>	<p>Exclusive breastfeeding up to 4 months of age followed by mixed breastfeeding might maximize the effects of infant development in their first year after birth. Exclusive breastfeeding for at least 4 months benefits infant development.</p>
<p>Zimmerman E., Connaghan K., Hoover J., Alu D., Peters J. (2019)</p> <p>Is feeding the new play? Examination of the maternal language and prosody used during infant feeding</p>	<p>Experimental research</p>	<p>12 full-term healthy infants from 6 to 13 months old and their mothers</p>	<p>To examine maternal language and prosody production during feeding (milk versus solid foods) and playing with their infant compared to an adult-directed speech.</p>	<p>Feeding offering more lexical diversity than play and that mealtime may provide such an opportunity for speech and language input.</p>

<p>Johnson E, Hunt R. (2019)</p> <p>Infant skin care: updates and recommendations.</p> <p>Current Opinion in Pediatrics.</p>	<p>A review</p>		<p>Reviews research updates and current skin care recommendations for full-term infants, premature infants, and infants born with severe cutaneous manifestations of genetic skin disorders.</p>	<p>Delaying the first newborn bath for 12–24h of life offers benefits of increased parental bonding and breastfeeding success. Environmental control with humidified incubators helps prevent life-threatening hypernatremia dehydration among babies born with collodion membranes. However, affected infants can tolerate breaks outside of the humidifier to promote parent–infant bonding.</p>
<p>Defrancq K. (2019)</p> <p>Giving birth: a review of the value of skin-to-skin contact in a medicalized birth</p>	<p>A review</p>	<p>31 articles</p>	<p>Assessment the benefits of kangaroo mother care, as it should be employed as a routine postnatal practice to enhance optimal growth and health of the newborn.</p>	<p>The research states that (early) skin-to-skin contact is the most simple, cost-effective and life-saving 'intervention' a child can get. There is enough supporting material showing its benefits on the child's mental and musculoskeletal health.</p>

<p>Ferjan Ramírez, N., Lytle, S. R., & Kuhl, P. K. (2020)</p> <p>Parent coaching increases conversational turns and advances infant language development</p>	<p>Experimental research</p>	<p>79 families of typically developing 6-mo-old infants</p>	<p>Identifying how parents talk to infants is strongly associated with children's language development.</p>	<p>Using "parentese", a socially and linguistically enhanced speaking style, improves children's social language turn talking and language skills.</p>
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4 THE RESULTS OF THE REVIEW

After reviewing all the articles selected, a list of the factors presenting in early family interaction through these research studies was combined as followed: eye contact, baby massage, reading to baby, limited mobile uses when interacting with babies, breastfeeding, infant skin care, skin-to-skin contact, baby talk and parentese language.

In total, there are eight factors mentioned. It should be noted that these factors, in one way or another, are linked and connected to each other in the purpose of establishing early family interaction. Therefore, these factors can be categorized into three main family interaction forms mentioned throughout this thesis: communication, affection and participation, and can be sorted out as demonstrated in Table 3.

Table 3: Three main family interaction forms and their factors

Communication	Affection	Participation
Reading to baby	Eye contact	Baby massage
Baby talk and parentese language	Skin-to-skin contact	Infant skin-care
Eye contact		Breastfeeding
Limited mobile use when interacting with babies		Baby talk and parentese language

Among these factors, eye contact or eye gazing have been mentioned and emphasized twice in two articles, one from 2011 and one from 2017, whereas other factors were the main theme of its own research. In order to understand all the factors thoroughly, and how they contribute to the three main types of early family interaction forms covered in this thesis, the category of communication is a good starting point.

In communication with babies, the newest research from 2020 encourage the practice of baby talk when interacting with the babies and even converse with babies in

“parentese”, which is defined as a more linguistically advanced speaking style, although babies’ minds are too young to comprehend it. However, it has been proven to contribute beneficially to the development of children’s language skills. One other study from 2012 also emphasized the importance of reading to babies, since this experience has a long-term positive impact on the children’s education that might traverse throughout the academic lifespan. Furthermore, it is significant to remember that eye contact during communication is crucial, as a study from 2011 has presented the importance of practicing speech and eye-gaze together, as they make up for a powerful foundation to a strong social skill in the future. Another study on the same topic from 2017 stressed that direct gaze facilitates information transfer and learning. The final factor to consider when communicating with babies is limitation on mobile use, even since the babies are still in the womb, as one international large-scale study has associated maternal cell phone use with an increased risk for hyperactivity or attention deficit in children.

Meanwhile, eye contact is a major factor in expressing affection to babies, even though it was not the main findings of any accepted study, but it was mentioned briefly in those studies, as it shows love and connection from mothers and fathers to children. In fact, direct gaze between parents and babies might stimulate neural synchronization, which results in mutual connection and understanding between the two parties, as the study in 2017 demonstrated. However, the main factor in showing affection to babies is skin-to-skin contact, as one research in 2019 stated that skin-to-skin contact should be acknowledged as “the most simple, cost-effective and life-saving 'intervention'” for the babies as early as they were born into the world and since then to when they are children. Skin-to-skin contact has been backed with supporting studies and research to possess various benefits on the physical and mental development of babies.

Participation encourages the mutual contribution of both the parents and babies in interaction, even though the activities themselves are often initiated and guided by adults. A study from 2012 suggested that giving massage to babies should be integrated into daily infant care as part of holistic family interaction, as baby massage has been studied to impose a positive effect on parent-infant reciprocal interaction and the baby's overall well-being. Baby massage could be a good activity for babies

and parents to play together and eventually bond. Diapers changing and infant skin care after bath can be another helpful activity in bonding parents and child. One study from 2019 reminded us that, however, postponing the first newborn bath for 12-24 hour of life might result in increased parental bonding and breastfeeding success. The utilization of environmental control and humidified incubators during infant skin care can also strengthen the process of bonding. Finally yet importantly, as mentioned earlier, breastfeeding provides a multitude of benefits for both parents and babies. One study from 2018 confirmed that with the suggestion of exclusive breastfeeding up to 4 months of age followed by mixed breastfeeding. This can help optimize the babies' development, especially in their first year after birth. Another study in 2019 also stated that feeding time is not necessarily feeding time, but also playtime for both parties. In fact, feeding time might be more beneficial than playtime as it provides a precious opportunity for speech and language input, along with parental bonding to the child.

5 DISCUSSION

5.1 Reliability and validity

The reliability of this literature review depends significantly on the reliability of the chosen articles, whether they are relevant and accurately executed. From the author's point of view, all the articles chosen were conducted carefully and professionally in an academic setting. Furthermore, these articles were recent, with the oldest in 2011 and latest in 2020, so possible biased errors might be neglected. The findings thus can be considered reliable in the scope of this thesis.

5.2 Limitations

The biggest limitation for this literature review comes from the inexperience of the author in this field, the broadness of the topic, the number of research articles found, and even the language barrier. Family and infant care are not a field that the author is familiar with since the author has not had a family at the time of this thesis's publication. Therefore, it is difficult to compare the findings of this thesis to his own experience to check the applicability.

In addition, literature review is a new concept that the author did not have many opportunities to practice and execute, therefore possible mistakes and errors are inevitable.

The broadness of this topic is another problem challenging the accuracy of this thesis. The concept of family interaction is quite complex and covers many activities that can be practiced to benefit the parents and their babies. Therefore, to narrow down and select the most suitable activities is quite challenging.

Another limitation is the number of research articles found that matched the question of this thesis. Most of the articles found focused heavily in the theoretical ideas of early family interactions. Because of this, we need to use creativity and develop methods on how to combine theory and practice among families in health care.

Lastly, language barrier is one limitation since the author has not been able to comprehend Finnish fluently. Thus, it was challenging to find articles answering the thesis question in Finnish, which actually can contribute significantly to the outcome of this thesis.

5.3 Discussion

This literature review answered the question:

What are the main factors of early interaction activities by using literature review as a method?

This literature review suggesting eight main activities that fall under the three categories of communication, affection, and participation. These eight factors are:

- Eye contact
- Baby massage
- Reading to baby
- Limited mobile use when interacting with babies
- Breastfeeding
- Infant skin care
- Skin-to-skin contact
- Baby talk and “parentese” language

These eight factors are all findings from the ten articles selected. All of the selected articles mentioned the importance of these activities during the early years of the babies (with one even mentioning the effect during pregnancy). Some of these activities are encouraged to become integrated further with each other or other daily baby care routines. For examples, eye contact and baby talk are always recommended during any activities, especially during reading time, or breastfeeding or feeding. Skin-to-skin contact is recommended right after the baby is born and can

be practiced regularly after that. Mobile phone use should be limited when interacting with babies, and even during pregnancy. In some activities, babies could also be encouraged to actively participate even with simple actions, such as during infant skin care or baby massage.

As mentioned, the purpose of the thesis was to produce a poster for young families about early interaction activities by using evidence-based knowledge produced by results of literature review. Eight important activities have been suggested to enhance the experiences and benefits of early family interaction, especially in young families lacking of experiences. The poster will use eight factors in both English and Finnish and will add very concrete pictorial material for young families in health care.

The author itself noticed some limitations in writing this study, one of which is how the study could provide a more in-depth view on this topic should it have been done in pairs or a group. Being inexperienced and considering this was the author's first written literature review, the author has gradually improved himself and the thesis as the writing progressed further. Another aspect to be noted is that the answers provided as a result of this thesis might be considered too general and obvious to some parents.

6 CONCLUSION

Using the method of literature review, this thesis aimed to illustrate important activities to practice in young family groups in order to act as a future preference for young and inexperienced families. In the end, ten scientific articles were chosen and eight main important activities are suggested, namely eye contact, baby massage, reading to baby, limiting mobile use when interacting with babies, breastfeeding, infant skin care, skin-to-skin contact, baby talk, and “parentese” language. These activities are often performed together unconsciously and with other daily routines involving the parents and the babies. This means that the role of fathers in interacting with babies is equally important as that of mothers. The findings of this thesis are satisfactory personally for the author, as all the studies and references (including the articles used for literature review) in this thesis was thoroughly read, and the findings resonate with what was suggested in all of these studies. However, the biggest limitation is the broadness of this topic and the limited amount of suitable articles used for literature review. Consequently, the findings might be considered obvious, general and simple. In order to generate a better insight into this topic, more in-depth knowledge about the field of parenting and infant care is required.

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APPENDICES