



# **The Patient's Experiences of Antidepressant Medication's Effect to Sexual Health**

## **A Literature Review**

Anna Leikas

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**Leikas, Anna Elina**

### **The Patients Experiences of Antidepressant Medications Effect to Sexual Health, A Literature Review**

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#### **Abstract**

**Background:** In the field of nursing, the work includes facing various patients with individualized needs. It is likely that problems regarding mental health, including adverse effects caused by the treatment, are encountered at some point of a nurses career. Antidepressants are the most commonly used medication in treating a mental health disorder. Even as high as 70% of antidepressant consumers report experiencing adverse effects regarding their sexual health. In diagnosing a sexual dysfunction, the patients experiences of the symptoms are in great importance. The symptoms of sexual dysfunctions can be sorted as gender specific or as generic.

**Aim & Purpose:** The aim of the research was to explore the patients experiences of antidepressants effect on sexual health. The purpose of the study was to create awareness on the antidepressants effect on the consumers sexual health, and to improve professional competence in holistic nursing care.

**Methodology:** The study was conducted by using the literature review methodology. The data was collected from CINAHL, Medline, and PubMed health care databases. A total of 5 (N = 5) articles were selected, published between 2000-2024, were included in the text. The data was analyzed using the content analysis tool for qualitative studies.

**Findings:** The patients experiences of antidepressant medications effect on sexual health were categorized into three main categories: Physical effects; sexual dysfunction and addressing the symptoms, emotional effect; validation, self-esteem, and quality of life, and social effects; stigma and relationship.

**Conclusion:** Antidepressant induced sexual dysfunction can be interpreted to have a holistic effect on the patient. Contextualizing the sexual dysfunction as part of an overall approach demands more focus in healthcare, in order to improve the management and treatment of these adverse effects and thus, increase the treatment compliance. Due to limited data on the subject, the study does not provide extensive conclusion on the patients experiences of antidepressants effect on sexual health. The evidence presented in the study indicate a clear need for further research.

#### **Keywords/tags (subjects)**

Antidepressant medication; Adverse effects; Sexual health; Sexual dysfunction; Patients experiences

#### **Miscellaneous**

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# 1 Introduction

The classification of a mental disorder consists of clinically prominent disturbance in individual's cognition, emotional regulation, or behavior (WHO, 2022, Mental Disorders). Mental disorders are perceived as a global phenomenon due to their high prevalence. As reported by World's Health Organization, one in every eight people around the world are living with a mental disorder, with the most common being anxiety disorders and depressive disorders (Mental disorders, 2019). In addition, a number of studies have documented that many patients experience or fear for stigmatization, discrimination, and violations of human rights in the relations to mental disorders and the diagnosis of them (Sadler, et al., 2012). Mental disorders, however, do vary substantially in terms of type and severity (McNally, 2011, p.4). Contrary to many beliefs, in some mental disorders the symptoms arise involuntarily from structural and functional pathology of the brain and thus, makes the disorder uncurable (McNally, 2011, p.213). However, the patients encounter periods of remission, and with the right treatment the symptoms can be manageable. The treatment of mental disorders vary depending on the disorder. It is in great importance to develop a treatment plan according to the patients' needs. Most common treatment methods have been established as the use of psychotherapy and drug therapy, that have been reported to have similar efficacy rates (Herrman, et al., 2009, p.10). Different forms of treatment, such as the psychotherapy and drug therapy, can be paired to support the treatment. Supporting this view, previous studies have established the effectiveness of using drug therapy as a part of the treatment and thus, confirmed the highly common use of drug therapy in the field of psychiatry (Partonen et al., 2023, Lääkehoito on osa hoidon kokonaisuutta).

During drug therapy, the consumer may experience some adverse effects from the medication. Adverse effects are defined as unwanted and undesirable effects that are related to a drug and can vary from minor to life threatening events (U.S. Food & Drug Administration, 2022). The side effects are generally mild and tend to go away with time or by lowering the dose (Isometsä & Leinonen, 2017, Masennuslääkkeet ja lääkkeen valinta). The most common adverse effects of antidepressant use include gastrointestinal adverse effects, anticholinergic effects, sedative effects, postural hypotonia, nausea, sexual dysfunctions, and weight gain (Isometsä & Leinonen, 2017, Masennuslääkkeet ja lääkkeen valinta). In addition, the type of sexual dysfunctions have been stated as lack of sexual desires, different erectile dysfunctions, arousal dysfunctions and different orgasm disorders (Väisälä, 2006, Seksuaaliongelmät ja niiden hoito).

Furthermore, the prevalence of antidepressant induced sexual dysfunction has been documented as high as every third patient (Socada, 2023). Despite the high prevalence of antidepressant induced sexual dysfunction, the symptoms seem to be greatly ignored by the healthcare professionals. As Ciydem, Kackin, and Kutlu (2021) suggests, environmental factors such as culture, negative attitudes towards sexuality including stigmas, and lack of training and knowledge are seen as challenges nurses face when assessing the patients' sexual health. Similarly, Browne et al. (2012) found in a research that the nurses in the field of mental health try to avoid discussing the patient's sexual health needs due to lack of knowledge in that area, and the conversation being uncomfortable for even the health care professionals to follow through with (p.419). Collectively, the nature of the topic is considered a taboo and thus, a lack of trust between the patient and the nurse can be encountered.

In the light of the current review, very little research has been conducted on the topic. Large amount of studies focus on the perspective of prevalence and treatment, seem to rely on former data, or lack the experience-based perspective on the matter. Health care professionals are in an exceptional position to gain trust on the patients to assess the possible adverse effects. It is of significant importance that health care professionals, including nurses, are aware of the possible taboo adverse effects of these drugs, in order to effectively identify, assess, and manage the symptoms and raise the quality of the patient's life. The purpose of the presented review, thus, is to support sexual health care by spreading awareness of the patients' experiences regarding the adverse effects of antidepressants in adults, among nurses.

## **2 Psychopharmacology as a Treatment**

The American Society of Clinical Psychopharmacology (ASCP) defines psychopharmacology as the study of the use of medications in treating mental disorders (n.d). The medicines used for mental disorders vary depending on the type of the working diagnosis. The most common mental disorders are reported as different anxiety disorders, depressive disorders and substance abuse disorders (Lönnqvist, 2023, Mielenterveys ja sen häiriintyminen). The treatment of mental disorder is always personalized according to the severity of the perceived symptoms. It is now well established that with the purpose of supporting the treatment and well-being of the patients, psychopharmacology is often a needed addition to the treatment plan (Isometsä, 2023, Depression hoito).

## 2.1 Medication Overview

The diagnosis and severity of the symptoms guide the health care professionals to make the decision on what type of medicine would benefit the patient the most. Previous research has established that in psychiatric use, the main medication groups are labeled as antidepressants, antipsychotics, mood stabilizers, anxiolytic drugs, hypnotics, stimulants and other medicines used when treating ADHD, drugs used to treat addiction, and anti-dementia drugs (Partonen et al., 2023, Lääkkeiden luokittelu). Occasionally, combining medications from same, or different medication classes to achieve effective clinical intervention is needed (National Association of State Mental Health Program Directors, 2001). The term polypharmacy describes a situation when multiple medications are used for the treatment of the same patient (Sanjay, et al., 2013). For many mental disorders, polypharmacy is a common clinical practice (Sanjay, et al., 2013). Considering all that has been mentioned so far, it is evident that the amount of medications used for the treatment of mental disorders is immense. In addition, while composing the data search it was discovered that most of the data answering the research question were conducted on patients consuming antidepressants. Therefore, the research in the presented literature review will be limited to patients experiences of antidepressants effect on sexual health.

One of the main categories of medicine used for treating mental health disorders are antidepressants (Pharmaceutical press, 2024). Antidepressants are not only utilized in depressive disorders; they are also commonly used as anxiolytic, and hypnotic drugs (Partonen et al., 2023, Lääkkeiden luokittelu). Antidepressants are divided into different drug groups depending on the mechanism of action; Tricyclic antidepressants (TCA for short, an example of a drug: Trimipramin), Selective serotonin reuptake inhibitors (SSRI, an example of a drug: Sertralin), Serotonin-noradrenaline reuptake inhibitors (SNRI, an example of a drug: Venlafaxin), Noradrenaline reuptake inhibitors (NRI, an example of a drug: Reboksetin), Noradrenaline-dopamine reuptake inhibitors (NDRI, an example of a drug: Bupropion), Serotonin antagonists and reuptake inhibitors (SARI, an example of a drug: Tratsodon), Noradrenergic and specific serotonergic antidepressants (NaSSA, an example of a drug: Mirtatsapin), and lastly MAO-A blockers (For example Moklobemidi) (Partonen et al., 2023, Masennuslääkkeet). It is in great importance to remember that the patients experiences of the medications effects are subjective. Documenting the patients perceived effects benefit the working professional to improve the quality of care and furthermore to assess possible adverse effects.

## 2.2 Adverse Effects

It has been demonstrated that the consumer may experience adverse effects during antidepressant drug therapy. The adverse effects vary among the drug groups and the prevalence of symptoms range from frequent to rare depending on the drug. The most common adverse effects of antidepressants are gastrointestinal adverse effects, anticholinergic effects, sedative effects, postural hypotonia, nausea, sexual dysfunctions, and weight gain (Isometsä & Leinonen, 2017, *Masennuslääkkeet ja lääkkeen valinta*). In addition to the common adverse effects, antidepressants may also cause serotonin syndrome and increased risk of self-harm for the consumer (Korpi & Peipponen, 2024, *Serotoniiniselektiivisten masennuslääkkeiden haitat ja yhteisvaikutukset*). Usually, the adverse effects are mild and will ease away, but when the symptoms remain or affect the patient's quality of life, it is the duty of the working team to manage the remaining symptoms (National Institute of Mental Health, 2023). The management of adverse effects include lowering the dose of the medicine or treating the unwanted symptom itself (Kelly, et al., 2008).

Interactions between drugs are common and need to be considered before administering any medication to a patient (Isometsä & Leinonen, 2017, *Masennuslääkkeet ja lääkkeen valinta*). Antidepressants have an effect on the metabolism, and therefore can disturb the absorption of other medicines, causing higher concentration of the drug, increase the half-time, and enhance the adverse effects and toxicity of the drug (Partonen et al., 2023, *Lääkkeiden yhteisvaikutukset*). In addition, serotonin syndrome is potentially life-threatening drug interaction of serotonergic drugs such as SSRI antidepressants (Volpi-Abadie, et al., 2013). Furthermore, several reports state that antidepressants should not be used with anticoagulants or nonsteroidal anti-inflammatory drugs (NSAID's) due to increased risk for bleeding (Bleakley, 2016). Collectively, it is of utmost importance for the health care professional to stay aware of possible adverse effects and drug interactions encountered during antidepressant drug therapy. Moreover, it is the health care professionals responsibility to consider the patients current medication before prescribing antidepressants.

### 3 Sexual Health

The current working definition of sexual health is a state of physical, emotional, mental, and social well-being in relation to sexuality (WHO, n.d). In recognition for acknowledging sexual rights as an essential fraction of sexual health, the World Association for Sexual health (WAS) declare that sexual health requires positive and respectful approach to sexuality and sexual relationships, and also a possibility to have safe and pleasurable experiences free of discrimination and violence (2014). To serve as a guide, the World Association for Sexual Health (WAS) composed a declaration containing 16 human rights pertaining to sexuality (2014). The declaration includes the right to information, the right to education and comprehensive sexual education, the right to the highest attainable standard of health including sexual health, the right to decide whether to have or not have children, the number and spacing of children, and to have the information and the means to do so, and the right to life, liberty, and security (WAS, 2014). Recently the role of sexual pleasure has been reinforced as an essential component of sexuality, sexual health and sexual rights, and therefore highlights the importance of placing sexual pleasure in the forefront of sexual health promotion, comprehensive sexual health education and services, and as a sexual health policy (Ford, et al., 2022). However, the human rights stated by the declaration of sexual rights (WAS, 2014) are not always acted on accordingly and hence imposes the need for interventions to improve sexual health. Complications encountered in the field of sexual health include unintended pregnancy, sexually transmitted diseases (STD), sexual dysfunctions and sexual violence (Wellings and Johnson, 2013). Sexual and reproductive health is classified as a holistic specialty, providing a broad range of client-centered care (Melville, 2015). In conclusion, the health care professional must acknowledge sexual health care as a part of holistic care approach. As stated in a study by Azar, Kroll, and Bradbury-Jones (2022), "Nurses and midwives role in sexual health care is essential to help patients, particularly women, ensure a satisfactory sexual wellbeing". Furthermore, the nurses are provided with the possibility to participate in an introduction training for obtain the requirements for working as a sexual counselor (Ilmonen, 2006, p. 58-59). It is incredibly great opportunity for nurses to include sexual health care as part of their work. Considering the holistic care approach, the importance of efficient sexual healthcare can be perceived in any healthcare setting.

### 3.1 Dysfunctions

It has been demonstrated that sexual dysfunction has a negative impact on sexual health. The prevalence of sexual dysfunctions is high, affecting about 43% of women and 31% of men (Rosen, 2000). The context of onset, such as changes in physical or mental health, job, and relationship status may alter the sexual health, and thus, work as a factor to the experienced sexual dysfunction (Gambescia, et al., 2020). However, Väisälä (2006) reminds that a sexual related issue is a dysfunction when the patient experiences the symptoms as such (Naisen ja miehen seksuaalisuuden erityispiirteitä, p. 244). The symptoms of sexual dysfunction can appear similar between men and women, or as gender specific. As for instance: lack of sexual desires is a symptom that both men and women can experience (Väisälä, 2006, Naisen ja miehen seksuaalisuuden erityispiirteitä, p. 244). In women, the most common sexual disorders are reported as arousal disorders that are divided into four groups (Subjective arousal disorders, genital arousal disorders, combination of subjective and genital arousal disorders and uncomfortable continuous arousal disorders), orgasm disorders, experiencing pain during intercourse (Dyspareunia and vulvodynia) and vaginism where the muscles around the vagina spasms involuntarily (Väisälä, 2006, Naisen seksuaaliongelmät, p. 250-263). On the contrary, the reports indicate that the most common sexual dysfunctions in men are disorders with libido, erectile dysfunctions, and orgasm disorders/ejaculation problems (Lukkarinen, 2006, Miehen seksuaaliongelmät, p. 264-278). The cause of these symptoms can be divided into psychogenic causes such as anxiety or relationship problems, and organic causes such as pelvic injury (Melville, 2015, p.250).

Pharmacological, and non-pharmacological methods are used for the treatment of sexual dysfunctions (Melville, 2015). Prior to starting the treatment of sexual dysfunction, the cause of the dysfunction should be identified, and any underlying causes should be treated (Melville, 2015, p.250-252). Non-pharmacological treatment possibilities are psychotherapy, lifestyle changes, physiotherapy for pelvic floor and the use of tools to aid sex (Seksuaaliongelmät ja niiden hoito, 2006, p.241-278). In addition, some require counselling for relationship difficulties emerged by the dysfunctions (Melville, 2015, p.252). There are only few medicines that directly improve sexual functions. These medicines are rarely used, and only after careful consideration. According to Lukkarinen & Väisänen (2006), medicines that strengthen dopaminergic stimulation, erection drugs, and sex hormones are or can be considered for improving sexual health (p.250-278).

### 3.2 Nurses and Sexual Health

Sexual counseling is interaction based professional client or patient work, which mainly focuses on questions and problems related to sexuality and gender. Sexual counseling should be a part of social- and health care services and be available for everybody regardless the age or situation, who might experience problems or crisis situations regarding sexuality or gender (Ilmonen, 2006, *Seksuaalineuvonta*, p. 41). In a health care setting, the goal is to approach the patient as holistically as possible. However, it seems to be an often-occurring phenomenon for nurses to not include the area of sexual health as part of the holistic approach. The issues regarding patients' sexual health are often viewed as insignificant, and are frequently disregarded as an improving factor to patients health, or the quality of life. When working in the field of health care, it is a necessity for the professional to be the initiator for the topic (Ilmonen, 2006, *Seksuaalineuvonta*, p. 43).

Part of being a health care professional is to know one's own limits in knowledge or ability to treat and face the patients and their issues. It is an ordinary practice to include multiprofessional team of mental health professionals and sexual health professionals to work together with the patient struggling with their sexual health, if the professional has the knowledge on how to proceed to do so. (Rosenberg, 2006, *seksuaalisuus ja sairaus*, p. 298). The nurses' attitude and strategy on how to approach the patient with the topic has a crucial role in the patients' cooperation to the care and treatment. This is consistent with the data obtained by Emre, Ozlem and Kutlu (2020), who discovered that negative attitudes towards sexuality, and the lack of training about the importance and the principals of assessing sexual health, were the challenges nurses faced when assessing patients sexual health in a psychiatric setting. Patient education and follow up falls within the nurses' responsibility, which highlights the importance of having the skills to initiate the conversation to the right direction. It is crucial for nurses to learn to collect correct information from the patient and establish the cause and effect from the provided symptoms. Many medicines have an effect to sexual health, and as previously stated, the education and follow up regarding the care of the patient is a responsibility of the nurses. This includes the ability to determine what is the cause for the experienced symptoms. Building ones' professional confidence, trust and empathy when working in client-based environment lowers the patients' threshold to seek out help.

## 4 Patients Experiences of Drug Induced Sexual Dysfunctions

In addition to psychopharmacology and psychotherapy, well executed psychiatric care include defining the patients' sexual dysfunctions, treat the issue and offer sexual counselling. According to Lepola and Koponen (2006), the patients current sexual functioning should be evaluated before starting any form of medication therapy (Mielenterveysongelmat ja seksuaalisuus, p.305). The reason behind these directions is to obtain a base line for what the patient perceives as normal sexual health that can be compared to the possible medicine induced adverse effects on sexual health and/or functioning. It appears to be unfortunately common for these symptoms to be put under the diagnosis rather than the medicine itself.

As documented by Lepola and Koponen (2006), "Even 70% of the antidepressant consumers have reported to be experiencing adverse effects affecting sexual health" (Mielenterveysongelmat ja seksuaalisuus, p.307). Depressive disorder and sexual dysfunctions are commonly encountered together, but overlooking the possibility of experiencing adverse effects from the medicine can make the issue even worse and even lead to negligence of care. The adverse effects are often underestimated, and it has been reported that the patients do not necessarily bring up and talk of such topics even if the symptoms lower the quality of life. As reported by Lepola and Koponen (2006), "75% of the patients with depressive disorder consider sexuality as important to them. However, 70% of the patients experience lack of sexual desire" (p. 307). It is in great importance to involve sexual counseling and knowledge of the common occurrence of sexual dysfunctions in the patient education as to prevent negative affects to the patients compliance with the treatment (Lepola & Koponen, 2006, p. 310).

The evidence reviewed here seems to indicate that there is a relationship between the importance of sexual health and compliance with the treatment. It has been suggested that some patients resist the treatment due to experiencing fear of the medicines effect to their sexuality. These fears are valid and must be taken into account when educating the patient with the medicine. Despite the relatively large volume of published literature on sexual health in nursing education, the perspective of the patients is relatively unknown. Thus, in this literature review, the patients experiences of antidepressants effect on sexual health, are thoroughly analyzed.

## 5 Purpose, Aim and Research Question

The aim of presented literature review is to collect data about patients' experiences with antidepressant medications adverse effects regarding sexual health, in adults aged over eighteen and under sixty-five. The purpose of this literature review is to support sexual health care, by promoting awareness of the possibility of antidepressant medication based sexual health issues, among nurses. In addition, the purpose is also to bring suggestions onto what research could be done for the topic to understand it better and raise the quality of the care in the future. The research question of the current review is the following: "what are the patients experiences of antidepressant medications effects on sexual health?"

## 6 Methodology

This academic study was perceived to be appropriate to be conducted by the method of a literature review. The reason for the chosen research method was due to the study data being quite easily accessible and thus, reliable. The presented literature review aims to present reliable data, based on recent research, about the patients' experiences with antidepressants effect on sexual health in adults aged over eighteen and under sixty-five. Additionally, the literature review was used to justify how the research topic is relevant to existing knowledge in nursing.

### 6.1 Literature Review

Systematic literature review is defined as a way of collecting data, critically evaluating the collected data, integrating, and presenting findings from chosen research studies on a research question or on the topic of interest (Pati, Lorusso, 2018). In other words, it is a review of relevant literature on existing knowledge on the area of interest, and thus serves as the theoretical background of a study in a way of connecting the key areas of existing knowledge, and thereby aid the reader to understand the researched concepts as well as the basis of the proposition or hypothesis presented (Weng et al., 2022). As stated by Snyder, "By integrating findings and perspectives from many empirical findings, a literature review can address research questions with a power that no single study has" (2019). However, when conducting a literature review, the researcher must set standards to how appropriately conduct the data search and selection.

The criteria for conducting a literature review must include up-to-date sources, implying the relevant data for the study, remaining unbiased when executing the data search, and staying comprehensive amid the study (Vijayamohanen, 2020).

A literature review can be conducted in a variety of ways. In a method provided by Templier and Pare (2015), conducting a literature review can be divided into six steps (Seen in more detail Figure 1). The six-step method was applied in the current research. The first course of action and the first step was to choose the topic for the research and a background review of the literature was conducted. The research question was formed and the aim for the study was developed. The second step began with screening and selecting the databases for the search. The literature search was conducted by the use of PICO's (Population, Interest, Context, Study type) framework. For the third step, the screening of the literature began. The purpose for screening was to include and exclude literature based on their relevance on the topic of conducted research. The fourth step is designed for assessing the quality of the literature collected. In this review, all the included articles were assessed by using critical appraisal provided by Hawker et al. (2002, *Appraising the Evidence: Reviewing Disparate Data Systematically*, p.1284-1299). As for the fifth step, the answers for the research question was extracted from the remaining primary literature. The sixth and final step of the literature review was to organize, compare, summarize, and interpret the collected information. The found information was applied in analyzing the found data, discussing the findings, and interpreting a conclusion for the study. The ethical considerations, including the elements affecting the reliability and validity, are pondered. The potential limitations and implications for further research are introduced.

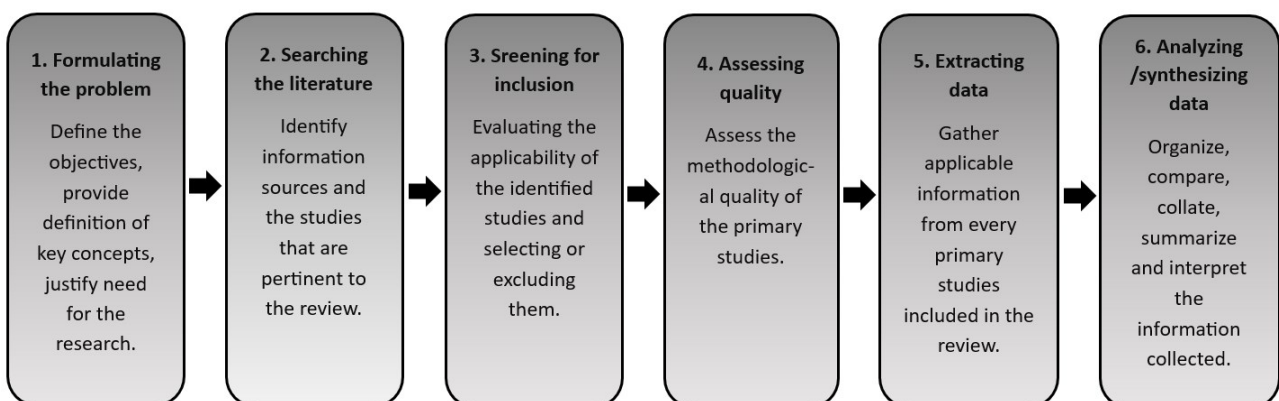


Figure 1: Steps to Conduct a Literature Review (According to Templier & Pare, 2015)

## 6.2 Data Selection Process

The used databases were established by their reliability for nursing research. Databases used for the data search were CINAHL Plus Full Text (Ebsco), Medline (Ebsco) and PubMed. The framework to formulate eligibility criteria for the data search was conducted by using the PICOS (Population, Interest/Intervention, Context and Study). As Eriksen and Frandsen stated (2018): “The PICO model was developed to help structure a well-built clinical question and enable a literature search” (p.429). The criteria was used for inclusion of the studies for the research, and to answer the research question. The framework was applied in the data search as seen below (Table 1)

Table 1: PICOS framework

<b>Population (P):</b>	Adult patients of 18 to 65 years of age who consume antidepressant medication
<b>Interest (I):</b>	Experiences of adverse effects on sexual health
<b>Context (Co):</b>	Nurses' contribution to sexual health promotion in psychiatric setting
<b>Study Characteristics (S):</b>	Peer reviewed, full text, English language, free access, published between 2000-2024

The selection criteria for the included studies were defined before the search was conducted. Literature used for this study must follow the inclusion criteria. The studies included in the review were those that had the population of adults consuming antidepressants and excluding any other medication consumers; researched for the patients experiences of adverse effects on sexual health and excluding studies that do not involve the experiences of the patient; the work-setting included mental health care setting and other possible settings where the nurses are able to deliver mental health care; and only studies that were published in English language, peer reviewed and that were conducted between 2000 and 2024 were included in the review as shown in the Table 2.

Table 2: Inclusion and Exclusion criteria

Inclusion criteria	Exclusion criteria
<ul style="list-style-type: none"> <li>❖ Adult patients consuming antidepressants.</li> <li>❖ Patients experiences of antidepressants effect on sexual health.</li> <li>❖ Any healthcare setting where the patient might be consuming antidepressants.</li> <li>❖ Studies that were conducted in English language between 2000 and 2024, peer reviewed, contains abstract, are full text, free access to Jyväskylä's University of Applied Sciences (JAMK) students, and answer to the research question.</li> </ul>	<ul style="list-style-type: none"> <li>❖ Any other medication consumers.</li> <li>❖ Does not involve the experiences of the patient.</li> <li>❖ Any specialized healthcare setting where nurses do not provide mental healthcare.</li> <li>❖ Studies that were conducted before 2000, published in any other language than English, are not peer reviewed, are not freely accessible for Jyväskylä's University of Applied Sciences (JAMK) students, and do not answer to the research question.</li> </ul>

The search included keywords that were formed according to the research question. The keywords were composed in the data search by using the Boolean search operators AND/OR. Suggested keywords and phrases for the data search are as seen in Table 3 below. The search terms were confirmed by trial and error. The first search was conducted by using the search words "antidepressants" AND "sexual dysfunctions" AND "experiences". With no relevance to the research question, the search words were changed into more specific terms: "antidepressant induced" AND "sexual dysfunction" AND "patients experiences". With still no relevance to the research question, the previously established search words were used in a different order : "patients experiences" AND "antidepressant induced" AND "sexual dysfunction". These search terms provided articles with the most relevance to the research question, and thus were used for conducting the data search.

Table 3: Search terms

Search terms
Patient experiences OR Patient views OR Patient attitudes
"AND"
Antidepressant induced OR Antidepressant caused
"AND"
Sexual dysfunctions OR Sexual adverse effects

### 6.3 Data Selection and Critical Appraisal

The data search from CINAHL (EBSCO), Medline (EBSCO), and PubMed prompted total of 245 articles with all inclusion criteria and limits applied. During the screening of the data, 18 duplicates were eliminated. The remaining 227 articles were screened based on the title and abstract, which led to 205 articles being eliminated. The remaining 22 articles were screened by the Full text of the articles and 17 articles were eliminated, as they did not follow all of the inclusion criteria of having the patients experiences included or did not answer to the research question. Following the full text screening, 5 remaining articles used for the study were selected. The selection process applied is shown in the PRISMA flowchart (Figure 2).

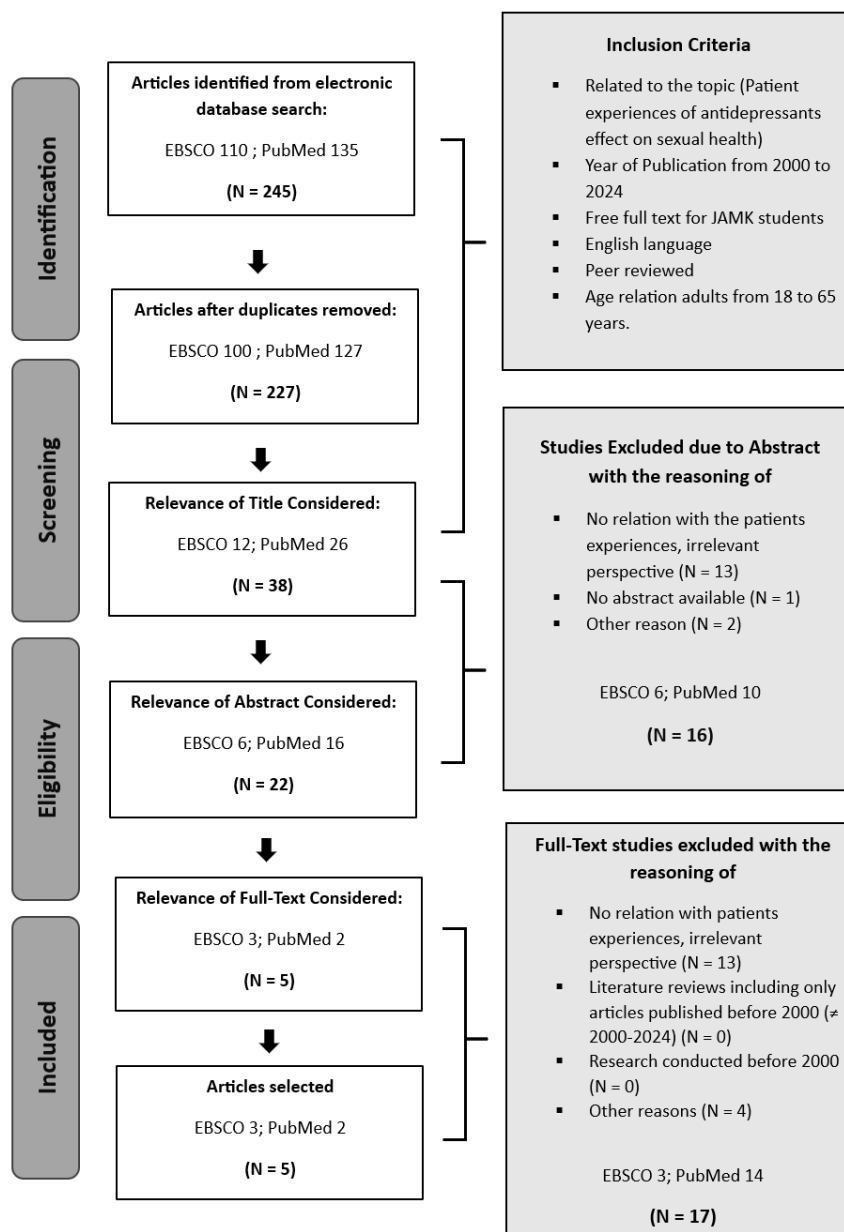


Figure 2, PRISMA flowchart

The last 5 applicable articles were further applied to critical appraisal (Hawker et al. 2002) to determine the quality of them. Every article was assessed in nine categories and in each category the articles are evaluated with points from one (1) to four (4). The highest possible points from each category is four (Good) and the lowest is one (Very poor). In this method of critical appraisal, the highest score any article can get is thirty-six (36) points, and in contrary the lowest possible score is nine (9) points. In the current study, articles with score lower than 20 points will be excluded from further inclusion. Three of the five articles scored 30 points or more from the critical appraisal. The lowest score given from the appraisal was 28 points, and the highest was 34 points. The template of categories and scoring points from Hawker's appraisal tool can be found in Appendix 3.

#### **6.4 Description of Included Data**

The five articles included in the current review were conducted in Ireland (N = 1), Australia (N = 1), New Zealand (N = 1), USA (N = 1) and India (N = 1). The study conducted in the USA used data from three European countries including Germany, Spain and Netherlands. The articles were published in 2009 (N = 1), 2011 (N = 1), 2014 (N = 1), 2016 (N = 1), and 2020 (N = 1). These studies were conducted by various approaches including two cross-sectional qualitative studies involving a semi-structured interview (Apantaku-Olajide et al. 2011; Grover et al. 2020), one cross-sectional study (Williams et al. 2009), one qualitative study involving semi-structured interviews (O'Mullan et al. 2014), and one study done by mixed method (Cartwright et al. 2016). In addition to the conducted interviews, the articles used questionnaires including one (N = 1) article using the 10-item Drug Attitude Inventory (DAI-10), three (N = 3) used the Arizona Sexual Experience Scale (ASEX), one (N = 1) using the Medical Outcomes Study Short Form-12 (SF-12), one (N = 1) article using the Brief Adherence Rating Scale (BARS), and one (N = 1) using a Medical Adherence Questionnaire.

The aim of the included articles was to examine the patient experiences of antidepressant induced sexual dysfunction, and within the articles the perspectives vary. One of the included articles primarily focused on the patients attitudes to medication affected by drug-induced sexual dysfunction (N = 1), one with experiences of coping with the sexual side effects of antidepressants (N = 1), one with patient perspectives of antidepressant benefits and adverse effects (N = 1), and two with prevalence and impact of antidepressant-associated sexual dysfunction (N = 2). For more detailed summary, see Appendix 1.

## 6.5 Data Analysis

In order to successfully process and summarize the results of the research, the data will be analyzed by using the content analysis tool. As Elo and Kyngäs (2008) describes: “Content analysis as a research method is a systematic and objective means of describing and quantifying phenomena” (p.108). Content analysis is commonly used as part of nursing research due to the benefits provided by the method; it acts as context-sensitive and offers flexibility in terms of research design (Elo & Kyngäs, 2008). Regardless the chosen methodology, the process of analysis is purposed to reduce the volume of text that has been collected, identify and gather categories of aimed knowledge together, and to seek understanding to the collected information (Bengtsson, 2016). Specifically in a qualitative content analysis, the purpose is to present the collected data in words and themes, which concludes in a possibility to draw some interpretation of the results (Bengtsson, 2016). For the research, the three stages of conducting content analysis as propounded by Elo and Kyngäs (2008) was applied.

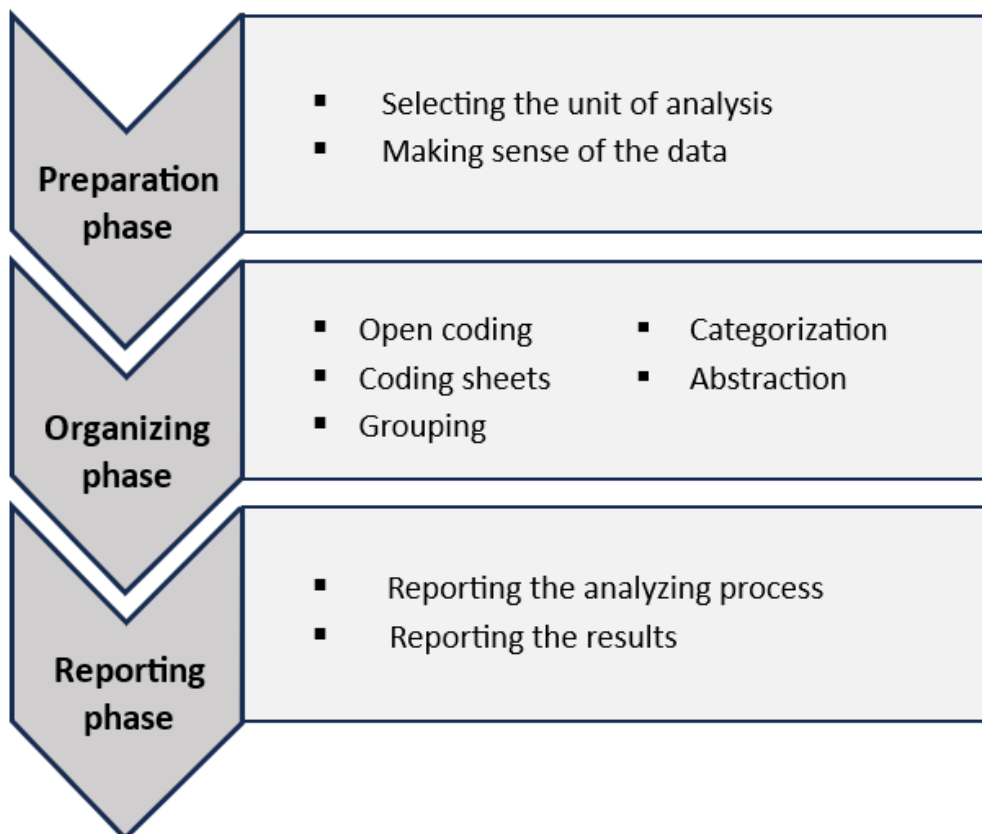


Figure 3, Content analysis process (According to Elo & Kyngäs, 2008)

As Elo and Kyngäs (2008) have defined, the first stage of this content analyzing method, is preparation phase. Following the methodology by Elo and Kyngäs (2008), a theme of the analysis would be selected, and the results in the five articles would be read multiple times in order to become immersed in the data and to make meaning of the text. For this study, the selected themes were related to the research question or answered it. Following the preparation phase, is the organizing phase. The process includes open coding the articles, creating categories of the data and abstraction of the collected information (Elo & Kyngäs, 2008). An inductive approach was chosen for analyzing this analysis. When analyzing the data for this study, the ideas that were considered as relevant to the research question were color coded under headings. Three high order headings would be formed and named by summarizing them using words relevant to the content. Under the high order headings, ideas with similar themes would be named and grouped into further subcategories. The last step of the content analysis was to report the analyzing process and write the results. An example of the data analysis process done for the study can be seen in figure 4.

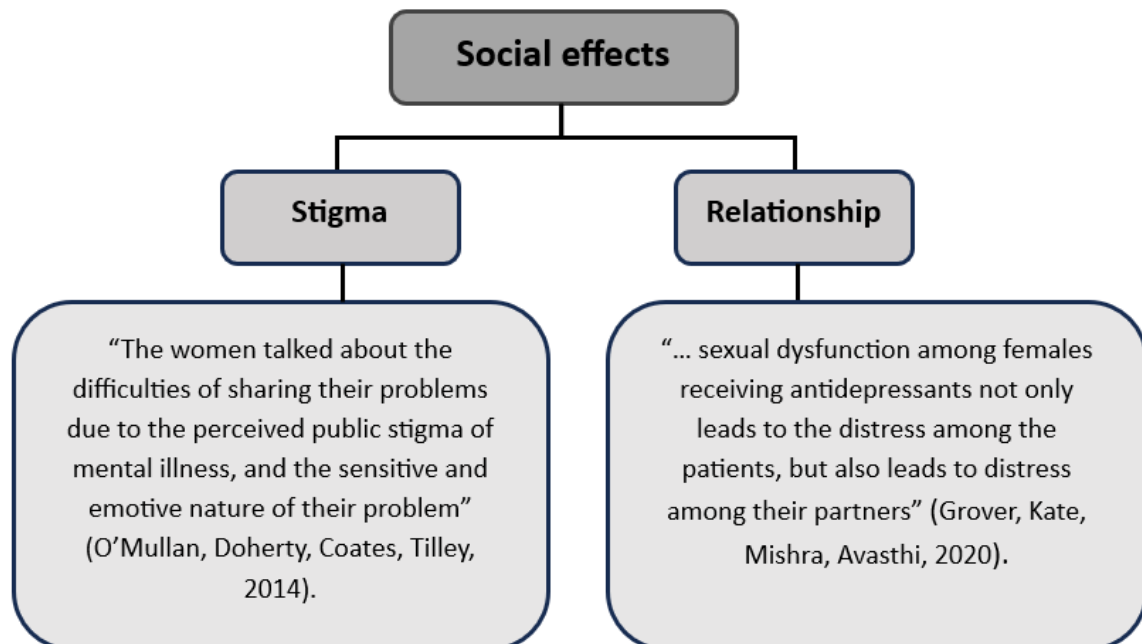


Figure 4, Example of data analysis process

## 7 Findings

Findings from the studies revealed that the patients experiences of antidepressant medications effects on sexual health could be divided into three main themes: physical effects, emotional effects and social effects. The reasoning behind the chosen categories lies in providing information about how holistic the antidepressant induced sexual dysfunction is experienced to be, as well as to provide patient-based improvement for the care of the encountered dysfunctions. These main themes consists of subcategories. Physical effects include sexual dysfunction, and addressing the symptoms. Emotional effects conclude validation, self-esteem, and quality of life. Social effects are divided into stigma and relationship. The main themes and subcategories can be seen illustrated in figure 5.

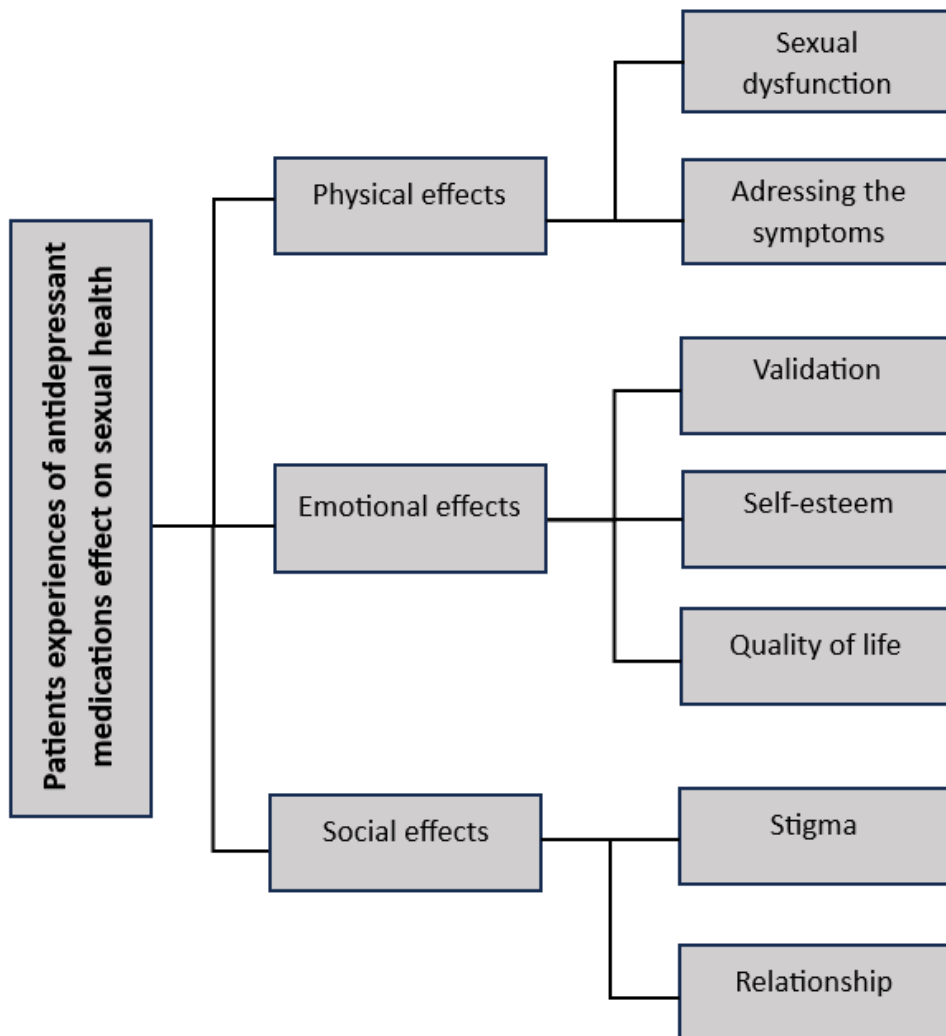


Figure 5, Main themes and subcategories

## **7.1 Physical Effects**

### **Sexual dysfunction**

Cartwright, Gibson, Read, Cowan, and Dehar (2016), studied the patients perspectives on the benefits of antidepressants and their adverse effects during long-term use, in which sexual dysfunctions were identified as one of the most frequently encountered side effects of antidepressants. These findings are repeated in almost every paper that has been written on the antidepressant induced adverse effects, thus generalizing the high prevalence of the sexual dysfunctions (Apantaku-Olajide, et al. 2011; O'Mullan, et al. 2014; Williams, et al. 2014; Grover, et al. 2020). The antidepressant induced sexual adverse effects are reported to relate to all aspects of sexual functioning, but the repeated primary effects are loss of desire and arousal, and delay of orgasm (O'Mullan et al., 2014; Grover et al., 2020). Findings from a study conducted by Grover et al. (2020) reported that about one-fourth of the participants were distressed about their sexual dysfunction. Despite the large variety of possible adverse effects due to antidepressant drug therapy, Apantaku-Olajide, Gibbons, and Higgins (2011) discovered that the sexual adverse effects are considered more distressing than sedative or extrapyramidal adverse effects. Furthermore, Apantaku-Olajide et al. (2011) states: "treatment-emergent sexual dysfunction is considered a high stress factor that increases illness burden, negatively affects treatment adherence and, ultimately, contributes to deterioration of mental health or relapse". In addition, the psychosocial aspect of antidepressant induced sexual dysfunctions may potentially complicate and confuse the clinical picture, aggravate the patients distress and destabilize intimate relationships (O'Mullan et al., 2014).

### **Addressing the symptoms**

To better understand the patients experiences, an investigation on how the perceived symptoms are addressed ought to be made. In numerous studies the patients have expressed a need for broader support with the antidepressant associated sexual dysfunctions. Several lines of evidence confirm that often the patients hope for the nurse to initiate the discussion and thus give the patient an opportunity to speak of the sensitive issue (Apantaku-Olajide et al. 2011; O'Mullan et al., 2014; Grover et al. 2020). The findings from the study conducted by Apantaku-Olajide et al. (2011) however suggest that patients with positive attitude towards the medication are more comfortable discussing their treatment and sexual health problems with their healthcare professionals. A topic that repeatedly emerged from the studies, was the patients concerns of not receiving proper

psychoeducation about the antidepressants and their side effects. The patients expressed that they commonly encountered an experience of being neglected to receive a full and accurate information about the possible side effects by the healthcare professionals (O'Mullan et al., 2014; Cartwright et al., 2016). In addition, the findings reported that once participants received an explanation and could associate the sexual dysfunctions to antidepressant medication, the participants expressed feeling relieved and more capable to adjust to the sexual adverse effects (O'Mullan, et al., 2014).

## **7.2 Emotional Effects**

### **Validation**

The patients with antidepressant associated sexual dysfunction experienced diminished general mental and emotional functioning (Williams, et al., 2014). As Cartwright et al. (2016) reports, the possible sexual side effects are often left unmentioned hence the impact on emotional wellbeing gets often ignored. In some of the findings the patients experienced having their sexual difficulties validated played a significant role in helping them cope. Contrary to previous statement, a study by O'Mullan et al. (2014), outline that the participants have reported experiences of healthcare professionals not validating their concerns and thus having a negative impact on how they understood and coped with the difficulties. Furthermore, the participants felt as the health care professionals appeared unwilling to accept their sexual adverse effects as a genuine problem (O'Mullan et al., 2014).

### **Self-esteem**

Changes in the patients sexual functioning are reported to have an impact on ones self-esteem. In a study investigating women's experiences of coping with the sexual adverse effects of antidepressant medication, O'Mullan et al. (2014) reported that the sexual difficulties experienced by the women had an impact on their self-identities. This is consistent with the data obtained from a cross-sectional study including three European countries by Williams, Edin, Hogue, Fehnel and Baldwin (2009), who found that patients suffering from antidepressant-associated sexual dysfunction reported that the changes in their sexual functioning led to lower self-esteem and to having a negative impact on their mood. As Apantaku-Olajide et al. were able to conclude: "sexual dysfunction affects one's perception of self-value and self-esteem" (2011).

## **Quality of life**

In compliance with the previous evidence, findings from the studies highlight the importance of sexuality and defines it as a quality-of-life issue (Apantaku-Olajide, et al.,2011). Patients have expressed that the sexual dysfunctions in antidepressant treatment are accompanied by reductions of important aspects of quality of life (Williams et al., 2009). Thus, as Williams et al. (2009) and Apantaku-Olajide et al. (2011) were able to summarize, that the patients experience the changes in their sexual functioning due to the antidepressant treatment negative, thus having an impact by worsening the quality of life.

## **7.3 Social Effects**

### **Stigma**

Due to the topics of mental illness and sexual problems being perceived as a Taboo, the patients have reported to have experienced a fear of stigma. Findings from some of the studies revealed that the participants encountered difficulties with sharing their problems due to the fear of perceived public stigma (O'Mullan et al., 2014) Furthermore, patients with stigmatized conditions have been more likely to self-manage information or at least estimate the cost and benefits of disclosure to others, citing risk, embarrassment, being discriminated against, and the impact on their social identity (O'Mullan, et al., 2014).

### **Relationship**

Contrary to many beliefs, a study by O'Mullan et al. (2014) reported that the patients often emphasized the importance of sex in their relationship, regardless the sexual adverse effects from the use of antidepressants. However, a disturbed sexual function is seen to impair the sense of security in a sexual relationship (Apantaku-Olajide, et al., 2011). A study by Williams, et al. (2014) discovered that about one-fourth of the participants perceived their partners dissatisfied with their sex life due to antidepressant-associated sexual dysfunction, whilst Grover et al. (2020) in their study found that half of the participants reported their partners to have expressed distress as a result of sexual dysfunction.

Nevertheless, the patients experienced the sexual difficulties as their “own problem” in a fear of affecting their relationship by them (O’Mullan et al., 2014). Instead of viewing the problem as shared, the patients often were pressured to protect their partners and as the study summarized, preferred to “suffer in silence” (O’Mullan et al., 2014). Some of the patients expressed that by completely avoiding sexual encounters, they protect their partner and themselves from enduring disappointment and furthermore effecting their relationship. On the contrary, long-term antidepressant users expressed that by accepting the situation, along with acknowledging the positives in the relationship and adjusting the expectations of how sex should be, has a positive impact on their relationship (O’Mullan et al., 2014).

## **8 Discussion**

### **8.1 Discussion of Main Findings**

The main findings to the research question of what are the patients experiences of antidepressants effect to their sexual health from the five included studies was sorted into three main categories: physical effects, emotional effects and social effects. Sexual dysfunction, as a physical effect, was identified as one aspect of patients experiences. The sexual dysfunctions have been reported as one of the most frequently experienced adverse effects when consuming antidepressants (Cartwright et al., 2016). However, despite the evidence that indicates high prevalence of experienced sexual dysfunction, there is not much of data on what the patients experiences are, or how to address them with the patient. The impact of gender roles could be also associated to how the sexual dysfunctions are perceived by the patient. Adding to the importance of addressing these dysfunctions, patients have expressed that the sexual adverse effects are more distressing than sedative or extrapyramidal side effects (Apantaku-Olajide et al., 2011). The loss of desire and arousal, as well as delay of orgasm has been the most repeatedly reported adverse effects of antidepressants (O’Mullan et al., 2014; Grover et al., 2020).

Consequently, experiencing sexual adverse effects potentially decreases the adherence towards the medication, thus impacting the succession and satisfaction with the treatment (Williams et al., 2009). Interestingly, Apantaku-Olajide et al. (2011) found that patients with positive attitude towards the medication are more comfortable discussing their treatment and experienced sexual dysfunction.

However, a number of studies have reported about patients expressing difficulties with approaching the health care professional about their sexual difficulties. In addition, environmental factors such as culture and religion also has an influence on how the patient perceives sexual health and how willing the patient is to talk about the sexual related issues (Apantaku-Olajide et al. 2011). Repeatedly, the patients have expressed the need for the nurse to initiate the conversation due to its sensitive matter. Alas, the lack of psychoeducation has been reported frequently by the patients. The evidence reviewed suggests that the patients experiencing antidepressant induced sexual dysfunction need more support from the working health care professional, along with proper psychoeducation in the beginning of the antidepressant drug therapy.

In compliance with other studies, the current review emphasizes the importance of recognizing the patients perceived experiences of these sexual adverse effects and the holistic effect on their health. A relationship exists between the physical sexual adverse effects and the patients emotional wellbeing. As Williams et al. (2009) reported, the patients have expressed that these antidepressant induced changes in their sexual function have caused emotional effects such as worsened mood, lower self-esteem and lower quality of life. These findings are evidently in a conflict with the purpose of antidepressant use. The emotional effects can have a tremendous impact on the wellbeing of the patients and their self-identities (O'Mullan et al., 2014). Furthermore, the patients have felt that their difficulties are not validated, and the emotional effects are often ignored, thus adding to the treatment adherence (Cartwright et al., 2016, O'Mullan et al., 2014).

Akin to this, much of the studies pays particular attention to the experienced social effects. Demonstrating the holistic effect of the adverse effects, the fear of public stigma is seen as a factor for not addressing the dysfunction (O'Mullan et al., 2014). Along the same lines, the subject itself has been documented to be perceived as a taboo in several settings. Not only does the feared stigma of antidepressants and their sexual adverse effects have an influence to addressing the issues to the health care professionals, but also to the patients partners. Being perceived as a private matter prompts the idea for the patients to suffer in silence with the means of protecting their relationship (O'Mullan et al., 2014). However, new findings by Grover et al. (2020) provides further evidence that the sexual adverse effects are not only experienced distressing to the patient but also to their partners, thus indicating the ineffectiveness of facing the experienced adverse effects alone.

Avoidance of sexual interactions and acceptance of the situation have been reported as the most commonly used coping strategies (O'Mullan et al., 2014). Acceptance of the situation and actively working on changing the norms on how sex should be can have a positive impact on the patient's perceived experience (O'Mullan et al., 2014). Correspondingly, embracing the positives and learning to share one's problems with their partner rather than suffer in silence can be of help when adjusting to the issue. Supporting the patients and encouraging to address and discuss their perceived adverse effects could have a positive impact on their experiences of the antidepressant care.

A common theme in the included studies was adopting more subjective view by using terms such as 'sexual difficulty' by the definition of the participants understanding and identification instead of the medicalized view and diagnosis (O'Mullan, et al., 2014; Grover, et al., 2020). Similarly, Apantaku-Olajide et al. (2011) points out that a person's experience of side-effects and subjective interpretation of altered physiological functions determines the extent of adherence to medications (Apantaku-Olajide et al., 2011). Acknowledging the subjectiveness of the topic could result to capturing the patients experiences within a social and cultural context (O'Mullan et al., 2014). Taken together, these studies support a hypothesis of how significantly important it is to subjectively encounter the patients and validate their perceived symptoms.

Overall, the current literature review demonstrates the multi-dimensional influencing factors behind the patients experiences of antidepressant induced sexual dysfunctions. It can be assumed that how the patients experience these adverse effects, is individual and subjective to how the patients perceives them. In all the studies reviewed here, the patients experiences of antidepressant induced sexual dysfunction is recognized to have a holistic effect on the patients' health and well-being. Despite the high prevalence, only little is known about the topic from the perspective of patients. Addressing the patients experiences and including sexual health education into the care plan seems certainly justified. Health care professionals, including nurses, ought to possess enough knowledge and competence regarding antidepressant induced sexual dysfunction, in order to effectively deliver proper psychoeducation, and therefore prevent adherence to the medication.

## 8.2 Ethical Considerations

Ethics work as moral and legal guidelines for the researcher during the whole process of conducting the study. As Åstedt-Kurki and Kaunonen (2018) concludes: "Ethical considerations are needed to guarantee the quality of scientific work" (p.449). Ethical considerations are adapted according to the conducted research. The Finnish national board on research integrity (TENK) has provided guidelines for ethical principles that must be considered while conducting a research including human participants in order to protect the participants from harm (2019). Furthermore, studies that involve human participants must respect the autonomy of the research subjects, and ensure privacy and data protection (Åstedt-Kurki & Kaunonen, 2018).

However, when conducting a literature review the method of applied research ethic are limited. The data for a literature review is collected from articles published in publicly accessible databases, hence excluding the use of participants personal data. Ensuring the proper use of research ethics, all the included scientific articles were manually assessed in regards of ethics and biases. All the articles chosen for the literature review were conducted under careful ethical considerations as an approval from the ethics committee of the research location-based institutions and organizations were obtained. Additionally, the studies state that a verbal or written informed consent form was obtained from the participants, and the option to withdraw at any stage of the process was provided (Approved by Ethics Committee N = 5; Informed consent N = 5; Referral to limitations of study N = 3).

The writer of the current literature review has an understanding regarding the sensitivity of the research topic. Thus, following ethical principles to maintain the respect for the researchers and the participants is considered as high importance. In order to guarantee that the research was conducted in an ethical manner, only peer-reviewed articles from credible databases were used for the review. Furthermore, the present literature review was conducted by following the research reporting instructions provided by Jamk University of Applied Sciences (JAMK), ensuring proper and objective referencing. In addition to proper referencing, applying the guidelines provided by the institution aims to also avoid plagiarism. Furthermore, the study was confirmed against plagiarism by using Turnitin.

### 8.3 Validity and Reliability

In terms of scientific research, validity and reliability is applied to discover how valid and, or reliable the results of a study are. As Chetwynd (2022) concludes: "Reliability and validity can exist separately in a study; however, robust studies are both reliable and valid" (p.392). In addition, Elo and Kyngäs (2008) states that in order to conduct a successful content analysis, it is required that the researcher can analyze and simplify the data and form categories that reflect the subject of the study reliably, and support the credibility of the findings by ensuring that the categories cover the data well in a proper manner. Furthermore, when conducting a literature review, it is the researchers' responsibility to provide enough information to the reader so that reliability and validity can be assessed (Chetwynd, 2022). Thus, the objective of the current study is to provide reliable data based on valid findings.

Three databases were used in retrieving articles for the study: CINAHL (Ebsco), Medline (Ebsco) and PubMed. The selected databases are perceived as reliable sources for nursing data by the Jamk University of Applied Sciences. To ensure the validity and reliability of the current review, only peer-reviewed articles were included in the study. Proper documentation of the conducted research process increases the credibility of the review. Remaining transparent by providing clear statements and descriptions of the process for data search, inclusion and exclusion criteria for the selected articles, and the data analysis process ensures the reliability of the study. Moreover, to avoid biases while conducting this literature review, a pre-determined inclusion criteria were used during the selection process of the articles. For the research, articles only available in English language, full text, and are free for the students of JAMK, were included. Furthermore, minimizing the potential biases, the selection criteria was clearly stated, and only the selected articles work as the base for the conclusion of this study. The studies collected data from several different countries worldwide, hence the extensive variety in participants cultural backgrounds. Despite the differences in culture, the results do support and resemble each other, and thus could suggest the generalization of the findings. However, the research sample was small, and some of the research used in this study dates to the beginning of the twenty first century and have not been updated since. Therefore, we cannot generalize the experiences of the patients consuming antidepressants. In conclusion, the review followed the process for conducting a literature review, ethical principles based on the university's guidelines for conducting a research, and thus, generated valid and reliable results.

## 8.4 Limitations

The possible limitations in the current literature review are acknowledged. The core problem was the lack of research done on the patients experiences of antidepressant medications effect on sexual health. Despite containing published data within the wide range of twenty-four-year (2000-2024) period, only five articles could be recognized as relevant for the current literature review. The absence of nursing research on the topic from patients perspective inevitably limits the current review. Further limitations include following the applied inclusion criteria by only using articles published in English language. Additionally, some limitations were encountered during the data selection as some relevant articles were chargeable and therefore, had to be excluded from the study. Initially, the review has been executed by a single unexperienced author, thus presenting a possibility for biases. The cultural beliefs and language bias could therefore effect the application of the results in clinical practice. Thus, despite the intention to stay objective towards the topic, some subjective opinions could still remain.

## 8.5 Indications For Further Research

Only a small volume of data was found regarding the experiences of the patients consuming antidepressants, indicating a clear need for further research. Furthermore, there is a large volume of published studies focusing on describing the prevalence and type of sexual dysfunction induced by antidepressants, while data focused on the experiences of the patients are limited. This may be because the 'experiences' are subjective and do not possess a singular interpretation. Additionally, most of the studies that focused on describing the patients experiences of the phenomenon, were conducted on women. Albeit the vast use of templates such as ASEX (Arizona Sexual Experience Scale) as a research method, with a subjective topic such as the patients experiences, conducting a qualitative interview in addition to the use of templates could be perceived more beneficial for the research. Further research into the more specific issue of how healthcare professionals, such as nurses, address and could be of aid when encountering a patient suffering from treatment emergent sexual dysfunction, as well as exploring the subjective experiences of patients who experience antidepressant induced sexual dysfunction, is required.

## 9 Conclusion

The research studied the patients experiences of antidepressants effect on their sexual health by conducting a literature review. The articles analyzed during this research provided insight to how the experienced antidepressant induced sexual dysfunction affect different aspects of the patients life. The patients stated that their experiences was influenced by a combination of physical effects, emotional effects and social effects caused by the sexual adverse effects. The attitudes to the antidepressant associated changes in their sexual health remain negative and have been reported to be associated with poor treatment adherence. Furthermore, the patients expressed that they often felt as if they need to face the experienced sexual difficulties alone. Along the same lines, the patients expressed that the nurses tend to disregard the experienced sexual difficulties. Negligence to provide proper psychoeducation and not feeling validated by the healthcare professionals was common, and often left a negative impact on the patients.

In the field of nursing, various patients with unique needs are faced. It is likely that a patient consuming antidepressants could be encountered at some point of nurses career. Additionally, the importance of the nurses role was consistently evident in the analyzed data. Therefore, it is essential that health care professionals, including nurses, are aware of the importance of providing proper psychoeducation and including sexual healthcare in order to effectively have a positive impact on the medicine compliance. Moreover, building trust in nurse-patient relationship by providing empathy and openness in discussion of sexual difficulties with patients may help facilitate communicating the problems and thus, improve help-seeking behaviors. Collectively, the results outline a critical role for contextualizing the sexual dysfunction as part of an overall approach to improve the management and treatment of these adverse effects.

The conclusion of the study was made based on data retrieved from five articles that were used for the analysis. Due to limited data on the subject, the study does not provide extensive conclusion on the patients experiences of antidepressants effect on sexual health. Most of the literature is focused on the prevalence and the type of sexual dysfunctions emerged from the use of antidepressants. The evidence presented in this study indicate a clear need for further research.

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## Appendices

### Appendix 1. Summary of Reviewed Articles

No.	Authors, (Year), Country	Title	Purpose and Aims of the study	Sample (n)	Methodology, Data collection & analysis	Main results / Key findings	Critical appraisal (Hawker et. al 2002)
1	Apantaku-Ola-jide, T., Gibbons, P., Higgins, A.  2011, Ireland.	Drug-induced sexual dysfunction and mental health patients' attitude to psychotropic medications.	Explore the associations between psychotropic drug-induced sexual dysfunction and the patients attitudes to the prescribed medications.	N = 64 (38 men, 26 women)  - Patients with mental health diagnosis -18 years old <, >64 -received at least 9 weeks of psychotropic medication.	Cross-sectional study, done by brief interview and one-time self-administered questionnaire evaluating their experiences.  -10-Item Drug Attitude Inventory (DAI-10) -Arizona Sexual Experience Scale (ASEX)	The participants' experience of sexual side-effects has a negative influence on subjective attitude to psychotropic medications.	30
2	O'Mullan, C., Doherty, M., Coates, R., Tillely, M.  2014, Australia	Women's experiences of coping with the sexual side effects of antidepressant medication.	Investigate the experiences of 10 Australian women currently coping with adverse sexual effects of SSRI's .	N = 10 (Women)  -Under 45 years in a heterosexual relationship who has consumed SSRI medication longer than 3 months -self-identified as experiencing sexual difficulties due to SSRI medication -Experiencing sexual difficulties case problems to the patient and/or partner	Qualitative study conducted by two semi-structured interviews.  -Interpretive Phenomenological Analysis (IPA)	The adverse effects have an impact on the quality of patients life and are a common cause for non-adherence to the medication.  There is a need for a shift to more patient-centered approach, which can emphasize the opportunity to improve the management of the sexual difficulties. Highlights the importance of contextualizing these difficulties as part of an overall approach to improve the management and treatment of these adverse effects.	34

3	Cartwright, C., Gibson, K., Read, J., Cowan, O., Dehar, T.  2016, New Zealand	Long term antidepressant use: Patient perspectives of benefits and adverse effects.	Examine the patients' experiences and views of long-term antidepressant treatment, including benefits and concerns.	N = 180 (37 men, 143 women)  -18 years old < -Used antidepressants in the previous 5 years.	Mixed methods by anonymous online survey with scales and two open-ended questions.  -Scale of antidepressant effectiveness -scale of the level of depression before and during treatment -quality of life -Perceived adverse effects.	While the majority of the patients were pleased with the benefits of the treatment, many were concerned about the adverse effects. Need for more information about long-term risks, increased information, and support to discontinue.	30
4	Williams, V. Edin, H., Hogue, S., Fehnel, S., Baldwin, D.  2009, USA	Prevalence and impact of antidepressant-associated sexual dysfunction in three European countries: replication in a cross-sectional patient survey.	Assess the prevalence and impact of antidepressant-associated sexual dysfunction (AASD) in three European countries (Germany, Spain, and the Netherlands).	N = 704 (497 women, 207 men)  Germany 256 (160 women, 96 men) Spain 257 (204 women, 53 men) Netherlands 191 (133 women, 58 men)  -18 years old < -Have been consuming SSRI or SNRI for 3< months but >6 months -Only one SSRI or SNRI in use for 6 months prior to the current medication.	Cross-sectional survey.  -Medical Outcomes Study Short Form-12 (SF-12) -Arizona Sexual Experiences Scale (ASEX)	Patients with AASD reported significantly worse quality of life, self-esteem, mood, and relationships with partners, compared to non-AASD patients. Sexual dysfunction is a frequent occurrence during antidepressant treatment and is associated with reduced quality of life and self-esteem, and negative effects on mood and relationships. Potential indicators for adherence to medication and the success of and satisfaction with antidepressant treatment.	28
5	Grover, S., Kate, N., Mishra, E., Avasthi, A.  2020, India	Prevalence and Type of Sexual Dysfunction in Female Patients Receiving Antidepressant Medications	Assess the prevalence and typology of sexual dysfunction in female patients receiving antidepressant medications.	N = 71 (women)  -19-55 years -married in a stable heterosexual relationship. -Used antidepressants at least 3 months. -No physical illness affecting sexual functioning. -Not pregnant. -Not using any other medications that can alter the sexual functioning. -Currently asymptomatic or having mild symptoms.	Cross-sectional  -(ASEX) -Brief Adherence Rating Scale (BARS) -Medication Adherence Questionnaire -Semi structured interview including the partner	Sexual dysfunction is quite prevalent in female patients receiving antidepressants. The issues are not adequately discussed by the patient or the treating psychiatrist.	28

## Appendix 2. Critical Appraisal of Data

Author	Abstract / Title	Introduction and Aims	Methods and Data	Sampling	Data Analysis	Ethics and Bias	Results	Transferability or Generalizability	Implications and Usefulness	Total
Apantaku-Olajide, T., Gibbons, P., Higgins, A.	4	2	4	4	4	2	4	3	3	30
O'Mullan, C., Doherty, M., Coates, R., Tilley, M.	3	3	4	4	4	4	4	4	4	34
Cartwright, C., Gibson, K., Read, J., Cowan, O., Dehar, T.	4	3	3	3	4	2	4	3	4	30
Williams, V. Edin, H., Hogue, S., Fehnel, S., Baldwin, D.	4	2	4	4	2	2	4	4	2	28
Grover, S., Kate, N., Mishra, E., Avasthi, A.	4	2	4	4	2	3	4	3	2	28

## Appendix 3. Hawkers' Critical Appraisal Tool

<b>Hawkers' critical appraisal tool</b>	
<b>1. Abstract and title</b>	<p><b>Did they provide a clear description of the study?</b></p> <p><b>Good:</b> Structured abstract with full information and clear title.</p> <p><b>Fair:</b> Abstract with most of the information.</p> <p><b>Poor:</b> Inadequate abstract.</p> <p><b>Very poor:</b> No abstract.</p>
<b>2. Introduction and aims</b>	<p><b>Was there a good background and clear statement of the aims of the research?</b></p> <p><b>Good:</b> Full, but concise background to discussion/study containing up-to date literature review and highlighting gaps in knowledge. Clear statement of aim AND objectives including research questions.</p> <p><b>Fair:</b> Some background and literature review. Research questions outlined.</p> <p><b>Poor:</b> Some background, but no aim/objectives/questions OR aims/ objectives but only inadequate background.</p> <p><b>Very poor:</b> No mention of aims/objectives. No background or literature review.</p>
<b>3. Method and data</b>	<p><b>Is the method appropriate and clearly explained?</b></p> <p><b>Good:</b> Method is appropriate and described clearly (e.g., questionnaires included). Clear details of the data collection and recording.</p> <p><b>Fair:</b> Method appropriate, description could be better. Data described.</p> <p><b>Poor:</b> Questionable whether method is appropriate. Method described inadequately. Little description of data.</p> <p><b>Very poor:</b> No mention of method, AND/OR method is inappropriate, AND/OR no details of data.</p>
<b>4. Sampling</b>	<p><b>Was the sampling strategy appropriate to address the aims?</b></p> <p><b>Good:</b> Details (Age/ gender/ race/ context) of who was studied and how they were recruited. Why this group was targeted. The sample size was justified for the study. Response rates shown and explained.</p> <p><b>Fair:</b> Sample size is justified. Most information given, but some missing.</p> <p><b>Poor:</b> Sampling mentioned, but few descriptive details.</p> <p><b>Very poor:</b> No details of sample.</p>

<p><b>5. Data analysis</b></p>	<p><b>Was the description of the data analysis sufficiently rigorous?</b></p> <p><b>Good:</b> Clear description of how analysis was done. Qualitative studies: Description of how themes derived/ respondent validation or triangulation. Quantitative studies: Reasons for tests selected hypothesis driven/numbers add up/statistical significance discussed.</p> <p><b>Fair:</b> Qualitative: Descriptive discussion of analysis. Quantitative.</p> <p><b>Poor:</b> Minimal details about the analysis.</p> <p><b>Very poor:</b> No discussion of analysis.</p>
<p><b>6. Ethics and bias</b></p>	<p><b>Have ethical issues been addressed, and what has necessary ethical approval gained? Has the relationship between the researcher and participants been adequately considered?</b></p> <p><b>Good:</b> Ethics: Where necessary issues of confidentiality, sensitivity, and consent were addressed. Bias: Researcher was flexible and/or aware of own bias.</p> <p><b>Fair:</b> Lip service was paid to above (i.e., these issues acknowledged).</p> <p><b>Poor:</b> Brief mention of issues.</p> <p><b>Very poor:</b> No mention of issues.</p>
<p><b>7. Results</b></p>	<p><b>Is there clear statement of the findings?</b></p> <p><b>Good:</b> Findings explicit, easy to understand, and in logical progression. Tables, if presented, are explained in text. Results relate directly to aims. Sufficient data are presented to support findings.</p> <p><b>Fair:</b> Findings mentioned, but more explanation could be given. Data presented relate directly to results.</p> <p><b>Poor:</b> Findings presented haphazardly, not explained, and do not progress logically from results.</p> <p><b>Very poor:</b> Findings not mentioned or do not relate to aims</p>
<p><b>8. Transferability or generalizability</b></p>	<p><b>Are the findings of this study transferable (generalizable) to a wider population?</b></p> <p><b>Good:</b> Context and setting of the study are described sufficiently to allow comparison with other contexts and settings, plus high score in Question 4 (sampling).</p> <p><b>Fair:</b> Some context and setting described, but more needed to replicate or compare the study with others, PLUS fair score or higher in Question 4.</p> <p><b>Poor:</b> Minimal description of context/setting.</p> <p><b>Very poor:</b> No description of context/setting.</p>

<b>9. Implications and usefulness</b>	<p><b>How important are these findings to policy and practice?</b></p> <p><b>Good:</b> Contributes something new and/or different in terms of understanding/insight or perspective. Suggests ideas for further research. Suggests implications for policy and/or practice.</p> <p><b>Fair:</b> Two of the above (State what is missing in comments).</p> <p><b>Poor:</b> Only one of the above.</p> <p><b>Very poor:</b> None of the above.</p>
<b>Good = 4      Fair = 3      Poor = 2      Very Poor = 1</b>	

**According to Hawker, Payne, Kerr, Hardey, and Powell (2002, Appraising the Evidence: Reviewing Disparate Data Systematically, p.1284-1299).**