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Alcohol and pregnancy

Comparison between Finland and United Kingdom

Bachelor's Thesis

Spring 2015

Faculty of Social and Health Care

Degree programme in Nursing

SEINÄJOKI UNIVERSITY OF APPLIED SCIENCES

Thesis abstract

Faculty: Seinäjoki University of Applied Sciences

Degree programme: Degree programme in Nursing

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Title of thesis: Alcohol and pregnancy; Comparison between Finland and United Kingdom using counselling as an intervention.

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Year: 2015

Number of pages: 44

Consumption of alcohol is considered pleasurable while for some users it leads to varying problems. Its adverse effect is most noticeable when it is consumed during pregnancy.

The bachelor's thesis was conducted using literature review method. Online data and articles relevant to the thesis were used to answer the research questions.

The aim of the thesis was to give insight to harmful alcohol effect to foetus, prevalence of alcohol use and counselling as an intervention for future purposes.

Counselling was found to be an effective method for alcohol treatment and prevention in both countries compared above. For clarity and understanding of the thesis, alcohol, pattern of consumption, risk factors for use, effects on the foetus, teratogenicity and its prevalence in both countries were explained. Pregnancy, pre natal stages and its occurring events, foetal alcohol syndrome, its characteristic features and treatment methods for pregnant alcohol users were defined and discussed. The authors of this thesis focused more on counselling.

Keywords: alcohol, counselling, pregnancy.

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Abbreviations

ARBD	Alcohol related birth defects
AUDIT	Alcohol use disorder identification test
BAC	Blood alcohol concentration
CBT	Cognitive behavioural Therapy
CMW	Community midwives
EBI	Extended brief intervention
FAE	Foetal alcohol effects
FASD	Foetal alcohol spectrum disorder
FAS	Foetal alcohol syndrome
FRAMES	Feedback, responsibility, advice, menu, empathy and self-efficiency
GABA	Gamma-amino-butyric acid (Neurotransmitter in mammalian central nervous system)
IUGR	Intrauterine growth restriction
MDT	Multidisciplinary team
STI	Sexually transmitted infection
UK	United Kingdom
WHO	World Health Organization

INTRODUCTION

This is a bachelor's thesis on alcohol and pregnancy. Alcohol use amongst pregnant women is a common feature worldwide. It is intoxicating and makes users dependent on it. Alcohol use in pregnancy is a significant public health issue and can cause adverse health consequences like FAS (Fetal alcohol syndrome). (Hammer and Inglin 2014a, 22 & World Health Organization, WHO.2015a.)

According to WHO (2015b), alcohol is a psychoactive substance with dependence-producing properties which causes burden in societies. Culture can either affect the knowledge of alcohol effects in pregnancy negatively or positively. Negatively in that the pregnant alcoholic would believe there is no side effect for a certain amount of alcohol consumption when pregnant or positively in that she would know alcohol has adverse effects on the fetus. (Hammer & Inglin 2014b.)

The outcome of alcohol use in pregnancy to a fetus could be spontaneous abortion or FAS. FAS has no cure but can be managed and prevented. Educating pregnant alcoholics can help prevent FAS. Total abstinence from alcohol use during pregnancy is the key to prevention but most pregnant alcoholics suffer from binge drinking which is a common social occurrence both in Finland and in the UK. Effective counselling by nurses to pregnant alcoholics can create large awareness of the adverse effects of alcohol use during pregnancy. (WHO 2011.)

The focus of this thesis is to give a clear understanding of alcoholic effects in pregnancy. Midwives, nurses and health workers play key roles in delivering brief intervention which is an effective form of counselling for the prevention and treatment of alcohol use. (WHO 2010a.)

1 Alcohol

In many parts of the world, consumption of alcoholic beverages is a common feature of social gatherings. However, due to its intoxicating and dependency properties, drinking alcohol can cause adverse health consequences. (World Health Organization, WHO. 2015.)

According to the WHO (2015c), alcohol is a psychoactive substance with dependence-producing properties which causes burden in societies. The use of alcohol during pregnancy does not only affect the foetus but the pregnant female also. It can lead to poor parenting, domestic violence, and gender violence amongst other things.

A study by Carpenter (2011, 37); O'Connor & Paley (2009a, 225) assumes that during the third trimester the brain and nervous system are in their final development. Exposure to alcohol at this time can cause long-term learning difficulties and nervous disorders.

Riley Infante & Warren (2011, 73) propose that alcohol consumption during all stages of pregnancy puts the foetus at risk of being born with lifelong alcohol-related brain damage known as Foetal Alcohol Syndrome (FAS) and the best prevention of this permanent condition without cure is total abstinence from alcohol.

According to the International Centre for Alcohol Policy 2015, [Ref. 22 May 2015] in United Kingdom, the definition of a standard drink is an alcoholic drink containing 8grams of ethanol and in Finland; it is defined as an alcoholic drink containing 11grams of ethanol

1.1 Pattern of alcohol consumption

The three main pattern of alcohol consumption are: low average weekly alcohol consumption (the intake of one to four alcoholic drinks per week), moderate alcohol consumption (intake of five to eight alcoholic drinks per week) and the binge alcohol consumption (intake of five or more drinks in a single occasion).Binge al-

cohol consumption is the most common pattern of alcohol consumption amongst women of reproductive age. (Royal College of Obstetricians and Gynaecologists 2012.) [Ref.23 May 2015].

1.1.1 Types of alcohol & volume levels

Table 1 shows different types of alcohol and their percentages. From the table, non-alcoholic beer is less intoxicating while absolute alcohol is the most intoxicating. The commonly used are beer, wine and liquor. (Journal of Obstetrics and Gynaecology Canada 2010) [Ref.22 May 2015].

TABLE 1. Types of alcohol and there volume levels according to Journal of Obstetrics & Gynaecology 2010.

Types of Alcohol	Volume level
Cider	2% to 8,5%
Beer	2% to 12 %(more often 4% to 6%)
Non/low alcohol beer	0 to 0,05%
Coolers	Approximately 7%
Alco pops (Alcohol beverage)	4% to 17;5%
Wine	8,5 to 14,5%
Fortified Wines	17% to 22%
Liqueurs	5 to 55%
Liquors(for example vodka, rum & whisky)	40% to 50%
Absolute alcohol	Greater than 99%

1.1.2 Mechanism of alcohol teratogenicity

Alcohol is considered to be teratogenic to the developing baby and can cause defects to numerous organs including the central nervous system. Drinking alcohol in pregnancy is particularly dangerous because of its resultant effect in high blood alcohol concentration (BAC) which can easily affect the foetus during the period of brain development. (Cook 2004,29.)

For nearly three decades, harmful effects of ethanol on the growing foetus have been recognized, yet alcohol is still the most common malformation-causing teratogen consumed during pregnancy. As a result of the toxic impacts in the uterus, alcohol contamination is made manifest by specific physical, behavioural, and cognitive abnormalities referred to as (FASD) or alcohol-related birth defects (ARBD). (Shankar, Ronis & Badger 2007, 55-56.)

1.1.3 Effects of alcohol on pregnancy

In spite of several efforts to get pregnant women informed regarding the harmful effects alcohol has on the developing foetus, many women still drink alcohol during pregnancy. Studies have shown alcohol consumption by pregnant women as a significant public health problem. Alcohol use in pregnancy, whether in little or heavy quantity has been linked with adverse outcomes including still birth, miscarriages, intrauterine growth restriction (IUGR), premature birth, cognitive deficits, FAS, incurable developmental and neurological problems and behavioural problems. (Dunney, Muldoon & Murphy 2015, 126.)

According to Tenkku, Morris, Salas, & Xaverius (2009,604); O'Connor & Paley (2009b, 258). Alcohol consumption by pregnant women is a significant public health problem. FAS and associated disorders are the most severe consequences of alcohol effect on pregnancy known to cause serious, incurable neurological and developmental problems, and are completely preventable. Exposure to alcohol in the uterus is considered to be the leading cause of developmental disabilities with known etiology.

1.1.4 Risk factors for alcohol use

Table 2 explains how biological (genetics and alcohol reactivity) and psychosocial (motives, depression, low self esteem, anti-sociality and sexual assault) factors can influence women's use of alcohol.

TABLE 2. Summary of risk factors for alcohol use according to Nolen-Hoeksema 2004.

Risk factors	Evidence
Genetics	A family history of alcohol use can lead to alcoholism
Alcohol reactivity	Lower doses of alcohol may make women more cognitively and motorically impaired. Women have a great reactivity for alcohol
Motives and expectancies	Drinking to cope with a distress condition and expecting that alcohol use would reduce the problem
Depression	Alcohol use to help relieve the depressive situation
Low self esteem	Alcohol use to help the user feel some self worth
Antisocialism	Some women rely on the use of alcohol as their companion
Sexual assault	A woman having a history of sexual assault is most likely to be involved in alcohol use

1.1.5 Alcohol prevalence (Worldwide)

Worldwide alcohol consumption in 2010 was equal to 6.2 litres of pure alcohol consumed per person aged 15 years or older, which translates into 13.5 grams of pure alcohol per day. About 24.8% of alcohol consumption was unrecorded; females abstain from alcohol more than males although this varies across the globe. The more economic wealthy countries have highest cases of heavy episodic drinking and highest alcohol per capita consumption. (WHO 2014.)

Figure 1 illustrates the procession of alcohol consumption in countries of the world where alcohol consumption is high. Finland is the fifth country and its consumption increased from about 80litres to 100litres per capita of alcohol between 1997 and 2015. United Kingdom was not found to be amongst the top drinkers of alcohol worldwide.

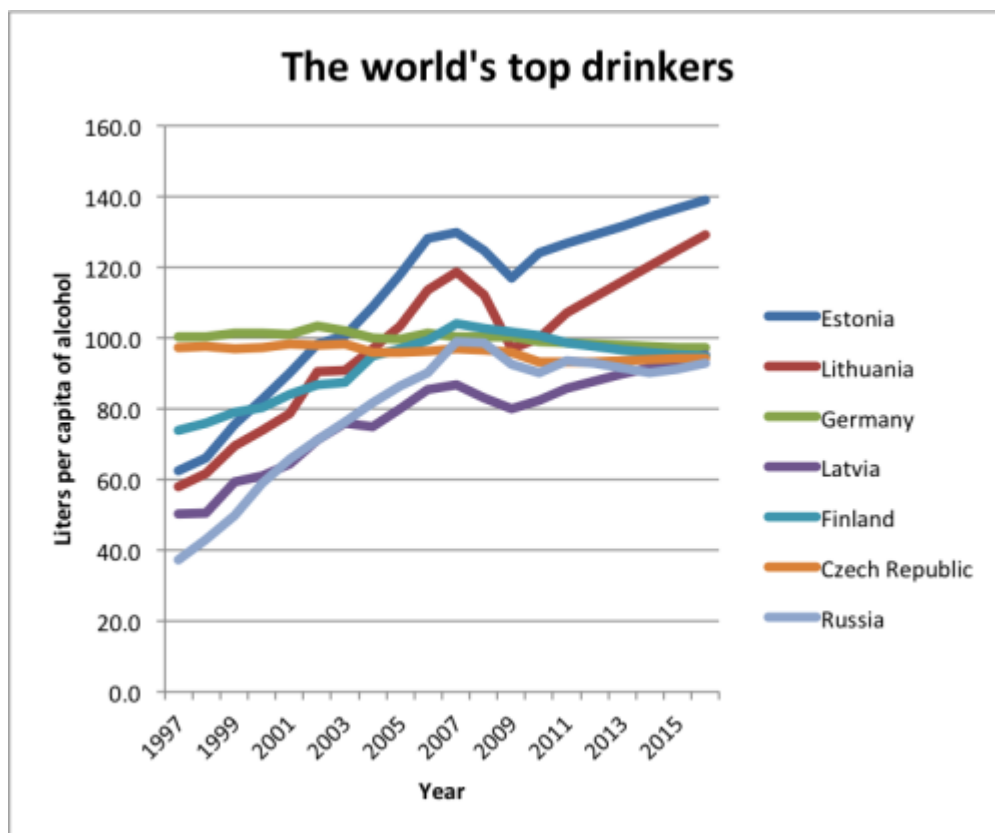


FIGURE 1. Consumption of Alcoholic beverages in litres per capital of alcohol (EpiAnalysis 2012.) [Ref.23 May 2015].

2 Pregnancy

Before pregnancy sexual intercourse occurs first between a male and a female. This intercourse leads to ovulation (release of an egg from the ovaries) then fertilization (fusion of male gamete (sperm) to a female gamete (ovum) leading to the production of a zygote). Pregnancy can be defined as the period from conception to the birth of a baby and takes about 288 days normally. (Marieb 2009, 566.)

The human development starts with fertilization. This process (fertilization) takes place in the outer most part of the fallopian tube called the Ampulla. The period from fertilization to birth is called the prenatal developmental period. It is divided into three phases; pre-embryonic period (from fertilization to the second week of pregnancy), embryonic period (extends from the beginning of third week to the eighth week in pregnancy) and foetal period (beginning of the ninth week in pregnancy to birth of a baby). (Vishram 2013, 1-2.)

Figure 2 shows the events which occur during the pre-natal periods & its subdivision.

Conception to the second week: the fertilized egg continues division while passing through the fallopian tube and attaches to the endometrium (Implantation). Preceding implantation is the attachment of the blastocyte to the endometrium making it thicker and provision of a mucus seal for the cervix occurs. Formation of the embryo by the blastocytes and the baby's first nerve cells occurs during this period. At this stage; the baby is still called an embryo. (Cleveland Clinic 2010.) [Ref.15 July 2015].

Beginning of third week to the end of the eight week: the fertilized egg begins to grow; amniotic sac (water tight sac filled with fluid which cushions the embryo) is formed. Formation of the placenta (which takes nutrients from mother to baby and wastes away from baby), primitive face with large dark circles for the eyes, blood cells and inception of blood circulation and neural tube (brain, spinal cord and neural tissue of the central nervous system) Development of lower jaw and throat, digestive tracts and sensory organs begin to form and bones replace cartilages. Ba-

by's head is proportionate to the rest of its body and heartbeat is usually detectable. (Cleveland Clinic 2010.) [Ref.15 July 2015].

Beginning of ninth week to birth: arms, hands, fingers, feet, external ears and toes are fully formed. Reproductive organs develop and baby is fully formed. Heartbeat is audible through a Doppler, teeth and bones become more dense, movements done by the baby is noticed, nervous system starts working, reproductive organs are fully developed and baby's sex can be determined by ultrasound. Quickening (first movement of developing muscles) occurs, hair growth on the head, Lanugo (soft fine hair on temple) and vernix caseosa (cheesy substance that protects the baby's skin from long exposure in the amniotic fluid) are formed .Baby's skin becomes reddish and wrinkled. Kicking is more noticeable, rapid brain development, lungs almost fully developed ,movement gets less due to tight space and finally the baby changes its position (usually head is down towards the birth canal) ready for labour and birth. (Cleveland Clinic 2010.) [Ref 15 July 2015].

2.1 Stages of Pregnancy (Prenatal development) & events occurring.

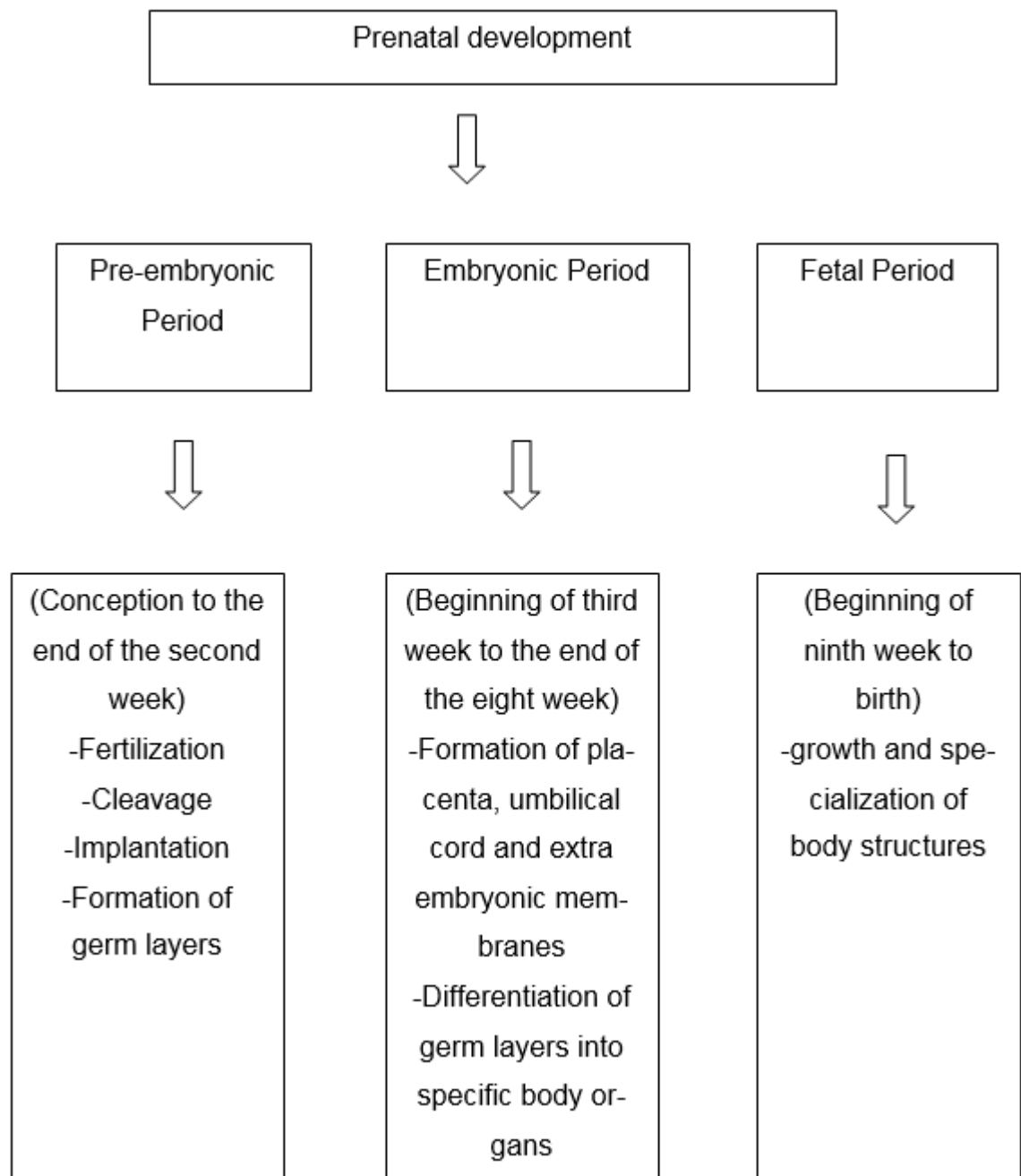


FIGURE 2. Subdivision of pre-natal period & events occurring in these periods. (Vishram 2013.)

3 What is foetal alcohol syndrome? (FAS)

Alcohol consumption during pregnancy is a well known cause of FASD related birth defects and some disabilities of development in young children. This disorder and other defects like (ARBD), foetal alcohol effects (FAE), FAS are all usually used to explain different types of effects as a result of alcohol exposure in pregnancy. As a result of alcohol consumption during pregnancy, intrauterine growth restriction could occur especially at the third trimester (begins at 28th week of pregnancy), abnormal head circumference and weight, reduced brain size, poor foetal growth and possible abortion. (Krulwich 2005, 101-340.)

FAS is one outcome of alcohol use in pregnancy. A proper definition involves distinctive facial features. FASDs is an umbrella term referring to FAS and describing the effects (complete, chronic or mild physical, behavioural, emotional and social) of disabilities associated with alcohol uterine damage. Genetics and extent of alcohol use in pregnancy are some of the factors which affects the amount of visible symptoms. The effects of FAS (prenatal deficiency, central nervous system anomalies cognitive deficits and unique facial anomalies) could appear normal in some foetus or clearly abnormal. (Brems et al. 2011, 16; Aduato & Cohen 2011, 3-30.)

3.1 Characteristic features of foetal alcohol syndrome (FAS)

Children with FAS might have the following characteristics and behaviours:

Abnormal facial features, such as a smooth ridge between the nose and upper lip (this ridge is called the philtrum), unique facial anomalies, reduced head size, shorter-than-average-height, poor coordination, reduced body weight and hyperactive behaviour amongst other features. (International centres for alcohol, disease Control and Prevention 2014.) [23 May 2015].

4 General treatments for alcohol misuse.

Alcohol misuse treatment depends on individual alcohol consumption. Increased-risk drinking (gradually exceeding 1 to 4 units per week). Higher-risk drinking (more than 8 units per week), the patients has to decide if they wish to leave alcohol completely or drink moderately (5 to 8 units per week). Avoiding the use of alcohol is usually advised at this stage. Although the choices are made by patients, in cases where a patient has a medical condition (for example heart problem, liver cirrhosis), uses medicines (for example antipsychotics) that are badly affected by alcohol or is pregnant. Abstinence is highly recommended. A patient who insists on choosing moderate drinking would be advised to attend regular counselling sessions for assessment and go for blood tests as often as is needed to help monitor his or her liver. Dependent drinking (addicted to alcohol): abstinence is often advised even though patients could choose between becoming moderate drinkers and abstaining. (NHS 2014). [Ref 23 May 2015].

4.1 Detoxification

This is the removal of excess alcohol from a patient's body. For an increased risk drinker, abstinence is the best option and it could be done at home. For higher risk drinkers, a tranquilizer called Chlordiazepoxide is given and treatment could be done at home. Dependent drinkers are advised to be hospitalized; detoxification comes with stress as one of its symptoms. Listening to music or taking walks can help the patient. (NHS 2013a; Käypähoito 2011a.) [Ref 23 May 2015].

4.2 Withdrawal

This is an important step in avoiding alcohol intake Withdrawal is not effective on its own; it works better with other treatment options. It comes with symptoms like insomnia which is worst for the first 48 hours and often occurs between 3 to 7 days of last alcohol intake. (NHS 2013a.) [Ref 23 May 2015].

4.3 Abstinence

This is the complete avoidance of alcohol. This treatment is different for different patients. If ineffective, patients can discuss it with their doctors. This is the advisable treatment to all patients. (NHS 2013a.) [Ref 23 May 2015].

4.4 Use of medication

Acamprosate: the brand name is Campral .This medicine is used together with counselling. It helps prevent a relapse in patients who have achieved abstinence from alcohol. It affects the level of gamma-amino-butyric acid (GABA) in the brain which is partially involved in alcohol craving. Its course often begins at the start of withdrawal and can continue till six months. (NHS 2013a; Käypähoito 2011a.) [Ref 23 May 2015].

Disulfiram: the brand name is Antabuse. This medicine is used by a patient attempting to achieve abstinence and is worried there might be a relapse because of past experiences. It gives the user unpleasant physical reactions like vomiting, chest pain, nausea and vomiting if they take alcohol or use any product containing alcohol like aftershaves, mouthwash, perfumes for example. It is important to have communication at least once in two weeks with the healthcare team involved in the care for the first two months, subsequently once every month in four months. (NHS 2013a; Käypähoito 2011a.) [Ref 23 May 2015].

Naltrexone: this medicine is used to prevent a relapse or reduce amount of alcohol intake. It blocks opioid receptors in the body hence stopping alcoholic effects. It is often used together with counselling or other medicines. It stops the effect of pain-killers containing morphine and codeine. It is prescribed for six month use, any discomfort should be told to the care team or doctor. (NHS 2013a) [Ref 23 May 2015].

5 Counselling as a nursing intervention.

Nurses make up a large amount of the health care workers population. It has been observed that their involvement in counselling plays an important role in reducing or stopping alcohol use during pregnancy. Counselling was found to be the first and most effective treatment for pregnant alcohol users in both Finland and the United Kingdom. (WHO 2010b.)

5.1 Types of counselling

Self group is a group made up of alcohol abusers who come together to get help. It is a stage to stage therapy where the patient works together with a counsellor instead of being in a group. It helps the patient feel relaxed and free to express him or her self. (NHS 2013b; Käypähoito 2011b.) [Ref 23 May 2015].

Brief intervention (Counselling) takes about 10-15 minutes. It works better with honesty on the patient's side. Based on the conversation between a patient and a nurse, patients could be referred to local alcohol community services for emotional support by their doctors, asked to keep a diary to help keep tab on the quantity of alcohol intake and taught how to drink when attending an occasion. For example, alcoholic drinks could be replaced with soft drinks like juice the whole process of brief intervention could last between 12 to 24 months. (NHS 2013b; Käypähoito 2011b.) [Ref 23 May 2015].

Cognitive behavioural therapy (CBT), this is a problem -solving communicative therapy. It deals with the unreal imaginations which lead to alcohol dependency like "just a drink would not hurt" and factors that triggers alcohol use. Like social anxiety and being in a club. The therapist would help the patient identify these and how best to deal with them. (NHS 2013b; Käypähoito 2011b.) [Ref 23 May 2015].

Extended brief intervention (EBI), this is a motivational interview with a direct session usually involving a doctor, a nurse counsellor and the patient. It involves discussing good reasons for stopping alcohol use. (NHS 2013b; Käypähoito 2011b.) [Ref 23 May 2015].

FRAMES this is an acronym explaining a brief intervention. It means:

Feedback: on risk of having alcohol problems

Responsibility: helping the patient take responsibility for change

Advice: providing clear advice for the patient when it is needed

Menu: explaining the options for change to the patient

Empathy: a warm, reflective and understanding approach

Self-efficacy: helping patients believe in their abilities to change. FRAMES is a counselling session between a patient, nurse counsellor or doctors discussing about the patients emotions, educating and helping the patients understand why he or she has to stop using alcohol. (NHS 2013b; Käypähoito 2011b.) [Ref 23 May 2015].

AUDIT: the full meaning is alcohol use disorders identification test. It helps nurse counsellors determine the extent of alcohol use. It is a questionnaire which helps a nurse counsellors determine how often a patient drinks and the quantity of intake. (NHS 2013b; Käypähoito 2011b.) [Ref 23 May 2015].

Family therapy: alcohol use could also affect the individuals' family negatively. This therapy provides support for the family of an alcoholic and helps them (family members) know more about alcohol misuse. Meetings are scheduled between family members, the pregnant alcoholic patient and the nurse counsellor or doctor. (NHS 2013b; Käypähoito 2011b.) [Ref 23 May 2015].

5.2 Qualities of a nurse counsellor

A nurse counsellor involved in educating pregnant alcohol users must have the relevant education, clinical competence and knowledge needed for teaching the affected patients about the adverse effects of alcohol. It is also important for the nurses themselves to be non-drinkers. A positive attitude is an important quality a nurse counsellor should possess so he or she can handle any kind of patient. (WHO 2010c.)

5.3 Factors impeding successful counselling outcomes

On the nurses part, insufficient knowledge and lack of clinical competence could lead to inability to build patients trust. Nurses involved in counselling pregnant alcohol users must be trained for such work. Negative attitude of nurses towards pregnant alcohol users could deter the whole counselling process. Most nurses tend to be judgemental and lose the goal of counselling, which is either helping the pregnant woman discontinue the use of alcohol or never even drink any while pregnant. On the patients part, some patients are not willing to give helpful answers during counselling or even tell the truth about their alcohol consumption level. All these factors make counselling difficult. (WHO 2010c.)

6 Aim and purpose of the thesis

6.1 Aim

The aim of this thesis is to give insight on how alcohol can cause avoidable foetal abnormalities and how nurses can use counselling to help these patients' live normal lives and give birth to healthy babies.

According to Fleisher (2011,396), women are often told that the first 3 months of pregnancy are the most vulnerable even though there has not been any proof from low alcohol consumption. However, during the third trimester the brain and nervous system are in their final development. Alcohol exposure during this period can cause long-term learning difficulties and nervous disorders. It is clinically proven that alcohol consumption during all stages of pregnancy puts the fetus at risk of being born with lifelong alcohol-related brain damage known as FAS.

6.2 Purpose

The purpose, many pregnant women do not realize that the developing foetus is most sensitive to the effects of alcohol and counselling is the most effective method of treatment. During pregnancy, anything a mother takes in goes straight to the baby via the placenta. Literatures relevant to alcohol effects on foetus and counselling as an effective treatment were reviewed.

This thesis would provide knowledge of alcoholic effects on the foetus, its prevalence and how counselling can help treat or prevent alcohol use during pregnancy

6.3 Research questions

How can counselling help alcoholic women during pregnancy?

What are the impacts of alcohol on the unborn child?

7 Data selection method

This thesis was done using literature review as its method. The inclusion and exclusion criteria were based on content analysis formation. Relevant scientific articles were consulted based on the topic. The keywords used were alcohol, counselling and pregnancy. The evaluation of the results were based on the titles, inclusion and exclusion criteria and authenticity of the full texts.

7.1 Literature review

Literature review was defined as a critical evaluation and summarization of a previous research. It is a review devoid of personal viewpoints and long interpretation of a previous work. It should lack plagiarism while retaining the authenticity of the searched article. The type of literature review method used was the narrative form. It involves the analytical gathering of information, structure and elements from relevant scientific articles and making a readable hypothesis. Conclusions should be reliable and verifiable. A narrative literature review contains at least a research question which can be answered via relevant databases. Contrary to a literature review, a systematic literature review is directed strictly to research questions. It has a definite style to be used in forming a research question which precedes its data collection. The process takes a lot of time, thoughts, exclusion and inclusion criteria are necessary for its analysis (Cronin, Coughlan & Ryan 2008). Based on the time frame of this thesis, systematic literature review was not used.

7.2 Data collection process

First we started by putting our research work into consideration when we were gathering data. The keywords alcohol, counselling and pregnancy were used in scientific articles relevant to the thesis topic for data collection process. Initial search yielded much information; they were narrowed down to those useful to our research topic. The body of our text consists of abbreviations and terms in English, which are explained for clarity.

CINAHL full text was used as one of the databases and we based our findings on the quality of the full text. Medline-Pubmed, WHO, online dictionaries, textbooks (2) and other relevant scientific articles were also used. Searches were done by combining "alcohol AND pregnancy* AND counselling AND pregnant alcohol users*". The single use of alcohol, pregnancy and counselling did not yield any useful results during the search. For clarity and understanding, the keywords were defined in Table 3.

TABLE 3. Definition of keywords according to Merriam-webster (2015)

Alcohol	A clear, intoxicating liquid usually having a strong smell that can make an individual drunk. It often contains 95% ethanol.
Counselling	Process of giving advice to an individual based on previously discussed problem(s). Process of giving advice to an individual based on previously discussed problem(s).
. Pregnancy	. This is a condition where a female has a developing embryo or foetus inside her body.

7.2.1 Inclusion and exclusion criteria

The search was limited to only articles published from 2004 to 2015. The publications used for this thesis were written in English language except for 2 (Käypähoito & Finnish Year statistic book) which were in Finnish language. Those in Finnish language were clearly translated into English language for uniformity of language use. Only articles relevant to the thesis were used, the exclusion and inclusion criteria were taken into specific consideration. Table 4 shows the exclusion and inclusion criteria on which this thesis was based on.

TABLE 3. Inclusion and exclusion criteria table

Inclusion criteria	Exclusion criteria
Adults (Pregnant women).	Children and elderly.
Literature reviews (2004-2014).	Literature reviews older than 2004.
Online sources (2004-2014).	Online sources older than 2004.
Evidence based researches	Non evidence based researches
Sources relevant to alcohol, counselling and pregnancy	Sources not relevant to alcohol, counselling and pregnancy.
Sources relevant to nursing.	Sources not relevant to nursing.

7.2.2 Data result from searches

Literature searches were made in CINAHL database, Medic database (both from Finland and United Kingdom) and PubMed Medline database. The searches resulted in a total of 286 articles, CINAHL gave 61 articles, PubMed Medline gave 125 articles and Medic gave 100 articles. Figure 3 shows the process of data search in summary. Limiters available on the databases were used according to our inclusion and exclusion criteria (Table 4). The limiters helped us narrow down the amount of article, choosing the appropriate ones and analysing them to suit our topic, keywords and answer our research questions.

The target during the search was to filter as much articles as possible in order to find those with sufficient quality and relevance to our topic. It was found that alcohol and pregnancy is a popular topic with lots of researches done on it. However most of the articles did not match the criteria on which this thesis topic was based or shed more light on counselling as an intervention. Most articles found were not suitable based on literature review method which was used for this thesis and were excluded.

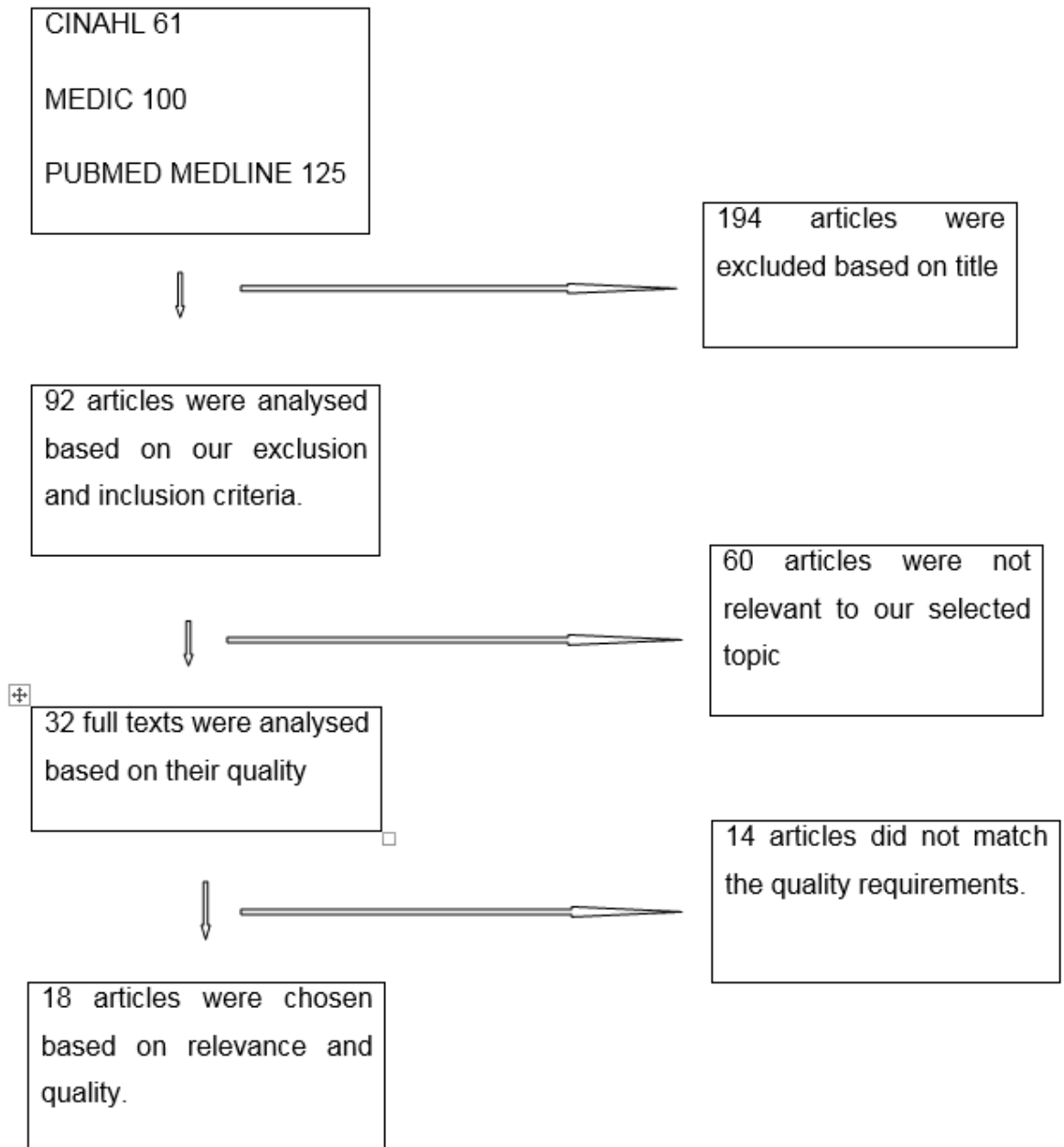


FIGURE 3. Database searches

8 Data Analysis: Process of Content Analysis

8.1 Content Analysis

Content analysis method was used for data analysis of this thesis. It (content analysis) involves analysis of qualitative and quantitative data in either a deductive or inductive way. Deductive content analysis method moves from general to specificity based on previous studies while inductive content analysis moves from specificity to general based on no previous knowledge of the studies. Both deductive and inductive content analysis methods are based on preparing, organizing and reporting a data. Since our topic has been previously researched by many academicians, the concept was based on literature reviews and models. The data gotten from our (the authors) searches were analysed based on the research questions of this thesis and relevance of the literatures.(Elo & Kyngäs 2008a.)

8.2 Analysis Process of the thesis

This thesis was done based on previous work by other academicians with same topic. The abstraction was done using both deductive and inductive analysis methods. Deductive reasoning was used for information gathering while inductive reasoning was used to create categories. Preparing, organizing and reporting phases were used throughout this thesis work. Figure 4 illustrates the model on which the thesis was formed while Figure 5 describes the abstraction process used.

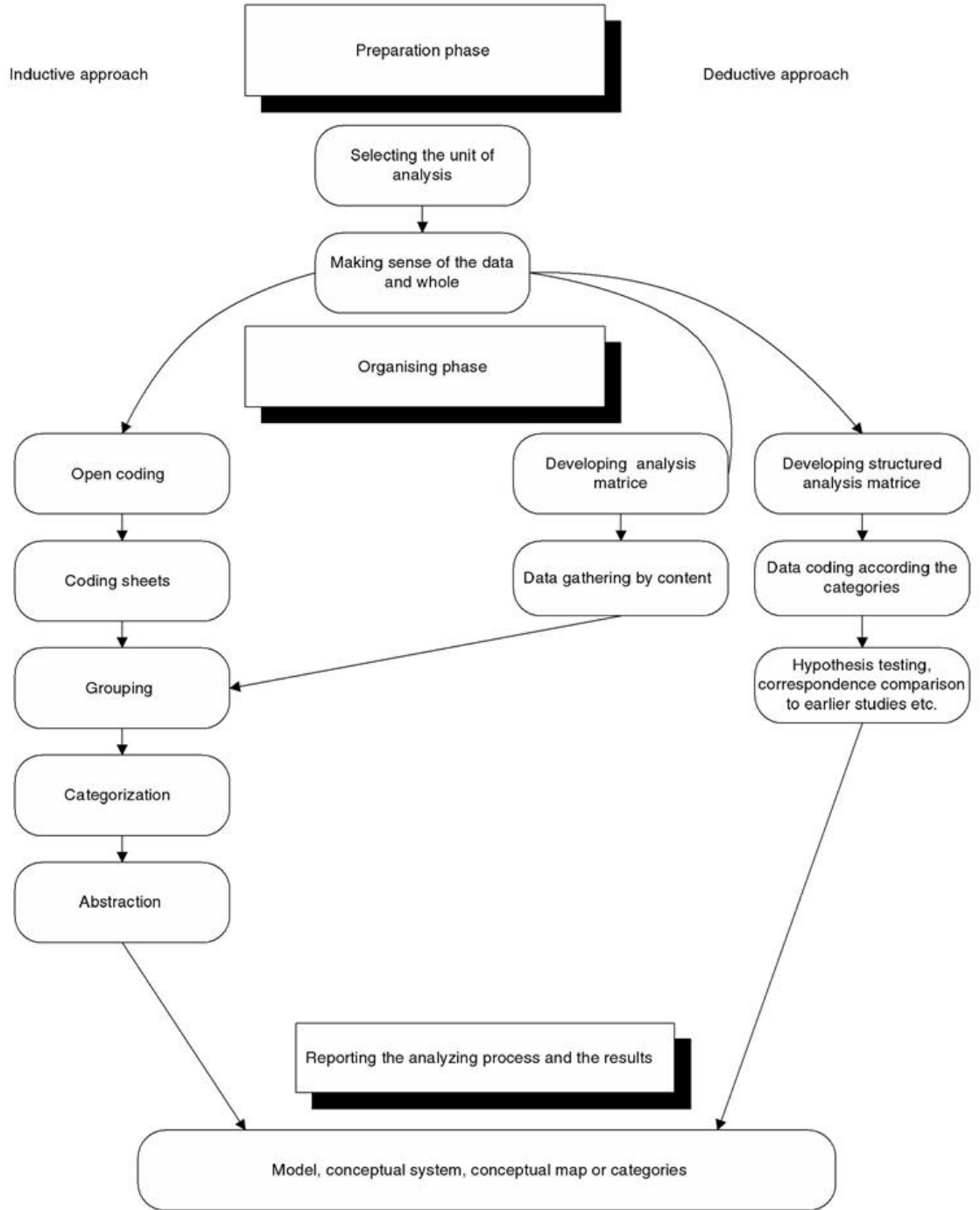


Figure 1 Preparation, organizing and resulting phases in the content analysis process.

FIGURE 4. Three Phases (Preparation, Organizing and resulting phases) of content analysis.

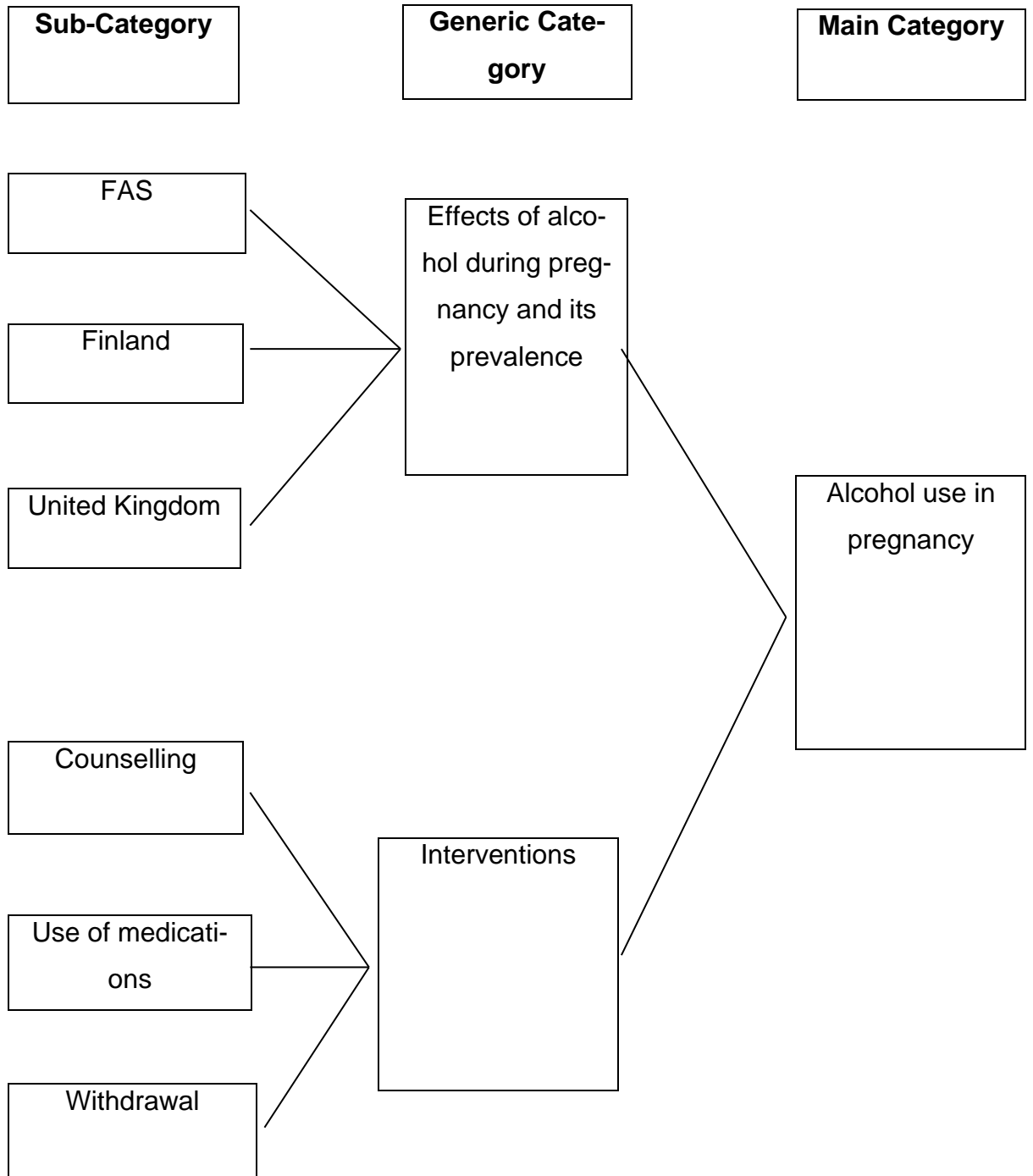


FIGURE 5. Abstraction process used for this thesis.

9 Results

The aim of this thesis is to analyse and compare the use of alcohol during pregnancy in both Finland and the United Kingdom (UK). It involves explaining the adverse effects of alcohol use on the foetus, prevalence in both countries mentioned above and methods of prevention. This thesis summarizes the effects of alcohol use in pregnancy its prevalence and the interventions. It (this thesis) would serve as a useful reference tool for all healthcare workers to help reduce the incidence of alcohol use and its adverse effects amongst pregnant alcoholic users.

9.1 Effects of alcohol during pregnancy

The first part of the wide category was on the effects of alcohol during pregnancy and its prevalence in Finland and the United Kingdom. According to Krulewitch (2005), exposure to alcohol during pregnancy is a leading cause of fetal growth restrictions, FAS, birth anomalies, growth restrictions, neuro-behavioural disabilities and possible abortions depending on the amount of alcohol usage. We (authors of this thesis) found out alcohol usage during pregnancy is common in both countries (Finland and United Kingdom) but most prominent in Finland. FAS is as a result of alcohol intake during pregnancy and have same characteristics in both countries.

9.1.1 FAS

Alcohol use is a common feature in social gatherings in most countries worldwide. Maternal alcohol use during pregnancy is a leading cause of FAS, with characteristic anomalies like abnormal facial features, small head circumference amongst others. Alcohol in the mother's blood can be passed on to her foetus via placentation. (Mukhtar & Lynch 2011). In both countries, FAS occurs but not with a large group in the population.

9.1.2 Prevalence of alcohol use in Finland

Alcohol consumption in Finland is the European average, but binge drinking is the key problem. There are about 300,000-500,000 risk users of alcohol amongst which about 10% are females. (Käypähoito 2011c) [Ref 23 May 2015].

The total alcohol consumption trending in Finland 2007 was increased by 1.9% which is 10,5 litres of pure alcohol per capita as against 10,3 litres in 2006. According to the most recent information, 88 per cent of the adult population use alcohol. As alcohol consumption increased, mortality rate increased also. As recorded. in 2007, the most common cause of death among women and men of working age (15–64 years) is alcohol-related. (Yearbook of Alcohol and Drug statistics 2008,41). [Ref 23 May 2015].

Figure 6 shows the alcohol consumption of 15 years of age and upwards in Finland. From the table, it is noticed that the total consumption of alcohol in Finland is high and most of it was documented. The statistic left undocumented was low.

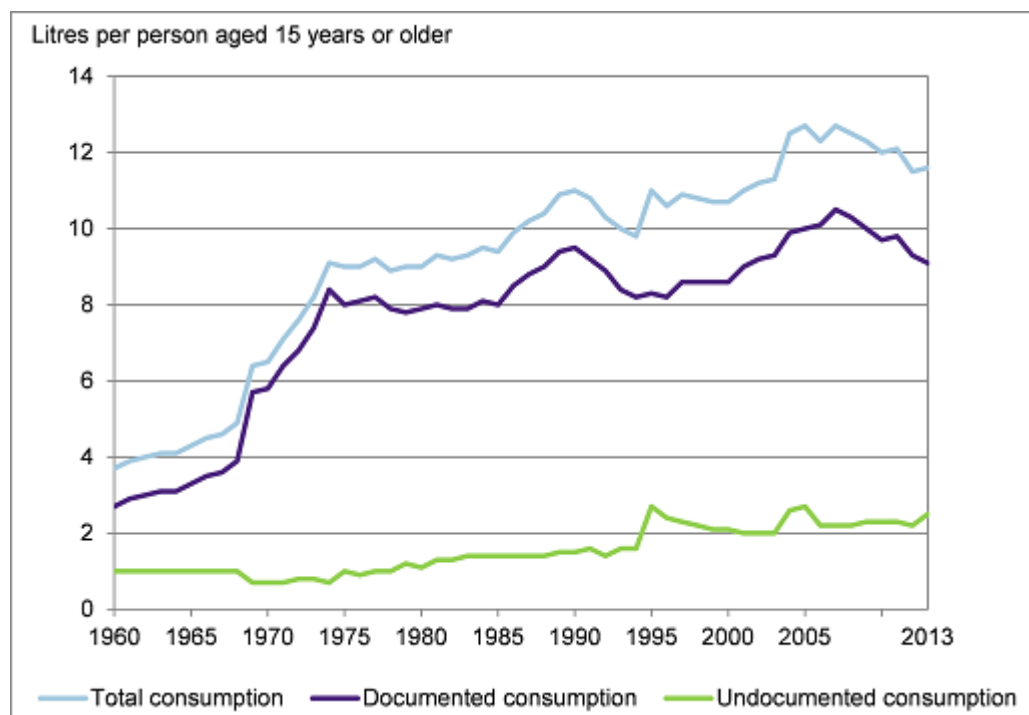


FIGURE 6. Consumption of alcoholic beverages as pure alcohol per person aged 15 years or older, 1960-2013. (Tuomo & Sirpa 2014, 2).

9.1.3 Prevalence of alcohol use in the UK

Over 9 million people in England drink more than the recommended (4 units for men and 3 units for women) daily limits. 19% increase in alcohol related deaths was recorded in 2012. Alcohol is amongst the biggest lifestyle risk factors and is 10% of the death and disease burden. It is more affordable by 61% presently and about 7.5 million of the population have no knowledge of its effect. At least once a week, about 34% of men and 28% of women drank more than the recommended (4 units for men and 3 for women). About 18% of men and 12% of women are heavy drinkers (drinking about two times the recommended unit) and at least 9% of men and 6% of women are very heavy drinkers (drinking about three times the recommended unit). Almost 22% of high income earning adults most likely drink two times more than 10% of low income earners. The older (45-64 years) population are more frequent drinkers (at least 9% drink everyday) than the younger ones (16-44) who drink heavily (over 8 units for men and 6 units for women). (Alcohol concern 2015). [Ref 16 May 2015].

Figure 7 shows the pattern of drinking amongst adults in the UK. Adult males are the highest consumers of alcohol, drinking about 80% of alcohol at least once a week. Adult women also have the high drinking percentage of almost 60%. It explains that women of childbearing age are involved in high alcohol consumption

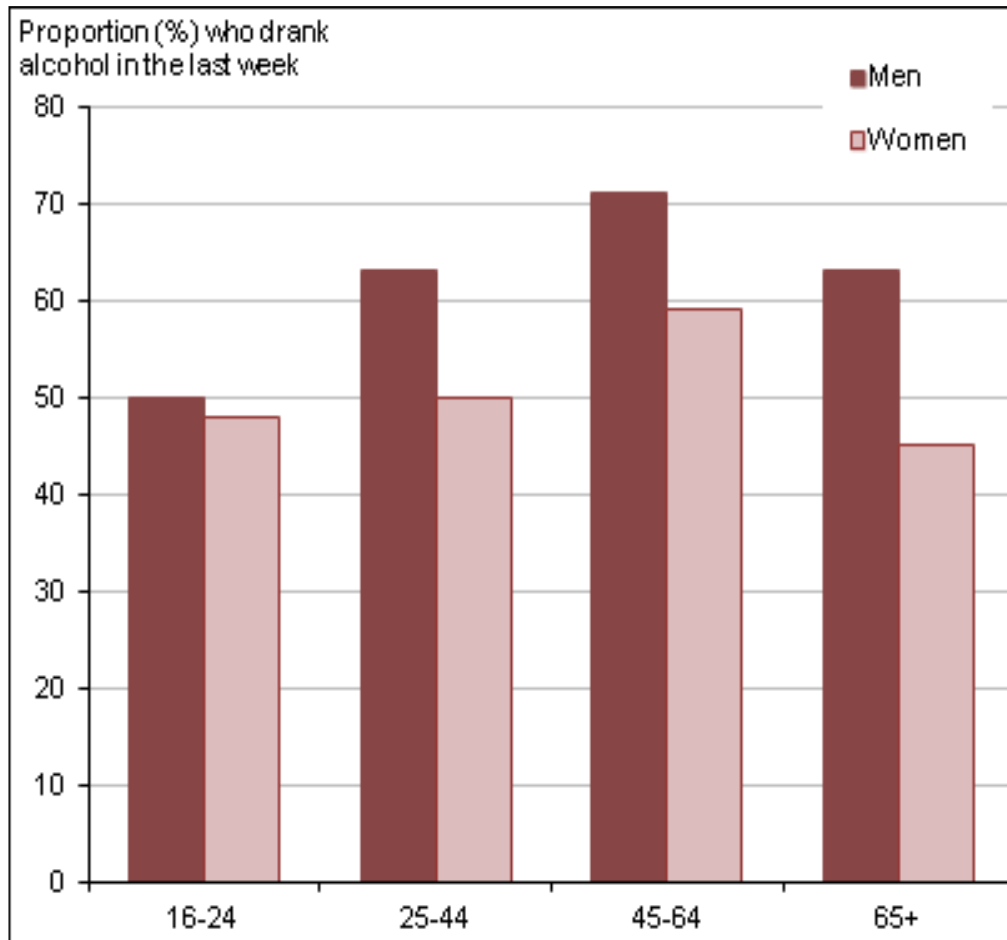


FIGURE 7. Drinking Habits amongst Adults, 2012 (Opinion & Life style survey 2012). [Ref 23 May 2015].

9.2 Interventions

The second part of the wide category was concerned with interventions on alcohol usage during pregnancy. Various treatment methods like the use of medications and withdrawal were analysed but counselling was found to be the most effective. The authors of this thesis focused more on counselling as an intervention.

9.2.1 Counselling

This is the advice given to both pregnant and non pregnant alcohol users as a method of treatment. We (authors of this thesis) found out that counselling saves cost and is an effective treatment method in both Finland and the UK. It was found out that in the UK, there is a specific care guideline for pregnant alcohol users while in Finland same treatment was used for all alcohol users.

Components of a good counselling includes, assessment, feedbacks, discussions between healthworkers and patients, provision of explanatory pamphlets and goal setting. Consistency is the key for a positive outcome. (O`Leary et al 2009)

For most alcohol users, the use of medicines can help in their treatment. It was observed that a more effective treatment can be achieved when these medications are prescribed alongside counselling. It is advised that all noticeable symptoms due to overdose of these medications or side effects be reported immediately to a doctor. Some common medications used in both Finland and United Kingdom includes:

Acamprosate, this medicine is used together with counselling. It helps prevent a relapse in patients who have achieved abstinence from alcohol. It works by affecting the level of gamma-amino-butyric acid (GABA) in the brain which is partially involved in alcohol craving. Its course often begins at the start of withdrawal and can continue till six months. Its side effect includes feeling of sadness, fear and severe depression. (NHS 2013d; Käypähoito 2011d.) [Ref 23 May 2015].

Disulfiram, this medicine is used by patients attempting to achieve abstinence and are worried they might relapse because of past experiences. Some of its side ef-

fects include unpleasant physical reactions like vomiting and chest pains. The patients get even more nauseating and vomiting feelings if they take alcohol or use products containing alcohol like aftershaves, mouthwash, and perfumes. It is important to have communication at least once in two weeks with the healthcare team involved in the care for the first two months, subsequently once every month in four months. (NHS 2013d; Käypähoito 2011d.) [Ref 23 May 2015].

Naltrexone, this medicine is used to prevent a relapse or reduce amount of alcohol intake. It blocks opioid receptors in the body hence stopping alcoholic effects. It is often used together with counselling or other medicines. It stops the effect of painkillers containing morphine and codeine. Some of its side effects include stomach pains, headaches, nausea and anxiety. It is prescribed for six month use. (NHS 2013d.) [Ref 23 May 2015].

9.2.2 Withdrawal

This is an important step in avoiding alcohol intake. Withdrawal is not effective on its own; it works better with other treatment options (counselling and medications). It comes with symptoms like insomnia which is worst for the first 48hours and often occurs between 3 to 7 days of last alcohol intake. (NHS 2013d.) [Ref 23 May 2015].

10 Discussion

Alcohol use by pregnant women as a social drink is a worldwide bane, binge drinking being the most common drinking pattern both in Finland and UK. Alcohol use in pregnancy leads to FAS, abstinence is the best key to prevent this irreversible adverse effect while counselling remains the best treatment method both in Finland and UK.

Public awareness has been created mostly in the UK than in Finland. All alcoholic beverages in the UK have inscriptions on them warning pregnant women against the use of alcohol and the maximum unit consumable by everyone. This awareness was not widely seen in Finland.

This thesis analysed and drew valid inferences from previously done works. The purpose of this thesis was to give a clear descriptive summary of our topic in an understandable form for future referral by nurses in order to help them deal effectively with pregnant alcoholics. Although we (the authors) focused on counselling as an effective treatment method, other methods were explained for better understanding. We made sure the selected articles answered our research questions. Giving a concise summary that matches the word limitations in written articles is often cumbersome because they (articles) are written based on the writers perception. (Elo & Kyngäs 2008b.)

Although medicines and withdrawal treatment method can also be used to prevent or reduce the occurrence of FAS, counselling was found to be the most effective treatment both in Finland and in UK.

10.1 Inference

Counselling helps educate pregnant alcoholics and pregnant non alcoholics about FAS. Nurses can motivate them (pregnant alcoholics) by having non-judgemental and positive attitude. Sufficient knowledge in counselling,clinical competence, being non alcoholics and consistent in the care being given.These characteristics can effectively help a nurse know the method of counselling suitable for a particular patient, reduce and prevent FAS.

Reduction of mortality rate due to FAS and increase in the number of healthy children can be achieved through counselling.

10.2 Ethical and authenticity issues

The original authors of the articles used for this thesis were mentioned both in the bibliography and text. This thesis was written by two students without significant research backgrounds. Articles used were scientific journals and research articles matching the accepted guidelines given by the concerned authorities. The articles used were read thoroughly, organized and the most relevant ones were selected.English language was used throughout, few articles found in Finnish language were translated to English language. Keywords and abbreviations were clearly defined and explained for clarity.

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