

# INFERTILITY AS AN EXPERIENCE AND ITS EFFECTS ON A RELATIONSHIP

A Literature Review

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Abstract <p>The purpose of the study was to find out how infertility was seen as an experience and how infertility and infertility treatments affected on an infertile couple's relationship. The aim of this study was to provide updated information in English about infertility for nursing students, healthcare professionals and other persons interested in this subject.</p> <p>The research method was a literature review. The data for the thesis was collected from the Medic, EBSCO, PubMed and Duodecim databases. The data search was limited to cover the years 2000-2013. As a result, nine articles or study reports were reviewed. Thematical content analysis was used in the analysis of the data.</p> <p>The findings of the literature review revealed that infertility was a difficult experience causing an emotional 'rollercoaster' and a deep crisis to infertile couples. The experience gave rise to the same emotions in both men and women, but their coping styles in this crisis were different.</p> <p>Counselling and peer-support have been seen as good ways to support infertile couples. Infertility is seen as a major threat to both femininity and masculinity. An infertility experience can either separate couples or bring the spouses more closely together. Infertility also has an impact on couples' sexuality. Negative emotions caused by infertility are easily reflected in the couples' bedrooms. Sexual intercourse becomes goal orientated, and sexual feelings are diminished.</p> <p>Infertility is an extremely sensitive issue. When infertility becomes part of a couple's life it is not easy to accept it. Infertility needs to be explored more in order to find more information about it for healthcare professionals, counsellors, infertile couples and other people interested in the subject.</p>		
Keywords Infertility, infertility experience, infertility crisis, infertility treatments, infertile couple, relationship, sexuality, literature review		
Miscellaneous Appendix 1: Literature search results		



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Tiivistelmä <p>Tutkimuksen tarkoituksena oli ottaa selvää kuinka lapsettomuus käsitetään kokemuksena ja kuinka lapsettomuus ja lapsettomuushoidot vaikuttavat hedelmättömän parin parisuhteeseen. Tutkimuksen tavoitteena oli tuottaa päivitettyä tietoa englanniksi lapsettomuudesta sairaanhoitaja opiskelijoille, terveydenhoitoalan ammattilaisille ja muille henkilöille, jotka ovat kiinnostuneita tästä aiheesta.</p> <p>Tutkimusmenetelmänä oli kirjallisuuskatsaus. Opinnäytetyön aineisto kerättiin tietokannoista, joita olivat Medic, EBSCO, PubMed ja Dodecim. Tiedonhaku rajattiin vuosiin 2000-2013. Lopuksi yhdeksän artikkelia tai tutkimusraporttia analysoitiin kirjallisuuskatsauksessa. Aineiston analyysissä käytettiin teemoittelua.</p> <p>Kirjallisuuskatsauksen tulokset paljastivat, että lapsettomuus on vaikea kokemus, joka aiheuttaa tunteiden vuoristoradan ja syvän kriisin lapsettomille pareille. Lapsettomuus kokemuksen aikana miehet ja naiset käyvät läpi samoja tunteita, mutta heidän selviytymiskeinonsa tässä kriisissä ovat erilaiset.</p> <p>Neuvonta ja vertaistuki ovat koettu hyväksi keinoiksi tukea lapsettomia pareja. Lapsettomuus nähdään suurena uhkana naiseudelle ja miehudelle. Lapsettomuus kokemus voi joko erottaa parin tai tuoda puoliset lähemmäksi toisiaan. Lapsettomuudella on myös vaikutus parin seksuaalisuuteen. Lapsettomuuden aiheuttamat negatiiviset tunteet heijastuvat helposti parin makuuhuoneeseen. Yhdyntästä tulee tavoitteellista ja seksuaaliset tunteet vähentyvät.</p> <p>Lapsettomuus on erittäin herkkä aihe. Kun lapsettomuudesta tulee osa parin elämää, sitä ei ole helppo hyväksyä. Lapsettomuutta täytyy tutkia enemmän, jotta siitä saataisiin lisää tietoa terveydenhoitoalan ammattilaisille, lapsettomille pareille ja muille aiheesta kiinnostuneille henkilöille.</p>		
Avainsanat (asiasanat) infertiliteetti, lapsettomuus kokemus, lapsettomuus kriisi, hedelmöityshoidot, lapseton pari, parisuhde, seksuaalisuus, kirjallisuuskatsaus		
Muut tiedot Liite 1: Tulokset kirjallisuuden hausta		

## Contents

1	Introduction .....	5
2	Infertility.....	6
3	Infertility treatments.....	7
	3.1 Hormonal treatments.....	8
	3.2 Assisted reproductive treatments.....	8
	3.3 Intra-uterine insemination (IUI) .....	8
	3.4 In vitro fertilization (IVF) .....	9
4	Ethics related to infertility treatments and current legislation.....	9
5	Purpose, aim and study questions.....	11
6	Methodology.....	11
	6.1 Narrative literature review.....	11
	6.2 Literature search .....	12
	6.3 Inclusion and exclusion criteria .....	16
	6.4 Thematic analysis .....	18
7	The study results.....	23
	7.1 Infertility experience .....	23
	7.2 Women’s infertility experiences .....	26
	7.3 Men’s infertility experience .....	29
	7.4 Infertility’s effects on couples relationships .....	32
	7.5 Infertility’s effect on couples sexuality .....	37
8	Discussions.....	39
	8.1 Conclusions and recommendations for further studies .....	39
	8.2 Reliability and ethics .....	41
9	Reflections.....	42
10	References: .....	45
11	Appendices.....	48
	Appendix 1: Literature search results .....	48

## Figures

Figure 1: Process of literature search .....	15
Figure 2: The process of making thematic analysis.....	22

## Tables

Table 1: Inclusion and exclusion criterias .....	17
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## 1 Introduction

Couples, who have been trying to get pregnant for over a year, are dealing with infertility (Tulppala 2007, 3). Infertility has no limits. It exists in every culture, in different social classes in all over the world (Salzer 1994, 25).

In 2010, the mean age of childbearing women in Nordic countries was 30 years. In Finland, the rate of women, who give birth at the age of 35 or over, is 18 %. (Heino & Gissler 2012a, 14.) It has been estimated that even 15 % of all couples in Finland have dealt with infertility at some point of their lives. During the year 2010 in Finland, 3169 pregnancies started via infertility treatments and 2687 babies were born as a result from those treatments (Heino & Gissler 2012b, 20). Tulppala (2007, 29, 34) reminds, that even though infertility treatments in Finland are top quality and the medical field of clinical genetics is developing fast, sometimes treatments will not succeed and couple cannot achieve a child. One fifth of all couples who enter to the treatments remain childless. (Tulppala 2007, 29, 34.)

Infertility often affects infertile couples causing feelings of disbelief, shame, jealousy and anger. It can lead to withdrawal from social contacts. Two thirds of infertile couples feel that the support they get from family and friends is enough. (Tulppala 2002.) Many are facing this growing problem without the ability to speak out. Infertility is still a taboo – it is a difficult problem to talk about. Questions to infertile couples about children are often painful and bring to mind visits in infertility clinic, all arguments and timetabled sex. Problems tend to feel like they are never-ending and not being resolved. (Salzer 1994, 13.)

The purpose of the study was to find out how infertility is seen as an experience and how infertility and infertility treatments effect on an infertile couple's relationship. The aim of this study was to provide updated information in English about infertility for nursing students, healthcare professionals and other persons interested in this subject.

## 2 Infertility

Infertility means diminished or absent ability to produce descendants; in either the male or the female. Infertility is not as irreversible as sterility. (Stedman's medical dictionary 2006.) Couples who have tried to achieve pregnancy by regular (at least once in a week) unprotected sexual intercourse for over a year are considered being infertile (Lapsettomien yhdistys Simpukka ry 2010).

Infertility is a growing problem in a western society and every year in Finland about 3000 couples seek medical help for infertility (Tulppala 2007, 3). About 15 % of all couples have infertility problems at some point of their lives. 80-85 % of couples succeed in getting pregnant usually within a year after they have quit using contraceptives. After this half of the remaining couples usually succeed in conceiving a child without treatments within the following year. (Tiitinen, 2009.) Usually the couple suffers from subfertility (Tiitinen 2009), which means impaired capability to conceive a child (Lääketieteen termit 2014). Quite rarely couple suffers from sterility which means absolute inability to conceive a child (Tiitinen 2009).

Reasons behind infertility can be found in both, men and women. One fourth of the reasons behind infertility are found in women, one fourth in men, one fourth in both partners and in the remaining fourth of infertility cases the factor behind infertility is unknown. (Tiitinen, 2009.) Sometimes the cause of infertility is not found in the medical examinations (10-20 %), but after the infertility treatments are commenced the reason behind infertility can be found (Tulppala 2007, 15). The most common reasons behind infertility are ovulatory dysfunction (20-30 %), tubal problems (10-15%), endometriosis (10-20 %) and poor quality sperm (10-15 %). Rarely reasons behind infertility are originating from uterus and infertility is seldom inflicted by sexual dysfunction. (Tiitinen 2009.) One of the reasons behind infertility can be age. Woman is the most fertile around the age of 25 years. After woman has turned 30 years, possibilities to get pregnant get smaller. At this age succeeding pregnancy gets harder and harder, year after year. (Javanainen, 2007.) Age has remarkably lower effect on men's infertility than it has on women's (Tiitinen 2013c).

One reason behind reduced infertility can be badly treated systemic diseases, e.g. diabetes. Being under- or overweight reduces female infertility and at the same time increases the risk of miscarriages. Furthermore overweight reduces the quality of sperm. Immoderate smoking impairs the function of the ovaries and sperm quality. Excessive alcohol consumption disturbs sperm production and effects on female infertility. Sometimes exposure to hazardous occupational substances may play a role behind subfertility. Sperm production may be abnormal due to infection, surgery or trauma or torsion of the testes or epididymis and problems associated with the descent of testes may also hamper sperm production. Some medicines impair the production of semen, e.g. testosterone, cytotoxic drugs, calcium channel blockers and long acting sulpha drugs. Additionally the use of anabolic steroids hampers sperm production and may lead to azoospermia, what means a total absence of sperm. (Tiitinen 2009.)

### 3 Infertility treatments

Medical investigation of infertility is started if pregnancy has not begun after one year unprotected regular intercourse. Sometimes, it is not necessary to wait even one year, if couple has e.g. history of amenorrhea or the absence of menstrual period. At first, the infertility investigations are done for both partners at the same time in general health care center. Nurse will chart couple's sexual and gynecological history. (Tiitinen 2009.)

Before entering into infertility treatments, couples go through medical examinations which hopefully show what the cause of infertility is. After examinations, treatments are planned according to couple's own wishes. The doctor will take into account what are the reasons behind infertility and what is woman's age. Before starting treatments, options other than infertility treatments should be discussed and also discussions about treatments that are failing should be approached. Typical treatments are hormonal treatments, surgical treatments (removing myomas, endometriosis) and assisted reproductive treatments (insemination and in vitro fertilization –IVF). (Tulppala 2007, 15.)

### 3.1 Hormonal treatments

Ovulation disturbances can be treated with different hormones. Basic idea in treatments targeting to ovulation is stimulate ovaries to produce at least one egg, what is hopefully fertilized after sexual intercourse. (Hedelmöityshoidot, 16.) The most common medicines treating ovulation disturbances are clomiphene and injections, containing pituitary gland hormone (FSH). Both of these treatments are targeting to growth and withdrawal of ovarian follicle. These treatments should be carefully monitored with ultrasonography, due to risk of multi-fetus pregnancies and efficiency of treatment. (Hedelmöityshoidot, 17.) According to Tulppala (2007, 15) if ovulation disturbances are the reason behind infertility, using these above mentioned hormonal treatments rate of successful fertilization is 80 %.

### 3.2 Assisted reproductive treatments

Insemination and in vitro fertilization (IVF) with its different forms are often called as assisted reproductive treatments. These treatments can be used when the reason behind infertility is not clear or there are some mild exceptions in sperm. (Tulppala 2007, 16.) Above mentioned treatments have very good successful rate. During year 2011 a total 8300 assisted fertility treatments were conducted using non-donated gametes, what lead to 3149 pregnancy and 2536 children were born. This is 4, 2 % of all born children in Finland in 2011. (Heino & Gissler 2012b, 23.)

### 3.3 Intra-uterine insemination (IUI)

In intra-uterine insemination, the man will bring a semen sample to the laboratory. Before the treatment, the semen sample will be washed. This procedure separates motile sperm from other cells and dead sperm. The most fertile sperm will be spread into the uterine cavity. Treatment will take only couple of minutes and there is no need for staying in hospital's recovery room after the procedure. (Tiitinen 2013b.) According to Assisted Fertility Statistics in Finland during the year 2011 fertility clinics performed 4932 IUI-treatments, of which 20.9 % of was done with donated sperm.



12. 2 % of all inseminations led to pregnancy and as a result of these pregnancies 473 children were born. (Heino & Gissler 2012b, 28-29.)

### 3.4 In vitro fertilization (IVF)

IVF is used in almost all infertility problems. It is the most successful treatment available for infertility. It was developed for those, who had a block in their fallopian tubes. Nowadays it is used with those who have tubal problems, endometriosis, semen problems and also when reason behind infertility is unknown. (Tiitinen 2013a.) During this treatment, several follicles are grown in ovaries with hormonal assistance. Hormonal treatment itself in IVF's is complicated and requires estrogen-level follow ups and ultrasonography is needed to observe the growth of the follicle. Grown follicles are collected in ovarian puncture and insemination is done with couple's own sperm or donated sperm in laboratory. One or more fertilized eggs are moved into woman's uterus and rest good-quality eggs are frozen. (Hedelmöityshoidot, 23.)

In year 2011 was done 2 180 IVF-treatments and from that number 542 babies were born (Heino & Gissler 2012b, 25-26). How treatments will succeed, depends highly from woman's age, cause of infertility, previous fertility and previous amount of fertility treatments. The degree of success rate per one treatment time is 25-40 % with women under 38 years old. (Tiitinen 2013a.)

## 4 Ethics related to infertility treatments and current legislation

Nursing practice involves care during all aspects of health, sickness, personal life and community life (Potter & Perry 2007, 66.) According to Potter & Perry (2007, 76) ethical problems are risen from different values, technological advances or/and uncertainty in decision making. There are people, who might find infertility treatments ethically unacceptable. E.g. Catholics or Orthodox Jews do not accept in vitro fertilizations or embryo transfers. They think that those treatments are manipulating human life. (Salzer 1994, 206.)

Some countries are thinking to leave infertility treatments out of public health care systems' financing list. It is common that people do not take infertility as an illness. These people are thinking that there are already too many human beings living on this planet and too many children are waiting for someone to adopt them. (Palo 2009, 20-21.)

In Finland, a new law about infertility treatments was released on 1.9.2007. According to this new legislation infertility treatments can be offered to married couples, domestic partners, lesbian couples and to independent women. (Fertinova, 2013.) The law determines conditions for offering infertility treatments, where gametes or embryos are used. It also states, how gametes are donated and stored. Vital key in this legislation is to safe child's balanced development. Infertility treatments are not given, if health care professionals have a suspect that pregnancy would harm woman's or child's health or parents cannot provide safe development for unborn child. Health care professionals cannot use gametes, that are genetically manipulated or embryos that are cloned or used in scientific researches, in infertility treatments. (Finlex, 2006.)

Law for Assisted Fertility Treatments will also determine who is suitable for donating gametes and what kind of information about the donor is given forward (Finlex 2006). According to Palo (1996, 14) some sperm banks have begun to collect really talented men's sperm. When e.g. woman, who is really ambitious and wants to start pregnancy with donated sperm. She selects only this kind of men's sperm. This can be held as a breeding and it's really unethical. (Palo 1996, 14.) In Finland the data given about the donor to the receiver is donor's hair-, skin- and eye colour and donor's ethnic background. Data about donor's personal skills are not shown to the receiver. This prevents receivers picking up only skillful donors' gametes and prevents breeding happening and also, only a doctor can select gametes, whose donor has similar appearance than a couple has. (Finlex 2006; Tulppala 2007, 25.) According to Finnish legislation, only 18 year old person, who has gone through physical examination and has given a written consent to donating gametes can donate. Donors are also informed, that child has a right to know his/hers biological

background after turning 18. If donor passes away all his/hers gametes will be destroyed. (Finlex 2006.)

## 5 Purpose, aim and study questions

The purpose of the study was to find out how infertility is seen as an experience and how infertility and infertility treatments effect on couple relationship.

The aim for this study was to provide useful information in English for nursing students, healthcare professionals and other persons interested in this issue.

### **Study questions:**

1. How infertility is seen as an experience amongst women?
2. How infertility is seen as an experience amongst men?
3. How infertility effects on infertile couples' relationships?
4. How infertility effects on infertile couple's sexuality?

## 6 Methodology

This chapter contains the details of methodological techniques used in this thesis project. Thesis was implemented by using the method of narrative literature review (general literature overview). The collected literature was explored by applying the method of thematic content analysis.

### 6.1 Narrative literature review

Literature reviews can be divided in three different main categories: descriptive review, systematic review and meta-analysis. Narrative literature review falls into category of descriptive literature review. Descriptive literature review is one of the most commonly used basic types of literature reviews. It can be described as a general overview without strict rules and it is also known as traditional literature review. In descriptive literature review methodological rules do not limit the data collection and the data collected can be extensive. However descriptive literature review enables wide describing of the phenomenon under the study and gives

possibility to categorize the features of the phenomenon under the study. (Salminen 2011, 6.)

Narrative literature review is methodically the lightest form of literature reviews (Salminen 2011, 7). It is known as traditional literature review or literature review. Narrative literature review gives general view of the topic. (Johansson, Axelin, Stolt & Ääri 2007, 4.) It can be divided in three different categories: editorial, commentative and general overview. Editorial narrative literature review is often relatively short and explored literature is restricted. Commentative narrative literature review aims to invoke discussions. It is not guided by strict methodical rules and the result is not objective. General literature overview was used in this thesis. This is the widest executing method of narrative literature reviews. It aims to condense previous studies related to the topic under the literature review. (Salminen 2011, 7.)

## 6.2 Literature search

Literature search is defined as a way of searching for information or some studies (O’Gorman, Macken, Cullen, Saunders, Dunne & Higgins, 2013). When doing literature search researchers come across with various materials. The material used for literature review is either from primary or secondary source. Primary source is a research report written by researcher who implemented the study. Secondary source means written description of research by someone else than the original researcher. Literature reviews are secondary sources. (Polit & Beck 2004, 89-90.)

Electronic databases and libraries online catalog systems provide wide variety of literature (Polit & Beck 2004, 92). For this thesis databases which were used were Medic, EBSCO, PubMed and Duodecim. Before literature search was started keywords were formed. Relevant keywords for this thesis are infertility, infertility experience, infertility relationship and infertility relationship and couple. Furthermore the most of the keywords were used in Finnish: lapsettomuus, lapsettomuus kokemus, lapsettomuus parisuhde. In the search process these keyword were used in different forms in order to reach as many reports as possible.

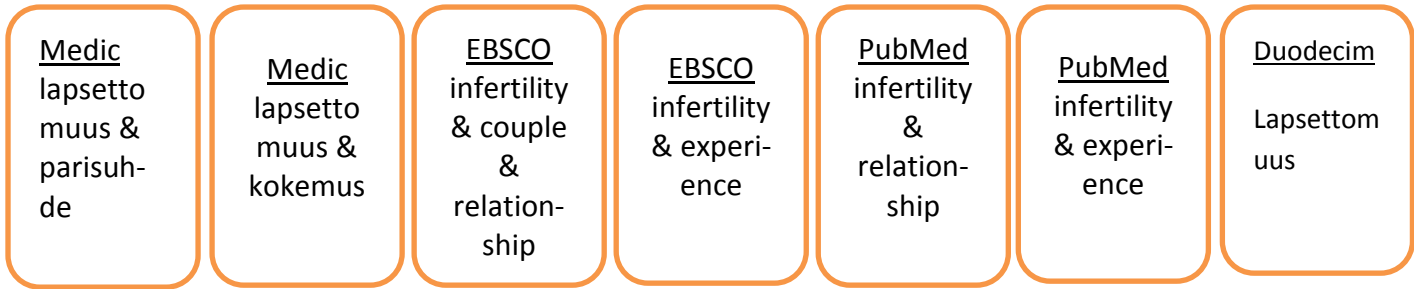
English electronic database search was conducted on 29<sup>th</sup> of November 2013. Databases used for English literature search were EBSCO and PubMed. Keywords that were used for EBSCO search were “infertility and couple and relationship” and “infertility and experience”. Other limitations in EBSCO search were that the publication could be published earliest on 1.1.2000 and latest on 29.11.2013, free full text should be available and the publication should be written in English or in Finnish. After these searches from this database the total amount of candidate publications for the literature review was 202. Then the titles and some of the abstracts were scanned through and in the end four publications were chosen for the literature review. Keywords that were used in PubMed search were “infertility and relationship” and “infertility and experience”. Other limitations for PubMed search were the same as in EBSCO search. In addition to these limitations publication had to discuss about infertility from human science point of view. After these searches the amount of candidate publications for the literature review from this database was in total 746. Then again titles and some of the abstracts were scanned through and researchers ended up taking two of these publications for the literature review.

Finnish electronic database search was also conducted on 29<sup>th</sup> of November 2013. Databases used for Finnish literature search were Medic and Duodecim. Keywords used for Medic search were “lapsettomuus and parisuhde” and “lapsettomuus and kokemus”. The searches was limited to cover years 2000-20013 and the synonyms for the keywords were in use. After the searches the total amount of candidate publications for the literature review was four and three of those were chosen for the literature review. Keyword used for Duodecim search was “lapsettomuus”. Other limitation for this search was that publication had to be published between 1.1.2000 and 29.11.2013. After this search the total amount of candidate publications from this database was 58. One of the publications was chosen for the literature review after scanning through the titles.

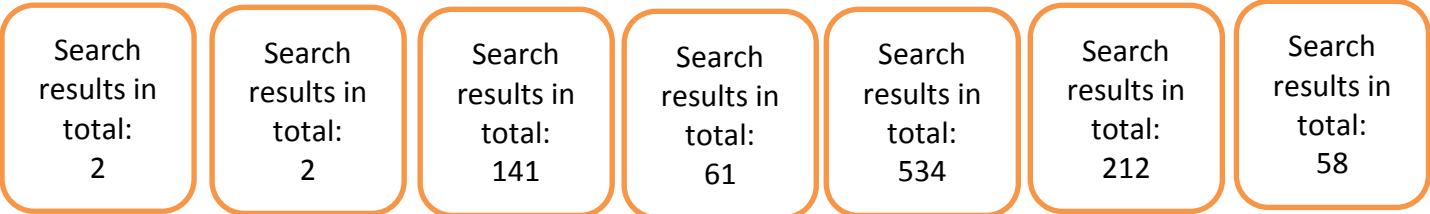
In the end nine publications were chosen for the literature review: four articles written in Finnish and one article written in English, three research reports written in

English and one literature review written in English. See figure one and appendix one for more information.

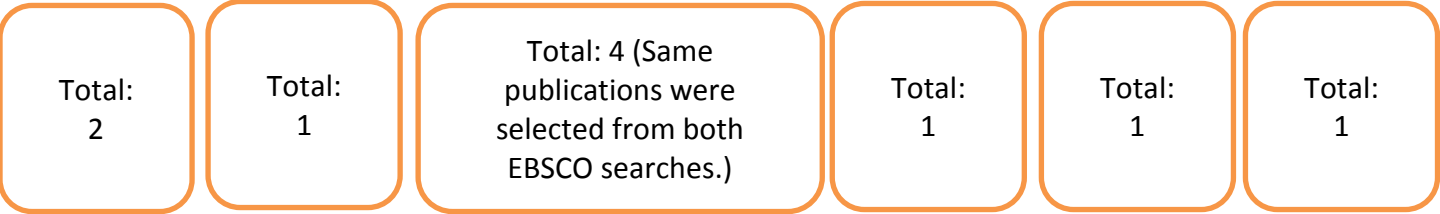
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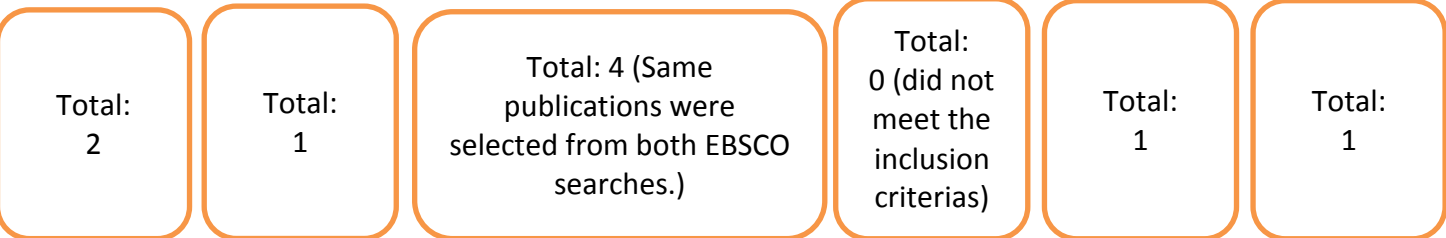
- LIMITATIONS:
- Published between 2000-2013
  - Full text available
  - Language: English or Finnish
  - Human science



Selected publications after reading a title/abstract.



Selected after closer reading.



9 publications were chosen for the literature review.

Figure 1: Process of literature search

### 6.3 Inclusion and exclusion criteria

Researchers will come across with wide range of information while literature searches process. Some of the material is included and some excluded. (Polit & Beck 2004, 89.) Inclusion and exclusion criteria's are rules which determinate selected studies for the review. Criteria's are set before the review is conducted. Inclusion and exclusion criteria's should flow logically with original study questions. (Shields 2013, 302.)

When conducting literature review it is good to be critical towards existing literature. Researchers have to evaluate, is the source reliable, if it is more than 10 years old, because healthcare and healthcare technologies develop rapidly. Furthermore reliability of literature should be estimated. Primary sources commonly are more reliable than secondary sources. When doing literature review it is also important to have some kind of criticism towards research reports. For example more experienced researchers' studies are often more reliable than inexperienced researchers' studies. The main guide for literature reviews is to choose high-quality scientific publications. (Kankkunen & Vehviläinen-Julkunen 2009, 70-71.)

For this thesis it was decided to use literature from year 2000 onwards. Publications have to discuss about the thesis' study question or questions. Scientific publications were included (including master and doctoral degree level theses and other scientific publications). Publications should discuss about the thesis subject within western societies. Literature should be written in English or in Finnish. (See table 1)



<b>Inclusion criteria</b>	<b>Exclusion criteria</b>
Publication year from year 2000 onwards.	Publication year 1999 or earlier.
Publication discusses infertility as an experience and/or infertility's effect on relationships of couples who are encountering infertility.	Publication does not discuss about infertility as an experience and/or infertility's effect on relationships of couples who are encountering infertility.
Scientific publications.	Bachelor degree level publications.
Written in English or in Finnish.	Written in any other language than English or Finnish.
The research report or article discuss about our thesis subject within the western societies.	The research report or article discuss about our thesis subject in developing countries.

Table 1: Inclusion and exclusion criteria

## 6.4 Thematic analysis

The aim of data analysis is to find comprehensive and clear answers to the original study questions. Analyzing technique should be chosen according to the demands of the data. The amount, quality and heterogeneity of collected data effect on what kind of analyzing technique should be chosen. (Kääriäinen & Lahtinen 2006, 43.)

For this thesis theoretical thematic analysis was chosen. Thematic analysis is a common way to implement data analysis in qualitative researches. It aims to identifying, analyzing and reporting themes within the data. (Liamputtong & Serry 2013, 375.) Theoretical thematic analysis is driven by researcher's analytic interest in the area. This method of data analysis provides more detailed information about some aspect of the data but at the same time the description of over all data is not so definite. In theoretical thematic analysis coding of the data is done for specific research questions or the research questions can evolve during the coding process. There are six phases in making theoretical thematic analysis: familiarizing yourself with the data, generating initial codes, searching for themes, reviewing themes defining and naming themes and producing report. Coding is developed and continued throughout the entire analysis process. The six phases of theoretical thematic analysis are applied with flexibility, because the analysis process is not linear where the phases are following each other step by step. Analysis process is rather more recursive where researchers should be moving back and forth between the phases throughout the analysis process. (Braun & Clarke, 2006.)

Getting familiar with the data means immersion to the data, repeated reading and reading the data in an active way. Even though researchers aim to provide answers to the original study questions, still it is important to be familiar with all aspects of the data. Ideally the entire data should be read through at least once before starting the initial coding. Also it's good to take notes or to mark ideas for coding while reading the data. (Braun & Clarke, 2006.)

Initial coding starts after the researchers are familiar with the data and after they have list or ideas about what is in the data and what is interesting in the data. (Braun

& Clarke 2006.) According to Liamputtong and Serry (2013, 368) code is a short phrase or a word that summarizes the salient essence of portion of the language based data. In coding researchers name their “chunks” of data under a label that categorizes, summarizes and describes that piece of data. This labeled part of data is called code. Ultimately these codes are the foundation for the bigger themes that are drawn from the data. (Liamputtong & Serry 2013, 368.) In theoretical thematic analysis coding is done with specific questions in mind. And around these specific questions researchers hope to code around. In coding researchers should work systematically and give equal attention to every data item in order to identify interesting aspects or repeated patterns (themes). Coding can be done manually or by using different software programs. (Braun & Clarke, 2006.)

Third and fourth phases in theoretical thematic analysis are theme searching and reviewing themes. Bryman (2012, 580) defines theme as a category identified by analyst through his/her data. Theme is something that relates to researchers study questions and it is built on codes. Theme provides for the researcher the basic information for theoretical understanding of the data. (Bryman 2012, 580.) As a result from coding researchers should have long list of different codes. In theme searching coded data should be sorted under potential themes and codes are analyzed and the similarities and differences of codes are searched. In the end of phase three researchers should have collection of candidate themes and subthemes and the coded data should be divided under the themes or subthemes. After the third phase reviewing themes should be applied. In this phase researchers refine candidate themes in to the final themes. Some of the candidate themes may not actually be really themes (e.g. not enough data) and some of the candidate themes may blend in to each other and form one theme. (Braun & Clarke, 2006.)

Fifth phase of theoretical thematic analysis is defining and naming themes. In this phase researcher define and further refines the themes. This means that researcher identifies the essence of each theme and at the same time researcher determines what aspect of the data each theme captures. In this phase researcher returns to collected data and organizes the data into coherent and consistent account. It is important that the themes are not trying to say too much or are not too complex.

After this phase researcher should know what the themes are about and what they are not about. Furthermore researcher should be able to boil down the content and the scope of one theme into few sentences. Name of the themes should give clear picture for the reader what the theme is about. (Braun & Clarke, 2006.)

Last phase of theoretical thematic analysis is producing the report. This phase involves the final analysis and writing the study report. The written report should tell the story of the data in a way that it convinces the reader of the merit and validity of researcher's analysis. Written report should be concise, coherent, logical, nonrepetitive and interesting story about the data. Furthermore there should be enough evidence for each theme and the essence of themes should be captured without unnecessary complexity. (Braun & Clarke, 2006.)

In this thesis project first researchers got familiar with the data by scanning the collected literature through quite quickly. Then the literature was read through with deeper focusing and at the same time issues that are relevant to the study questions were underlined. Coding started with three study questions in researchers' mind: How infertility experience is seen amongst women, how infertility is seen amongst men and how infertility effects on infertile couple's relationship. Codes were collected around the three study questions and these codes were written down into separate word document table. In that table was also marked if some of the codes were the same in different publications. During coding researchers realized that the publications that were chosen under the literature review discussed a lot about infertility's effects on infertile couples' sexuality. As a result from this a new study question was formed: how infertility effects on infertile couple's sexuality?

Main themes for the thesis were already quite clear in the beginning of third phase, because the coding was based on specific study questions. At this point codes were divided under the themes by using separate word document table. The similarities and the differences between codes were taken down also in to the table. After fourth phase of theoretical thematic analysis five main themes were formed: infertility as an experience in common, infertility experience from women's perspective, infertility experience from men's perspective, infertility's effects on

relationship and infertility's effect on infertile couples sexuality. For this thesis researchers had the themes quite well figured out already after phase four. Now the data had to be organized in to clearer and bigger entireties. These entireties of information were codes which were combined under a same subtheme and one subtheme was a subject for one or two chapters in the written report. The subthemes were built under these main themes by dividing codes into groups where similar issues were discussed. Data was organized in a way that the story of the data would be fluent and easy for reader to understand it. At the same time the written report was produced.

# THEMATIC ANALYSIS

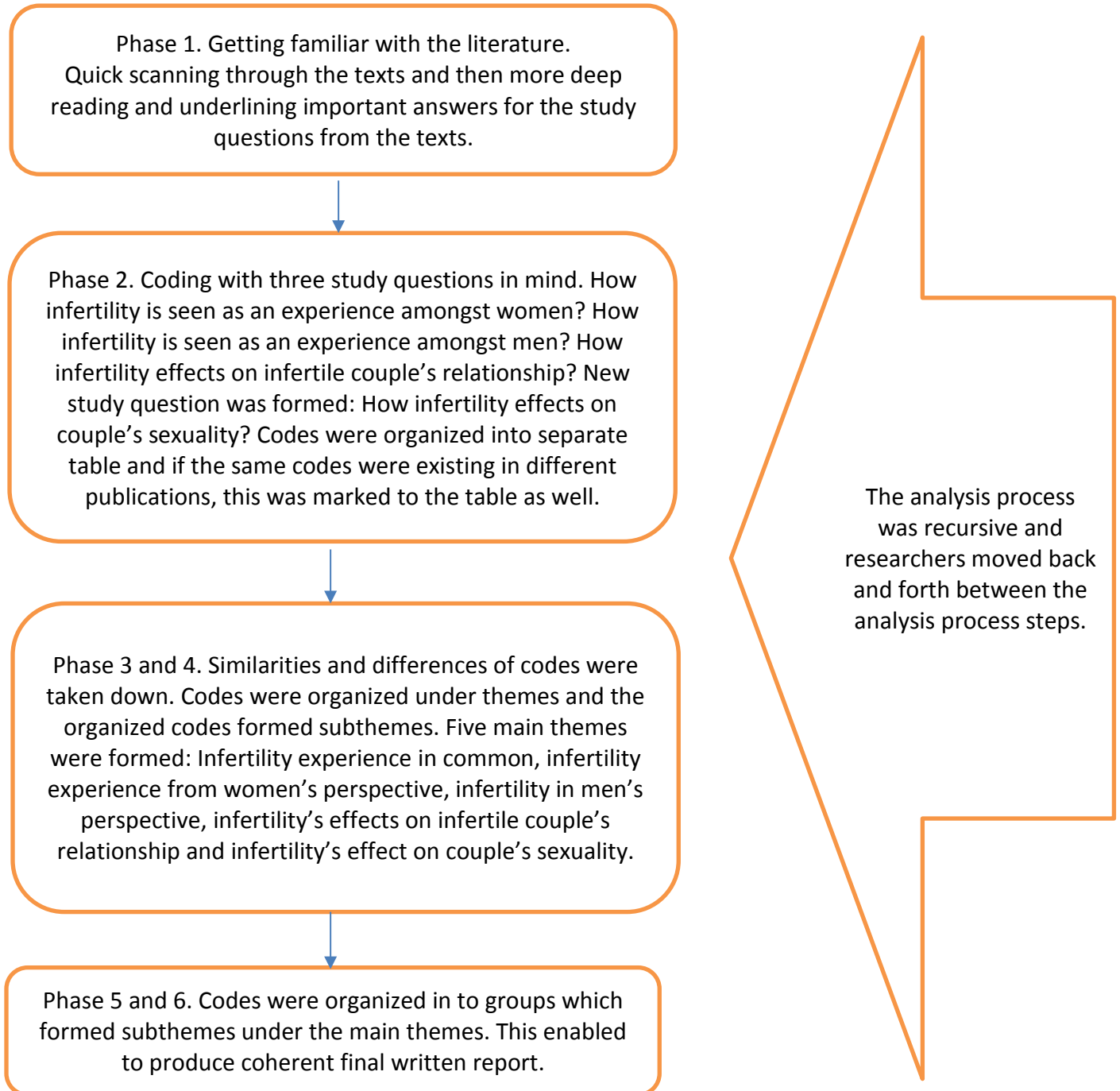


Figure 2: The process of making thematic analysis

## 7 The study results

### 7.1 Infertility experience in common

Six of the publications chosen for this literature review discussed about formation of infertility experience. Toivanen et. al. (2004, 4116) explain the formation of infertility experience through self-image and past life events. Different losses in past are repeating itself and present can be seen through these past events. If person has not gone through the feelings in earlier losses or crises, present and future can be seen quite bad compared to person, who has dealt earlier losses through. (Toivanen et al. 2004, 4116.) Persons' own self-image is also important when forming infertility experience. Close friends and relatives can be really helpful for a couple, who are going through infertility and support they show is important for a couple's experience. In the other hand, friends and relatives expectations and questions about a child, might add distress and depression to the couple (Watkins & Baldo 2004, 395; Tulppala 2012, 27). When studying someone's experiences of infertility, one has to remember that there are as many different experiences as there are people. People can feel differently in different part of infertility process and opinions can vary a lot. (Tulppala 2002.) Common is, that almost in all cultures involuntary infertility is seen as a great loss (Tulppala 2002) and infertility is experienced differently in different countries (Greil et al. 2010).

Infertility experience as an acute psychic stress –reaction and a crisis, which combines both traumatic and development crisis (Ekström-Immonen & Rosenberg 2005, 23). The steps of normal crisis (Ekström- Immonen 2005, 23) and the classical signs of grief can be seen during infertility crisis (Tulppala 2002). There are 4 steps in processing crisis: shock and rejection, reaction to the attack, grieving and accepting. In infertility crisis these steps do not follow each other in structured order. Reactions are not always so clear where one phase starts and other ends. Watkins and Baldo (2004, 399) have noticed that infertility grief has

similarities with the grief experienced with the illness or death. Infertile couple goes through feelings of disbelief, denial, anxiety and loss of control, isolation and guilt and resolution. (Watkins & Baldo 2004, 399.) Also Tulppala (2002) compares infertility crisis to loss of next of kin. Most of the people are used to schedule and manage their lives. But trying to get a child without results may bring up feelings that couples cannot control their lives anymore. Men and women are losing their images about mother- and fatherhood. Feelings of powerlessness and depression can be seen. Infertility brings a lot of difficult questions and thoughts that are dealing with person's inner self. Child represent persons' physical and sexual identity. Through the child couple will be full-filled their place in a society and couple can see their own image in a child. (Ekström-Immonen & Rosenberg 2005, 23.)

All of the publications in this literature review discussed about emotions related to infertility. Here are presented emotions related to infertility from three publications. Watkins and Baldo (2004, 397) and Greil et. al. (2010) describes infertility as an emotional roller coaster. Couple can feel various emotions from shame and anger to helplessness and depression. They might also fear spousal rejection and feel that they are cheating each other. Feelings related to infertility experience can be for example emotions like guilt, inadequacy, stigmatization and powerlessness. Each partner might feel different emotions in different times, thus exacerbating the situation. When individual is experiencing a calm and acceptance period, believing that worst is over and then suddenly happens a big disappointment, which brings along sudden negative emotions. (Watkins & Baldo 2004, 397.) According to Tulppala (2002) infertility crisis has a wave-like movement. There is always hope in the beginning of the month, but when menstruation starts again in the end of the month, all collected hope fades away and a cycle starts all again. A year after year. There are so many treatments available, that couples have difficulties to decide when not to have treatments anymore. Giving up from treatments might feel abandoning own child. (Tulppala 2002.) Watkins and Baldo (2004, 397) stated that while these emotional changes



are happening, persons might also have some physical changes in their bodies. Problems like heart palpitations, nausea, faintness, headaches and stomach aches can occur. (Watkins & Baldo 2004, 397.)

Greil et. al. (2010), Watkins and Baldo (2004, 400) and Tulppala (2002) discussed about medicalization of infertility. According to Greil et. al. infertility has not always been defined as a medical problem, but after 1950's when medications for infertility started to develop rapidly infertility became a medical term. Nowadays infertility is used to be considered as a medical problem, but Watkins and Baldo (2004, 400) are stating that it needs to be thought as an external dilemma that has a medical origin. Tulppala (2002) mentions in her article that infertility is a psychosocial dilemma and when facing a couple with infertility problem it should be not thought only from medical viewpoint. Nursing personnel's professional competence should be steady, when dealing with a couple with their many-sided problems. (Tulppala 2002.)

Two articles discussed about infertility experience being life-long lasting issue (Ekström-Immonen & Rosenberg 2005, 21; Toivanen et. al. 2004, 4117). Ekström-Immonen and Rosenberg (2005, 21) describes that infertility does not only bring sorrow about infertile person's own unborn child, but also later in life infertility arouses sorrow because of unborn grandchild. Experiencing infertility is extremely painful, and its effects on couples will last long in couple's minds. Infertility is never forgotten and painful emotions caused by infertility can resurface in different phases of life, whether couple has succeeded in having baby or has decided to live without a child. However these painful emotions do not control infertile people's lives anymore. Joy, new meanings and other options for life become possible. Through the pain what infertile couples feel and through the feelings that they live through, infertility gives a possibility for people to grow mentally. (Toivanen et. al. 2004, 4117.)

## 7.2 Women's infertility experiences

Seven of the publications in this literature review discussed about women's infertility experience. Until this century infertility has often been blamed on women, physically and psychologically (Tulppala 2002; Watkins & Baldo 2004, 395). Half of infertile women have stated that infertility has been the most difficult issue in their lives so far (Tulppala 2012, 2082; Toivanen et. al. 2004, 4115; Tulppala 2002) and up to 20-30 % of women have suicidal thoughts and depression during infertility experience (Tulppala 2012, 2082; Ekström-Immonen & Rosenberg 2005, 23; Tulppala 2002; Toivanen et. al. 2004, 4115). Infertility causes lower life and leisure satisfaction (Greil et. al. 2010). In experiencing infertility sorrow has billowy movement and hope and hopelessness rotates (Toivanen et. al. 2004, 4117; Tulppala 2002). Infertility arouses a great deal of different emotions (Tulppala 2012, 2081; Ekström-Immonen & Rosenberg 2005, 21) and it can cause mood swings (Greil et. al. 2010). Women often feel that their biological clock is ticking away and that their lives are full of timetables; familial, societal, body and treatment timetables (Greil et. al. 2010). 19 % of women find themselves in a place where they would like to have professional help in dealing with their emotions brought up by infertility (Tulppala 2012, 2082). Infertility can be seen as unanticipated life-course disruption (Greil et. al. 2010) and because of infertility the image about future breaks into small pieces (Ekström-Immonen & Rosenberg 2005, 23). Disbelief and denial of emotions can deprive the possibility for well-balanced life (Toivanen et. al. 2004, 4116) and furthermore anxiety increases if woman had correlated her future happiness with parenthood (Greil et. al. 2010).

In all of the publications where infertility experience was discussed from women's perspective there were discussion about infertility in relation to feminine identity. Complicated feelings brought up by infertility interfere women's roles as wives, as daughters, as sisters, as friends and as work colleagues. (Cudmore 2005, 302-303.) Infertility arouses thoughts about

woman's identity as a mother (Ekström-Immonen & Rosenberg 2005, 23) and woman's self-image needs to be redefined (Toivanen et. al. 2004, 4117-4118). Infertility causes deep narcissistic wound to womanhood (Tulppala 2012, 2082; Toivanen et. al. 2004, 4117) and it has huge impact on women's identity (Toivanen et. al. 2004, 4117; Tulppala 2002). Having a child is seen as essential part of feminine identity (Cudmore 2005, 302). Infertility is a threat to womanhood, to self-image and it has negative impact on women's identity (Greil et. al. 2010; Cudmore 2005, 302). Infertile women idealize and envies motherhood and pregnancy (Greil et. al. 2010; Cudmore 2005, 302). Cudmore (2005, 302) states that many women have a belief which indicates that women's capability to create bear and nurture a child is a very essential part of womanhood. However when infertility is confronted women lose their dreams about motherhood and pregnancy, breastfeeding and labor experiences (Tulppala 2012, 2082; Toivanen et. al. 2004, 4117; Watkins & Baldo 2004, 298). According to Cudmore (2005, 302) most of the women in her research project, had an expectation that they can have children whenever they want to. When the entitlement to make this choice is denied it can be hard to bear. Before women had their infertility diagnosed they had mixed feelings about children. However for many women the denial of the choice when to have children made them more determined in having babies. (Cudmore 2005, 302.)

In three publications the connection between infertile women's infertility experience and close friends' and relatives' attitudes towards infertility was brought up. Attitudes of close relatives and friends affect how individual forms her infertility experience (Toivanen et. al. 2004, 4116). Many women describe feelings of outsider and feelings of inferiority when being with other women (Tulppala 2012, 2082; Greil et. al. 2010). The lack of empathy and inconsiderate comments from friends can lead to break-up of friendships. Friends' and family's expectations towards infertility treatments can increase anxiety and stress of women. (Tulppala 2012, 2082.)

Six of the publications discussed about feelings brought up by infertility for women and why they are feeling these emotions. Often infertile women feel that they are responsible for couples' infertility problems (Tulppala 2012, 2082; Toivanen et. al. 2004, 4117). It causes feeling of guiltiness and infertility can be seen as a punishment. Women try to find reasons in their earlier lives what might have caused infertility. They feel guiltiness about for example previous abortions, sexually transmitted diseases and infidelity. (Cudmore 2005, 302; Toivanen et. al. 2004, 4117.) In addition to feelings mentioned earlier Greil et. al. (2010) states that infertile women have feelings of worthlessness, inadequacy, anger, resentment and grief. Furthermore women feel lack of control of their own body and lack of self-esteem (Cudmore 2005, 302-303; Greil et. al. 2010). Feelings of helplessness and lack of creativity can also be seen (Cudmore 2005, 302-303). Infertility causes great variety of feelings of loss (Tulppala 2012, 2081; Ekström-Immonen & Rosenberg 2005, 21; Toivanen et. al. 2004, 4117; Watkins & Baldo 2004, 398). Dreams about creating something together with partner are bargained away (Greil et. al. 2010). In addition to above mentioned losses caused by infertility, some women go through the miscarriages, which cause feelings of loss too (Watkins & Baldo 2004, 298).

Four of the publications claimed that women and men experience infertility differently (Tulppala 2012, 2082; Toivanen et. al. 2004, 4117; Tulppala 2002). Infertile women tend to feel more stress, anxiety and depression compared to men (Tulppala 2012, 2082) and they are more likely to carry more burden of the infertility than men (Watkins & Baldo 2004, 398). Women have more negative thoughts concerning infertility (Tulppala 2012, 2082; Toivanen et. al. 2004, 4117, Tulppala 2002) and they feel more stigmatized by infertility. Additionally women tend to think that infertility has great impact on their daily lives. Often women are ready to invest more in having a child and they are more willing to experience infertility treatments than men. (Greil et. al. 2010.) Women are often seen as victims of infertility (Watkins & Baldo 2004, 395).

### 7.3 Men's infertility experience

Seven of the publications chosen for this literature review discuss about infertility experience from men's perspective. Because of the fact that infertility has been blamed on women, men's emotional reactions have not been explored so much (Ekström-Immonen & Rosenberg 2005, 27). According to Tulppala (2012, 2082) men's ability to conceive his partner, becoming a father and the power of reproduction of family tree are crucial factors behind men's emotional reactions when it comes to infertility. According to Tulppala (2012, 2082) 15-20 % of men, states that infertility is the most difficult issue in their lives so far. Depression and suicidal thoughts occurs more often among infertile men than in men, who don't have infertility problem (Tulppala, 2012, 2082; Greil et al. 2010; Ekström-Immonen & Rosenberg 2005, 23; Toivanen et al. 2004, 4117). Over 15 % of men think that they cannot handle their emotions alone and would need professional help to solve those emotions (Tulppala 2012, 2082). Tulppala (2002) referred to researches made by Daniluk 1997, Amnell 1998, Burn & Covington 1999 that there have been changes in men's role. Earlier men were providing livelihood for the family, but lately parenting and role as a father have started to bring pressure to men how they implement their dreams. (Tulppala 2002.) Men's infertility is seemed to be particularly shameful. Men have more difficulties to discuss about infertility than women. Women are often protecting men by telling family and friends that the problem is theirs instead of telling family and friends that the reason behind infertility lies in men's physiology. (Cudmore 2005, 303) According to Watkins and Baldo (2004, 398) Williams, Bischoff & Ludes (1992) stated that the more men talk about infertility the more distressed they feel.

The effect of infertility on men's masculinity was brought up in four publications. During the treatments both genders can get traumatic information about their reproductive physiology (Tulppala 2012, 2082). When the reason for couples' infertility problem lies in men's physiology men feel that they have failed in their

role as a man (Toivanen et. al. 2004, 4117; Tulppala 2002) and that their identity as a man have been undermined (Cudmore 2005, 303). Furthermore infertility has huge impact on men's self-esteem and masculinity (Tulppala 2012, 2082). Tulppala (2002) states that the ability to conceive a child has become a criteria for being a real man. In Cudmore's (2005, 303) research some men stated that infertility means lack of masculinity and virility and some of the men thought that undermining these two themes is bigger problem than the actual infertility. Furthermore the ability to conceive and the ability to continue the family tree are essential part of men's masculinity and sexuality (Toivanen et al. 2004, 4116; Tulppala 2002). Tulppala (2002) states that becoming a father is a highlight of man's life and becoming a father is also an important part of growing and developing as a human being. It is said that child represents some kind of "symbolic extra" to man's masculinity (Toivanen et. al. 2004, 4116).

As stated earlier men and women experience infertility differently (Tulppala 2012, 2082; Toivanen et. al. 2004, 4117; Tulppala 2002). However Ekström-Immonen and Rosenberg (2005, 26-27) claim that feelings and emotional reactions are not differing much between men and women when it comes to experiencing infertility. Biggest difference is there how they express their feelings and how they are processing difficult emotions. Watkins and Baldo (2004, 398) state that during infertility experience men shut down emotionally and feel helpless, which is exactly the opposite of women's reactions. According to Ekström-Immonen and Rosenberg (2005, 27) men have been thought to hide their tears, because expressing sad emotions have been seen as a weakness for men. Women can grieve their infertility relatively openly but men often have to hide their distress and despair behind ostensible apathy. Often men devote themselves to work and they use working as a tool to forget painful issues in their lives. (Ekström-Immonen & Rosenberg 2005, 27.)

Emotions caused by infertility for men were discussed in six of the publications. Infertility causes similar feelings for men as it does for women (Ekström-

Immonen & Rosenberg 2005, 26). According to Tulppala (2012, 2082) and Toivanen et. al. (2004, 4117) infertility brings up feelings of losing the hope in becoming a biological father. In addition to this infertility causes concern about losing control over one's body (Tulppala 2012, 2082, Ekström-Immonen & Rosenberg 2005, 21; Tulppala 2002) and general feelings of losing control (Greil et. al. 2010). Greil et. al. state (2010) that infertility inflicts stress for men regardless of the source of infertility, but still men tend to feel less stress because of infertility than women. However Watkins and Baldo (2004, 399) gave contradictory information that infertile men's distress levels are higher than those for women. This can be due to the fact that men's coping style is avoidance and withdrawal. (Watkins & Baldo, 2004, 399.) Men's stress and anxiety levels tend to rise after failed assisted reproductive treatment (Tulppala 2012, 2082). Furthermore men feel that they are more responsible about couple's infertility and they feel strong feelings of injustice (Greil et. al. 2010).

Men tend to talk less about their feelings than women. They stay more in background and follow the situation there. Almost all researches showed that men are worried about how infertility affects their partner (Tulppala, 2012, 2082; Toivanen et al., 2004, 4117; Watkins & Baldo, 2004, 398; Tulppala, 2002). E.g. Greil et Al. (2010) mentioned that men are more worried about their partner's reaction to infertility than about their own reaction and men are experiencing infertility indirectly through the effect that infertility has on their wives. In addition men might feel helpless when encountering their partner's sorrow (Watkins & Baldo, 2004, 398) and they are worried about how infertility is affecting to their friendships and their marital relationship (Tulppala, 2012, 2082; Tulppala, 2002; Toivanen et al., 2004, 4117).

## 7.4 Infertility's effects on couples relationships

According to Tulppala (2012, 2081) the most important bond in adult's life is relationship. It combines two persons together with hopes and expectations. At the same time, it is really challenging and rewarding relationship. (Tulppala 2012, 2081) Infertility is first serious reverse for a couple's relationship (Tulppala 2002). Most of the studies have focused on how infertility affects an individual, especially on women, (Glover et al. 2009, 401; Ekström-Immonen & Rosenberg 2005, 21; Peterson et al. 2003, 59) or the studies have considered infertility's effects on women and men separately (Glover et al. 2009, 401). Only few researches have explored partner data and how relationship and individual variables are linked (Peterson et al., 59). Tulppala (2012, 2081-2082) states that infertility and infertility treatments are a part of life, nevertheless in which direction an infertile couple decides to go. Infertility brings changes to couples' relationship and it's a problem, which will separate a couple or bring partners even closer together. About 55-60 % of infertile couples in Finland seek for medical help for their infertility problem and about 40 % of couples decide not to seek medical help. Couples who don't seek for medical help in their infertility problem are often less educated, under 30-year-old couples and those ones, who already have children from earlier relationship. Furthermore seeking medical help is not always such easy and spouse's opinions might have differences and might even prevent seeking help. (Tulppala 2012, 2081-2082)

Four of the publications presented that infertility affects couples' social life. While investigations and treatments dominate a couple's life, it's normal that the couple becomes socially isolated. (Toivanen et al. 4116.) Life may focus on having a child and a couple doesn't have strength for "normal" matters which brings satisfaction to a couple's life (Tulppala 2012, 2083). Couples might struggle even talking to each other (Toivanen et al. 2004, 4116). According to Ekström-Immonen & Rosenberg (2005, 21) and Tulppala (2002) some men are withdrawn



from his spouse to avoid feelings of helplessness. This easily increases women's bad feeling, because they think men don't care about the situation or men will deny the situation. (Ekström-Immonen & Rosenberg 2005, 21; Tulppala 2002.) However for some couples it is easier to discuss openly about infertility (Toivanen et Al 2004, 4116). Tulppala (2012, 2083) and Ekström-Immonen & Rosenberg (2005, 21) are suggesting, that couple's should have good self-confidence and balance, before they could enter their friends and relatives world, where children are involved. It just may be easier to stay in a child-free -area, where nothing doesn't remind about infertility. (Tulppala 2012, 2083; Ekström-Immonen & Rosenberg 2005, 21.) Couples might also have difficulties in having conversations with families with children. An infertile-couple might feel, that they are outsiders and don't know how to participate in a conversation, if they only talk about children. Also couples with children might find difficult to discuss with an infertile-couple, because they are afraid that they are hurting infertile couple's feelings and saying something wrong. (Tulppala 2012, 2083; Toivanen et Al 2004, 4117; Tulppala, 2002.)

Two articles and two research reports showed clear connection between marital satisfaction and infertility treatments. Tulppala (2012, 2081-2085) states, that nowadays treatments are effective, but couples feel confused and helpless when medical experts interfere with couples' intimate life. Treatments break one's own body intimacy and limits. Many infertile-couple are more fragile than fertile-couples when it comes to pregnancy and childbirth. Infertility treatments are often very challenging, both mentally and physically. (Tulppala 2012, 2081-2085.) According to Glover at. al. (2009, 409) infertility treatments can be seen as possibility to retrieve control but at the same time, because the results of the treatments are uncertain, treatments causes feelings of losing control. How couple is experiencing infertility depends also on what kind of situation in life they have in general. It's not always possible that couple's situation in life is stable and peaceful. Combining work life and treatments can be extremely challenging and during treatment period there can be other straining life events,

which increases the stressfulness of the treatments. When treatments are taking a longer time to succeed or when couple is deciding to give up for treatments it will cause deep bearable crisis. (Toivanen et al 2004, 4115.) Peterson et. al. (2003, 65) suggests that usually couples marital satisfaction is high during first two years of infertility treatments, but after third year of treatments marital adjustment is dramatically lower.

Four of the publications claimed that if cause of infertility is unknown, it might strain mental well-being and relationship more than if the cause of infertility is known. Also If cause of infertility can be found from only one of the partners, the effects on relationship are much bigger. (Tulppala 2012, 2083; Ekström-Immonen & Rosenberg 2005, 21; Toivanen et al. 2004, 4117; Tulppala, 2002.) In some cultures, woman's infertility allows man find a new partner (Ekström-Immonen & Rosenberg 2005, 21.) When the reason of infertility can be found from women, men might have difficulties to understand the problem is a shared problem and might forget why they are together. (Tulppala 2012, 2082; Ekström-Immonen 2005, 21.) Quite often, partner who is carrying infertility can ask his or her spouse to find another partner, so that he or she can feel fatherhood or motherhood. (Tulppala 2012, 2083; Ekström-Immonen 2005, 21; Toivanen et al. 2004, 4117; Tulppala, 2002.) Asking partner to leave another one might be a result from person's own fears (Ekström-Immonen 2005, 21). However divorces and end of relationships are quite rare during infertility experience (Tulppala 2012, 2083).

In five of the publications there were evidence about that infertility can also have positive effects on infertile couples' relationships. Ekström-Immonen & Rosenberg (2005, 21), Toivanen et. al. (2004, 4117) and Tulppala (2002) are all sharing consistent information, how infertility experience can make couples relationship much stronger than it has ever been, or then it might bring old problems back again and cause new ones. At its best shared crisis can create feelings of support and understanding that couples have never experienced before (Tulppala 2012, 2082-2083). Tulppala (2002) reminds that infertility is an

experience which can bring partners closer together through sorrow and hope. Partners are the best and closest ones for each other to support and comfort, but at the same time partners remind each other about infertility and sorrow. (Tulppala 2002.) Tulppala refers to researches made by Daniluk, 1997 and Burns & Covington 1999, that for 30-40 % of couple's infertility experience made their relationship stronger than it was before. Later Tulppala (2012, 2083) proves this claim by referring to Danish research where 25 % of women and 20 % of men stated that shared crisis made their relationship much stronger and couples felt that they are closer with each other. Only 33% of couples admitted that infertility affects negatively on their relationship. If couples won't share their feelings and experiences it may lead for increased distress in a relationship. Related to the same matter Peterson et. al. (2003, 65) described that marital satisfaction among infertile couples is as high or even higher compared to fertile couples. Authors continue by stating that only 6 % of men and 7 % of women reported having significant problems in their marital adjustment. (Peterson et. al 2003, 65)

Watkins and Baldo (2004, 395) and Tulppala (2002) discussed in their publications about the roles of counselling, support from friends and relatives and peer-support in infertility crisis. Watkins and Baldo (2004, 395) noticed that couples would benefit from counseling. Watkins & Baldo (2004, 395) find from research made by Steward et al. (1992) that group of infertile couples who participated counseling for 8 weeks reported having less distress and depression compared to infertile couples who didn't participate counseling at all. In the same study, Watkins & Baldo stated that 39, 2 % of infertile couples would like to have someone else's than medical professionals' advices during infertility experience. 6, 7 % of these couples would like to have counseling weekly and 83, 8 % would need it monthly. (Watkins & Baldo, 2004, 395.) However, Tulppala (2002) mentions that 75 % of infertile couples think, that they get enough support from family and friends and approximately 50 % says, that no one has not offered counseling during their infertility process. Only one tenth infertile couples said that they have got enough support. Infertile couples felt significant,

that they could get peer- support from other infertile couples. In Finland infertile couples can get peer-support from patient association Lapsettomien tuki ry. (Tulppala, 2002.) Watkins & Baldo (2004, 394) are reminding those who are offering counseling infertile-couples, that they have to understand their complicated experiences and infertility's biological, psychological and sociological effects.

Peterson et. al. (2003, 59-60) made a study which purpose was to research the impact of agreement between partners' perceived stress and how the agreement effects on depression and marital adjustment. Study results show that couples where men and women perceived alike levels of social stress described having higher levels of marital adjustment compared to couples where men and women perceived social stress divergently. Furthermore women in couples where men and women had equal desire for parenthood stated having prominently greater marital satisfaction compared to couples where males reported having greater need for parenthood compared to women. High level of congruence between spouses in how they experience stress helps them manage successfully the effect of stressful life events. (Peterson et. al. 2003, 59-60.) Peterson et. al. (2003, 60) stated according to Andrews et. al. (1991) that how each partner in infertile couples perceives their quality of life effects on the quality of life of the other partner. Spouses may have different perceptions when encountering the stress brought up by infertility. One may see infertility as an extremely bad situation when other one may see infertility as a minor problem. Spouses' different viewpoints about infertility and its effects on couple's relationship may hinder positive communication and affect women personally. Because of this women may have depression and they can have feeling of isolation.

## 7.5 Infertility's effect on couples sexuality

Four of the publications chosen under this literature review discussed about the effects of infertility treatments and infertility on couple's sexuality. At its best, sexuality can bring a lot of satisfaction and pleasure to men and women, but at the same time it is the most sensitive part of human life (Tulppala 2012, 2083; Toivanen et. al. 2004, 4117). Infertility's psychological impacts on human sexuality are related to person's self-image (Toivanen et. al. 2004, 4117; Tulppala 2002). Problems in the relationship and other life crises can be easily reflected to sexuality (Tulppala 2002). There are contradictory findings about infertility's effect on couples' sexuality (Tulppala 2012, 2083). In some studies, there are no findings about infertility's negative effects on couples' sex life (Tulppala 2002). However some studies say that infertility may have an impact to couple's sex life (Tulppala 2012, 2083; Tulppala 2002). Infertility can cause enormous amount of pressure on couple's sexual intimacy (Watkins & Baldo 2004, 398) and the negative feelings caused by infertility can be mirrored in to couple's bedroom (Toivanen et. al., 2004, 4117). Being fertile is the basic expression of human sexuality and having sex reminds the couple about the painful situation and one's own incapability (Tulppala 2012 2083; Tulppala 2002). Men and women have to grief the fact that they cannot have a child just by making love with each other like their own parents did (Tulppala 2002).

All of the publications which discussed about infertility's and infertility treatment's effects on couple's sexuality pointed out negative impacts of infertility on couple's sexuality. During infertility experience spontaneous sex life gets harder (Toivanen et. al. 2004, 4118; Tulppala 2002) and sexual feelings, affection and passion are diminished because the main aim or partial aim of sexual intercourse is to get pregnant (Tulppala 2012, 2083; Tulppala 2002). Sex life becomes scheduled and goal oriented (Toivanen et. al. 2004, 4118). Woman's orgasm is a secondary goal when man's ejaculation is essential to achieve pregnancy (Tulppala 2012, 2083). Mood swings related to infertility have an

impact on person's sex drive (Tulppala 2012, 2083; Tulppala 2002) and sex becomes involuntary act. The roles of who takes the initiative when it comes to having sex change. Woman is the one who takes care that the couple has enough sex and at the right time. (Tulppala 2012, 2084.) According to Watkins and Baldo (2004, 398) crave to have a baby has many negative effects for couples. Couples describe how doctors violate their sexual privacy by setting demands when to have sexual intercourse. It causes men and women to feel that their sexual identity is missing. The pleasure of sex is often reduced and intercourse becomes a chore which aims to conceiving a child. Sex focuses on couples insufficiencies and incompetence's. This may cause decreased sex drive and anger toward one's own body, which has an effect on person's feelings about how comfortable the sexual intercourse is. Furthermore there can be extramarital affairs which only make the situation even worse. (Watkins & Baldo 2004, 398.) Only about 1-5 % of infertility cases are caused by problems in couple's sexual life (Tulppala 2012, 2083; Tulppala 2002). However, 35 % of couples going through infertility treatments are not satisfied with their sexual life (Tulppala 2012, 2083; Toivanen et. al. 2004, 4118; Tulppala 2002). During infertility men may have impotence and performance pressure due to pressure caused by scheduled sex (Tulppala 2012, 2083) and women may have problems with lubrication and they can experience anorgasmia (Watkins & Baldo, 2004, 398). It has been estimated that about 10 % of men under infertility treatment have erection problems in the middle of women's menstrual cycle (Tulppala 2012, 2083; Toivanen et. al. 2004, 4118; Tulppala 2002). According to Watkins and Baldo (2004, 398) Sabatelli et. al. reported that 56 % of women stated that after infertility diagnosis the amount of sexual intercourse was decreased, 59 % of women stated that sexual intercourse gave less satisfaction than before the infertility diagnosis and 49 % of women reported feeling now less comfortable with their own sexuality than before the diagnosis.

Four of the publications also discussed about infertility treatment's effects on sexuality. Infertility treatments violate body's intimacy, body's limits (Tulppala

2012, 2084) and sexual privacy (Watkins & Baldo 2004, 398). Some couples going through infertility treatments find those to be intolerably invasive (Tulppala 2002). Drugs used in infertility treatments cause side-effects which can exacerbate sexual problems in the relationship (Tulppala 2012, 2083; Tulppala 2002) and prolonged treatments increase couples sexual dissatisfaction (Toivanen et. al. 2004, 4118; Tulppala 2002). According to Tulppala (2012, 2084) some women have reported that infertility's effects on sexuality and sex drive are negative and far-reaching. And infertility's impact on person's mental well being, functional ability, relationship and sexuality are more likely to be far-reaching when infertility treatments have not led to pregnancy. However many couples handles changes related to sexuality to good effect. (Tulppala 2002.)

## 8 Discussions

### 8.1 Discussions of main study results

The purpose of the study was to find out how infertility was seen as an experience and how infertility and infertility treatments affected on an infertile couple's relationship. Data was highly answering to study questions. While reading the chosen literature, effects on couple's sexuality rose up from many of those publications and this became a new study question.

Infertility raises various feelings on person's and couple's mind. Once everything is fine, feelings vary between happiness and optimistic, but suddenly feelings can be even suicidal and person feels that he/she is alone with her/his thoughts. Infertility is very personal issue and treatments might be felt very intrusive and shameful, when there's a need for medical help for getting pregnant. Thesis' results show, how infertility is hold as a first real crisis in person's life. It is painful experience and it is never forgotten.

For women, infertility is a deep narcissistic wound. Infertility is a threat for

womanhood and women are afraid of losing experiences of pregnancy, childbirth, breastfeeding and seeing their own biological child grow up. Women have difficulties to maintain social connections for families with children, because it is reminding of their own vulnerability. Women claimed, that friends' lack of empathy and inconsiderate comments can lead to break-up of friendship. Also expectations towards infertility treatments are increasing level of anxiety and stress.

Men's experiences towards infertility have not been explored as much as women's experiences, because infertility is used to be seen only women's problem. According to the reviewed literature, men were experiencing same feelings as women, but the greatest difference was how feelings are expressed and how men process difficult emotions. Women tend to show their feelings more openly, but men are usually staying at the background and trying to support their partner. Almost all researches showed, that men are more worried about how infertility affects their partner and social relationships, not infertility itself. However, if reason behind infertility can be found from men's physiology, the effects on the relationship and men's identity are much bigger. Crucial factors behind men's emotional reactions are fear of losing manhood and inability to continue family tree.

Infertility brings changes to couples relationship and infertility crisis might separate couple or make their relationship even more stronger. At some point of infertility crisis, couple might have difficulties to even talking to each other and the one, who have the physiological reason behind infertility might ask partner to find another partner. Reason for this might be person's own fear that partner will leave the relationship. Infertility affects also on couple's sexual life. Sexual life is very vulnerable for stressors and problems in a relationship. Very common is, that pleasure of sex is reduced and intercourse is just a necessary procedure, which aim is just fertilization. Also drugs used in treatments have various side-effects that easily have an effect on couple's bedroom.



## 8.2 Reliability and validity

Before understand the correct meaning of reliability and validity, researchers should familiarize themselves with those concepts. These are important tools to assess consistency of a study. Reliability means how study can be repeated over a certain time and same results could be proceed. Validity measures how well chosen study method answers to study questions. (Phelan & Wren, 2005.)

According to Hirsjärvi et al (2004, 216-217) study's aim is to avoid mistakes and provide reliable and valid work.

At this point, researchers can keep this thesis scientifically reliable and valid, study could be repeated during certain time. Explaining closely how study has been done, adds study's reliability. (Hirsjärvi et. al. 2004, 216-217.) In this research, all the methods that are used to find data are presented clearly. From this thesis, reader can find all keywords what researchers used for literature search and how the literature search is done is also explained clearly. When selecting the literature for the literature review researchers have followed strictly inclusion and exclusion criterias. Presenting all the data adds more validity. All the literature that has been used in this thesis, can be found from appendix 1. Researchers could separate several main themes that exist on many different studies. If there was differences between publications, reader can also find them mentioned it in study. Chosen methods were highly suitable for this study and answers for the study questions were reached.

## 8.3 Ethical considerations

Research ethics are meaning good scientific customs. Ethical principles are guiding researchers' work from the beginning to the end of research project. Those ethical principles are meant for preventing so called bad scientific behaviour. (Tutkimusetiikkaa ja lakipykälää, 2010.) Hirsjärvi, Remes & Sajavaara (2004, 26-28) are giving three main categories for ethical principles, when making

research. In the beginning, even the selection of the topic is an ethical decision. When researchers are choosing the topic it should be questioned why research is going to be done and what are the purposes for it. Secondly, researchers should pay attention how the persons involved to the study are treated. When research is focusing on people researcher should find out how the consent for the study is gotten, what information is given to the study participants and is the research going to cause any risks to the participants. Thirdly, researchers should avoid dishonesty in all parts of study. This includes many important principles, e.g. avoiding plagiarism. Everyone has right for own material. When referring someone's text, it should be clearly marked. (Hirsjärvi et. al. 2004, 26-28.)

In this study, researchers did not interview any infertile couple so the research did not harm them directly. However researchers had to respect source material and not to plagiarize it. Plagiarism has been avoided by marking correctly references according to Jyväskylä University of Applied Sciences reporting instructions. Also source material has been collected only from trusted web-databases and authors of the used source materials are professionals in their field of science. In this research results are shown as they are. Nothing has been added or taken out.

## 9 Reflections and proposals for further studies

Process of making this thesis has been long and at some point it felt like never ending project. Working with thesis started already in spring 2012, in "Basics of research and development work" course. Execution way of this work has changed few times. Sometimes we were not able to find a partner to co-operation from infertility clinic, sometimes our ideas were too sensitive to pull up. Now it was already autumn 2013 and we needed to decide what to do with our thesis. That is the reason, how we ended up doing literature review about how infertility is seen as an experience and how it's affecting on infertile couples' relationship.

Making a literature review was a new challenge for both of us. We did not know so much about literature review making process. First we had to deepen our knowledge about literature review as a research method. The methodological information about literature review was hard to understand and demanded lot of processing of the information. After this we could start the “real” work, searching and reviewing the literature. As a research method literature review demands lots of time and patience. In our case the reviewed articles and research reports started to repeat itself quite fast. Of course there were differences between the texts, but main points of the texts were pretty much the same.

In the end our expectations for the thesis were met. In our opinion we managed to write quite good work. However, because of the original literature started to repeat itself quite fast, we are a little bit afraid that there is too much repetition in our thesis. We didn't dare to condense more the original texts, because we did not know if condensing would be construed as misrepresentation of the study results. Although it can surely be seen in the written work that we are first timers in doing literature review, still all in all we are satisfied with the thesis.

Even though nowadays there is quite much information available about infertility, in the beginning of the thesis making process we didn't know so much about it. We became interested about this subject because we thought that infertility is still a little bit like taboo in our society and we wanted to know more about infertility and its impacts on couple's relationship. In our opinion infertility have always been seen as a negative experience, which do not have any positive impacts on infertile people or couples. We were highly determined to know if infertility experiences have also positive effects on infertile persons or couples lives. During the thesis making process we have learned a lot about infertility itself, infertility treatments and of course about infertility experience and infertility's effects on couples' relationship. We are happy that we did this work by using literature review as a research method, because in our opinion we

wouldn't have had the professional skills to confront infertile couples face to face.

During the thesis making process our perseverance was put to the test. There were times when our motivation was extremely high and we aimed to produce good quality work in order to get a good grade. And at other times this thesis felt like a big weight on our shoulders and we wanted to get rid of it as fast as possible, no matter what the grade will be. At the times, we spent sleepless nights with the stress and frustration and sometimes, thesis was haunting us in our dreams. When the time came that we were supposed to give in the final work, we were all the time thinking things that we should still add to the work. However we needed to realize, that we couldn't give all information about infertility in one thesis. In the end we are happy with the final result. We hope that we have gathered useful and high quality information about infertility.

Infertility experience and its effects on couples' relationship is very sensitive topic, but it needs to be studied further. Without research we could not have right tools when encountering people struggling with it. Our proposal for further studies could handle how foreign people living in Finland find their infertility and has it caused any conflicts for their life. Also, interviewing infertile-couples about how they are feeling about infertility and then comparing the interviews' results with current data.

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## 11 Appendices

### Appendix 1: Literature search results

Publication's number	Author(s), year, place	Name of the study	Purpose of the study/article	Amount of participants (n)	Results of study / Main points of article
1	Tulppala, Maija 2012.	Lapsettomuus ja parisuhde	Discussion about infertility's experiences and its effects on relationship in Finland.	-	The experience of infertility and the struggle to conceive may bring the partners even closer together.
2	Cudmore, Lynne 2005. London, England	Becoming parents in the context of loss	Describes the findings of a research project that aimed to explore the emotional experience of infertility on men and women, and its impact on their relationship.	-	For many couples infertility diagnosis relieved the pressure as they knew there was no possibility of conceiving naturally. At the same time diagnosis was shocking and brought much grief and anger.
3	Tulppala, Maija 2002	Lapsettomuuden tuska	Infertility's effects on person's relationship in Finland.	-	Infertility is a psychosocial problem and when encountering it should not only approach it from medical point of view.
4	Toivanen, Riikka., Vilksa, Sirpa., Tulppala,	Syllillinen surua	Article discusses different emotions associated	-	Infertility causes many feelings, that are difficult to handle and



	Maija 2004		with the experience of infertility and the development of these emotions and their significance.		bear. Treatments are demanding both physically and mentally.
5	Greil, A.L, Slauson-Blevins, K and McQuillan J 2010. New York, USA.	The experience of infertility: A review of recent literature	Literature review explores researches about infertility published over about last ten years	-	The importance of researching more about couples and male experience of infertility was recognized.
6	Watkins, K.J, Baldo, T.D 2004. University of Northern Colorado, USA.	The infertility experience: Biopsychosocial effects and suggestions for Counselors	Overview about biology of infertility and its psychological and sociological effects.	-	For many couples, the experience of their infertility is relatively isolating and lonely. Couples feel misunderstood and lack of understanding from most of their friends and family members.
7	Ekström-Immonen, L. Rosenberg, K. 2005	Lapsettomuus ja parisuhde	How infertility effects on couple's relationship and how infertility crisis differs from other crisis in person's life.	-	Infertility rises a huge selection of different emotions and it has an effect on couples social relationship. Researchers describe infertility as a crisis, where can be combine

					a traumatic crisis and a development crisis.
8	Peterson, B.D, Newton, C.R, Rosen, K.H 2003. Virginia, USA.	Examining congruence between partners' perceived infertility-related stress and its relationship to marital adjustment and depression in infertile couples.	Study aimed to explore the impact of congruence between partner's perceived infertility related stress and its impacts on depression and marital adjustment amongst infertile men and women.	525 couples.	Both genders reported infertility as a stressful experience, women perceived it more stressful. Couples who reported equal levels of social stress had higher level of marital adjustment.
9	Glover, L., McLellan, A., Weaver, S.M 2008. United Kingdom.	What does having a fertility problem mean to couples?	To discover the meaning of infertility problems for couples. To find out how partners differed their appraisals of their fertility problems.	10 couples.	In this study the impact of infertility problems for the couples was profound and pervasive. Men saw infertility as a threat to their masculinity and women found infertility as a physical threat of the treatment itself. Need from couples to "tell their story" was striking.