

Nursing Methods for Rehabilitation of Patients with Amphetamine Addiction
A literature review

Andrada Craciun
Wilma Sivonen

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Abstract <p>The aim of this thesis is to inform nurses and nursing students about the nursing methods found through our literature review to help amphetamine addicts towards recovery. Additionally, we seek to remove stigma that drug abusers face when seeking help in their rehabilitation. Stigma is a substantial reason that a lot of addicts do not seek help and do not strive to recover from drug abuse. Nurses can help in making substance abusers feel comfortable and encourage them towards recovery without judgement.</p> <p>This literature review studies 19 articles which were published between 2003-2020. The study was conducted using content analysis of the articles found on Medline and CINAHL databases. The thesis presents basic information about amphetamines, its effects on the body and mind, and symptoms of withdrawal. An important part of the rehabilitation program is to help addicts find balance in their life. A balanced life means having a healthy diet, having regular physical activities, taking care of one's mental health, as well as being involved in safe hobbies. These aspects cannot be achieved without a safe residence to live in; hence the thesis presents the reasons why social services should help addicts to reintegrate into society.</p> <p>The results of this literature review reveal how the nurses have an impact in the recovery of addicts, especially through the way patient education is being communicated to the patients. This paper also presents the importance of counselling and therapy for amphetamine addicts, as well as harm reduction recommendations.</p>		
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Miscellaneous		

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1. Introduction

According to United Nations World Drug Report, there were around quarter of a billion people who used drugs in 2015. From these people, 29.5 million were considered as substance abusers, meaning they have dependence and drug induced health problems. From most popular drugs, amphetamines are in second or third place after cannabis and opioids (UNODC, 2018). The popularity varies according to the country, but statistically amphetamines play a major role in the drug world. According to statistics, Northern Europe was found to have the highest rate of amphetamine use, with Finland having one of the highest prevalence of use (European Monitoring Centre for Drugs and Drug Addictions, 2017).

Amphetamine addiction is a severe problem for numerous individuals, with an estimate of 20 900-27 800 users in Finland in 2017 (Rönkä, Ollgren, Alho, Brummer-Korvenkontio, Gunnar, Karjalainen, Partanen & Väre, 2020). Rönkä et al. states (2020) that the number of users has doubled during the last decade with majority of users being between 25-34 years old with male prevalence thus affecting greatly to working aged class. When compared to other European countries, Finland has the highest number of amphetamine users comparing to population according to statistics (Rönkä et al., 2020; Varjonen, Tanhua, Forsell & Perälä, 2012).

Rehabilitation of substance abusers is highly important not only due to the user's quality of life, but because of the costs that substance abuse brings to society. In the United states the cost of substance abuse to society was around 200 billion dollars in 2013 and in Finland 183,4 million euros in 2012 (Buddy, 2020; Jääskeläinen, 2016). The costs were divided into indirect and direct ones, these numbers contained only the direct one, meaning the cost that would appear only due to substance usage. As an example, medical treatment that was given to a substance user due to illness occurring after substance usage. Indirect costs mean, for example, premature deaths caused by substances leading to less working-aged people for society (Jääskeläinen, 2016). By improving recovery programs and lowering the threshold into getting to rehabilitation, nurses not only improve the statuses of users and remove the stigma around it, but prevent negative outcomes created by substance abuse, such as accidents and premature deaths (Jääskeläinen, 2016; Sedergren, 2015).

It is possible to recover from amphetamine addiction through drug rehabilitation programs. In order to prevent relapsing, it is essential to provide specialized, holistic, and professional care for patients, applying the same principles if the patient relapses during rehabilitation. Research shows quitting amphetamine usage can affect persons mental health, which is why people who suffer from addiction require trustful and close nurse-client relationships that can be attained by basing care on wide knowledge of rehabilitation methods (Sairanen & Tacke, 2009).

The aim of this thesis is to find rehabilitation approaches to amphetamine addiction by nurses. The purpose is to provide nurses and nursing students with information about amphetamine addiction and the aspects of holistic care for amphetamine addicts.

2. Amphetamines abuse: Definition, Treatment and Rehabilitation

2.1 Defining addiction

Dependencies can be manifested on anything, for example a substance, an activity or exercising. The dependency can be both psychological, physical, and social, in some cases even a mix of them all. A typical aspect of an addiction is that the person will use subsequent amounts of time to be able to use the substance or do the activity. This can mean organizing their life for it to support the behavioral pattern. An addiction is determined harmful when it causes the person great distress and anxiety when not being able to fulfil their need to perform the activity or substance use accompanied by withdrawal symptoms (Suomen Mielenterveys ry, 3.11.2020). In addition to this, the person will continue pursuing the activity despite the negative effects of it on physical, psychological, or social states (Huttunen, 2017; Suomen Mielenterveys ry, 3.11.2020). Common withdrawal symptoms of drug abuse include distress, irritability, depression, anxiety, disturbances in sleep patterns, lethargy, and drug cravings (Huttunen, 2017).

The pharmacological mechanism is essential when looking into amphetamine addiction, as amphetamine is a central nervous system stimulant, releasing excessive amounts of serotonin and dopamine in the brain, bringing the user a feeling of euphoria (Calipari & Ferris, 2013). This quickly creates a strong tolerance, meaning the dose needed to create the euphoric feeling is increased after every use (Huttunen, 2017; Sairanen & Tacke, 2009). Common amphetamine withdrawal symptoms include increase in appetite, fatigue, difficulties in sleeping and depression (Huttunen, 2017; Baker, Lee & Jenner, 2004). In addition to these, there can be disturbances in motor functions and irritability combined with violent behavior (A-klinikkasäätiö, 3.11.2020a).

Use of amphetamine can cause damage to the brain, which can eventually complicate quitting of amphetamine use (Huttunen, 2017; A-klinikkasäätiö, 3.11.2020a).

Symptoms of withdrawal can last from one week to several months and come in two different parts. In the first few days the symptoms will be most intense, and knowledge of the process will help the patient deal the emotions and physical symptoms. Because of the strong feeling of depression in ex-amphetamine users, there is a high risk of suicide in people who have quit using (Huttunen, 2017; A-klinikkasäätiö, 3.11.2020b)

2.2 Defining rehabilitation

Addiction rehabilitation is a range of care interventions done for addicts to cease drug use and to live a normal life. Interventions used for addiction rehabilitation include, but are not limited to: therapy and counselling, pharmacological treatment, assessment and treatment of mental illnesses (e.g. anxiety, depression) and continuous treatment follow-ups in order to avoid relapsing (National Institute on drug Abuse, 2019). A treatment plan to rehabilitate patients should always include the social and psychological aspects, especially when there is a high risk for or existing mental illness (Rönkä et al., 2020)

Therapy

Cognitive Behavioral Therapy has been proven by research to be effective in helping addicted people not to relapse. This type of therapy consists of interventions which can be done individually or in therapy groups (McHugh, Hearon & Otto, 2010). Cognitive Behavioral Therapy starts with a behavioral analysis to create an understanding of how the person acts in different situations such as problem solving. By doing this, the therapist and patient can find together new models for behavior and help the patient re-invent action models. New, better ways of actions are then re-enforced, thus making the patient more prominent to use them. This will help the patient face the problem in a positive way rather than giving them a chance to turn to substance abuse to avoid the problem (Mielenterveystalo, 3.11.2020a; Terveiden- ja hyvinvoinnilaitos, 2016). Behavioral therapy's goal is to help drug users to change their way of thinking and their behavior when it comes to drugs, to build healthy lifestyle and to encourage

them to be consistent with their treatment follow ups (National Institute on Drug Abuse, 2019).

Pharmacological treatment

Medication in substance abuse disorders can ease the symptoms of withdrawal from drugs, therefore can make the patients feel less uncomfortable after suddenly stopping a certain drug. It is important to lower the withdrawal symptoms from drug cessation so that the patient can remain sober. Substance users usually find themselves in a cycle of abusing drugs to help them with the withdrawal symptoms coming after cessation of use. At this moment, medications to treat amphetamine dependence have not been approved by any government (Douaihy, Kelly & Sullivan, 2013). Some research suggests the use of mirtazapine, a commonly known antidepressant medication, for amphetamine withdrawal symptoms. The medication is used to aid sleeping and depressed mood, which are both common amphetamine withdrawal symptoms. (Huumeongelmaisen hoito; Käypä hoito-suositus, 2018). The pharmacological aspect of treatment is deepened in the results part.

Assessment of mental illness

Assessment of mental illness is an essential step in recovery, as it can help medical providers treat patients for any underlying conditions that may have led to their substance abuse disorder. An assessment consists of a medical examination appointment in which medical professionals gather information about the patient's background, their drug use patterns and previous mental health issues. While assessing mental health problems, information about the patient's family medical history, the patient's medical histories (e.g. previous and current diagnoses), their ongoing symptoms and mental condition and medications in use need to be collected for correct diagnostics (Center for Substance Abuse Treatment, 2005).

Follow-up

After the initial rehabilitation plan has been made, patients must follow-up with their therapist, continue taking their medications and try to make conscious healthy decisions in their life. The goals of follow-ups are to keep addicts from relapsing,

continuing to find ways to curb cravings and to help them attain a healthy and fulfilling life. Drug addiction can affect regular functioning of the brain and these effects do not always go away with cessation of drug use; thus, it is vital for patients to take part in follow-ups to maintain a healthy status (Patterson, 2019).

2.3 General information about amphetamine

Amphetamines are a type of psychostimulant drugs which was discovered over 100 years ago. They went through phases of being readily available for the public to being highly controlled substances by drug committees around the world. Amphetamines have been used globally during the Second World War to create a state of “wakefulness” among soldiers, which created an immense demand for these drugs that left large quantities unused. The surplus stocks were sold in the “black markets” and during 1950s amphetamine abuse started. Clinically, amphetamines are used now strictly for attention deficit hyperactivity disorder (ADHD) and narcolepsy (Heal, Smith, Gosden & Nutt, 2013).

Amphetamine acts on the brain’s dopamine transmitters and receptors, as well as in the peripheral body tissues. This process leads to substantial dopamine levels being increased and released outside vesicles and in the extracellular space (Calipari & Ferris, 2013). Amphetamine’s effects depend on the dose taken, creating states of happiness, enthusiasm, arousal, and excessive communication. These substances can also create unfavorable mental states such as hallucinations, both visual and auditory, anxiety and amphetamine induced paranoia with symptoms resembling paranoid schizophrenia (Sairanen & Tacke, 2009). Peripheral tissues are affected by amphetamine through an increased concentration of extracellular noradrenaline which manifests as a rise in blood pressure, pulse, temperature, psychomotor activity, as well as a decreased appetite (Sairanen & Tacke, 2009; Steinkellner, Freissmuth, Sitte & Montgomery, 2011). Amphetamine derived causes of death can be cerebral haemorrhage, cardiac arrest, and exceptionally high fever (Huumeongelmaisen hoito: Käypä hoito-suositus, 2018; Sairanen & Tacke, 2009).

2.4 Prevalence of amphetamine use globally

A study from 2014 showed, that 2,4% of Finnish young adults aged 15-34, had tried amphetamines during their lifetime. The study also showed, that an additional of 2,5% of the 15-34-year-old had used ecstasy in some context. The highest using rate in both drugs was in young adults aged 15-24. The prevalence of amphetamine use was higher in males with 69% of the users in 2017 and mean age of first use was at 20 years-old of all users. In 2017, 134 entrants were admitted to treatment due to amphetamine use, with mean age of 27-years for first treatment submission (European Monitoring Centre for Drugs and Drug Addictions, 2019).

Globally, studies have shown there are approximately 14- 53 million amphetamine users (European Monitoring Centre for Drugs and Drug Addictions, 2011). Studies from 2020 estimate that about 12,3 million adults from the EU with ages between 15 and 64 used amphetamine or its derivatives once throughout their lifetime. Among 26 countries that have been part of the studies in between years 2014-2018 report that 1,4 million young adults with ages between 15 and 34 have used amphetamines. Prevalence ranges with stats of 0% usage in Portugal to 3% usage in Finland (European Monitoring Centre for Drugs and Drug Addictions, 2020).

The figures below show the increase in amphetamine use among young adults in Finland in 2014.

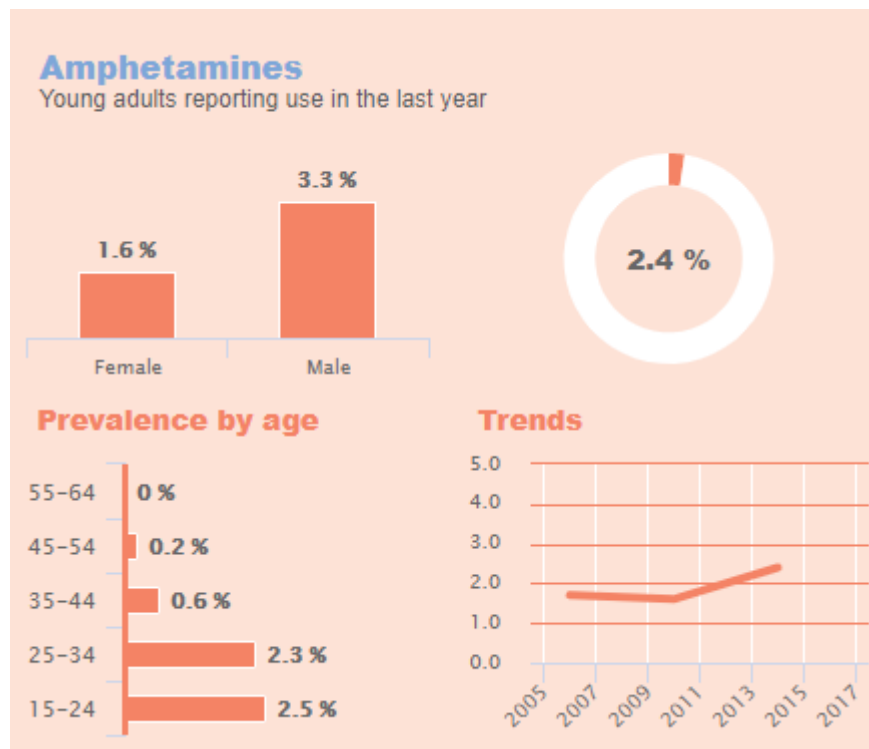


Figure 1. Increase in amphetamine use in Finland (source European Monitoring Centre for Drugs and Drug Addictions, 2019).

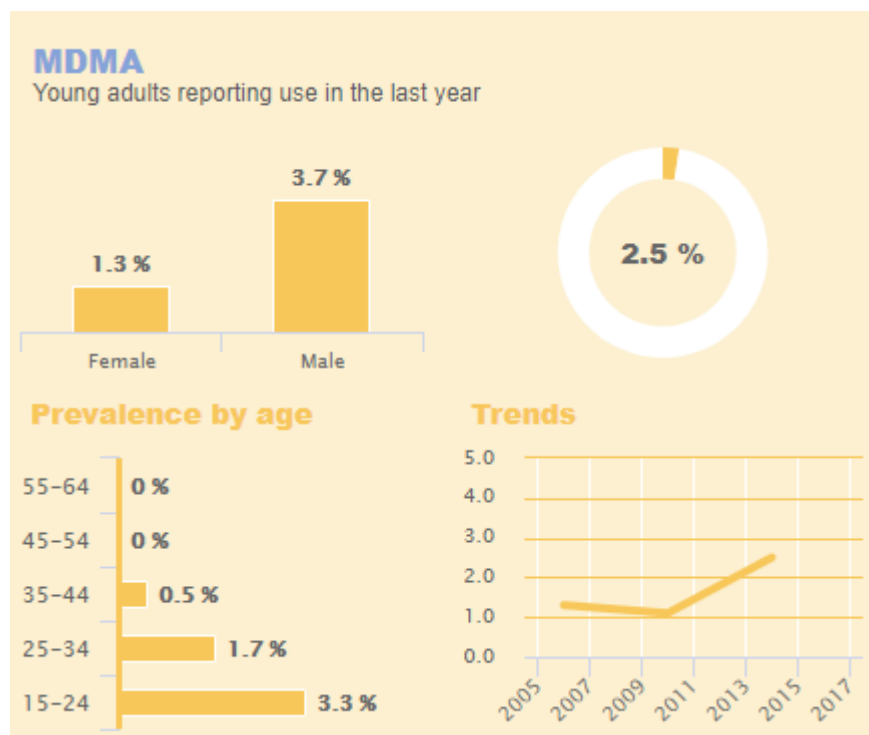


Figure 2. Increase in MDMA use in Finland in 2014 (source European Monitoring Centre for Drugs and Drug Addictions, 2019).

Figures 1 and 2 clearly present the general increase in usage of amphetamine from the middle of 2009 until 2014. The most prevalent drug users are young adults, and they tend to be male (European Monitoring Centre for Drugs and Drug Addictions, 2019).

The prevalence of amphetamine use globally in 2017 can be seen in Table 1.

Table1. Annual prevalence of amphetamines and prescription stimulants use (UNODC, 2017).

Territory	Number (thousands)	Percentage (prevalence)
Africa	3,680	0.53%
America	7,860	1.17%
Asia	14,140	0.47%
Europe	2,900	0.53%
Oceania	350	1.34%
Global	28,920	0.59%

Pardo, Kilmer & Huang (2019) noted that in 2011, an estimated 6.25 million people used different types of amphetamines in Pacific region and East Asia. In Asia, annual prevalence of amphetamine use in population from 15 to 64 years, was 0.2-1.4%. Highest prevalence was in Thailand with 1.4 %, in Philippines with 2.1% and in Lao PDR with 1.4% of population aged between 15-64 years. According to research, methamphetamine is the most used amphetamine type stimulant in East and South Asia. The prevalence of ecstasy use in population between 15-64 years is between 0.1-0.6% (Dargan & Wood, 2012). High prevalence rates can be seen in admission rates, with Thailand having 269,014 treatment admissions due to amphetamine in 2013 alone. In 2016, the number had gone down to 138,705 admissions in a year (Pardo, Kilmer & Huang, 2019).

A study from 2012 showed that of 26 453 South African participants, 0.3% had used amphetamine types stimulants during a three-month survey, with another study in same context showing results of 0.7% in 2008. Highest prevalence was in young adults between ages 15 and 24, with 27.6% of them using amphetamine in 2012. No specific gender prevalence concerning amphetamine was found in the study (Peltzer & Phaswana-Mafuya, 2018).

Data shows that amphetamine use has increased 2.5 times between the years 2006 and 2016 in the USA. In addition, the use of methamphetamine showed a four-

time increase in the years 2015 and 2016 in the USA. Prescription of amphetamine derivate ADHD medication methylphenidate showed increase by 13% during years 2006 and 2016, with estimated 60% of youths under 19 years with prescribed stimulants having an ADHD diagnosis according to statistics (Piper, Ogden, Simoyan, Chung, Caggiano, Nichols & McCall, 2018). In 2008, there was an estimate of 3 million people using nonmedical amphetamine type stimulants in the United States of America (Rasmussen, 2008).

3. Societal reintegration

In order to achieve a successful recovery from drug abuse, there are certain steps that should be followed. It is important to recognize these and act upon them as medical professionals. In this part of the thesis, we will discuss how substance abusers can be helped by the government through accessibility to different social services. As nurses, we must consider aspects of life that could provoke risky behavior such as drug usage and try to approach these aspects from a holistic point of view.

3.1 Aims in societal reintegration

Drug abuse can affect most parts of life, such as personal relationships, family, studies, work, and housing, thus having a significant role in the social and economic expulsion of substance abusers from society. The fact that many drug abusers are having issues in their life could be a reason they use drugs; therefore, this could affect the advances they have made in their recovery. To promote and sustain recovery outcomes, limit the chance of relapse, and assure reintegration into the society, social services and medical professionals must treat drug dependence in a wider framework, one that includes ways to recover from drug addiction and reintroduction drug users into society. “Sustained recovery management” is a new, better alternative to the current path of treating drug abusers which consists of “admit, treat and discharge” the substance abusers. A lot of times, the latter results in a cycle of dropping out of treatment programs, relapsing, and increased readmission percentages (Sumnall & Brotherhood, 2012).

The aim of social reintegration is thus prevention and reversal of social exclusion of substance abusers. This includes both the people who have managed to be excluded already from society and those who are facing a risk in the future to be excluded (Sumnall & Brotherhood, 2012). It is also an aim in social integration to encourage substance users to seek help and interconnect with available drug services. A barrier in achieving social reintegration could be the discrimination that people who used drugs face, such as the employment legislation at the time being (European Monitoring Centre for Drugs and Drug Addiction, 2017b; Sumnall & Brotherhood, 2012).

3.2 Reintroduction to society

In order to talk about reintegration measures for substance abusers, it is important to understand what social exclusion is and what it is affected by. Social exclusion is defined by the failure of a person to take part in mainstream society, being unable to be part of the economy, politics, social and cultural events. Exclusion from society of substance abusers is an active process in which the main antagonist is society itself, by discriminating against people and refusing them access to different resources based on a definite aspect – which in this case is drug usage/abuse. Several drug users are at elevated risk of social exclusion only by being part of different vulnerable groups of people, e.g. homeless, handicapped or mentally ill (European Monitoring Centre for Drugs and Drug Addiction, 2017b; Sumnall & Brotherhood, 2012; Tarnanen, Alho & Komulainen, 2018).

Achieving social reintroduction can be made successful through a series of interventions that aim to help with housing, education, and studies, as well as employment including vocational education. Other interventions that should be approached are therapy and free-time hobbies, projects, and activities. Social inclusion of drug abusers can be achieved through treatment and prevention of relapsing, but through a holistic scope of view in which societal reintegration is seen as an important part of treatment towards full recovery (European Monitoring Centre for Drugs and Drug Addictions, 2017b; Huumeongelmaisen hoito: Käypä hoito-suositus, 2018; Sumnall & Brotherhood, 2012).

4. Aim, purpose, and research question

The aim of this thesis is to find rehabilitation approaches to amphetamine addiction by nurses. The purpose is to provide nurses and nursing students with information about amphetamine addiction and the aspects of holistic care for amphetamine addicts.

Research question:

“What are the methods and nursing interventions for amphetamine use rehabilitation?”

5. Methodology

5.1 Literature review

A literature review is an evidence-based analysis of previous written articles on a chosen subject. It is an in-depth review of information in which views can be found on conflicting ideas and discrepancies, in addition to current ideas and opinions. This type of review is a tool to collect and combine broad data in order to create more specific knowledge of the chosen subject. The goal of literature reviewing is to assist the writer gather and assess new ideas from collected material (Tranfield, Denyer & Smart, 2003).

Literature reviews are important in developing new ideas and concepts, in consolidating the already existing knowledge on a specific subject, identifying potential inconsistencies and gaps, as well as adding new perceptions and ideas towards further research (Winchester & Salji, 2016). Additionally, the importance of literature reviewing reflects when readers are searching for qualified evidence-based syntheses of a variety of topics (Rew, 2010).

Literature review was chosen to this study to explore different types of nursing methods and interventions to help amphetamine addicts in their rehabilitation. This paper analyzed articles written in different countries and in varied health care environments. Therefore, the outcomes of this study could be practiced in inpatient and outpatient settings.

The process of writing a literature review consists of six general phases: 1. defining the research question(s) and aim(s); 2. searching for current articles and literature; 3. deciding on inclusion and exclusion criteria; 4. determining the quality of the main studies; 5. data extraction and 6. data analysis. These stages guide the writing process of all types of literature reviews (Paré & Kitsiou, 2017).

In this literature review the authors used the 6 phases of literature reviewing which were defined by Paré and Kitsiou (2017) which were further explained in Table 2.

Table 2. Phases of the literature review techniques (Paré & Kitsiou, 2017)

Phase	Task
1. Defining the research question and aims	Our research question is "What are the methods and nursing interventions for amphetamine use rehabilitation? Our aim is to find rehabilitation approaches in the nursing field.
2. Searching for current articles and literature	The articles have been chosen by examining current literature found on the subject and they were selected based on their applicability in our study.
3. Deciding on inclusion and exclusion criteria	Inclusion and exclusion were done using inclusion criteria showed in Table 3
4. Determining the quality of the main studies	The quality of the main studies was verified by selecting articles which meet the criteria of being peer-reviewed previously.
5. Data extraction	Data extraction was made based on the relevancy of the articles towards the study of the thesis.
6. Data analysis	Data analysis was made through selecting and categorizing articles based on the method of rehabilitation used. The data was further categorized based on nursing interventions available for rehabilitation.

5.2 Literature search

The thesis' literature search was done in coordination with the aims of this literature review. The search was reviewed by two people. The selection of relevant articles was made by selecting literature with titles that were appropriate for our study aims and purpose. A further selection of articles was made to choose the articles that match our inclusion criteria. The inclusion criteria are presented in Table 3, articles that failed to meet these criteria were omitted.

Table 3. Inclusion criteria

Inclusion criteria
Full text access/DOI link usable
Scientific articles
Peer reviewed
Published between 2003-2019
Publications in English
Studies on addiction
Studies on nursing interventions in addiction rehabilitation

The two databases we used in our research process were CINAHL and Medline. The search terms used were “nursing interventions OR nursing care OR nursing support OR nurse's role OR nursing OR nurse AND addiction or substance abuse or drug abuse” continued with the Boolean AND “addiction OR substance abuse OR drug abuse”. As we needed more exact results, we have made changes in the search, adding “amphetamine or methamphetamine or adderal or MDMA or ecstasy AND rehabilitation or therapy or treatment or intervention”. As the results were not satisfactory, we have broadened some of the search to “nursing interventions or nursing care or nursing support or nurse's role or nursing or nurse AND addiction or substance abuse or drug abuse AND rehabilitation or therapy or treatment or intervention”. The search was limited according to the inclusion criteria shown in Table 3. In table 4 we clarify these searches made through the two databases used.

Table 4. Selection process

Database	Search items	Number of results	Chosen based on the title/summary	Relevant articles
Medline	nursing interventions OR nursing care OR nursing support OR nurse's role OR nursing OR nurse AND addiction or substance abuse or drug abuse	11	4	2
Medline	nursing interventions or nursing care or nursing support or nurse's role or nursing or nurse AND addiction or substance abuse or drug abuse AND rehabilitation or therapy or treatment or intervention	215	41	4
Medline	amphetamine or methamphetamine or amphetamine or MDMA or ecstasy AND rehabilitation or therapy or treatment or intervention AND nurse or nurses or nursing or nursing staff or health care professional or registered nurse	15	3	2
CINAHL(EBSCO)	nursing interventions OR nursing care OR nursing support OR nurse's role OR nursing OR nurse AND addiction or substance abuse or drug abuse	137	18	7
CINAHL (EBSCO)	nursing interventions or nursing care or nursing support or nurse's role or nursing or nurse AND addiction or substance abuse or drug abuse AND rehabilitation or therapy or treatment or intervention	98	5	2
CINAHL (EBSCO)	amphetamine or methamphetamine or amphetamine or MDMA or ecstasy AND rehabilitation or therapy or treatment or intervention AND nurse or nurses or nursing or nursing staff or health care professional or registered nurse	16	2	2

5.3 Data analysis process

Data analysis is part of writing literature-based research papers, with the intention of collecting data, analyzing it and discussing the results. Through data analysis, the main findings of research material can be presented through text, tables and figures (Labani, Wadhwa & Asthana, 2017).

Content analysis is a method of data analyzing used to process, seclude and analyze desired data in order to find answers and possible new information for research questions. Content analysis is a widely used approach method in research, as it is highly versatile and can be used in both quantitative and qualitative research (Kleinheksel, Rockich-Winston, Tawfik & Wyatt, 2020). Kleinheksel et al. (2020) describe three interpretations of content analysis, which are inductive, deductive and abductive. The deductive method is prominently used in research prescribing a phenomenon based on a theory or a concept, whereas the inductive interprets acquired data and abductive way combines these both. As this research paper was conducted as a literature review, the inductive content analysis method was used to answer the research question. With the three main phases of content analysis, coding, organizing and processing, the data was analyzed to achieve an answer to the research question of this thesis (Kleinheksel et al., 2020).

The authors have found 19 relevant articles through the database search. The studies were conducted in United States (n=11), United Kingdom (n=3), Canada (n=2), Sweden (n=2), Bangladesh (n=1) and Spain (n=1) between 2003 and 2020.

Coding is the process of labeling acquired material after immersion of data, as in this case reading the material several times and identifying similar themes. A thorough scope of the data will give the researcher a better insight into possible themes associated with the chosen area of interest. Through coding the identified similarities, different labels can then be gathered and organized as larger groups. Eventually, these groups are then organized and used to construct the answer for the research question through the processing stage (Tawfik & Wyatt, 2020).

In Table 5 we describe the data analysis process through categorization and sub-categorization of the results in the articles that were used in this literature review.

Table 5. Data analysis process

Categories	Sub-categories	Main findings
Nursing methods for rehabilitation	Nurse-client relationship	Patients' earlier encounters with health care personnel affects rehabilitation outcomes. Patients are more inclined to follow-up with their recovery if they have positive experiences with nurses.
	Harm reduction	Nurse-led education on hepatitis shows a decrease in the spread of hepatitis C. Nurse's education on safe injecting methods. HIV prevention and education.
Methods for avoiding relapse	Factors affecting relapse	Rehabilitators' views on aspects leading to relapse. Good social relationships prevent relapse. Having healthy free-time activities.
Pharmacotherapy	Withdrawal & overdose medication	Medication available for withdrawal symptoms is scarce with no studies showing evidence of usefulness. Medication used in emergency situations and nursing methods
Nursing interventions for lifestyle modifications	Effects of diet	Nutrition's effect on rehabilitating a patient's overall health. Malnutrition and vitamin deficiencies effect on addicted persons.
	Physical activity	The positive outcomes of physical activity during rehabilitation. Physical activity prevents relapse.
	Sobriety	Soberness from all substance's helps abstaining from amphetamine.
Therapy methods in drug rehabilitation	Individual therapy	Cognitive behavioral therapy was found to be successful in the treatment of amphetamine addiction. Contingency therapy model helps with relapse prevention and depressive mood.
	Group therapy	Group therapies were applied in the Matrix model.

6. Results

6.1 Nursing methods for rehabilitation

Addiction and drug abuse are sensitive subjects for medical professionals. The first step for nurses to provide qualitative care for patients with drug abuse problems is to acknowledge that addiction is an illness alike COPD or diabetes. The society we live in still stigmatizes addiction and nurses are inclined to have a similar way of judgment against people who suffer from addiction. For drug abusers to attain a healthy status, nurses must change their negative perspectives into evidence-based ones and to use evidence-based interventions to treat their substance abuse patients. Studies have reported that in order for the health care system to be improved for addiction care, education and courses should be provided for medical staff (Barlett, Brown, Shattell, Wright & Lewallen, 2013).

To provide holistic care to addicts, nurses must ensure that they have knowledge of drugs that patients can abuse and what are their effects on the mind and body, as well as nursing interventions for them (Broderick, 2003). The *Diagnosics and Statistics Manual of Mental Disorders* classifies amphetamine withdrawal symptoms as having a dysphoric mood accompanied with two or more of the following symptoms: fatigue, having bad or lucid dreams, insomnia or excessive sleepiness, increased desire for food and mental retardation which is followed by cessation of using amphetamine (Shoptaw, Kao, Heinzerling & Ling, 2009). Common physical symptoms of amphetamine overdose are high blood pressure, high temperature, seizures, perspiration and dehydration. In an emergency setting, if a patient presents these symptoms, nurses must act appropriately according to them. In the case of hypertension, nursing interventions include administering benzodiazepines and hypertension medication, as well as monitoring heart activity with EKG. In the case of a patient having temperature, fluids can be administered as well as using cooling fans. If the patient is agitated, benzodiazepines are a key option. Seizures caused by methamphetamine overdose should be treated with benzodiazepines IV or IM if cannulation is not possible. Patients who suffer from methamphetamine-induced seizures are at risk of intracranial hemorrhage,

therefore they should have a CT scan (Cannon, Weust, Cooper-Bolinsky, Burdick, Bauer & Blackford, 2018). With amphetamine use, patients become dehydrated and sweat profusely, therefore, nurses should administer electrolytes and fluids IV (Broderick, 2003).

Nurses should not only focus on reducing drug use, since it does not help patients learn how to deal with their problems or teach them new skills of coping. Nurse's role in addiction care is a supporting role, especially in inpatient settings. Nurses must encourage patients to take responsibility for their own actions, because addicts need to learn how to navigate through stressful life situations. Additionally, it is important for nurses to try to enhance the addict's motivation through motivational speaking and meetings. In inpatient care, nurses must be aware of the possible withdrawal symptoms of amphetamine use (Johansson & Wiklund-Gustin, 2016).

Patients should be informed about symptoms of hepatitis C, how they are transmitted, how the disease progresses and their treatment options. Nurses must inform patients about the hepatitis C virus (HCV) and that it can survive outside a host for up to 4 days, at the same time remaining infectious. Treatment of infection sites is a major part of risk assessment and reduction since they can result in life-threatening situations such as sepsis. These facts can benefit amphetamine drug users who inject, by understanding that they must not share their drug paraphernalia such as tourniquets, needles, syringes, and bandages (Barlett, Brown, Shattell, Wright & Lewallen, 2013).

Harm reduction can also be made through informing addicts how to care for basic wounds, prevent overdosing, perform basic phlebotomy and provide information about HIV infection, as well as how to prevent it. Teaching addicts on how to react to an overdose can help save someone's life. Instructing drug users who inject drugs how to perform a phlebotomy aseptically and teach them the difference between a vein and an artery can help them overcome comorbidities that may come with injecting drugs. Providing patient education about basic skills to addicts can aid them in using their drug of choice in a safer manner. In addition, helping addicts by providing this information can help them trust nurses, which in return helps them establish a trustworthy attitude towards treatment and overcoming their substance addiction (Barlett, Brown, Shattell, Wright & Lewallen, 2013).

An effective nursing intervention for helping addicts rehabilitate has also been accurate referral and providing treatment options. It is important for nurses to create a safe, nonjudgmental environment for amphetamine addicts so that trust can be built, and addicts can share their history without fearing that they will be judged by nurses. For addicts, having a negative experience with nurses might affect how addicts looking for help view healthcare experiences, thus assuring that the patient does not feel judged is a necessity (Barlett, Brown, Shattell, Wright & Lewallen, 2013).

6.2 Methods for avoiding relapse

Relapse is defined as an inhibiting process that sets a patient or client back on their goal on achieving a certain behavioral change such as the cessation of substance abuse. It should not be considered as a terminal state and rather as a continuum (Hendershot, Witkiewitz, George & Marlatt, 2011). A study conducted in Bangladesh interviewed substance users on their relapses and reasons for them. The main categories affecting relapse brought up by substance users were peer pressure, negative state of mind, lack of confidence and negative relations with parents. Additionally, disturbances in close relationships, several different withdrawal or physical symptoms and shortage of adequate rehabilitation programmes and facilities were mentioned (Rahman, Rahaman, Hamadani, Mustafa & Islam, 2016).

Kouimtsidis, Stahl, West & Drummond (2014) discuss the relapse prevention model, which is a theory model basing that relapses occur when the substance user can justify the act while avoiding pain. High risk situations together with ineffective coping mechanisms result in decreased self-efficacy and the idea of expected positive outcome due to substance. This eventually leads to substance use and relapse. Cognitive behavioral therapy is a method used to learn new acting models, and studies show it has high risk prevention of relapses (Kouimtsidis, Stahl, West & Drummond (2014). The cognitive behavioral model is used to teach substance users, for example coping skills, self-monitoring and reinforcing desired action models. Patients and clients can learn to identify stress factors, such as certain settings, that trigger relapse. Cognitive behavioral therapy can prevent relapsing as clients learn to avoid risk situations

through self-acknowledgement and thus can sustain sobriety (Waldron & Kaminer, 2004).

Relapse prevention models that patients and clients actively seek combined with professional care have been proven to be most efficient in the prevention of relapse. Active relapse prevention methods include avoiding places with substances and using time in activities, such as hobbies and meaningful relationships. A correlation between avoiding relapse and having meaningful social interactions or a partner were found as a positive reinforcement for staying sober (Sundin & Lilja, 2019).

6.3 Pharmacotherapy

There is some research of replacement therapy for methamphetamine use with randomized trials. Bupropion, an inhibitor of transporters for dopamine and norepinephrine, was studied as it could aid with the withdrawal symptoms due to its dopamine increasing effect. During the randomized trials, volunteers were divided into two groups, with one group receiving bupropion, a replacement medication, and the other group received a placebo for a 12-week period. The results of the study showed no significant difference of methamphetamine abstinence, although participants with low use rate did show more improvement after the trial. A similar study was conducted together with weekly cognitive behavioral therapy attendance, with similar results to the previously described (Brensilver, Heinzerling & Shoptaw, 2013). Brensilver, Heinzerling & Shoptaw (2013) discuss additionally of aripiprazole, an atypical antipsychotic medication, that was tested on amphetamine users to reduce amphetamine use. Results of studies showed no improvement in ceasing amphetamine use (Brensilver, Heinzerling & Shoptaw, 2013).

Although at the time being, there is no official pharmacological treatment method for methamphetamine addiction, Buxton & Dove (2008) suggest using typical antipsychotic medication (e.g. Haloperidol) for patients who are experiencing agitation, while patients who experience methamphetamine induced psychiatric and physical signs, should be treated with mild tranquilizers (e.g. Diazepam). The use of typical anti-psychotic medication is based on their dopamine-blocking agents which relieve the symptoms a high dopamine releasing amphetamine induces (Buxton & Dove,

2008). Buxton & Dove (2008) additionally mention, that due to high drop-out rates and thus relapsing, therapy methods, such as contingency management and cognitive behavioral therapy have been found most prominent method for treating methamphetamine addiction.

As studies have shown, methamphetamine's highly addictive nature is caused by its sympathomimetic nature, that increases the norepinephrine and dopamine levels in the synaptic cleft, creating a feeling of euphoria in the users, additionally decreasing the re-uptake of these neurotransmitters. One new pharmacological method for treating methamphetamine addiction has been found to decrease the toxicity methamphetamine creates in the brain (Anderson, Gilchrist & Keltner, 2010). Anderson, Gilchrist & Keltner (2010) discuss of a study conducted in 2006, where antimethamphetamine antibodies were discovered, which binded methamphetamine circulating in the body, thus reducing the toxic and neurological effects of methamphetamine. Anderson, Gilchrist & Keltner (2010) additionally noted, that found antibodies could be applied to patients in a case of methamphetamine overdose, or during the withdrawal stage. This could mean that nurses could administer the antibodies in emergency situations in health care centers. The studies did conclude that circulating, non-bound methamphetamine in the body would metabolize as amphetamine but the results of it would be less harmful for the user. Additional studies suggested that antimethamphetamine antibodies could be used as a preventative method before a possible methamphetamine addiction develops. It was suggested that the antibodies substantially long half-time could be utilized in patients during withdrawal to prevent relapse (Anderson, Gilchrist & Keltner, 2010). Anderson, Gilchrist & Keltner (2010) noted that broader research needs to be conducted before the pharmacological method can be taken to use health care.

Part of rehabilitation is a good care relationship that works as a confidential and open-minded base for the patient and nurse and enables showing of all emotions. Open-minded care relationship lowers the patients' threshold of discussing difficult matters, that can affect rehabilitation. Nurses' attitude can have a major effect on how the client is able to discuss matters concerning rehabilitation. It is crucial that the care plan is client-oriented and customized, to motivate the client to rehabilitate and set realistic goals. Patients should never be pressured or guided according to nurses wishes (Molina-Mula & Gallo-Estrada, 2020).

6.4 Nursing interventions for lifestyle modifications

Lifestyle choices play an important part in how recovery unfolds for different patients suffering from drug abuse. Recovery consists of a series of changes in a patient's wellbeing, personal life and functioning to attain a healthy life without substance abuse. Changes in lifestyle might improve a patient's feelings, their way of thinking and processing stressors, along with improving their behavior as well. Research has shown that some key conditions for a successful recovery from substance abuse have been having a job, living in a stable home and being part of a social support network (Davies, Elison, Ward & Laudet, 2015).

Diet

Amphetamine abuse is harmful to the patient's physical health in the long term and in the short term. Having a balanced diet with nutritious food is important for amphetamine drug users because the drug decreases their appetite immensely. Nutrient deficiency is a comorbidity of amphetamine abuse and it can cause drug-seeking behaviour, as well as disrupt recovery. Malnutrition can also be the cause of further comorbidities, such as osteoporosis, anxiety, and depression. Nursing methods for promoting a healthy and nutritious diet are nutritional assessment and therapy. Nurses should assess the needs of the patient, arrange blood tests to be taken and consult a nutritionist about meal plans. The nurse can also guide the patient to the nutritionist for a more accurate nutritional assessment (Jeynes & Gibson, 2017).

Physical activity

Regular physical activity has been proved to aid people in not abusing illicit substances. Studies have also shown that physical activity-based interventions helped reduce the compulsive desire to abuse illicit substances. Exercise can decrease the need for drug use by being a healthy alternative to drugs, as well as creating neurological connections in the brain that affect a person's susceptibility to taking illicit drugs. In some cases, exercise has been proven to create a feeling of euphoria and well-being, feelings that are similar to amphetamine usage. It has been clinically proven that physical activity helps with episodes of depression and anxiety (Smith & Lynch, 2012).

Nursing methods used to promote physical activity include helping the patient set a goal for their exercise needs, advice the patient how to self-monitor their body and to be aware of physical cues of their body, as well as reinforcing the patient to seek the barriers that stop them from changing their unhealthy behavior. Nurses can also redirect patients to exercise settings done in groups, or online material on exercise plans done for their individual needs. Motivational interviewing is a style of counselling which promotes changes in behavior by encouraging patients to explore and find out the reasons they do not exercise, a method that can also motivate substance abusers to increase their physical activity levels (Artinian, Fletcher, Mozaffarian, Kris-Etherton, Van Horn, Lichtenstein, Kumanyika, Kraus, Fleg, Redeker, Meininger, Banks, Stuart-Shor, Fletcher, Miller, Hughes, Braun, Kopin, Berra, Hayman, Ewing, Ades, Durstine, Houston-Miller & Burke, 2010).

6.5 Therapy methods in drug rehabilitation

One therapy model found effective with stimulant dependent clients is contingency model, a method where positive actions are reinforced and encouraged with gifts, goods and prizes. In substance abuse treatment, this is done by collecting samples of urine multiple times and when negative results arrive, the patient is given a reward of some sort. As time goes on, rewards increase thus becoming more encouraging. Studies with stimulant depended HIV-patients showed that contingency management, combined with behavioral activation, encouraged participants in part-taking in joy bringing actions and treatments concerning HIV. The results additionally showed reduced relapse rates and depressive mood in stimulant dependent clients after engaging in contingency management (Mimiaga, Closson, Pantalone, Safren & Mitty, 2019)

One method of treatment is the Matrix Model, which is a mixture of many different treatment types. Both cognitive behavioral therapy and contingency management are part of the Matrix model. The model uses group, family and individual meetings and has both mental and physical sides of the patient taken into consideration. The object is to learn relapse prevention, together with family communication and a safe environment. The Matrix model additionally emphasizes the importance of structured day

planning, which has shown lowered anxiety levels and more coherent decision making in participants (Cannon, Weust, Cooper-Bolinsky, Burdick, Bauer & Blackford, 2018).

7. Discussion

7.1 Ethical considerations

The main ethical topics in nursing research are consent, benevolence, anonymity, and patient's confidentiality, as well as respecting boundaries and privacy (Fouka & Manztzou, 2011). Since this thesis used previously written research on the topic, ethical considerations are in the primary articles which are already addressed. Using CINAHL (EBSCO) and Medline for our research, we deemed these articles trustworthy through filters such as articles published after 2003, as well as being peer-reviewed papers in notable journals around the world. This thesis is written according to the ethical principles for JAMK University of Applied Sciences.

A key principle in writing any paper or article is not to plagiarize. Plagiarism is the act of presenting someone else's work as one's own, whether it is copied straight or adapted in one's own words. It is an aspect which we have also considered when writing this thesis. Plagiarism can be avoided by referring to the original writer after sentences where the information has been used and by marking the references correctly. Additionally, quotation marks and credits need to be put and given into correct places. No article or writing can fully compose the words of another writer, whether credited or not (Dhammi & Ul Haq, 2016). In this thesis, we have done the writing according to these guidelines to avoid any plagiarism.

An important criterion of any literature review is credibility, which is a vital factor in assuring trustworthiness. In this thesis we have ensured that the research methods are appropriate and well-known research techniques, in addition to being in accordance with JAMK's instructions. Data gathering and data analysis have been done with precision regarding the credibility and trustworthiness of the primary studies on drug addiction (Shenton, 2004).

Background information, detailed definitions of the phenomenon of interest, as well as data is provided in this paper in order to assure the transferability of it. The dependability and confirmation of this literature review is guaranteed through detailed

methodological summaries, triangulation, and awareness towards the possible shortcomings of this thesis (Shenton, 2004).

7.2 Validity, reliability and limitations

In every research and literature review writing, a risk of bias exists during the gathering of material and data. Bias means a prejudice against a certain group of people or a person, thus affecting the research results. Biases include selection, language, availability, and cost, which need to be recognized by the author(s) to create transparency (Pannucci & Wilkins, 2010).

To avoid bias, the authors have comprehensively gathered material and data, where they have excluded the ones not suitable for the previously set criteria. The process of gathering data has been additionally documented to allow other researchers to repeat the study process to reduce the risk of bias. This research was conducted with limited resources and is acknowledged by the authors. Databases used by the authors were provided by JAMK, using only English language. The authors acknowledge there is selection, language and cost bias as possible research material might not have been accessible through used databases or languages.

The studies used in this thesis were conducted mainly in Europe, United States, and Canada. One study was conducted in Bangladesh. The scope of the data is not wide enough to discuss the topic globally as this thesis is missing information from other continents. Health services from Europe and United States/Canada are similar in the context of nursing interventions for addiction. The major difference between these countries is the amount of payment that patients must pay for the care. The cost of healthcare is based through insurance in the United States, thus making it more difficult for patients without a stable residence or job to rehabilitate. As the majority of the studies were conducted in countries with a stable health care system, the results might not be applicable to all countries, due to differences in health care models, funding and culture.

The authors consider the research and articles that were used in this paper valid and reliable due to the clear documentation of the process. The authors used inclusion

criteria for selecting articles, detailed in Table 3. Acquired data has been released in the recent years to provide up to date information on the subject. Additionally, two authors have been involved in the research and validation of material thus reducing selection bias. The authors of this thesis believe that the results found are accurate and can be used to inform nurses and nursing students about addiction and nursing methods in addiction care.

Funding has been one of the biggest limitations of this study. Although there was a lot of information on amphetamine addiction on the databases used, it could not be accessed due to the cost of the articles. This limitation narrowed the results found and clear nursing interventions for amphetamine addiction were not properly described. Another limitation that the authors have found during this research process was with research methodology, due to the fact that the authors are novices in literature reviewing. The strength of this thesis stands in the fact that it was reviewed by two authors which aided in decreasing the chance of bias of the study.

7.3 Discussion

The study of articles through literature reviewing has provided insufficient data on nursing methods for rehabilitation of amphetamine addicts. The majority of the articles found were about addiction in general, not about amphetamine. Additionally, the authors were unable to find definitive nursing interventions for some of the methods described in the results. Although the results found were limited, there has been research describing how the patient-nurse relationship is important in rehabilitation and the role of the nurse in the recovery of addiction.

As previously mentioned, societal integration is a vital part of successful recovery, due to the implication above that some people who have difficulties in their personal life are more inclined to abuse substances. From the point of view of a future health worker, housing and employment opportunities should be included in the recovery program where it is needed. Group therapy and group meetings/outings could also be helpful towards social reintegration, as a social inclusion programme, where peer support would play a major part as a rehabilitation method. Our suggestion is that the

nurse's role could be in these cases, for example organizing group meetings and introducing patients to activities.

As the research showed, the diverse therapy methods that aim in behavioral change have been proven to be the most sufficient treatment method for amphetamine use rehabilitation. Cognitive behavioral therapy is according to many studies the most effective method, as it teaches new techniques for processing difficult life-situations and risk identifying (Waldron & Kaminer, 2004). A three-year study between contingency management and cognitive behavioral therapy showed that contingency management in fact had better results, with participants attending treatment and showing better results in abstinence. Although the study suggests contingency management would be a more efficient choice of therapy, it did conclude cognitive behavioral therapy has long-term outcomes that are comparable with contingency management (Rawson, McCann, Flammino, Shoptaw, Miotto, Reiber & Ling, 2006).

Nurse's attitudes have proven to have major impacts on rehabilitation patients in several studies conducted globally (Chu & Galang, 2013). For the patient to be able to share factors regarding their substance use, nurses should create an environment that enables discussion. This can be achieved by creating emphatic and safe surroundings, combined with positive interactions. Patients who encounter negative experiences in health care are more likely to have prejudice against care and rehabilitation (Cannon, Weust, Cooper-Bolinskey, Burdick, Bauer & Blackford, 2018). Research has shown that patients seek less help for both chronic and substance abuse conditions if previous encounters with health care staff have included negative perceptions (Chu & Galang, 2013). Nurses should create a therapeutic care-relationship, that opens the conversation between nurse and patient about possible rehabilitation methods (Cannon, Weust, Cooper-Bolinskey, Burdick, Bauer & Blackford, 2018). Therapeutic and positive patient experiences help health care personnel to execute follow-up care when patients are more inclined to attend visits. Additionally, patients feel more empowered and thus have better rehabilitation outcomes if treated unstigmatized and unbiased (Chu & Galang, 2013).

Studies have found that the reason substance abusers have stopped attending follow-up meetings was because the other problems addicts encountered were not taken into consideration. This included the lack of social services provided, such as job finding,

studies and education, and safe housing. Quality of life is extremely important in rehabilitation from drugs, as it can make addicts fall into the cycle of abuse, relying in drugs to forget their problems. Drug abuse affects almost all areas of normal functioning of a person, including close relationships/family, health, accessibility to services, as well as home status (Laudet, 2011). Therefore, nurses should always try to provide holistic care to patients, taking into consideration every aspect of an addict's life, such as reasons they use drugs and how to alleviate their problems through accurate referral to social and health services.

Harm reduction has been proven not only to help addicts practice safer drug use techniques, but also to motivate them to seek treatment for their addiction. Nurses are one of the primary health care professionals that can offer treatment advice for addicts. Harm reduction solutions were found to decrease addiction-related harms and help addicts understand the risks of addiction (Ford, 2010).

The authors found out that vast amount of data shows there are no results from pharmacological treatment methods, and those in use, such as mild tranquilizers and typical anti-psychotics, seem to have insufficient results in the long-term when caring for rehabilitating amphetamine addicts (Buxton & Dove, 2006). Additionally, studies on antimethamphetamine antibodies are in the first phases of research. These studies have not yet been used in human trials, therefore cannot yet be applied in nursing care (Anderson, Gilchrist & Keltner, 2010). The authors research concluded that data gathered on pharmaceutical rehabilitation methods concerning amphetamine users is limited.

The authors' research showed that there is limited data on the amphetamine users' own experience during and after rehabilitation, and patients' point of view of the impact that the rehabilitation process had on them and their way towards recovery. A broader research would help health care personnel to advise their clients in all situations. Additionally, gathered data on nurse's methods for rehabilitating patients with amphetamine addiction is limited to find.

8. Conclusion

Nurses' role in rehabilitation of amphetamine users lies on the educational and supportive side. Additionally, nurses can be involved in the therapy methods by giving motivational discussions and reflecting with the patient on their behavior. If given evidence-based, unbiased and unstigmatized treatment, nurses' actions can lower the threshold of seeking care as patients and clients feel more heard and safer. Care plans done according to patients' needs and realistic goals can motivate patients to stay on the recovery path.

The results we have concluded are limited since there are not a lot of studies done on amphetamine rehabilitation and nursing methods. As nurses, we cannot know for sure if the impact of nursing methods and interventions can prevent relapse and help towards rehabilitation when considering amphetamine abuse. We hope our research paper serves as a discussion ground and catalyst for further research of amphetamine addiction rehabilitation. Additionally, we hope the material gathered can be used for nurse's education and extend nurse's basic knowledge on amphetamine users, the symptoms of amphetamine use and how to recognize that a patient is under the influence or overdosing.

According to the research material we found during the making of this thesis, more experience-based research and data should be done to develop this area of nursing. Our recommendation is that ex-rehabilitation clients and patients should be interviewed for health care workers to receive insight into knowledge of how the patient's experience the care and what improvements can be made.

Abbreviations

ADHD Attention Deficit Hyperactivity Disorder

COPD Chronic Obstructive Pulmonary Disease

CT Computer Tomography

EKG Electrocardiography

EMCDDA European Monitoring Centre for Drugs and Drug Addiction

EU European Union

HCV Hepatitis C Virus

HIV Human Immunodeficiency Virus

IM Intramuscular

IV Intravenous

JAMK Jyväskylän Ammattikorkeakoulu

MDMA 3,4-Methylenedioxymethamphetamine

NIDA National Institute on Drug Abuse

UNODC United Nations Office on Drugs and Crime

USA United States of America

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Appendices

Appendix 1. Articles reviewed, alphabetical order

Author(s)	Publishing year and country	Title	Research method	Key findings
Anderson Cynthia Jane, Gilchrist Kathleen, Keltner Norman L.	2010, United States	Antimethamphetamine Antibodies: A New Concept for Treating Methamphetamine Users	Qualitative research	Research suggests that mAbs could be administered in the future in an emergency room during an acute methamphetamine intoxication episode to aide in methamphetamine withdrawal treatment. Nurses can be pivotal to the success of methamphetamine treatment.
Artinian Nancy T., Fletcher Gerald F., Mozzafarian Dariush, Kris-Etherton Penny, Van Horn Linda, Lichstein Alice H., Kumanyika Shiriki, Kraus William E., Fleg Jerome L., Redeker Nancy S., Meininger Janet C., Banks JoAnne, Stuart-Shor Eileen M., Fletcher Barbara J., Miller Todd D., Hughes Suzanne, Braun Lynne T., Kopin Laurie A., Berra Kathy, Hayman Laura L., Ewing Linda J., Ades Philip A., Durstine J. Larry, Houston-	2010, United States	Interventions to Promote Physical Activity and Dietary Lifestyle Changes for Cardiovascular Risk Factor Reduction in Adults	Qualitative research	New concept of cardiovascular health that directly incorporates metrics of lifestyle behaviors, including diet and PA habits, as defining health.

Miller Nancy, Burke Lora E.				
Barlett Robin, Brown Laura, Shattell Mona, Wright Thelma, Lewallen Lynne	2013, United States	Harm reduction: compassionate care of persons with addictions	Qualitative research	Nurses must have knowledge about addiction to treat addicted patients. People struggling with addiction need nonjudgmental care from health care providers in order to help them reduce their risk of harm associated with their addiction.
Brensilver Matthew, Heinzerling Keith G., Shoptaw Steven	2013, United States	Pharmacotherapy of amphetamine-type stimulant dependence: An update	Qualitative research	Clinical trials on several pharmacotherapy methods for amphetamine use were reviewed and no evidence on applicable medication treatment was found through these studies.

Broderick Molly	2003, United States	Spotting drug use	Qualitative re- search	Nurses can provide better holistic care if they know the type of drug their patient takes. Article provides nursing interventions for drug overdose patients.
Buxton Jane A., Dove Naomi A.	2008, Canada	The burden and management of crystal meth use	Qualitative research	Treatment is challenging because there is currently no effective medication, and behavioral and cognitive approaches, although effective during treatment, have not shown long-term benefits.
Cannon Emily, Weust Jan, Cooper-Bolinskey Dianna, Burdick Kailee, Bauer Renee, Blackford Kymberlee	2018, United States	How to Address Methamphetamine Abuse in the United States: Nurses Leading Comprehensive Care	Qualitative re- search	Nurses must provide a safe nonjudgmental environment for substance abusers to feel comfortable sharing their history. Treatment and hospital care are vital for the rehabilitation of methamphetamine addicts.
Davies Glyn, Elison Sarah, Ward Jonathan, Laudet Alexandre	2015, United Kingdom	The role of lifestyle in perpetuating substance use disorder: the Lifestyle Balance Model	Qualitative research	It is hoped that the LBM may, in future, inform other behavior change interventions that help individuals achieve a healthier, more functional and balanced lifestyle that facilitates the acquisition of recovery capital and recovery progression.
Hendershot Christian S., Witkiewitz Katie, George William H., Marlatt G. Alan	2011, United States, Canada	Relapse prevention for addictive behaviors	Qualitative research	More research on the acquisition and long-term retention of specific RP skills is necessary to better understand which RP skills will be most useful in long-term and aftercare treatments for addictions.
Jeynes Kendall D., Gibson E. Leigh	2017, United States	The importance of nutrition in aiding recovery from substance use disorder: A review	Qualitative research	Poor nutritional status in alcohol use disorder and drug use disorder severely impacts addicts' physical and psychological health, which may impede their ability to resist

				substances of abuse and recover their health.
Johansson Louice, Wiklund-Gustin Lena	2016, Sweden	The multifaceted vigilance – nurses' experiences of caring encounters with patients suffering from substance use disorder	Qualitative content analysis	Being a vigilant nurse could be understood as a strength enabling nurses to safeguard caring values, and to use their authority to promote patients' health and alleviate suffering.
Kouimtsidis Christos, Stahl Daniel, West Robert, Drummond Colin	2014, United Kingdom	Path analysis of cognitive behavioral models in substance misuse. What is the relationship between concepts involved?	Quantitative research	Comparison across models suggested that the regression model based on the original Relapse prevention was the best, with urges and negative expectancies having the highest effect in opposite directions.
Mimiaga Mathew J., Closson Elizabeth F., Pantalone David W., Safren Steven A., Mitty Jennifer A.	2018, United States	Applying behavioral activation to sustain and enhance the effects of contingency management for reducing stimulant use among individuals with HIV infection	Quantitative research	Participants had reduced depressive symptoms and felt more confident about engaging consistently in HIV care at each follow-up visit after contingency management treatment.
Molina-Mula Jesus, Gallo-Estrada Julia	2020, Spain	Impact of Nurse-Patient Relationship on Quality of Care and Patient Autonomy in Decision-Making	Qualitative research	Results show the use of language as a tool of power, exercised through orders to patients. These orders are based on persuasion before those who resist the impositions of professionals. The language used is based on a sealed communication and the use of terms of affectionate content.

Rahman Mohammad Mi-zanur, Rahaman Mohammad Mahmudur, Hamadani Jena D., Mustafa Kamrun, Islam Sheikh Moham-men Shariful Islam	2016, Bangla-desh	Psycho-social factors as-sociated with relapse to drug addiction in Bang-ladesh	Quantitative research	Psychologically vul-nerable people are more prone to relapse. Result of this study will help clinicians and psychologists develop strategies and preven-tion plans for relapse to drug addiction in Bangladesh.
Smith Mark A., Lynch Wendy J.	2012, United States	Exercise as a potential treatment for drug abuse: evidence from preclinical studies	Qualitative research	Many of the neurobio-logical effects of exer-cise have been charac-terized, and the ability of exercise to serve as an alternative, non-drug reinforcer, and decrease comorbid risk factors associated with substance use.
Steven J Shop-taw, Kao Uyen, Hein-zerling Keith, Li ng Walter	2009, United Kingdom	Treatment for ampheta-mine withdrawal	Qualita-tive re-search	Treatments for am-phetamine with-drawal with antide-pressants, includ-ing placebo stud-ies. Antidepres-sants did not help with the withdrawal symp-toms.
Sundin Mats, John Lilja	2019, Swe-den	Substance use and strate-gies to avoid relapses following treatment: A narrative approach with clients undertaking a twelve-step program in Sweden	Quantita-tive re-search	The combination of professional support and individual action appear to be important factors in the partici-pants' descriptions of their change from ad-diction to a drug-free life.
Wal-dron Holly Bar-rett, Ka-miner Yifrah	2004, United States	On the learn-ing curve: the emerg-ing evidence support-ing cognitive-behav-ioral therapies for ado-lescent substance abuse	Qualita-tive re-search	Group and individual CBT are associated with significant reduc-tions in adolescent sub-stance use.