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WHAT SHOULD STUDENTS KNOW ABOUT FAS WHEN THEY HELP PEOPLE WITH ALCOHOL DEPENDENCE?

Co powinni wiedzieć studenci o FAS, kiedy pomagają osobom uzależnionym od alkoholu?

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A - Koncepcja i projekt badania, B - Gromadzenie i/lub zestawianie danych, C - Analiza i interpretacja danych, D - Napisanie artykułu, E - Krytyczne zrecenzowanie artykułu, F - Zatwierdzenie ostatecznej wersji artykułu

Abstract (in Polish):

Cel pracy

FASD to termin, który odnosi się do kilku schorzeń, charakteryzujących się spektrum objawów, od fizycznych wad wrodzonych po zaburzenia neurorozwojowe, które mogą być spowodowane spożywaniem alkoholu przez ciężarną matkę. Istnieje pięć zaburzeń obejmujących to spektrum -FAS, pFAS, ARND, ND-PAE i ARBD. Jednym z zespołów w grupie FASD jest FAS, Alkoholowy Zespół Płodowy. Kryteria diagnostyczne płodowego zespołu alkoholowego są następujące: co najmniej jeden niedobór wzrostu, trzy charakterystyczne cechy twarzy i jedna funkcjonalna lub strukturalna nieprawidłowość OUN. Potwierdzenie wewnątrzmacicznej ekspozycji na alkohol nie jest uważane za warunek wstępny rozpoznania FAS. Artykuł porusza tematykę FAS i przedstawia wiedzę studentów na temat FAS. Badanie przeprowadzono po uzyskaniu zgody Komisji Bioetycznej Uniwersytetu Jana Kochanowskiego.

Material i metody

W badaniu wzięło udział 200 respondentów w wieku rozrodczym. 10 osób zostało wykluczonych z badania z powodu niepełnego wypełnienia kwestionariusza. Ostatecznie analizę przeprowadzono w oparciu o odpowiedzi 190 respondentów.

Wyniki

Średni poziom wiedzy studentów na temat FAS został wyznaczony na podstawie uzyskania poprawnych odpowiedzi na pytania dotyczące tego zespołu to 65,70%. Na podstawie otrzymanych danych liczbowych można stwierdzić zależność statystyczną pomiędzy odpowiedziami na pytania dotyczące alkoholowego zespołu płodowego a płcią respondentów.

Wnioski

Należy dołożyć starań, aby zwiększyć świadomość społeczeństwa na temat zagrożeń związanych ze stosowaniem używek w ciąży. Zwiększony poziom wiedzy wpłynie nie tylko na zachowania zdrowotne pacjentów, lecz także może mieć wpływ na polepszenie wczesnej diagnostyki FAS.

Abstract (in English):

Aim

FASD is a term that refers to several medical conditions, characterized by a spectrum of symptoms ranging from physical birth defects to neurodevelopmental disorders that can be caused by the consumption of alcohol by a pregnant mother. There are five disorders that cover this spectrum -FAS, pFAS, ARND, ND-PAE and ARBD. One of the syndromes in the FASD group is FAS, Fetal Alcohol Syndrome. The diagnostic criteria for fetal alcohol syndrome are as follows: at least one height deficiency, three specific facial features, and one functional or structural CNS abnormality. Confirmation of intrauterine exposure to alcohol is not considered a prerequisite for the diagnosis of FAS. The paper deals with the subject of FAS and presents students' knowledge of FAS.

Material and methods

200 respondents of childbearing age took part in the study. 10 people were excluded from the study due to incomplete completion of the questionnaire. Finally, the analysis was based on the answers of 190 respondents.

Results

The average level of knowledge of students about FAS was determined on the basis of obtaining correct answers to questions about this team is 65.70%. Based on the obtained numerical data, a statistical relationship can be established between the answers to the questions on fetal alcohol syndrome and the sex of the respondents.

Conclusions

Efforts should be made to increase public awareness of the risks of using drugs during pregnancy. The increased level of knowledge will affect not only the health behavior of patients, but may also improve the early diagnosis of FAS.

Keywords (in Polish): FAS, alkohol, ciąża.

Keywords (in English): FAS, alcohol, pregnancy.

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Wiedza studentów na temat FAS

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Authors (short)

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Introduction

Despite the growing awareness of the society about the harmful effects of stimulants, alcohol abuse is still a big social problem. Ethanol consumption during pregnancy is an important public health issue. Unfortunately, still a high percentage of pregnant women do not give up narcotic substances. This translates into the development of the child and can cause numerous defects and have long-term health consequences from prenatal mortality to physical and behavioral development disorders [1]. Fetal Alcohol Spectrum Disorder (FASD) is a complex group of syndromes caused by intrauterine exposure to alcohol. Her birth defects include physical, neurological and behavioral characteristics. FASD as an umbrella term covers disorders of varying severity. Belong to them:

- fetal alcohol syndrome (FAS),
- partial fetal alcohol syndrome (pFAS),
- alcohol related birth defects (ARBD),
- alcohol dependent neurodevelopmental disorder (ARND) [2].

The most severe form of fetal alcohol damage is FAS. The average prevalence in developed countries is about 0.5%. Numerous literature sources allow us to conclude that this complex has existed for millennia, but reliable descriptions come from the 18th century. However, regardless of the source, the cause of this disease is considered to be alcohol consumption during pregnancy [3]. Symptoms of fetal alcohol syndrome include growth retardation, characteristic facial abnormalities, and CNS abnormalities. The facial appearance of children with FAS includes features such as thin or absent upper labial redness, shallow philtrum or small palpebral fissures [4]. CNS abnormalities include microcephaly and behavioral problems such as hyperactivity, motor dysfunction, attention deficits, mental retardation, and learning and social skills difficulties. In addition, patients with fetal alcohol syndrome have a reduced IQ level [5]. People with FAS have an increased risk of conditions such as heart defects, kidney failure, hearing loss, gastroenteritis, pneumonia, bronchitis, epilepsy, insomnia, and bone and joint problems. FASD is also associated with a higher incidence of secondary disability. Although some physical features become

less noticeable as a child reaches adulthood, most behavioral problems persist [6]. The criteria for the diagnosis of FAS (according to IOM) are presented in Table 1 [7].

Table 1. FAS diagnostic criteria

Characteristic	Condition
Facial anomalies	At least 2 of the following: <ul style="list-style-type: none"> • Narrow eyelid fissures • Thin or no upper lip redness • Smooth gutter
Prenatal or postnatal growth retardation	Height or weight ≤ 10 . percentile, adjusted for racial norms where possible
Abnormal brain development or morphogenesis	At least 1 of the following: <ul style="list-style-type: none"> • Brain structural abnormalities • Head circumference ≤ 10. Percentile

Source: Adapted from H. Eugene Hoyme et al., “A Practical Clinical Approach to Diagnosis of Fetal Alcohol Spectrum Disorders: Clarification of the 1996 Institute of Medicine Criteria,” *Pediatrics* 115, No. 1 (January 2005), <https://doi.org/10.1542/peds.2004-0259>.

The cause of FAS is known and, importantly, preventable. This condition is caused by intrauterine exposure to alcohol, which easily crosses the placental barrier. This substance has a teratogenic effect regardless of the period of pregnancy in which the woman is. It can cause both damage to cells and organs - especially the brain [8]. Although increased exposure to ethanol increases the risk of birth defects, a safe dose has not been established, so any amount of ethanol can cause extensive and irreversible damage [9]. There are risk factors that increase the chance of having a baby with FAS. These include age over 30, a long history of alcohol abuse, abnormal eating habits, genetic disorders of alcohol metabolism, and having children with FASD. Although the exact mechanism of alcohol-induced teratogenicity is not known, its effect is believed to be irreversible. In addition, clinical observations show a relationship between the trimester of pregnancy in which the exposure occurred and the increased risk of a given type of defect. These are respectively:

- I trimester – craniofacial and CNS anomalies;
- II trimester – spontaneous miscarriages;
- III trimester - growth disorders [10].

The prevention of fetal alcohol syndrome is a major public health challenge. It is not only healthcare professionals or pregnant patients who are responsible for it, but the whole society. The aim of the study was to assess students’ knowledge about FAS.

Material and methods

200 respondents of childbearing age took part in the study. 10 people were excluded from the study due to incomplete completion of the questionnaire. Finally, the analysis was based on the answers of 190 respondents. The analyzed data was obtained using the author’s questionnaire, consisting of 39 questions. The research period is November-December 2021.

Statistical analysis was carried out using the Statistica 13 computer program. The obtained results were subjected to the Chi² test, also known as the Pearson test. Cramer’s V coefficients and Spearman’s rank correlation were calculated.

The study was approved by the Bioethical Committee of the Collegium Medicum of the Jan Kochanowski University. The information necessary to conduct the study was obtained in accordance with the personal data protection policy.

Results

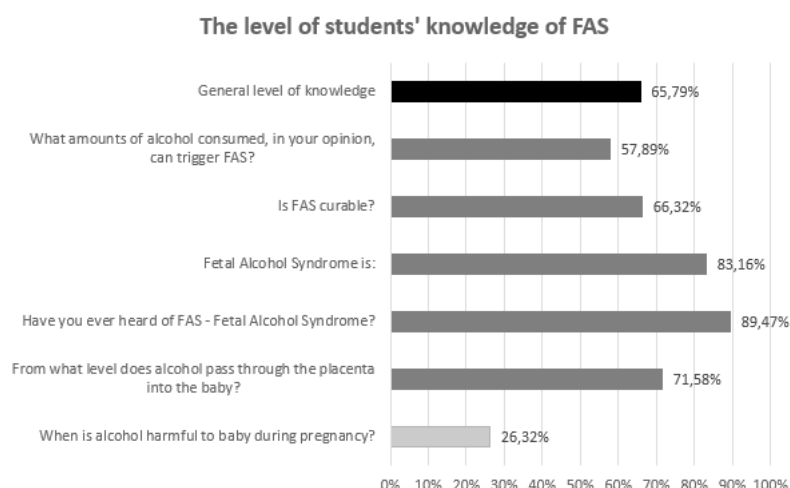
In the surveyed population, city dwellers (71.5%) constituted the majority. The vast majority of respondents are people with secondary education - 152 people. Over 2/3 of the respondents are women. Over 90% of people do not have children. 89.5% of respondents have heard of FAS. Most of the respondents were in the 21-30 age group.

Table 2. Characteristics of the study population

The analyzed variable	n	%
Domicile		
Village	54	28.4%
City up to 50,000 residents	32	16.8%
City over 50,000 residents	104	54.7%
Education		
Basic	2	1.1%
Medium	152	80.0%
Higher	36	18.9%
Sex		
Woman	130	68.4%
Man	60	31.6%
Having offspring		
Yes	18	9.5%
Not	172	90.5%
Age		
Under 20 years old	18	9.5%
21-30 years old	156	82.1%
31-40 years old	6	3.2%
41-50 years old	4	2.1%
Over 50 years old	6	3.2%

The average level of knowledge of students about FAS was determined on the basis of obtaining correct answers to questions about this team is 65.70%. Its median is 66.7%. The question with the lowest rate of correct answers was: At what stage of pregnancy is alcohol harmful to the baby? Slightly more than ¼ of the respondents were able to give the correct answer. 100% of correct answers were obtained by 9.47% of respondents, which is 18 people. Two respondents answered all questions incorrectly.

Fig. 1. The level of students' knowledge of FAS



The relationship between gender and self-assessment of knowledge and its actual level among respondents about FAS was calculated using the Chi-square test of independence and the Pearson test. The results were compared with Cramer's V coefficients and Spearman's rank correlation. Based on the obtained numerical data, a statistical relationship can be established between the answers to the questions on fetal alcohol syndrome and the sex of the respondents. It is noticeable that women showed a much higher level of knowledge than men. The result of statistical significance was <0.05 , which proves that the obtained results are statistically significant. In the case of self-assessment of the level of knowledge, this relationship is not found - these data are not statistically significant. Table 3 shows the result of calculations for the analyzed compounds.

Table 3. Relationship between gender and self-assessment of the level of knowledge and the actual level of knowledge of the respondents

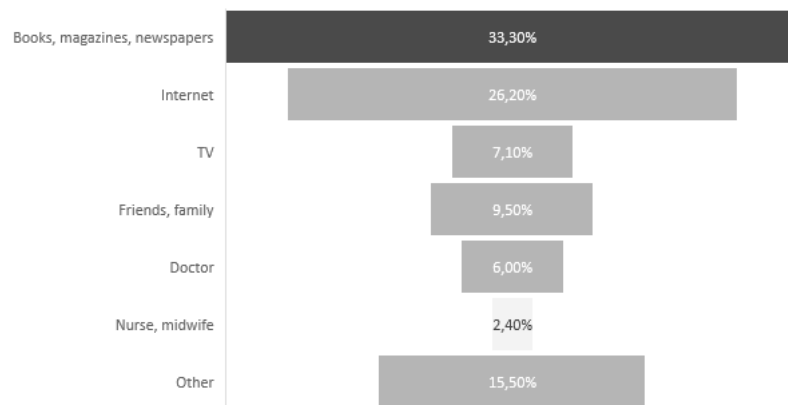
	χ^2	df	p	V	ρ
Sex	8,889	1	<0.05	0.26	0.66
Self-assessment of the level of knowledge	2.22	2	>0.05	0.33	0.33

χ^2 -Pearson's χ^2 statistic, df- number of degrees of freedom, p-level of statistical significance, V- strength of dependence measured by Cramer's V coefficient, ρ - Spearman's rank correlation coefficient

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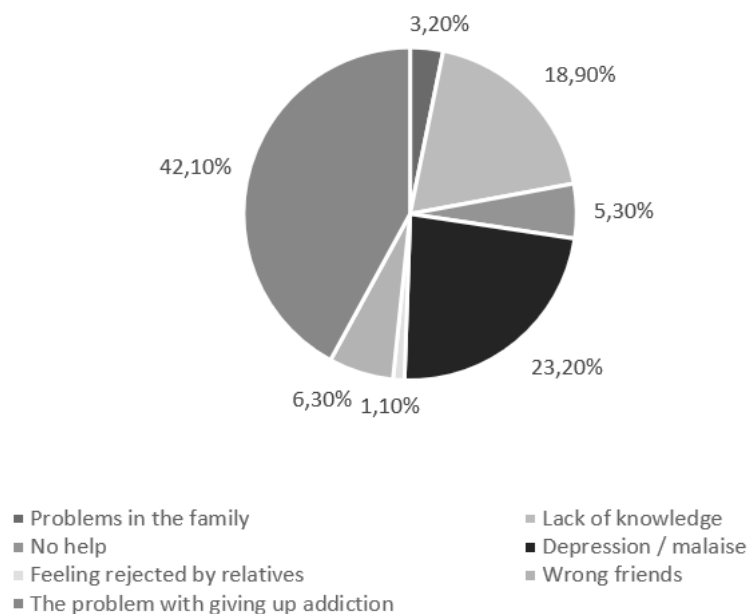
The most frequently indicated source of knowledge about FAS were books, magazines, newspapers - 1/3 of the respondents. The second most common was the Internet. Obtaining information from a nurse or midwife was mentioned least frequently - 4 respondents. Sources of knowledge about FAS are shown in Figure 2.

Fig. 2. Sources of knowledge about FAS



To the question: Why do you think pregnant women reach for stimulants? (Fig. 3.) the majority of respondents (42.1%) gave an answer indicating problems in giving up alcohol addiction. The second most common cause was depression, followed by the lack of knowledge among pregnant women about the risks associated with the use of stimulants during pregnancy. Rejection from relatives was the least frequently mentioned.

Fig. 3. Distribution of answers to the question: Why do you think pregnant women use stimulants?



Discussion

Fetal Alcohol Syndrome is a disease that the world has been struggling with for millennia. It is associated with the incorrect health attitude of pregnant women - the consumption of stimulants during pregnancy. Prevention of this condition can be extremely difficult if knowledge about FAS and the behaviors that can lead to it is insufficient. The obtained figures show that the self-assessment of the level of knowledge does not translate into the actual level of knowledge. The collected data allow to

assess the level of students' knowledge about fetal alcohol syndrome. Over 80% of respondents correctly indicated the answer to the question about what FAS is. This result is much higher than that obtained by Zimnowoda [11] – 19%. It was noted that the average level of knowledge is 65.79% - this result can be considered satisfactory. Slightly higher results were obtained by Zarzeczna-Baran et al.[12] However, it should be borne in mind that this level should still be raised in order to increase public awareness. This may translate into a decrease in prenatal exposure to alcohol and thus a decrease in the incidence of FASD.

The selection of the source is of key importance and translates into the credibility of the information obtained. Reliable information has a positive impact on the state of knowledge and raises social awareness on health-related topics. The society more and more often has a wide range of sources, but it is important to be able to separate reliable information published by experts from laymen's statements leading to disinformation. In the study, books, magazines and newspapers were the most frequently indicated sources of knowledge about fetal alcohol syndrome. The information contained therein is usually reviewed, so it can be considered that these sources constitute a reliable database. A significant part of the respondents also indicated the Internet. In the Zimnowoda study [13] Internet (27%) and media (26%) were the most frequently indicated answers. Therefore, emphasis should be placed on the use of reliable sources of knowledge by patients.

The consumption of alcohol by a pregnant woman is something abstract for the majority of Polish society, but cultural differences in alcohol consumption should be taken into account. In a study by Memo et al. [14] it was noted that as many as 56% of Italian doctors allow their patients a glass of wine during pregnancy. Undoubtedly, this is due to the culture of drinking alcohol in this country. Reasons for drinking alcohol, apart from demographic conditions, include emotional problems, family problems, lack of knowledge or addiction to ethanol.

Alcohol dependence syndrome continues to be a huge public health problem. Over the last century, alcohol consumption by women has increased significantly and is at a level slightly lower than that of men. It should be noted that ethanol greatly affects health. In women, the clinical course of alcoholism is more persistent. It increases the risk of breast cancer, causes hormonal disorders, and, importantly, it has a teratogenic effect in women of childbearing age. [15]. Indicating the problem of abandonment of addiction as the most common reason for reaching for alcohol during pregnancy proves the importance of this problem. It can also be noticed that people of reproductive age are aware of the high rate of alcohol dependence. Therefore, prevention programs should be developed to reduce the frequency of alcohol abuse. This may translate not only into an increase in social awareness, but also the promotion of pro-health behaviors.

Depression is an increasingly common problem among people of reproductive age. The stress of the pandemic, the outbreak of war, job loss due to the lockdown and the deterioration of the material status associated with rising inflation have a negative impact on mental health. No wonder that the second most common problem indicated as the reason for reaching for alcohol during pregnancy is depression and malaise. Pregnancy is a period of numerous changes both in the systemic and mental state of the mother. It is a factor that generates stress for both parents. It is connected with a new life situation which is preparation for parenthood [16].

Conclusions

The average level of knowledge of people of reproductive age about FAS is 65.79%. Efforts should be made to increase public awareness of the risks of using drugs during pregnancy.

Taking care of mental well-being may translate into a decrease in the frequency of drinking alcohol during pregnancy. To this end, the public's awareness of stress management techniques should be increased.

Education on the subject of fetal alcohol syndrome during expert meetings and the dissemination of reliable information on this subject in publicly available sources is a necessary condition for the prevention of this syndrome. The increased level of knowledge will affect not only the health behavior of patients, but may also improve the early diagnosis of FAS.

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