SÍNDROME ALCOÓLICA FETAL (SAF): O ENFERMEIRO COMO AGENTE DE MUDANÇA NA PREVENÇÃO E DIAGNÓSTICO – UM ESTUDO DE OVERVIEW

Stefani Lima[1], Lohany Ribeiro[1], Marcia Gonzaga[1], Clayton Almeida[1], Irineu Cézar Contini[1]

[1]Universidade de Sorocaba
e-mail: marcia.feldreman@gmail.com

INTRODUCTION

Alcohol consumption during pregnancy can have detrimental effects on the fetus, including alterations in the development of the Central Nervous System (CNS), resulting in permanent neurological changes and cognitive and behavioral deficits. Alcohol is a teratogen that can negatively affect the fetus by easily crossing the placenta, resulting in damage to the brain and other organs. The excessive consumption of alcoholic beverages during pregnancy and the detrimental effects this behavior can have on newborns have been discussed for centuries. Alcohol is a substance that has been intertwined with human history and is still used for different purposes, in different forms, by different populations (1).

The effects of alcohol on the fetus are influenced not only by the amount of alcohol consumed, but by the pattern of consumption (such as binge alcohol consumption versus daily alcohol consumption), the concentration of alcohol in the bloodstream, and the timing of exposure during pregnancy. Factors such as maternal age, health and nutritional status, fetal susceptibility and concomitant use of other psychoactive substances can also influence fetal development (2).

One of the most disabling potential outcomes of drinking alcohol during pregnancy is the risk of developing Fetal Alcohol Syndrome (FAS), the most severe and visibly identifiable form of Fetal Alcohol Spectrum Disorder (FASD). FASD is a term that encompasses a series of disorders, all caused by prenatal exposure to alcohol during pregnancy. Its effects can range from mild to severe, including a broad spectrum of cognitive, behavioral, emotional, adaptive functioning deficits, as well as congenital anomalies (1); (3).

Fetal Alcohol Syndrome (FAS) was portrayed by the French pediatrician Paul Lemoine, in 1967 (4) and named by Jones and Smith, in 1973, (5) who identified a series of facial features that are characterized by craniofacial deformities in children whose mothers consumed alcohol excessively during the gestational period, clearly affecting cognitive, behavioral, and developmental characteristics (6).

This syndrome is characterized as a severe non-genetic pathology, defined by a symptomatic triad consisting of craniofacial dysmorphisms, intrauterine and/or postnatal development restriction,

and central nervous system (CNS) abnormalities. This results from abnormal development of the early cellular stage of the embryo, resulting in malformations caused by metabolic toxicity in the fertilized cell (7).

The International Classification of Diseases and Related Health Problems – ICD 10 is published by the World Health Organization (WHO) and aims to standardize the coding of diseases corresponding to the varieties of signs, symptoms, abnormal aspects, complaints, social circumstances and external causes of injuries or illnesses. For Fetal Alcohol Syndrome (dysmorphic), category Q86 (Syndromes with congenital malformations due to known exogenous causes) is inserted and classified in ICD-10.

Alcoholism has become the most worrying public health issue in most nations today. FAS is a complex syndrome resulting from alcohol abuse during pregnancy. It increases the risk of various adverse outcomes, including spontaneous abortion, stillbirth, low birth weight (LBW), intrauterine growth restriction, premature birth, congenital malformations, deformities, and chromosomal abnormalities (1)(8)(2).

According to Subramoney et al. (2018), alcohol is one of the most common environmental toxins. Each adult is responsible for their own consumption and should acknowledge potential health risks. On the other hand, this changes in the case of dependence in women of reproductive age, as the fetus bears the resulting risk. Therefore, (8) Popova et al. (2023) states that excessive alcohol consumption may be more common among women who have been exposed to violence by an intimate partner, have limited access to education or prenatal care, have a substance use disorder, or use tobacco.

Nursing care for pregnant alcoholic women should be focused on providing guidance during prenatal consultations, since recognition occurs when they are already in the second or third trimester of pregnancy. It is very important to ensure an efficient approach to guarantee outpatient monitoring from the beginning of pregnancy, promoting early diagnosis, treatment, prevention of complications, and the well-being of both the mother and fetus (10).

To help nurses, nursing students and other professionals understand the importance of FAS, an improvement in the quality of prenatal care will be proposed with an emphatic approach to knowledge of the prevalence of alcohol use and patterns of risky consumption among individuals of reproductive age. This assistance can constitute a moment of health education, such as guiding and raising awareness among pregnant women about the possible implications of habits that are not recommended during pregnancy, thereby reducing, or even preventing the emergence of new cases (11).

Pathophysiology of Fetal Alcohol Syndrome (FAS)

Alcohol (ethanol) is a molecule with the capability to easily cross cell membranes, allowing rapid distribution between the blood and tissues. Like any substance, its effect on human health is related to the amount ingested. Chronic and excessive consumption of this compound can lead to negative consequences (12) (13).

FAS is a pathological condition resulting from the passage of alcohol through the umbilical cord and the placental barrier causing vasoconstriction, leading to a reduction in amniotic fluid necessary for embryonic development. The action of ethanol on cells in the process of formation occurs through its metabolism by the liver, leading to a widespread distribution of alcohol throughout the embryonic organism (13). The fetal brain stands out as the organ most susceptible to these effects, given the substance's ability to act as a psychoactive agent, with significant potential to affect the central nervous system (14).

Consequently, persistent anatomical and brain changes are observed, which result in alterations in cognitive, motor, and behavioral capabilities. This results in serious deficits in learning skills, language, mood and behavioral variations, manifestations of psychic disorders, disorder in psychological activities, episodes of delusions, hallucinations, sleep disorders and other manifestations of a neurological nature. These abnormalities can have a detrimental impact on a child's development, with significant social repercussions as they mature into adulthood (15); (14); (16).

Table 1: Relationship between organ and clinical manifestations of Fetal Alcohol Syndrome (FAS).

Organ/System	Clinical manifestations
Central Nervous System (CNS)	Microcephaly, neurocognitive deficit, attention deficit with or without hyperactivity, mental retardation, psychomotor development delay, behavioral disorders.
Cardiovascular system	Cardiac malformation (persistence of communication, tetralogy of Fallot, etc.), hemangiomas, dextrocardia.
Urinary system	Horseshoe kidneys, gonadal dysgenesis, kidney hypotrophy, bladder fistula, megaureter.
Skeletal System	Synostoses, bone hypotrophy, congenital fibrosis, spina bifida, encephalocele, myelocele, scoliosis, hemivertebra.
Visual System	Strabismus, microphthalmia, ptosis, blepharophimosis, cataract, decreased visual acuity.
Auditory System	Hearing deficit (neurological or bone), recurrent ear infections, small and poorly implanted ears.
Facial Malformations	Microcephaly, microphthalmia, flat base of the nose, low implantation of the ears, absence of the nasolabial fold (philtrum), cleft lip.

Source: Ribeiro *et al,* 2010- Fetal alcohol syndrome in the school context (adapted)

OBJECTIVE

Primary

To synthesize the available evidence regarding nurse's knowledge in the prevention and diagnosis of Fetal Alcohol Syndrome (FAS) in pregnant women who engage in harmful alcohol use.

Secondary

Evaluate the methodological quality of the included reviews and identify the prevention and diagnostic results for APS in pregnant women through an overview study of a systematic review of Randomized Clinical Trials (RCTs);

Guide health professionals in understanding APS, its potential risks, and the importance of actively providing assistance to prevent the emergence of new cases.

METHOD

Study Design

This study constitutes an Overview following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2023) and A Measurement Tool to Assess Systematic Reviews version 2 (AMSTAR-2), ensuring transparency, methodological quality, and reliability in the presentation of results.

The formulation of the guiding question was conducted using the PICO strategy, aiming for a precise and targeted approach. The PICO elements were defined as follows: P - patients who make harmful use of alcohol during pregnancy; I - identifying cases of Fetal Alcohol Syndrome (FAS) early during prenatal care; C - not applicable; O - nurses' role in reducing new cases. The guiding question, 'Can nurses contribute to the early diagnosis of Fetal Alcohol Syndrome (FAS) and the prevention of damage during prenatal care in pregnant women who use alcohol?', reflects the focus of this study.

During the search, systematic reviews and meta-analyses of randomized clinical trials (RCTs) were identified in the following databases: MEDLINE, EMBASE, CINAHL, Cochrane Library, Wiley Online Library, LILACS, and SciELO up to October 2023, limited to the English language. The methodological quality of the systematic reviews was assessed using the AMSTAR-2 tool, ensuring a critical and careful analysis of the included studies.

Therefore, this Overview adopts a rigorous, evidence-based approach to explore the essential contribution of nurses in the early diagnosis and prevention of Fetal Alcohol Syndrome (FAS), providing a comprehensive and in-depth overview of the subject.

The careful selection of systematic reviews and meta-analyses of randomized clinical trials (RCTs) reflects the commitment of this study to utilizing robust, high-quality evidence. The inclusion of a variety of databases and the critical evaluation of the methodology ensures a comprehensive and reliable approach to synthesizing the available information.

The scope of the study is delimited by the analysis of data up to October 2023, allowing for the incorporation of the most recent findings in the field. Although selecting the English language may limit the inclusion of studies in other languages, it ensures consistency in interpreting results and a more uniform approach to analyzing the selected reviews.

The use of the PICO strategy, used to formulate the guiding question, highlights the specificity and clinical relevance of the research. The emphasis on the role of nurses, particularly during prenatal care, is crucial for understanding how this intervention can directly impact early detection of FAS and prevention of fetal damage.

In addition, the study recognizes the complexity of the syndrome, extending beyond the direct effects of alcohol on the fetus. Factors such as consumption patterns, timing of exposure during pregnancy, and other elements are considered, providing a holistic view of the problem.

In this way, this Overview study presents a valuable contribution to in-depth understanding of FAS, while highlighting the crucial role of nurses in promoting maternal-fetal health and reducing cases.

Eligibility criteria

The inclusion criteria outlined for the selection of the reviews were as follows: women of childbearing age, including those aged between 15 and 49, who are pregnant or likely to become pregnant; pregnant women with FAS or who have signs, symptoms or a history indicating the possibility; patients who require interventions and preventive measures related to alcohol consumption during pregnancy, with a focus on reducing risks to the fetus and preserving maternal health.

As for the types of studies included, we considered randomized clinical trials (RCTs), systematic reviews with or without meta-analysis, limited to the English language, and published between 2013 and 2023. Exclusion included studies that did not meet the purpose of the research, incomplete work, and publications prior to 2013. In addition, reviews that did not meet the criteria of moderate or high methodological quality, as defined by AMSTAR, were also excluded from the scope of this study.

The preference for systematic reviews with or without meta-analysis and RCTs strengthens the scientific basis of the study, allowing for a more objective and grounded analysis of the available evidence. The restriction to the English language and the publication period between 2013 and 2023

aims to incorporate the most recent information and ensure a homogeneous understanding of the results.

In this way, this careful set of eligibility criteria not only contributes to the accuracy and relevance of the results obtained, but also strengthens the validity and clinical applicability of the conclusions of this study, within well-defined parameters and faithful to the specific objectives of the research, not only ensuring the reliability of the data collected, but also improving the methodological soundness of the study.

Search Method for Identifying Studies

Database Search

This study was based on a comprehensive search of several electronic databases to capture the diversity of perspectives and relevant findings. The platforms used included: MEDLINE, EMBASE and CINAHL (via OVID); Cochrane Library (CDSR - Cochrane Database of Systematic Reviews), Wiley Online Library, SciELO (Scientific Electronic Library Online) and LILACS.

Other Search Methods

In addition to searching the primary databases, we implemented secondary strategies to maximize the scope of the review. The secondary search focused mainly on review articles, recognizing the potential of these studies to add consolidated knowledge. A reviewer conducted an in-depth analysis of the list of references and citations in the selected texts, employing a manual approach to identify studies that might have been omitted in the automated searches. This expanded methodology aims to ensure the inclusion of relevant work that may have been missed in the initial searches, providing a more comprehensive and robust view of the subject.

Selection process

Two reviewers independently carried out the initial screening of titles and abstracts, applying the eligibility criteria. The final selection of studies was determined by consensus, resolving any disagreements through discussion. This process ensured careful and transparent selection, while maintaining the methodological integrity of this Overview.

Search strategy

The search strategy was designed to optimize sensitivity and specificity in identifying relevant studies. We used combinations of terms and Boolean operators to comprehensively capture the complexity of Fetal Alcohol Syndrome (FAS) and nurse intervention. The keywords were grouped into categories related to the target audience, diagnosis, prevention, and nurse action. MeSH (Medical

Subject Headings) terms and their synonyms were used, and combinations of MeSH terms were made using the Boolean operator "AND" and similar terms using the operator "OR".

This strategy was applied to the selected databases, ensuring a systematic search to identify studies that met the previously established eligibility criteria. The Boolean operators serve as a guide to understanding the logic behind the search strategy, ensuring a consistent and effective approach to identifying relevant evidence.

Determining eligibility

The study selection process was meticulous and consisted of two distinct phases to ensure a comprehensive and judicious approach.

Phase 1: Title and abstract screening

Initially, each article title and abstract were screened independently by two reviewers (LPR and SSVL). This stage aimed to preliminarily identify the studies that met the inclusion criteria, focusing on patients of childbearing age, diagnosis or risk of FAS, and preventive interventions related to alcohol consumption during pregnancy. Any disagreement between the reviewers was resolved by consensus.

Phase 2: Full-text screening

The studies considered eligible in the previous phase were subjected to more detailed screening by analyzing the full text. Again, two reviewers (LPR and SSVL) conducted this process independently. The final selection of studies was based on a careful analysis of their relevance to the guiding question, incorporating systematic reviews with or without meta-analysis and RCTs, according to the predefined criteria.

Data Extraction

The relevant data from the studies established for inclusion were extracted systematically and recorded in EndNote® software. This procedure was guided by Cochrane guidelines, ensuring a standardized and consistent approach to extracting crucial information. To strengthen reliability, one researcher conducted the data extraction, which was then independently reviewed by a second reviewer. Any discrepancies found were discussed as a team to ensure the accuracy and integrity of the extracted data.

Methodological quality

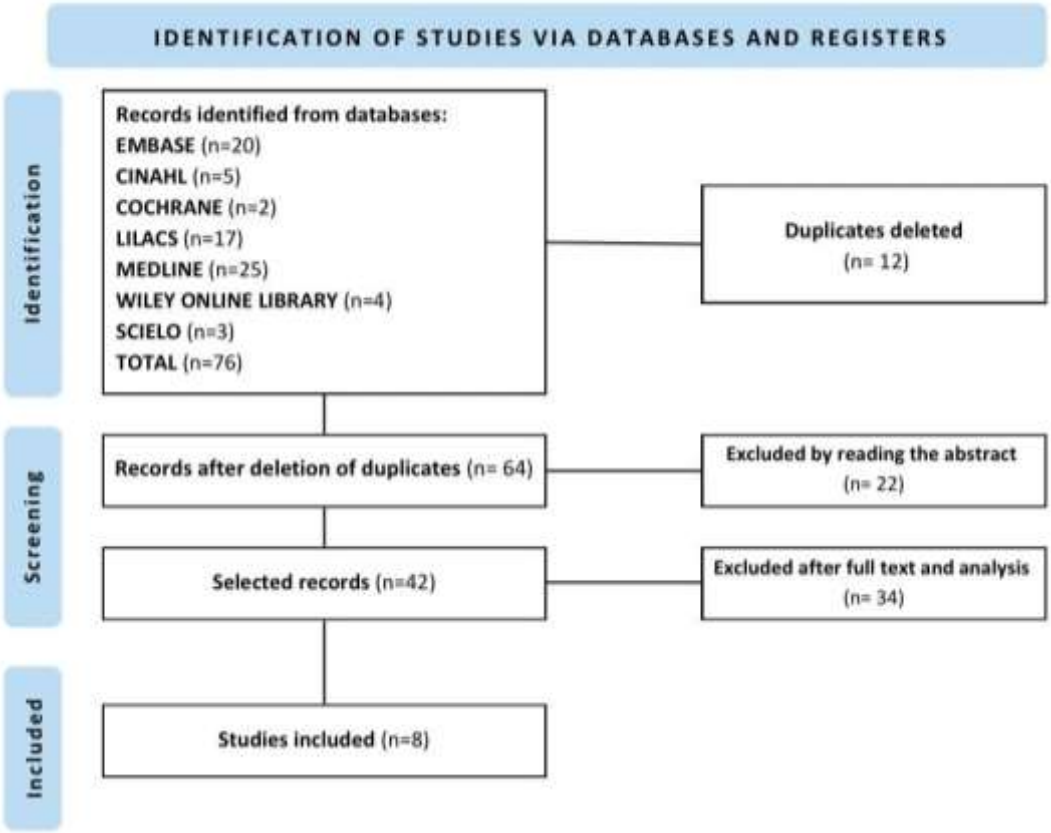
The methodological quality of the articles included in this study was assessed using the AMSTAR-2 tool (A Measurement Tool to Assess systematic Reviews version 2). This tool is designed to critically assess only systematic reviews of randomized controlled clinical trials (RCTs) and consists of 16 questions, which are independently assessed by two reviewers (LPR and SSVL). At the end, the review is classified as having one of the following degrees of confidence: critically low (presents more than one critical flaw), low (presents one critical flaw), moderate (presents more than one weakness, but no critical flaw), and high (provides an accurate and comprehensive summary of the results of the studies). Studies classified as having moderate or high quality were included in this study.

Data Collection and Presentation

The data collection was conducted systematically and carefully, following Cochrane guidelines to ensure accuracy and reliability in extracting information from the included studies. The process involved extracting relevant data related to the objectives of this study, emphasizing nurse interventions in the prevention and diagnosis of FAS in pregnant women who make harmful use of alcohol during pregnancy.

The collected data was organized and presented following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension Scoping-Review (PRISMA-ScR) guidelines, which divided the process into article identification, selection, and inclusion. After the structured search for evidence, 76 articles were found. Subsequently, 12 of them were excluded for being duplicates. After analyzing the title, objective and abstract, 22 articles were excluded because they did not meet the eligibility criteria. Of the 42 articles selected, 34 were excluded after rigorous selection. In the end, 8 articles were used in this study.

Figure 1: PRISMA flowchart for the selection of included articles.



Source: own authorship, 2023.

RESULTS

When analyzing the systematic reviews on Fetal Alcohol Syndrome (FAS), notable contributions were made by prominent authors in the field of maternal and perinatal health. Popova et al. (2023) (1) emphasized the risks associated with alcohol consumption during pregnancy, exploring broader impacts such as spontaneous abortion, stillbirth, and congenital malformations.

Subramoney et al. (2018) (9), played a key role in understanding factors influencing the effects of alcohol on the fetus. Their approach, going beyond the amount consumed, highlights the importance of maternal age, health status, and concomitant use of psychoactive substances.

Emphasizing health education during prenatal care shows promise in reducing incidence and identifying cases early. Zoorob et al. (2014) (11) points out that effective interventions can begin with making pregnant women aware of the impacts of alcohol consumption.

The results of these systematic reviews reflect a deeper understanding of the challenges and opportunities in tackling FAS, highlighting the need for effective interventions and preventative strategies. Examining the crucial role of nurses reveals that proactive action during prenatal care can

significantly promote healthy pregnancies, early diagnosis, and risk reduction associated with alcohol consumption.

In addition, the results point to the ongoing need for research and evidence-based practices to enhance prevention and early diagnosis strategies. The implementation of public health policies, awareness campaigns and educational programs can further strengthen the role of nurses as agents of change in this context.

The results of these systematic reviews offer a comprehensive overview of the current knowledge on FAS, emphasizing the crucial role of nurses in the prevention, diagnosis, and management of this syndrome. This deeper understanding provides a solid basis for guiding clinical practices, health policies, and future research, aiming to promote healthy pregnancies and the long-term well-being of future generations.

Table 1- Studies classified according to study, title, author, year of publication, objective, results, and methodological quality (AMSTAR-2).

Study	Title/Author/Year	Objective	Result	AMSTAR-2
E1	Effectiveness of brief alcohol interventions for pregnant women: a systematic literature review and meta-analysis POPOVA et al., 2023	It investigates the effectiveness of brief interventions (BIs) in treating harmful alcohol use and reducing or eliminating alcohol consumption during pregnancy.	Brief interventions (BIs) were effective in increasing abstinence from alcohol during pregnancy. Abstinence was higher in pregnant women who received interventions.	High
E2	Effectiveness of interventions for school-aged-children and adolescents with fetal alcohol spectrum disorder: a systematic review and meta-analysis HILLY, et al., 2023	Analyzes integrated educational and health strategies, evaluating their effectiveness in the care of children and adolescents diagnosed with TEAF.	Actions targeting children and adolescents, along with training for caregivers and teachers, have proven effective in supporting outcomes related to behavior and activities in both home and school environments.	High
E3	Why do women consume alcohol during pregnancy or while breastfeeding? POPOVA et al., 2022	Understands the reasons for alcohol use in pregnancy and implements prenatal health education and prevents TEAF and other adverse maternal and child health outcomes.	The main reasons for alcohol consumption during pregnancy include social pressure and the misconception that only excessive alcohol consumption has consequences for the fetus. Excessive use has been reported due to adverse experiences	High
E4	Effectiveness of Mass Media Campaigns to Reduce Alcohol Consumption and Harm: A Systematic Review	Evaluates the effectiveness of mass media public health campaigns to reduce alcohol consumption and related harm.	Most campaigns were conducted on TV or radio in developed countries and were of low quality. Little evidence	High

	YOUNG et al., 2018		showed a reduction in alcohol consumption, yet there was an increase in demand for treatment and information among the target audience.	
E5	Early Developmental Outcomes of Prenatal Alcohol Exposure: A Review SUBRAMONEY et al., 2018	To review the effects of prenatal alcohol exposure on postnatal child development and guide future research for improved understanding.	There is evidence that prenatal exposure to alcohol can cause developmental delays. These manifestations occur in early childhood but are poorly understood.	High
E6	Estimation of national, regional, and global prevalence of alcohol use during pregnancy and fetal alcohol syndrome: a systematic review and meta-analysis POPOVA et al., 2017	The aim of this study was to estimate the prevalence of FAS and alcohol use during pregnancy in the general population.	The results indicate that a large number of pregnant women continue to consume alcohol. Alarmingly, around a quarter of women in the population drink alcohol during pregnancy.	High
E7	Training nurses and nursing students about prevention, diagnoses, and treatment of fetal alcohol spectrum disorders. ZOOROB et al., 2014	To compare training courses on alcohol screening, brief intervention (BI), FASD diagnosis, and treatment, aiming to enhance the practical knowledge and confidence of nurses and nursing students.	Nurses and academics must improve their knowledge with the latest scientific information on FAS in order to identify at-risk populations. Active nursing care is essential for preventing, identifying, and monitoring cases of FAS.	Moderate
E8	The Diagnosis of Fetal Alcohol Syndrome LANDGRAF et al., 2013	It analyzes data from studies aimed at substantiating the need to create comprehensive habilitation programs for people with FAS, FASD and other mental disorders.	The effectiveness of implementing measures to prevent FAS has been confirmed. The implementation of prevention programs has decreased the birth rate of children diagnosed with FAS.	High

Source: own authorship, 2023.

DISCUSSION

Fetal Alcohol Syndrome (FAS) emerges as a complex condition resulting from prenatal alcohol exposure, representing a serious pathology requiring immediate interventions and early diagnosis. The barriers that hinder the identification, control and prevention of this problem are highlighted in the studies analyzed, all of which reiterate the imperative of creating and implementing preventive measures.

An in-depth analysis of these studies reveals a comprehensive approach to FAS, highlighting relevant criticisms regarding diagnosis and prevalence. The correlation between traumatic experiences and increased propensity to consume alcohol during pregnancy is highlighted, emphasizing the relationship with intimate partner violence, limited access to education, substance use disorders, smoking, and negative attitudes towards pregnancy. The urgent need to identify and

support these women is emphasized as essential for mitigating the risks to maternal and fetal health associated with alcohol consumption**.**

The approach to the complexity of Fetal Alcohol Spectrum Disorder (FASD) in E6, E7 and E8 highlights the unique importance of FAS as the most severe manifestation of the spectrum. This complexity encompasses not only full FAS, but also partial FAS, neurodevelopmental disorder, and alcohol-related birth defects. Accurate diagnosis of FAS is crucial for ensuring appropriate interventions and support to prevent functional impairments and long-term problems in affected children.

Nurses, in turn, are urged to take preventive and educational actions to counsel pregnant women and suggest reducing alcohol intake. Brief Interventions (BIs) are emphasized as effective tools to promote abstinence from alcohol, with nurses playing a vital role in raising awareness, screening, and referring individuals to more intensive programs, as outlined in E1, E2, and E7.

In summary, E5 and E8 emphasize the effects of alcohol consumption during pregnancy on fetal development. It is observed that moderate doses of alcohol can have lasting impacts on cognitive functions, underscoring the importance of applying specific diagnostic criteria to assess both neurobehavioral impairment and dysmorphology. The research highlights the relevance of monitoring fetal growth as a crucial biomarker for early detection of risks related to cognitive deficits.

E4 and E6 converge to address issues related to alcohol consumption, with implications for public health in the context of pregnancy and FAS. Although public health campaigns effectively build knowledge, they are perceived as integral to necessary changes in harmful cultural norms associated with alcohol consumption. Global surveillance of FAS and alcohol screening in women of childbearing age are considered essential for prevention.

The effectiveness of the guidance provided by nurses is emphasized in E7, showing that these practices are crucial for harm reduction and, potentially, for reducing the incidence and prevalence of cases. Thus, training nursing staff leads to increased knowledge, improved assessment skills, and greater application of practices in the prevention, diagnosis, and treatment of FAS. In addition, nurses' proactive approach to disseminating these practices can positively impact not only pregnant women, but also the community at large, contributing to a broader awareness of FAS prevention and promoting a more robust maternal-fetal health culture.

In summary, the discussion emphasizes the complexity of diagnosing FAS, the importance of preventive action by nurses, and the need for multidisciplinary approaches to deal with the variety of factors associated with alcohol consumption during pregnancy and its impact on fetal development. These findings underscore the urgent need for comprehensive strategies that integrate awareness, education, and clinical interventions to reduce risks and promote healthy pregnancies.

Integrating the findings of the discussed studies highlights the complexity of the scenario related to Fetal Alcohol Syndrome (FAS) and its diagnostic challenges. The interconnection of E1, E3, and E8, addressing traumatic experiences and alcohol use as coping mechanisms, underscores the need for a holistic approach to identify pregnant women at risk.

The divergence in perspectives on the diagnosis and prevalence of Fetal Alcohol Spectrum Disorder (FASD), as highlighted by E6, E8 and E7, underlines the need for clearer and more comprehensive diagnostic criteria. This would facilitate not only early identification of FAS but also targeted interventions and support, adapted to the different forms of the spectrum. The discussion of these variations underscores the importance of an individualized approach to clinical management.

Both E4 and E6 examine the impact of public health initiatives and the urgency of global surveillance on Fetal Alcohol Syndrome (FAS), presenting ideas on large-scale preventive approaches. The transformation of cultural norms related to alcohol consumption is a complex process, and the role of nurses in this scenario goes beyond clinical practice, encompassing the promotion of public policies and health education.

The connection between E5 and E8, when investigating fetal development in the face of alcohol exposure, underlines the importance of longitudinal monitoring of fetal growth. The identification of specific biomarkers for cognitive risks establishes a solid foundation for targeted preventive strategies, reiterating the fundamental role of nurses in conducting comprehensive assessments during the prenatal period.

To conclude, E7 emphasizes the role of nurses as agents of transformation, highlighting the effectiveness of the guidance offered during prenatal care. Training nursing staff is recognized as a crucial tool for improving knowledge and practical application in the prevention, diagnosis, and treatment of FAS.

These findings underscore the importance of an interdisciplinary approach to FAS management, which not only involves the clinical expertise of nurses, but also promotes collaboration with mental health professionals, social workers, and public health strategists, providing a comprehensive understanding of its complexity.

FINAL CONSIDERATIONS

At the conclusion of this review, it is clear that there is a gap in studies specifically addressing the early diagnosis of Fetal Alcohol Syndrome (FAS). The scarcity of research in this area highlights the urgent need to direct efforts towards understanding and developing effective early identification strategies, which are crucial for reducing the adverse impacts of this syndrome on fetal development.

In addition, the studies discussed underscore the insufficient understanding of FAS among health professionals, emphasizing the importance of ongoing educational initiatives. The complexity

of FAS, its diagnosis, and the associated psychosocial factors require an in-depth understanding among health professionals involved in maternal-fetal care.

In this context, the fundamental role of nurses in prevention and adequate prenatal care is highlighted. The studies analyzed highlight the role of nurses as agents of change, emphasizing the effectiveness of the guidance provided during prenatal consultations. By playing an active role in promoting a healthy pregnancy, nurses can make a significant contribution to reducing the incidence and damage associated with FAS.

Given these considerations, it is imperative to focus efforts on addressing existing research gaps and promoting studies that focus on the early identification of FAS and the effectiveness of specific interventions. At the same time, ongoing educational programs should be implemented to train health professionals, especially nurses, to deal with the complexity and promote preventive practices during prenatal care.

In addition, it is crucial to invest in specific educational strategies for health professionals, especially nurses, playing a central role in monitoring prenatal care and promoting maternal-fetal health. The implementation of continuous professional development programs is essential to ensure that nurses are properly informed about Fetal Alcohol Syndrome (FAS), thoroughly addressing everything from diagnostic aspects to effective preventive strategies.

Interdisciplinary collaboration between mental health professionals, social workers and public health planners is of paramount importance. By establishing joint approach guidelines, it is feasible to improve the comprehensive understanding of FAS, providing holistic support to at-risk pregnant women. The constant sharing of knowledge and the application of collaborative practices can play a crucial role in optimizing maternal-fetal health outcomes.

In summary, it is extremely important to emphasize the need to promote education about the dangers associated with alcohol consumption during pregnancy, with the aim of raising awareness in society and providing training for health professionals. This strategy is essential to encourage a more enlightened community involved in preserving the health of future generations, establishing a healthier and more promising future for the population as a whole.

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