

Sanju Singh & Rim Arramlawi

**REDUCTION AND CESSATION OF SMOKING DURING PREG-
NANCY**

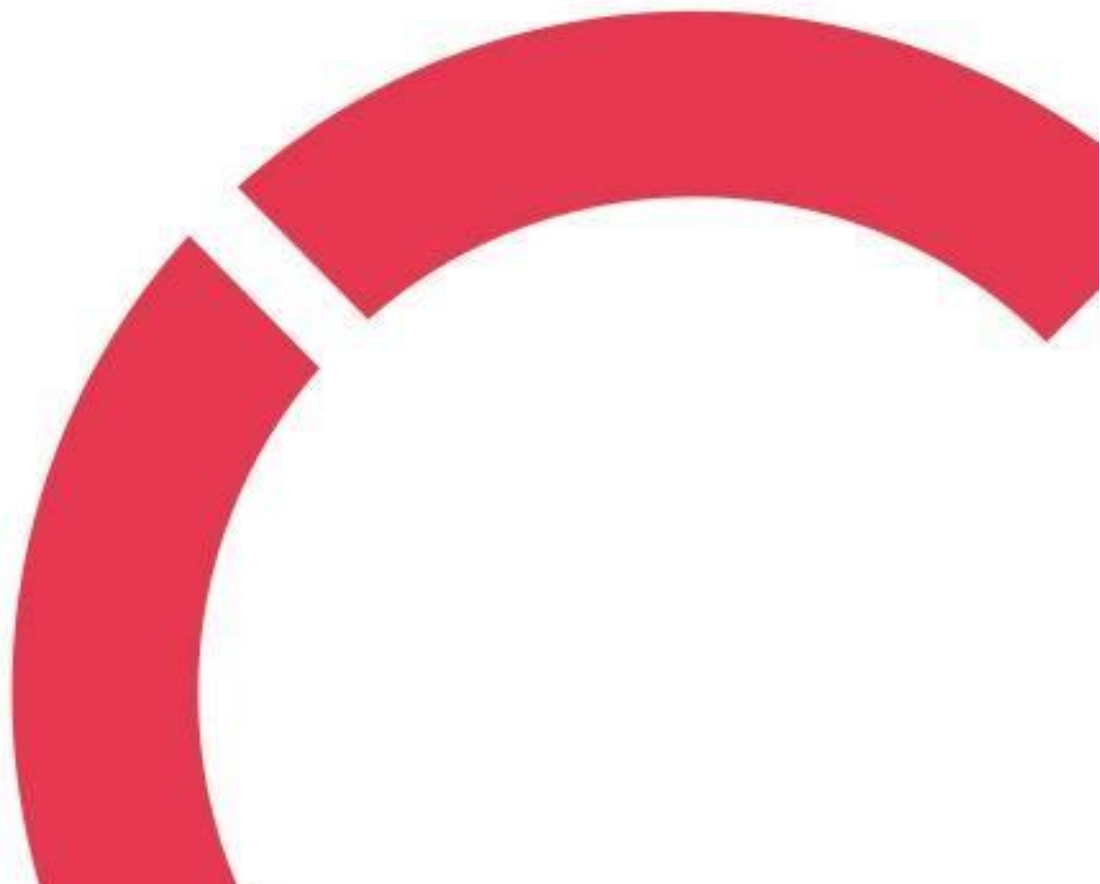
Educational video for nursing students

Bachelor's thesis

CENTRIA UNIVERSITY OF APPLIED SCIENCES

Bachelor of Healthcare, Nursing

May 2024



ABSTRACT

Centria University of Applied Sciences	Date May 2024	Author Sanju Singh Rim Arramlawi
Degree programme Bachelor of Healthcare, Nursing		
Name of thesis REDUCTION AND CESSATION OF SMOKING DURING PREGNANCY Educational video for nursing students		
Centria supervisor Timo Kinnunen	Pages 22+4	
Instructor representing commissioning institution or company Hanna-Mari Pesonen		
<p>Smoking during pregnancy is common for women all around the world. Some women can be encouraged to stop smoking by encouraging them to think about the health of their child but sometimes motivation alone is not sufficient. They might need the support and guidance from the nurse to quit smoking. This thesis highlights the negative effects of prenatal smoking on pregnancy outcomes such as low birth weight, preterm birth and infant mortality. This thesis describes the harmful chemicals found in cigarettes such as tar, nicotine and carbon monoxide and how they are absorbed into the foetus.</p> <p>The objective of this thesis is to produce an educational video for Centria’s nursing students that will provide knowledge about how to motivate and empower expectant mothers to quit smoking to enhance both their own and their children's long-term health. It also emphasizes the need for smoking cessation interventions to reduce the risks and improve maternal and foetal health outcomes. The study also examines the challenges that pregnant women encounter while attempting to give up smoking.</p> <p>The preparation of this thesis and an educational video are created in cooperation with Centria’s nursing teachers which is based on evidence-based articles, journals and books. In conclusion, this thesis provides guidance about quitting smoking during pregnancy and offers healthcare practitioners, public health experts on how to help pregnant women to quit smoking.</p>		
Key words Counselling and teaching, Educational video, Nurses competencies, Pregnancy and pregnancy care in Finland, foetal, Prenatal and maternal care, Smoking cessation		

CONCEPT DEFINITIONS

ADHD

Attention Deficit Hyperactivity Disorder

CO

Carbon monoxide

ETS

Environmental tobacco smoke

LBW

Low Birth Weight

NRT

Nicotine Replacement Therapy

PTB

Preterm Birth

SIDS

Sudden Infant Death Syndrome

ABSTRACT
CONCEPT DEFINITIONS
CONTENTS

1 INTRODUCTION	1
2 HARMFUL CHEMICALS IN CIGARETTE SMOKE	3
2.1 Tar	3
2.2 Nicotine	3
2.3 Carbon monoxide.....	4
3 UNDERSTANDING SMOKING DURING PREGNANCY	5
3.1 Health Risks of Smoking During Pregnancy.....	5
3.2 Effects on the baby.....	5
3.2.1 Low birth weight.....	6
3.2.2 Preterm birth	6
3.2.3 Sudden Infant Death Syndrome	6
3.2.4 Ectopic pregnancy	7
3.3 Effects on the mother.....	7
3.3.1 Delayed conception and infertility.....	8
3.3.2 Delayed conception and infertility.....	8
4 GUIDING MOTHERS TO QUIT SMOKING.....	10
4.1 Behavioural intervention	10
4.2 Nursing competences	11
4.3 Nicotine replacement therapy.....	11
5 SMOKING AND LACTATION	13
6 PURPOSE AND OBJECTIVES.....	14
7 METHODOLOGY	15
7.1 Project phase.....	15
7.2 Initiation and planning phase of the project	15
7.3 Implementation phase of the project.....	16
7.4 Closure phase of the project	16
7.5 Educational video.....	16
8 ETHICAL ISSUES.....	18
9 REFLECTION AND CONCLUSION	19
9.1 Review of the project methodology	19
9.2 Conclusion and implications of the project for nursing education.....	19
9.3 Review of the production of video material	20

9.4 Review of the learning process 20

REFERENCES..... 22

APPENDICES

1 INTRODUCTION

When we are talking about pregnancy, it is important to acknowledge that we are not just talking about one life, but two, especially when both are in a vulnerable stage. Therefore, it is very crucial to pay attention to what is being absorbed in the body of the pregnant woman during this time. Usually, monthly check-ups are done to ensure the wellbeing of both the baby and mother. Unfortunately, in some cases, the woman continues smoking due to psychological problems, addiction or just smokes due to lack of awareness about the consequences of their actions on their baby.

Smoking is an act of inhaling and exhaling tobacco which contains nicotine. Although it is widely known that smoking can be harmful, pregnant women still smoke. The use of tobacco during pregnancy causes preventable complications and adverse birth outcomes (Johnson 2022). Maternal smoking poses significant health risks to the mother herself, such as ranging from respiratory complications to cardiovascular disease, as well as to the newborn baby, such as low birth weight and premature birth, increased risk of birth defects and sudden infant death syndrome (SIDS). Understanding the causes of smoking is essential for implementing intervention strategies to promote better outcomes in healthy pregnancies. Psychological interventions, such as providing counselling have been seen effective in promoting smoking cessation among pregnant women. Smoking cessation is one of the best things that a pregnant woman will ever do for her health. When she stops smoking, she gives her lungs a chance to heal, and she breathes easier. There are many other benefits as well and they start almost immediately. Doctor advice women who are pregnant or planning to become pregnant to stop smoking so that the pregnancy goes as planned. Smoking is harmful for both mother and foetus before, during or after pregnancy. (Kalamkarian, Hoon, Chittleborough, Dekker, Lynch & Smithers 2023.)

This thesis aims to produce learning material for nursing students in Centria about reduction and cessation of smoking during pregnancy. Its objective targets both students and the teachers in Centria. This topic is very important despite the fact that this topic has been written about before but having as many diverse writings about this topic is always beneficial for the public because at a certain time in our lives, someone is or has become a parent, so it is beneficial to have more knowledge using practice-based thesis as a source of information. Furthermore, smoking has consistently shown negative impact on the human body. It is more concerning in case of pregnant woman. As future nurses, it is our responsibility for the wellbeing of both mother and child health during the entire pregnancy journey and to provide

guidance and support to expectant parents about the danger of smoking and offering them counselling to assist them mentally.

It is also important to create a supportive environment. Mothers may experience feelings of shame or guilt as a result of their smoking habit, so it is important to approach the topic with empathy and non-judgment. Nurse should be able to create non-judgemental environmental for such mother so that the chances of finding support for smoking cessation increases. Individual counselling sessions can be very helpful. Nurse should be able to tailor the approach toward quitting smoking depending on the mother's circumstances and motivation. Providing resources like smoking cessation programs, nicotine replacement therapy and behavioural therapies can also help mothers to quit smoking. Through an exploration of various factors that affect smoking behaviour during pregnancy, this thesis seeks to illuminate pathways for intervention and support.

2 HARMFUL CHEMICALS IN CIGARETTE SMOKE

Cigarettes are full of hazardous substances. Some are generated during the tobacco processing for cigarette production, while others occur naturally within the tobacco plant. When a cigarette is burned, tobacco smoke unleashes thousands more compounds. Consequently, both smokers and those exposed to second-hand smoke face the risk of numerous hazardous substances. The most harmful chemicals include tar, nicotine, and carbon monoxide. The most avoidable cause of death in the US and around the world is smoking. Smoking causes respiratory disorders, heart disease, stroke, and cancer. (Morgan, Byron, Baig, Stepanov & Brewer 2017.)

2.1 Tar

Tar is a chemical produced by the burning of tobacco. Tar is a substance made up of many hazardous chemicals that can block the flow of oxygen and nutrients to a developing foetus. This may result in low birth weight, reduced foetal growth, or even an early birth. There is a higher chance of respiratory issues after birth due to the chemical presents in tar. The risk of developing asthma, bronchitis, and other respiratory illnesses is higher in offspring of pregnant smokers. (Talhout, Schulz, Florek, Van Benthem, Wester & Opperhuizen 2011.)

The risk of SIDS death for infants born to smoking moms who are exposed to tar is over three times higher than that of infants born to non-smoking mothers. Foetal exposure to tar increases a child's risk of developing obesity, diabetes, hypertension, behavioural abnormalities, and other health issues in future. (Soleimani, Dobaradaran, De-la-Torre, Schmidt & Saeedi 2022.)

2.2 Nicotine

Nicotine is extremely harmful to a developing foetus since it slows its growth and development and raises the possibility of birth abnormalities including cleft lip and cleft palate. As all the nutrients travels through placenta, nicotine also travels through placenta and umbilical cord to foetus. It contracts the blood vessels, which reduces the oxygen supply to the developing foetus. Nicotine can cause serious

cardiovascular issues; it stimulates the heart's rhythm to beat faster and pump more oxygen when it enters the body. (Soleimani et al. 2022.)

Children exposed to nicotine are more likely to develop a range of health problems throughout their lives, including dysfunction of the hormonal, reproductive, respiratory and neurological systems. It doubles the risk of abnormal bleeding during pregnancy and childbirth. It is harmful for both the unborn baby and the mother. If the mother has smoked heavily during pregnancy the baby can have symptoms like poor academic performance, behavioural disruption and future substance abuse. (Wickström 2007.)

2.3 Carbon monoxide

Carbon monoxide (CO) is an odourless and tasteless toxic gas present in the cigarette smoke. When carbon monoxide binds itself to the foetus's haemoglobin, carboxyhaemoglobin is produced, and it reduced oxygen flow to the foetus. When organs do not receive enough oxygen, the cardiovascular system pump more blood to keep the body supplied with oxygen. When carbon monoxide does enter the baby's bloodstream, it takes the foetus a lot longer than it does for an adult to get rid of it. Higher levels of CO in pregnant woman can lead to low birth weight and problem with brain development. (Venditti, Caselman & Smith 2011.)

3 UNDERSTANDING SMOKING DURING PREGNANCY

During pregnancy, the woman's body changes, and it requires healthy diet and lifestyle, so healthcare professionals recommend quitting smoking especially at the initial stages. Not all women have knowledge about this topic, so it is crucial for healthcare professionals to bring this discussion after confirming the patient's pregnancy, and to plan on quitting smoking while following up with pregnancy. As a nurse, it is recommended to also give sources of information to the patient about the disadvantages of smoking.

3.1 Health Risks of Smoking During Pregnancy

Smoking during pregnancy influences the mother and the baby's health, no matter if the mother smokes heavily or not. Occasionally, smoking can lead to endangering baby's or mother's life, and if it does not, then it leaves great damage to their health. Part of the risks during pregnancy include child defect, miscarriage, premature labour, SIDS and many other issues mentioned below. Not to forget about the mother's health also as smoking affects her well-being physically and mentally. (Johnson 2022.)

3.2 Effects on the baby

Smoking cigarettes during pregnancy impacts the baby's well-being throughout pregnancy, before and after delivery because all the toxins inhaled during smoking enter the bloodstream and reach the baby, so the unborn child will grow having those smoking effects in its chest. These impacts manifest in reducing the quantity of oxygen delivered to the baby, raising the infant's heart rate, elevating the chances of miscarriage or early birth or sudden infant death syndrome, also the possibility of developing respiratory issues such as asthma. Smoking during pregnancy may result in baby's brain development that would lead to behavioural problem and learning difficulties later in life. It is also important to keep following up after birth on the child condition for any underlying issues. (Johnson 2022.)

3.2.1 Low birth weight

Low birth weight is a most common effect of smoking during pregnancy. Low birth weight is when the babies are born with weight less than 2.5 kg. There is a relationship between birth weight and number of cigarettes per day. The weight of newborns decreases as the number of cigarettes smoked per day increases. Pregnant mothers who smoke during pregnancy have a greater risk of low-birth-weight infant by 1.5-3.5 times. This concerns even baby born between 36-40 weeks, the newborn can be too small if their mother smokes during pregnancy. Babies who are very small at birth can have various health complications such as difficulty eating, gaining weight and fighting off infections. Some children may have long term health problems like diabetes, heart disease, developmental delays. (Agrawal, Scherrer, Grant, Sartor, Pergadia, Duncan, Madden, Haber, Jacob, Bucholz & Xian 2010.)

3.2.2 Preterm birth

Smoking during pregnancy doubles the risk of a child being born too early, it may be between 28-37 weeks. This increases the chance of premature rupture of membranes, causing amniotic fluid to leak before 37 weeks leading to premature birth. The babies who are born too early miss the critical development that takes place in the womb during the final weeks and months of pregnancy. The babies born prematurely have a higher risk of developing birth complications and long-term disabilities including vision and hearing problems, respiratory and behavioural problems, and other issues. (Stock & Blaud 2020.)

3.2.3 Sudden Infant Death Syndrome

Sudden Infant Death Syndrome (SIDS) is the sudden death of an infant who is under 1 year old, it can happen while the baby is sleeping. Even after several studies, the exact cause of SIDS is still unknown. Smoking cigarettes during or after pregnancy increases the risk of having SIDS in the child. Compared to babies who die from other causes, SIDS babies have higher level of cotinine a chemical found in tobacco products and higher quantities of nicotine in their lungs. Cigarette smoke contains toxins that can damage a baby's respiratory system and increase the risk of breathing problems and SIDS. Smoking also affects the cardiovascular system and contributes to hypoxia in newborns which means a condition where there is lack of oxygen level in body's tissues The risk can be decreased by putting the baby to sleep on his back and creating smoke free environment. One of the most important things that smoking

parents can do is to give up smoking to protect their child's health and lower the risk of SIDS. (Bednarczuk, Milner & Greenough 2020.)

3.2.4 Ectopic pregnancy

An ectopic pregnancy occurs when a fertilized egg implants itself outside the womb, usually in the fallopian tubes. It can cause lower abdominal pain, vaginal bleeding and back pain in the beginning. Some women who have an ectopic pregnancy can have early symptoms of pregnancy like missed period, nausea, breast tenderness.

Smoking can increase various reproductive health issues which include ectopic pregnancy. Other risk factors that increase the risk of having ectopic pregnancy are previous ectopic pregnancy, infection and fertility treatment. It can affect both men and women's fertility. In women it can destroy eggs, change hormone levels, and affect fallopian tube activity which leads to implant an egg outside the uterus. A drug called methotrexate can be used to treat an early ectopic pregnancy without unstable bleeding which dissolves the existing cells and slows down the growth of cells. Laparoscopic procedures and emergency surgery can be done if there is heavy bleeding. (Mummert & Gnugnoli 2019.)

3.3 Effects on the mother

If the mother smokes during pregnancy, it does not only affect the mother's health, but it also endangers the mother's life while delivering the baby. As mentioned above, miscarriage and SIDS are common, and it does affect the mother deeply mentally and physically, as in miscarriages, the mother loses amount of blood accompanied with pain for a period of time, while mentally, it causes grief, depression, guilt and shock even. (Johnson 2022.)

The mother can also develop ADHD from smoking which disturbs the patient's routine and leads to unhealthy habits, so if the patient smokes, therapy may also be in order to help with the psychological effects from smoking. Smoking harms the lungs causing pneumonia, asthma or chronic obstructive pulmonary disease, so early diagnosis is crucial to start treatment earlier. Cigarettes can cause cancer later in different body organs such as kidneys, pancreas, oesophagus and bladder due to the products used in cigarettes. (Johnson 2022.)

3.3.1 Delayed conception and infertility

Smoking appears to have a more harmful impact on fertility. It elevates the possibility of pregnancy complication and lowers female fertility. It makes more difficult to conceive as it has adverse effect on the female reproductive system. It may harm the uterus, cervix, fallopian tube and affect both their functional and structural health. This effect can hinder sperm and egg transport and prevent fertilized eggs from implanting to uterus and elevate the possibility of ectopic pregnancy.

Smoking can cause women's ovaries to lose eggs more quickly and lower the quality of the eggs left, lowering the chances of successful implantation and fertilization. It makes more difficult to conceive as it has adverse effect the female reproductive system. It takes more time for people who smoke to conceive than non-smokers. The number of cigarettes smoked daily has been linked with the length of time to conceive, the higher the number of cigarettes intake daily the longer the conception time. (Johnson 2022.)

It's hard to completely overcome the effects of smoking on fertility even with IVF and other treatment. The women who smoke require higher dose of ovary stimulating medication during IVF process and have fewer eggs retrieval and have 30% lower pregnancy chances than the female who does not smoke. It also lowers the level of estrogen and progesterone which leads to delayed conception. Female smokers are at higher risk of having unhealthy pregnancy like pregnancy affected by down syndrome. (He & Li 2023.)

3.3.2 Delayed conception and infertility

Spontaneous abortion is also known as miscarriage, which is sudden death of fetus before 20 weeks, it usually happens during first trimester. The common signs include bleeding, cramping in the lower abdomen and lower back ache. Several factors can cause miscarriage, recent studies have shown the link between maternal smoking and increased spontaneous abortion. The women who smoke during pregnancy are at 2.5 times higher risk of spontaneous abortion than the non-smoking pregnant women. Additionally, smoking affects the woman who is pregnant, the menstrual cycle, and the pregnancy's outcomes. Smoking cigarettes during pregnancy lowers the immunity of the mother. Nicotine present in

cigarette smoke can interfere with a developing fetus's proper development, which can lead to chromosomal abnormalities, placental malfunction, and poor embryonic implantation. (Alves 2023.)

4 GUIDING MOTHERS TO QUIT SMOKING

Nurse plays vital role in assisting mother quit smoking. It is multidimensional approach which acknowledges both the physical addiction and the emotional challenges involved. They can provide support, guidance as well as resources such as medication or nicotine replacement therapy (NRT) to mother to overcome nicotine addiction. Nurse can encourage mothers by providing education and counselling toward making healthier choice for her own health and the health of her child. Nurse can help in making a personalized plan and can guide and monitor it continuously to help the mother quit smoking. Ultimately, mother can be successfully empowered to quit smoking by providing consistent support.

4.1 Behavioural intervention

Due to nicotine addiction, one can face difficulty when quitting during maternity. Withdrawal symptoms from stress or anxiety may exacerbate the process that would lead them to relapse. Supporting and encouraging to quit smoking can make significant difference. One can express their concern for the health and well-being of expectant mother. She can be made feel that she is being cared and she should live healthier life. Behaviours that could affect smoking can be participating into group therapy, which helps to make friends and talk about their struggles of quitting so that the patient does not feel alone along the process. Exchanging cigarettes with gums to forget about the act of smoking can be effective as an alternative, because it gives the illusion that there is something in the mouth to keep patient busy and less anxious to smoke. (Johnson 2022.)

Avoiding second hand smoking, by educating the patient to ask friends who smoke to not smoke around them, or to not go to smoking places that can ignite the urge to smoke. Supportive environment can be created at home by removing triggering factors like cigarette and ashtrays that could strengthen her toward her commitment of smoking cessation. In case of craving, mothers can be encouraged to engage herself in stress reduction activities like basic sports and exercise and meditation. (Johnson 2022.)

4.2 Nursing competences

As a nurse, to help the mother quitting smoking, it is recommended to refer to counselling in a way that the mother and the nurse discuss smoking and its negative outcomes on her and the baby's health, with the patient's cooperation, it ensures good results, so good communication and listening from the nurse's part plays a big part in quitting smoking. Telephone counselling proved to be effective as well to encourage the patient to quit in case they cannot attend the meeting. Many women think that smoking electronic cigarettes is a solution to quit smoking, yet it has not been confirmed that smoking electronic cigarettes is not harmful during pregnancy so as a nurse, it is preferable to mention this topic to the patient as it is part of the nurse guidance. (Kalamkariam et al., 2023)

The role of the nurse during the entire process of guiding the patient, helps to ensure a safe pregnancy for the mother and the baby. The nurse must discuss with the patient explaining all the smoking effects and motivate the patient to engage in quitting smoking following a nursing plan. It starts with offering group therapy to have conversations and exchanging experiences about quitting smoking. Educating the mother is helpful but also action is important, so the nurse can recommend the mother to get rid of any packs of cigarettes and lighters and to avoid smoke environment, and other smoking people. Regardless, the guidance of the nurse means also to keep reaching to the patient and follow up their care plan, to encourage them if they have other issues to discuss. Goal should be to help understand the health risk linked to smoking during pregnancy, create awareness among mothers to quit smoking and give their babies the best possible start in life. (Kalamkarian et al., 2023.)

4.3 Nicotine replacement therapy

Nicotine replacement therapy (NRT) is a well-established technique that helps individuals in quitting smoking. NRT is less harmful alternative source to normal smoking that helps manage craving and reduce the withdrawal symptoms related with nicotine addiction. NRT should not be given to pregnant women because of the potential harm it may cause to a developing fetus but it can be considered in cases where benefits outweigh risks, particularly in smokers who have tried other methods of quitting. NRT delivers controlled doses of nicotine to the mother's body without the harmful toxins found in cigarette smoke. They are available in various forms such as patches, gums, inhalers, and nasal sprays. They can be used under medical supervision after thorough risk assessment. By gradually decreasing nicotine

intake, NRT can reduce cravings and withdrawal symptoms, making smoking a more manageable challenge for struggling mothers with tobacco addiction. In addition, NRT offers smokers a safer alternative to traditional smoking cessation methods, reducing the risks associated with continued smoking and providing the transition to a smoke-free lifestyle. (Wadgave & Nagesh 2016.)

In addition, studies have supported the effectiveness of nicotine replacement therapy in smoking cessation, providing smokers with a safe alternative to traditional method and highlighting its role as a cornerstone of tobacco addiction treatment. Research shows that people who use NRT are more likely to quit smoking than those who try to quit without help. In addition, NRT has been found to improve long-term abstinence and its use is associated with a reduced likelihood of relapse. As a result, NRT not only helps in the early cessation of smoking but also promote long term abstinence for improved health outcomes and reduces the burden of tobacco related disease on individuals and public health systems. (Hartmann-Boyce, Chepkin, Ye, Bullen & Lancaster 2018.)

5 SMOKING AND LACTATION

Lactation is crucial for good health and wellbeing for both baby and mother. Breast milk provides the essential nutrients that meet the infants nutritional needs. Over 200 substances, mostly water, carbohydrate, protein, lipid, fat, vitamins and minerals are found in breast milk which has high nutritional benefits. It helps children in healthy growth and development as well as reduces the risk of health issues like allergy, diarrhoea, respiratory infections, chronic disease, SIDS etc. Breastfeeding also helps mother recover from childbirth by contraction of uterus due to the production of oxytocin and reduces the chance of postpartum bleeding. (Primo, Ruela, Brotto, Garcia & Lima 2013.)

Although there are numerous benefits of lactation, when the mother smokes or is exposed to cigarette smoke, she inhales nicotine in her lungs which gets transferred to blood and then passes into breastmilk. Research suggests that the concentration of nicotine in breast milk is 2.9 times higher than that found in blood plasma. Depending on the number of cigarettes consumed by the mother per day and the time interval between the last smoking and breastfeeding, the concentration of nicotine accumulation in breast milk varies significantly. The half-life of nicotine in breast milk is of approx. two hours. Upon breast-feed, intestine of infants absorbs nicotine rapidly and may causes apnea, restlessness and vomiting. Mother should wait at least two and half hours before breastfeeding for the reduction of nicotine concentration. (Primo et al., 2013.)

Nicotine also alters milk flavour, composition and reduces its protective properties. Maternal smoking causes reduction in milk production and shortens the duration of lactation period that leads to abnormal infant's growth. Sleeping pattern also get disturbed and it is more likely that child of smoking mother sleeps less to that of nonsmoking mother. Child born to smoking mother is of low weight as compared to that of nonsmoking mother. Breast milk of such mother significantly exposes the infants to constituents of Environmental Tobacco Smokes (ETS). (Primo et al., 2013.)

So, it is very important for the mother to know about the harmful chemicals present in the cigarettes that are excreted in breast milk. They should be encouraged to stop smoking during pregnancy and breastfeeding. Quitting smoking help protect the child against negative health effects such as respiratory disease, ear infection and hearing loss and outweigh the risk of nicotine exposure.

6 PURPOSE AND OBJECTIVES

The purpose of the thesis is to produce educational video for nursing students in Centria UAS to use as learning material.

The thesis is relevant for nursing students and is of high importance because it has an objective of educating the students and providing a video that is part of nursing studies and working life in the future. The objective of this thesis is to guide nursing students, in a way that they would have a material that shows how to help and support a pregnant patient with smoking issues as a nurse. As this topic is often written about, it still makes the nursing students quite hesitant in knowing what to do as a nurse, so this thesis is written to make it easy on the students to understand their future role and how it is supposed to be done.

7 METHODOLOGY

This thesis is created to produce learning material for nursing students in Centria about reduction and cessation of smoking during pregnancy. This thesis is practice based and the materials used in this thesis will be retrieved from various scientific sources. Materials searched and used will be solely based on topic from academic database. We will follow Centria UAS thesis writing guideline. We plan to create a short educational video to create awareness among pregnant mothers regarding the smoking harmfulness and the possible ways to quite it. The thesis will focus on the nursing interventions for the reduction and cessation of smoking during pregnancy. Work will be divided among both of us where one will act as pregnant mother and other will be a nurse. We plan to write a script for the video making and will get approved from the thesis supervisor teacher. We will take video in parts and after successful edition and compilation, we plan to get it approved from the thesis supervisor teacher. We are going to apply for a research permit from Centria UAS, a document where the representative of the organisation will approve of the research permit in order to write the thesis and make the video. Lastly, we will ask for the feedback from the supervisor about the video.

7.1 Project phase

A project is a carefully planned individual or collaborative effort to achieve a specific goal. Projects are time bound meaning that start, and end of the project is clearly defined (Lester 2014). Practice based research integrates both nursing study and practice to provide new information that aims to enhance patient care. This thesis focuses on identifying the gap in knowledge that a nursing student need during study or in daily clinical practice and offers research finding along with educational video that would help Centria's UAS students in decision making and improving patient care. (Centria UAS 2022.)

7.2 Initiation and planning phase of the project

This is the most important phase in the project where the project is defined, goals are determined and a plan for carrying out the project successfully is established. The idea behind starting off the project started at university. Few project topics were suggested by the teacher, and we choose this project to begin with. We identified the need to prepare educational video for the students and the teachers as there

is not any course that teaches about this topic in detail at university. Therefore, we planned to produce learning material in the form of video for nursing students in Centria. By doing so, the students would have a demonstration of the nurse role in guiding a patient to use in their professional development during their career.

7.3 Implementation phase of the project

This is the phase in our project where we will execute and complete our planned task to achieve the project objective. We will gather all the resources needed for the project's video making like pre-approved script for video making from the teacher and the tools like camera and stands. We will film the video in Centria's UAS simulation classroom after the permission for video is taken with the help of a friend who will act as videographer. For the better outcome we will consider the lightening and surrounding for video making. One of us will play role as nurse and other will be a pregnant mother. We plan to share the task equally so that no one will feel the burden while executing the task. We plan to agree on making the video public with subtitle in English and get licensed in the name of actors who are also the owners of the video. The video will be sent to supervisor for the possible corrections. We will continuously monitor the progress and make sure the work is going according to plan. We will also make sure that the result will be qualitative, and we will document everything throughout the process. Lastly, we will include the script in the appendix section.

7.4 Closure phase of the project

This phase would be the final phase in our project life cycle. We will wrap up all the activities like combining all the video clips, documenting all the learned lessons and delivering evidence-based knowledge. We plan to submit the project summary to the thesis supervisor about the project outcome and achievement. We will complete all the project activities and will formally close the project on Wihi.

7.5 Educational video

Educational video is a very powerful tool for teaching and learning nowadays. Instructors are always looking for teaching methods that will be beneficial for the students with different learning styles.

Teaching through instructional video will help teachers to share information more effectively with the help of the reduced cognitive load of the video by promoting active learning through the video.

Educational videos are more engaging for learners since they are interactive and visual which makes the viewers understand and recall then more easily. It allows flexible learning as students can access them anywhere. Everyone does not have the same learning capacity; they might not understand everything at once so they can learn by reviewing the videos multiple times. Learning from video can be uninteresting if the video is too long so to maximize student attention, the video needs to be short. Students can get maximum benefits from the video if the video is short, clear and more informative as it encourages them to watch and learn new ideas. (Brame 2016.)

8 ETHICAL ISSUES

For scientific integrity, human dignity, and social collaboration, research ethics are essential. In making this thesis, many ethical issues are addressed but the most important theme in this part is to follow Centria's guidelines in writing the thesis with the help of the supervisor to make sure that the thesis is qualified to be used as a learning material for the students in Centria, thus be also helpful to spread awareness about this topic. (Centria UAS 2022.)

First one would be plagiarism, and that is by making sure that the used information and data for this research is not copy pasted from another source, each researcher has its own work, and it is illegal and disrespectful to take someone's work and name it as yours. By that, all the written data in this thesis will not be previously written in another study.

Second issue would be to ensure the integrity of science, because the topic is about smoking during pregnancy which means that there are some chemical events happening in the mother's body while pregnant that need to be explained thoughtfully to have the addressed readers get a better understanding of the topic and also implement using science in the research as it is required from the guidelines, therefore, to fulfil the purpose of this thesis. (Scribber 2021.)

Centria's guidelines consists of respecting and following the principles of Responsible Conduct of Research (RCR) which can be explained by integrity, meticulousness, and accuracy in conducting the research, and in documentation, analysing the research's outcome. The methods used in data gaining matches the scientific criteria and are ethically viable. Also, there are ethical recommendations prepared by The Rectors' Conference of Finnish Universities of Applied Sciences used in this thesis writing to cover research ethical issues and involve advice for the students and the teacher supervising the thesis. (Arene 2020.)

However, Artificial intelligence has been used slightly, to give us more ideas and deeper knowledge about the topic, which helped us to plan on how the thesis will be written. Artificial intelligence is able to check several updated resources in short time, because many times some websites are not accessible for us European students, or they are not free.

9 REFLECTION AND CONCLUSION

In this section, we write about our personal project management experience alongside the sources in the theoretical framework as it is part of the thesis to give our review of the sources mentioned above. Writing a thesis is a long process which require a lot of research and time. Therefore, it is essential to determine if the thesis has succeeded in fulfilling its intended purpose and achieved its objectives while evaluating the final results. This includes taking care of goals, explanation, and approach used throughout the thesis. The aim preparation of educational video and the theoretical content is to improve nursing student's knowledge to guide a pregnant woman for smoking cessation. Trustworthy information and reliable sources have been used to achieve this goal.

9.1 Review of the project methodology

We made the instructional video with the expectation that it will be useful for Centria UAS nursing students, and the thesis will be useful for teacher as teaching resource. Since evidence has shown that watching an educational video while studying is more effective for students to learn new skills. We think that the methodology of this project accommodates to our goal, as it made planning and writing the thesis easier and better, we were granted the research permit so we proceeded the writing and the making of the video right according to Centria guidelines, we made a short educational video that focuses on a nurse having a call in the maternity clinic and afterwards meeting, instructing and guiding a smoking pregnant patient, one of us was the nurse and the other was the patient.

We were able to gather all the information which are needed for the project. We wrote all the material by various sources following Centria guidelines, as it is necessary since this project will serve as an additional tool to nursing students.

9.2 Conclusion and implications of the project for nursing education

As a conclusion, Reduction and Cessation of Smoking During Pregnancy, is a thesis that was written for Centria students to acknowledge, use, and assist them with guidance on how to interact with pregnant patients who smoke in the field. Certain criteria to keep in mind as a future nurse, is to always listen to

the patient and choose the right words to say. This is no new case for nurses and students can learn from the situation acted in the video and include it in their learning material. As a sole focus, we discussed about the role of the nurse in assisting a pregnant patient to quit smoking while explaining the dangerous contents of cigarettes and its big effects on the patient and the baby.

Not so many pregnant patients know about these effects, so it will help in motivating the patient to quit. For the students, the role of the nurse in guiding the patient along the quitting journey and offer other replacements and solutions is the highlight of the thesis. So, we think it was a good education and guidance skills from the nurse's part.

9.3 Review of the production of video material

When it came to making the video material, we used one of the simulation rooms in the campus as our location after getting permission. Afterwards, we proceeded to film using the phone camera with the help of a friend. Although, the quality lowered a bit due to the editing and compressing of the video, we tried speaking loud and clear but due to some noise caused by the air flowing system. Most importantly, it is still manageable to listen and by the aid of subtitles it would not be an issue to understand what was said in the video. We had the nurse and the patient in the video having a discussion, initially on the phone and later on in the maternity clinic.

9.4 Review of the learning process

Writing our thesis and making an educational video was an effective and good learning experience for the both of us. We were in regular contact and discussed about the content. Whenever we faced problems, we worked together and talked about the content.

Teamwork and time management were two of the most important components while making this project. We had many meetings and we also discussed about the content that needed to be improved with our supervisor to make sure that we were in the right track of documenting. We gathered all the required information from evidence-based sources that were reliable. We were able to meet our needs although we had no previous experience with shooting and editing the video. We tried to keep the video short and

effective to make it more interesting for the audience. We feel we achieved our goals and are satisfied with the outcome and hope this project will be utilized in the teaching and learning process.

REFERENCES

Agrawal, A., Scherrer, J. F., Grant, J. D., Sartor, C. E., Pergadia, M. L., Duncan, A. E., Madden, P. A. F., Haber, J. R., Jacob, T., Bucholz, K. K., & Xian, H. (2010). The effects of maternal smoking during pregnancy on offspring outcomes. *Preventive Medicine*, 50(1–2), 13–18. Available at: <https://doi.org/10.1016/J.YPMED.2009.12.009>.

Alves, C. (2023) Early pregnancy loss (spontaneous abortion), StatPearls [Internet]. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK560521/>.

Arene. (2020). ETHICAL RECOMMENDATIONS FOR THESIS WRITING AT UNIVERSITIES OF APPLIED SCIENCES_2020. Available at: https://www.arene.fi/wp-content/uploads/Raportit/2020/ETHICAL%20RECOMMENDATIONS%20FOR%20THESIS%20WRITING%20AT%20UNIVERSITIES%20OF%20APPLIED%20SCIENCES_2020.pdf?t=1578480382.

Bednarczuk, N., Milner, A. and Greenough, A. (2020). The Role of Maternal Smoking in Sudden Fetal and Infant Death Pathogenesis. *Frontiers in Neurology*, 11. Available at: <https://doi.org/10.3389/fneur.2020.58606>.

Brame, C.J. (2016) ‘Effective educational videos: Principles and guidelines for maximizing student learning from video content’, *CBE—Life Sciences Education*, 15(4). Available at: <https://doi.org/10.1187/cbe.16-03-012>.

Centria UAS. (2022). Centria Guide for Thesis and Academic Writing 2022. Available at: <https://libguides.centria.fi/c.php?g=702216&p=5048578>.

Content of toxic components of cigarette, cigarette smoke vs cigarette butts: A comprehensive systematic review. Farshid S, Sina D, Gabriel E. De-la-Torre, Torsten C. Schmidt, Reza Saeedi. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0048969721077457>.

Hartmann-Boyce J, Chepkin S C, Ye W, Bullen C and Lancaster T. (2018) ‘Nicotine replacement therapy versus control for Smoking Cessation’, *Cochrane Database of Systematic Reviews*, 2019(1). Available at: <https://doi.org/10.1002/14651858.cd000146.pub5>.

He, S. and Wan, L. (2023) ‘Associations between smoking status and infertility: A cross-sectional analysis among USA women aged 18-45 years’, *Frontiers in Endocrinology*, 14. Available at: <https://doi.org/10.3389/fendo.2023.1140739>.

Kalamkarian, A., Hoon, E., Chittleborough, C. R., Dekker, G., Lynch, J. W., & Smithers, L. G. (2023). Smoking cessation care during pregnancy: A qualitative exploration of midwives' challenging role. *Women and Birth*, 36(1), 89–98. Available at: <https://doi.org/10.1016/J.WOMBI.2022.03.005>.

Lester, E. I. A. (2014). Project Definition. *Project Management, Planning and Control*, 1–6. Available at: <https://doi.org/10.1016/B978-0-08-098324-0.00001-9/>.

Morgan, J. C., Byron, M. J., Baig, S. A., Stepanov, I., & Brewer, N. T. (2017). How people think about the chemicals in cigarette smoke: a systematic review. In *Journal of Behavioral Medicine* (Vol. 40, Issue 4). Available at: <https://doi.org/10.1007/s10865-017-9823-5>.

Mummert, T. and Gnugnoli, D.M. (2019). Ectopic Pregnancy. [online] Nih.gov. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK539860/>

Primo, C.C., Ruela, P.B.F., Brotto, L.D. de A., Garcia, T.R. and Lima, E. de F. (2013). Effects of maternal nicotine on breastfeeding infants. *Revista Paulista de Pediatria*, 31(3), pp. 392–397. Available at: <https://doi.org/10.1590/s0103-05822013000300018>

Stock, S.J. and Bauld, L. (2020). Maternal smoking and preterm birth: An unresolved health challenge. *PLOS Medicine*, 17(9), p.e1003386. Available at: <https://doi.org/10.1371/journal.pmed.1003386>

Talhout, R., Schulz, T., Florek, E., Van Benthem, J., Wester, P. and Opperhuizen, A. (2011). 'Hazardous compounds in tobacco smoke', *International Journal of Environmental Research and Public Health*, 8(2), pp. 613–628. Available at: <https://doi.org/10.3390/ijerph8020613>

Traci C. Johnson, M. (2022, November 25). Smoking During Pregnancy. WebMD Editorial Contributors. Available at: <https://www.webmd.com/baby/smoking-during-pregnancy>

Venditti, C.C., Casselman, R. and Smith, G.N. (2011) Effects of chronic carbon monoxide exposure on fetal growth and development in mice - BMC pregnancy and childbirth, *BioMed Central*. Available at: <https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/1471-2393-11-101> (Accessed: 28 April 2024).

Wadgave, U. and Nagesh, L. (2016) Nicotine replacement therapy: An overview, *International journal of health sciences*. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5003586/> .

Wickström, R. (2007) Effects of nicotine during pregnancy: Human and experimental evidence, *Current neuropharmacology*. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2656811/>

APPENDIX 1/2

SCRIPIT OF THE VIDEO

Part 1 (Conversation on the phone)

Patient: Hello, is this the maternity clinic?

Nurse: Yes, this is the maternity clinic. I am nurse Rim. How can I help you?

Patient: I recently took a pregnancy test, and it came out positive, and I do not know what to do next.

Nurse: Okey. Can you please tell me your social security number?

Patient: Yes, it is 123456-ABCD.

Nurse : Ok. Can you please tell me your name ?

Patient: Yes, my name is Sanju.

Nurse: Thank you. Have you had any prenatal care before?

Patient: No, this is my first time being pregnant, so I have not had any prenatal care before.

Nurse: When was your first day of your last menstrual period?

Patient: It was on March 2nd.

Nurse: Can you tell me about the symptoms that you are experiencing?

Patient: I've been feeling nauseous in the mornings and sometimes during the day. I'm also more tired than usual; I feel bloated, and my breasts feel tender and swollen.

Nurse: Those symptoms are common signs of early pregnancy. Have you been taking any prenatal vitamins or supplements?

Patient: No, I have not been taking any kind of vitamin or supplement.

Nurse: It's good to take a folic acid supplement of at least 400 micrograms daily that you can buy at the pharmacy.

Patient: Okay, I will do that.

Nurse: I need to schedule first your appointment to come to the hospital to get a blood sample to confirm your pregnancy and later on your maternity appointments. Are you available next week on Thursday at 13:30?

Patient: Yes, I am free on Thursday

Nurse: Perfect. I will book that for you. Shortly, you will get the confirmation SMS on your mobile.

Patient: Thank you so much.

Nurse: You're welcome. If you have any questions or concerns before your appointment, do not hesitate to give us a call.

Patient: I will. Thank you again.

Nurse: Take care, and we'll see you at your appointment next week. Goodbye.

Patient: Goodbye.

APPENDIX 1/2

PART 2 (Conversation at maternity clinic)

Nurse: Good afternoon. Welcome to your first maternity visit. I'm Nurse Sanju. How are you doing today?

Patient: Good afternoon, Nurse Rim, I am doing good, thank you.

Nurse: Okay that's good to hear, your results came out yesterday and it turns out positive. Congratulations! you are indeed pregnant

Patient: Oh thank you, I am a little bit nervous though.

Nurse: It's completely normal to feel nervous, especially at this stage of your pregnancy. Could you please tell me about your medical history?

Patient: Sure. I do not have any major medical issues to mention.

Nurse: Have you been taking any pregnancy vitamins, minerals, or supplements?

Patient: Yes, I started taking folic acid, as you recommended last week.

Nurse: Perfect. Folic acid is crucial for the baby's development. Now, let's discuss your lifestyle. Do you use cigarettes, alcohol, or drugs?

Patient: No, I do not drink, nor do I do any drugs, but I do smoke. I know it is not good. I have been trying to quit, but it's been hard for me.

Nurse: Thank you for being honest with me. Smoking can be very difficult to quit during pregnancy. It is very important for your baby's health to quit smoking as early as possible. It increases the chances of pregnancy complications such as miscarriage, premature delivery, low birth weight, and birth defects. Smoking also increases the chances of sudden infant death syndrome (SIDS).

Patient: I did not think it could be this bad. It's been hard, but I'm trying to quit.

Nurse: Yes, it's a significant concern. The chemicals present in cigarettes can also damage your unborn baby's lungs and brain. Smoking also increases the risk of birth defects and makes pregnancy more difficult.

Patient: I had no idea it could affect fertility too.

Nurse: It's a fact that many people do not think about. But do not worry; quitting smoking now can still help you and your baby. Your body starts repairing itself almost immediately after stopping smoking, and you'll reduce your risk for complications during pregnancy and childbirth.

Patient: That's really reassuring to know. I'll do my best to quit for the sake of my baby.

Nurse: I am here to guide you through this process. There are many resources available to assist you in quitting smoking, such as counselling, support groups, and nicotine replacement treatment. It's essential to prioritize your baby's health and make the necessary changes for a healthy pregnancy.

Patient : Thank you for your understanding. You gave me motivation to quit smoking and i will follow your guidance for the sake of my baby.

Nurse: I'm glad to hear that. Let's work together to ensure a healthy pregnancy and a healthy baby. Next, I will need to take some measurements, such as blood pressure and weight. I will schedule your first ultrasound and maybe discuss the smoking issue to make sure everything is in order for your pregnancy to be healthy.

Patient: Yes, that sounds good to me.

Nurse: Alright. Please do not hesitate to contact me if you have any doubts or concerns during your pregnancy. We are here to support you throughout your maternity journey.

Patient: Thank you, Nurse Sanju, for your guidance and support. I'm ready to make a change for the better.

Nurse: Welcome!