

**Fetal Alcohol Spectrum Disorder**

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Fetal alcohol spectrum disorder is caused by the consumption of alcohol during the prenatal phase. This condition can cause negative impacts on the lives of those affected by creating challenges in cognition, speech, and motor development, among other things. We looked at one qualitative and one quantitative study. These studies gave insight into the prevalence of fetal alcohol spectrum disorder and its effects on adolescents affected by it.

### **Quantitative Summary**

The use of alcohol has many effects that affect not only the individual but has an impact on others as well. Consumption of alcohol during pregnancy can affect the child's health in multiple ways, such as fetal alcohol syndrome. In the article "*Estimation of national, regional, and global prevalence of alcohol use during pregnancy and fetal alcohol syndrome: a systematic review and meta-analysis*" the study aimed to determine the general population's prevalence of FAS and alcohol usage during pregnancy. To do this, the researchers linked two indicators to calculate the number of pregnant women who drank alcohol during their pregnancies per case of FAS. The methods used in this study consisted of two independent, comprehensive systematic literature searches conducted using multiple bibliographic databases and also major epidemiology journals. Through these systematic literature searches, every study was evaluated thoroughly with a checklist for observational studies or using a technique created especially for systematic reviews addressing problems of prevalence. To determine the combined prevalence of these indicators, these researchers conducted country-specific random-effects meta-analyses. For the prevalence of alcohol use during pregnancy in the general population, there were 50 nations with data available, including all six WHO regions. 19 nations representing four WHO regions provided data on the prevalence of FAS in the general population. Through the studies, the

results found included the following: The global prevalence of alcohol use during pregnancy was estimated to be 9·8% (95% CI 8·9–11·1), and the estimated prevalence of FAS in the general population was 14·6 per 10,000 people (95% CI 9·4–23·3). According to the results of this study, it was predicted that one in every 67 pregnant women who drank alcohol would give birth to a child with FAS. With this estimation, it is projected that about 119,000 children are born with FAS in the world every year. The above findings serve as an indicator of the impact that alcohol consumption during pregnancy has on a child. More than 100,000 children per year globally are born with fetal alcohol syndrome, but this could be prevented since the cause of FAS is known. With the data retrieved, these numbers should provide a sense of urgency to implement more education to childbearing women about the risks of alcohol consumption during pregnancy (Svetlana et al., 2017).

### **Qualitative Summary**

In the article *Lived experiences of adolescents with fetal alcohol spectrum disorder* they aimed to explore the lived experiences of adolescents with fetal alcohol spectrum disorder. Alcohol spectrum disorder is a condition that results from exposure to alcohol during the prenatal phase. This affects between 4.9-11.7 children or adolescents for every 1000. This condition can impact cognition, motor, speech, language, social development, and can cause difficulties responding to sensory stimuli (Shorka et al., 2022). This, in turn, affects an individual's participation in daily activities. This study was done by interviewing four male and female adolescents between the ages of 13 and 15 years old. Because these individuals were below 18, their caregivers provided informed consent for their participation, and they verbally consented before the interviews took place. These individuals were recruited using purposive homogeneous sampling. Photos from the lives of these adolescents were used to generate discussion during

their interviews. The researcher conducted these interviews via Zoom, each lasting approximately 45 minutes to an hour. Some questions that were asked include “Tell me about this photo?”, “What do you feel are some of your strengths?” and “What are some of the challenges you face during the day?”. This data was then analyzed using cross-case analysis. The emerging themes were then grouped and evaluated to find the overall list of superordinate themes and subthemes. Through this study, findings showed that these adolescents faced barriers in their daily functioning and independence. These barriers included anxiety that prevented independent participation in social activities, leaving caregivers to assist them. Incorporating these strengths into daily activity showed to decrease anxiety and increase participation from FASD individuals. One limitation of this study was that the sample was self-selected and may have attracted participants with artistic interests. Clinical implications that could aid in the support of individuals with FASD would be promoting positive relationships between children, social workers, caregivers, and other support individuals. This will give these individuals strong support and lessen anxiety (Shorka et al., 2022)

### **Critique**

The qualitative study *Lived experiences of adolescents with fetal alcohol spectrum disorder* has many strengths but also comes with some weaknesses. The method was strong as it reduced anxiety causing interviews by doing them via zoom in the comfort of their homes. Using the photo-elicitation approach was a good idea as it made the interviews specific to each individual and their daily lives (Shorka et al., 2022). The sample size was very small, and a limited age range was included. The study is meant to represent adolescents which should range from 12 to 18 years of age, but the participants only ranged from 13-14. Making this sample not relevant to all adolescents. Data was collected based on responses from these interviews; the

questions asked were relevant to the individuals and helped in making observations based on FASD effects in their daily lives. There was no bias, as all individuals received specific interviews based on photos from their daily lives. The results adequately showed the effects of FASD on the lives of individuals affected by giving quotes from each of the individuals that supported each theme. This research provided insightful evidence that will allow nurses and healthcare professionals to provide care for these patients in the ways that they need.

The quantitative study article entails that the purpose statement is clear, concise, and written in an objective manner that is both knowledgeable and resourceful. The quantitative study is clear in regards to the purpose of identifying the goal and effectiveness of the prevalence of alcohol use during pregnancy and fetal alcohol syndrome. The strengths of the article include the risks and factors that play along with the consumption of alcohol during pregnancy and how it affects not only the child but the mother as well. The study also omitted studies on prevalence if they used a sample population not generalizable to the general population of the respective country, in reporting a pooled estimate by combining several studies (Svetlana et al., 2017). The limitations of the article are based upon not going into depth about the effectiveness of alcohol, not just in regards to the fetus and mother, but the people and society around them as well. In which the article lacks description and depth of the major impact it has on society and people around those alcohol dependent. The study is based on the general population's prevalence of fetal alcohol syndrome and alcohol usage during pregnancy. The study also limits its population in having a predicted prevalence of alcohol use during pregnancy using fractional response regression modeling and prevalence of fetal alcohol syndrome using a quotient of the average number of women who consumed alcohol during pregnancy per one case of fetal alcohol syndrome. As opposed to using all the studies on the prevalence of fetal alcohol syndrome by

using one method specifically designed for systematic reviews addressing questions of prevalence.

### **Appraisal**

In the qualitative study, the evidence emphasizes the magnitude of the effect that FAS has on the group of adolescents that participated in the study. By presenting the barriers these adolescents faced regarding anxiety, independence, and overall how they function daily, one can see the significant impact caused by FAS. Through this study, the adolescent participants expressed the impact FAS has on their lives, but the evidence also highlighted a unique focus (Shorka et al., 2022). The evidence was presented in a clear way that remained the same throughout the study but also highlighted each participant's strengths. By highlighting the impacts and also the strengths of the participants through the semi-structured interviews, one can see how trustworthy the evidence is coming from the direct source through the transcripts presented by the researchers.

The quantitative research appraisal is based on an estimated 10 percent of women in the general population that have consumed alcohol during pregnancy, and one in 67 women delivered a child with fetal alcohol syndrome. Meaning that, on average, about 15 of every 10,000 live births worldwide will have fetal alcohol syndrome. Resulting in about 119,000 children being born with fetal alcohol syndrome globally every year (Svetlana et al., 2017). The quality of the study proved that in countries where the rates of abstinence were very strict, the prevalence of alcohol use during pregnancy and fetal alcohol syndrome was estimated to be the lowest, such as the Eastern Mediterranean Region and South-East Asia Region as well. Therefore, the study proved to accurately represent pregnant women in the general population consuming alcohol during pregnancy based on the diversity of the global regions and multiple

models to support the findings. In conclusion, more effective prevention strategies targeting alcohol use during pregnancy and surveillance of fetal alcohol syndrome are urgently needed. Future efforts should be made to obtain countries' own prevalence data on alcohol use during pregnancy and fetal alcohol syndrome for an accurate representation instead of an estimate for those omitted or using multiple models in order to provide a basis for public health policy, health-care planning, and resource allocation for fetal alcohol syndrome prevention initiatives.

### **PICO Question**

PICO questions are typically the form used to help facilitate a search for evidence. Another PICO question can be formed based on the quantitative and qualitative studies above. For this question, one can use childbearing-aged women as the population, prior education on alcohol use as the intervention, limiting alcohol in the country as the comparison, and the prevalence of fetal alcohol syndrome as the outcome. With these components, the PICO question is "In childbearing-aged women, what is the effect of prior education on alcohol use during pregnancy in comparison to limiting alcohol in the country on the prevalence of fetal alcohol syndrome?"

### References

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