J Pediatr Neuropsychol
DOI 10.1007/s40817-016-0025-9

REVIEW ARTICLE

Prevention and Intervention for FASD in Poland

Katarzyna Okulicz-Kozaryn[1] · **Jolanta Terlikowska**[2] · **Krzysztof Brzózka**[3] · **Magdalena Borkowska**[1]

Received: 29 February 2016 / Revised: 18 November 2016 / Accepted: 4 December 2016

Abstract The aims of this study are to analyze previous activities undertaken in Poland in the field of prevention and intervention of fetal alcohol spectrum disorders (FASD) and to identify the main directions of development of this issue for the future. The conducted review of studies, positions, and actions shows their development since the mid-1990s. It was then that translations of English publications on the consequences of alcohol consumption during pregnancy for the proper development of a child, as well as studies evaluating the prevalence of alcohol consumption by pregnant women, began to appear in Polish. The next step was a countrywide educational campaign which resulted in increased public awareness of the problem, the involvement of local communities in prevention, and the establishment of the first centers designed to help children with FASD. Currently, deficiencies concerning the issue of FASD include limited scope of original Polish scientific research on neurodevelopmental disorders connected with prenatal exposure to alcohol, lack of systemic solutions in the field of diagnosis and therapy, as well as poor cooperation between the various centers, scattered countrywide, and conducting various activities. Positive trends include increased engagement in FASD issues by various professional groups including representatives of the medical community and the development of specialized training courses on diagnosing FASD, as well as cooperation with the families of affected individuals.

Keywords Fetal alcohol spectrum disorders (FASD) · Alcohol · Poland · Prevention · Intervention · Research

✉ Katarzyna Okulicz-Kozaryn
katarzyna.okulicz@parpa.pl

[1] Public Education, Research and International Cooperation Department, State Agency for Prevention of Alcohol-Related Problems (PARPA), 155 Jerozolimskie Av, 02-326 Warsaw, Poland

[2] Children and Family Department, State Agency for Prevention of Alcohol-Related Problems (PARPA), Warsaw, Poland

[3] State Agency for Prevention of Alcohol-Related Problems (PARPA), Warsaw, Poland

In the recent decades in Poland, remarkable changes in research, prevention, and intervention in the area of fetal alcohol spectrum disorders (FASD) have been observed. In our opinion, it is important to examine the progress of our country in this field in order to better understand present and future challenges associated with the implementation of high quality services for people affected by prenatal alcohol exposure and for their relatives. This examination may also provide information interesting from the perspective of other countries at the beginning of the process of introducing system solutions to solve problems related to alcohol use during pregnancy.

Therefore, we conducted a systematic review of Polish publications, studies, positions, and preventive and treatment services available since the mid-1990s. The aims of the study were to analyze the process of development of research, prevention, and services for individuals with FASD in Poland and to indicate the key directions for the future.

Epidemiology of Alcohol Use During Pregnancy and FASD

The interest of Polish researchers in the prevalence of alcohol consumption by pregnant women dates back to the early 1990s. That is when Załuska et al. (1993), cited by Wierzejska et al. 2011) identified the existence of the problem in 31.5% of women. In subsequent studies (Bronowski et al.

Published online: 31 January 2017

1999, cited by Wierzejska et al. 2011), 21% admitted to drinking in the first trimester of pregnancy. Also, research carried out in 2003 in and around Warsaw showed that almost 21% of women drank alcohol during the entire course of their pregnancies (Mikuła 2007). On the other hand, the study by Wierzejska et al. (2011), carried out in the years 2005–2007 among women who admitted themselves to the Department of Obstetrics and Gynecology at the Medical University of Warsaw ($n = 509$) in order to give birth, indicated the consumption of alcohol during pregnancy was at the level of 38.5%, including frequent drinking (at least once a week) by 2% of women. At the same time, the study showed no increased risk for birth outcome such as low birth weight or lower Apgar scores based on the amount of alcohol reported by pregnant women.

The first nationwide survey on the consumption of alcohol by pregnant women was carried out by the Laboratory for Social Research (PBS) at the request of the State Agency for Prevention of Alcohol-Related Problems (PARPA) in 2005 on a representative sample of 1038 inhabitants of Poland ("Drinking alcohol by pregnant women". Unpublished report from the study, 2005). The results of the study showed that 17% of all women aged 18 to 60+ who had ever been pregnant admitted to consuming alcohol during pregnancy. The highest percentage of women admitting to consuming alcohol during pregnancy (33%) was observed in the 18–40 age group. Among them, 30% had only drunk alcohol on one occasion during the entire course of their pregnancy, 45% declared that it had happened several times, while 18% had drunk alcohol at least once a month or more frequently. These results led to the conclusion that 'the risk of the occurrence of fetal alcohol syndrome (FAS) in Poland is very small […]. the rate of pregnant women using alcohol daily is 0.4%' (Moskalewicz 2007a, p. 62; 2007b, p. 72).

Another nationwide study of the extent of alcohol use by pregnant women was carried out in the years 2009–2012 in maternity wards (Wojtyła et al. 2012). Every year, the research was carried out in a different month but always included all patients who were available on an appointed day in a specific hospital. The study, depending on the year, included between 393 and 402 hospitals and 3555 to 4100 women. In various years, 77% to 84% of women who were at the hospital at that time were assessed. In 2009, the data were collected through individual interviews carried out by trained interviewers, and in subsequent years, the first part of the questionnaire was filled in by the women themselves, while the second—by doctors and nurses. The data from 2009 pointed to the use of alcohol by 15% of pregnant women. Collective results for the years 2010–2012 indicated that alcohol was consumed by 15% of women during pregnancy, of which 0.8% consumed alcohol twice a week or more frequently. More than a half of the women (55%) claimed that a doctor had not discussed the risks connected with alcohol consumption during pregnancy with them, and 2% stated that a doctor had recommended the consumption of small amounts of alcohol to them.

In the report for the study carried out in 2012, the analysis of the correlation between alcohol use by a mother during pregnancy and the parameters of the child's health (such as birth weight, the level of hemoglobin, Apgar scores at 1 min, birth defects) showed no relationship between these variables (Żukiewicz-Sobczak and Paprzycki 2013).

In a local study, carried out at the same time (in 2011) in northeastern Poland, among women ($n = 300$) who submit declarations of choice to midwives of the Primary Health Care (i.e., community midwives and family midwives), working under contract with the National Health Fund, as many as 39% declared that they had drunk alcohol during pregnancy, of which almost 2% had drunk once a week or more frequently (Fijołek 2013).

The aforementioned data show that the estimated prevalence of alcohol consumption during pregnancy substantially differs depending on the scale of the study. The results of nationwide studies point to a lesser prevalence, not exceeding 20% ("Drinking alcohol by pregnant women". Unpublished report from the study, 2005; Wojtyła et al. 2012). On the other hand, the results of local studies, carried out both in large cities (Wierzejska et al. 2011) and in rural areas (Fijołek 2013) suggest that nearly 40% of Polish women drink alcohol during pregnancy. Also, the review of the data does not show any substantial changes as far as the prevalence of alcohol consumption during pregnancy over the last 20 years is concerned.

Taking into consideration a prevalence of alcohol consumption by pregnant women, it may be perhaps surprising how seldom fetal alcohol syndrome (FAS) is diagnosed. According to the data of the National Health Fund (NFZ) in 2011, 65 persons in Poland were diagnosed with FAS (Q86.0 according to ICD10), in 2012—123 persons, in 2013—179 persons, and in 2014—157 persons (data taken from the unpublished letter of 30 April, 2015, written by the President of the NFZ to the Ministry of Health). Given that the population of Poland is almost 40 million, these numbers represent a relatively low incidence rate. It is likely that FAS is underdiagnosed in Poland, as in other countries (Fox and Druschel 2003; Druschel and Fox 2007; Allen et al. 2007; Tenenbaum et al. 2011; May et al. 2011, 2014; Thanh et al. 2013).

At this point, it should be also stressed that other forms of FASD are not recognized in Poland at all as these conditions are not included in ICD10.

To date, the only estimate regarding the prevalence of FASD in Poland was carried out in the years 2012–2015 in the study of PARPA (Okulicz-Kozaryn et al. 2015). In the study, the active case ascertainment approach was applied (May and Gossage 2001; Sever 2004). Prescreening was conducted in the South-East of Poland and included 2500

students, from 7 to 9 years of age, from 113 randomly selected regular and special schools. A child was invited to the next phase of the project if at least one growth parameter was ≤10 percentile and/or the child had significant behavioral or academic problems (reported by a parent or a teacher). Children not meeting these criteria but matching the experimental group in terms of age and gender were invited to the next phase as a control group. Finally, 280 children participated in the screening phase (54% from the risk group, 60% boys). Information about each of those children was collected by three independently working, trained study assistants: a doctor or a nurse assessed the general health condition of the child and checked the presence of dysmorphic features; a psychologist or pedagogue gathered information about the course of pregnancy and the child's early development; and a psychologist or neuropsychologist assessed the functioning of the central nervous system (CNS), mainly on the basis of standardized tests. The occurrence of disorders from the FASD group was evaluated with the application of the Canadian diagnostic guidelines (Chudley et al. 2005). Due to the significant attrition in the number of participants, due to refusal of school authorities to contact the students' parents or lack of parental consent, only the most conservative means of evaluation of the FASD prevalence were applied and the total number of eligible students ($n = 2500$) was taken as the denominator. The obtained results allowed the conclusion to be drawn that the prevalence of FASD in Poland is not lower than 20 cases per 1000, including FAS, which by itself was not less than 4 cases per 1000 children.

Conceptualizations of FASD by Governmental, Medical, and Educational Bodies

The subject of FASD is increasingly attracting the interest of representatives of various professional environments as well as the associations or institutions which represent them. This interest is reflected in the published positions and opinions on the FASD prevention and the functioning of persons with FASD. The stage of knowledge about fetal alcohol spectrum disorder and the number of activities targeting this issue at the national level are very uneven. The awareness and recognition of FASD varies by sector and profession. As illustrated below, FASD recognition has recently increased in some sectors, but less in others.

The State Agency for Prevention of Alcohol-Related Problems (PARPA), as the agenda subordinate to the Minister of Health, has been engaged in the subject of FASD for many years, carrying out educational, preventive, and expert activities, thus emphasizing its importance and significance. Since 2011, the subject of FASD has been included in the National Programme for Prevention of Alcohol-Related Problems. It is also one of the topics that PARPA recommends local self-governments to take up in its "Recommendations for the execution and financing of the commune programmes for preventing and tackling alcohol-related problems" (http://www.parpa.pl/index.php/informacje-dla-gmin/rekomendacje), published annually. Building on this, numerous communities in Poland implement activities aimed at spreading knowledge about fetal alcohol spectrum disorders and the negative impact of alcohol on the development of a child in utero (for more details, see sections on prevention and intervention efforts, below). In recent years, PARPA has strongly promoted the introduction of systemic solutions in the area of prevention, diagnosis, therapy, and support of people with FASD in Poland (Brzózka 2015; Okulicz-Kozaryn 2015). The key issues, which should be taken into consideration, include the adoption and dissemination of uniform criteria for diagnosis of neurodevelopmental disorders resulting from prenatal alcohol exposure; early diagnosis; the promotion of an interdisciplinary approach to diagnosis and intervention; improved access to appropriate therapeutic methods; the introduction of solutions which would effectively support families with members suffering from FASD, as well as tackling stereotypical thinking about women who drink alcohol during pregnancy as being from dysfunctional families and/or alcoholics.

PARPA supports the development of a network of entities, engaged in the diagnosis and the therapeutic support of children with FASD and their families, as well as the organization of workshops aimed at exchanging experience and disseminating knowledge among experts. PARPA promotes the philosophy and solutions, adopted in the approach of the Family Centered Practice (https://www.childwelfare.gov/topics/famcentered/) and a 10-year action plan, carried out on the territory of British Columbia in Canada ("Fetal Alcohol Spectrum Disorders: Building on Strengths. A provincial plan for British Columbia, 2008–2018" http://www.mcf.gov.bc.ca/fasd/pdf/FASD_TenYearPlan_WEB.pdf).

Recently, increasing engagement of the Children's Ombudsman in the area of FASD has been observed. In his report (Raport 2002) on the execution of the tasks of the UN Committee on the Rights of the Child, the need for the introduction of systemic actions aimed at the promotion of healthy and sober motherhood and pregnancy was just mentioned. In 2015, in the letter to the Ministers of Health, Social Policy, Education and Justice (http://brpd.gov.pl/sites/default/files/wyst_2015_12_17_ms_mrpips_mz.pdf), the subject of FAS was discussed much more extensively. The Children's Ombudsmen underlined the seriousness and the great significance of the problem of alcohol consumption by pregnant women and, consequently, its negative impact on the health and social and educational functioning of children suffering from FASD. The Ombudsman stated that "there is no dose of alcohol that a women can drink during pregnancy without a risk of causing harm to her child" (p. 1). Moreover,

he pointed to the fact that "previous, fragmented actions aimed at intervention, prevention and education have not brought about the expected result" (p. 2). From the document, we also learn about the increasing number of requests, addressed to the Children's Ombudsman to undertake actions "aimed at protecting children exposed by their mothers to the risk of loss of life and detriment to health due to the use of alcohol or other psychoactive substances by them during pregnancy." The Children's Ombudsman calls for integrated measures to ensure children's, as broadly understood, well-being, and points to the legal basis for such actions, stipulated in Article 71, section 2 of the Constitution of the Republic of Poland. The article provides for the obligation of public services to provide special care to mothers before and after childbirth. Additionally, Article 68, section 3 "points to the obligation of public authorities to ensure special health care for children and pregnant women. " Also, the Convention on the Rights of the Child, ratified by Poland, guarantees the child's right to life and health.

Legal issues related to the protection of the health and proper development of the child in utero, from harmful and risky behaviors of mothers, including the consumption of alcoholic beverages during pregnancy are currently discussed among Polish lawyers. This debate may be summarized by stating that there are many provisions in both the Civil Code and the Family and Guardianship Code which protect the well-being (right) of the nasciturus. Moreover, there are legal provisions, on which basis, "from the moment of birth, the child may claim compensation for damage suffered before birth." The enforcement of these rights may, however, face obstacles connected with the legal protection of the rights of the future mother, whose freedom must not be restricted (materials from the International Scientific Conference: "Nasciturus pro iam nato habetur. About the protection of the unborn child and its mother"; 20 November, 2015).

The first medical association in Poland which has launched the stance on FASD is the Polish Gynecological Society (Dębski et al. 2014). According to this: "during pregnancy and lactation, any dose of alcohol is a danger to the proper development and health of the child; alcohol can harm the fetus during every stage of its development, alcohol intoxication during pregnancy increases the risk of fetal alcohol syndrome of the fetus/newborn; women who are planning for pregnancy should strive to maintain abstinence during the preconceptional period and obligatorily in situations when they identify a possibility of undiagnosed pregnancy, during anamnesis, medical personnel should routinely collect from pregnant women information about their alcohol consumption habits and, in their professional capacity, inform them about the harmful influence of ethanol on the fetus and pregnancy, recommending that it is eliminated from the mother's diet completely, scientific associations should develop guidelines for doctors, midwives and medical students about the harm of alcohol consumption by pregnant women as well as by woman of reproductive age; the Ministry of Health and public institutions should actively promote public education regarding the toxic/teratogenic impact of ethanol on the fetus, the problem of irreversibility of the damage to somatic/behavioral functions, caused by alcohol consumption during pregnancy should be publicized in the media through anti-alcohol campaigns, conducted by well-respected members of society" (p. 16–17).

Also nurses and midwives (although not their official representing bodies) postulate improvement of care of an infant with FAS (Pałucka et al. 2014). The authors point to the fact that "An infant suffering from this syndrome, most frequently needs interdisciplinary medical care consisting in diagnosis and symptomatic treatment (…) it is vital to develop standards of neonatal care over such a patient" (p. 24). In the suggested standards of behavior, the authors underline the significance of cooperation of the medical environment, including "a neonatologist or pediatrician providing specialized services in the field of activities of a primary care physician; midwife or nurse; community and family midwife and nurse" (p. 24). Moreover, in the aforementioned cooperation, the importance of "consultation and simultaneous work (…) with other patients, in accordance with the needs of the child (…) and with representatives of organizations and institutions working for the benefit of the family health," is stressed. The authors consider it an obligation of midwives to broaden their knowledge about the subject in question. Also not insignificant is the necessity for appropriate communication with parents/guardians of the child with FASD. It is important to prepare them to cope independently with the child's deficits and to obtain skills of proper care. "The evaluation of the caring capacity of parents" (p. 26) should be issued by a midwife prior to discharging the child from the hospital.

In turn, Janiuk (2012) suggests the inclusion of topics connected with the impact of alcoholic beverages on a child's development in the meetings carried out for pregnant women by community midwives. This would be an important element in the prevention of FASD.

Unfortunately, the extension of the range of health services in connection with neurodevelopmental disorders resulting from the exposure to alcohol in utero, as postulated by medical environments, is not supported by the NFZ. According to the position of the president (presented in the unpublished letter to the Ministry of Health dated 30 April, 2015) "creating a separate settlement product, combining the conditions of implementation of a (specific) range of services or creating a health programme for calculating the costs of, and for funding services rendered within the scope of complex care for children diagnosed with FAS or with determined FASD, does not find substantive justification due to the described (…) heterogeneity. (….) Making etiopathogenetic diagnosis remains within the competence of every medical doctor, regardless of the

range of the services rendered by him. Diagnosing FAS or determining FASD alone does not fundamentally change the treatment procedure in the case of the occurrence of a specific health problem; it rather points to the etiology of the disorder and may only provide an indication as to further prognosis."

FASD is not a problem reflected directly in any educational directives. On the other hand, the Regulation of the Minister of National Education of 2010 (Polish Journal of Laws (Polish: Dziennik Ustaw) 2010 No. 228 item 1487, amended by Dziennik Ustaw, item 532 of 30 April, 2013) defines the principles of providing and organizing psychological and pedagogical assistance in public kindergartens, schools, and other educational institutions. It points to the specific needs of students, resulting, in particular, "from disabilities; social maladjustment, the risk of social maladjustment, specific learning difficulties, language communication disorders, crisis or traumatic situations, failures in learning, environmental neglect related to the living conditions of the student and his family, ways of spending free time, contact within the community." It is the duty of the teaching staff to carry out pedagogical monitoring in order to detect, among students of years 1–3 of primary school, the risk of an occurrence of problems with learning. It is common knowledge that this is usually the first moment when deficits resulting from alcohol-related damage to the CNS manifest themselves. However, whether the deficits observed in the child will lead to his inclusion in an individual teaching program depends on school management. The decisions on the need for special education, or the need for individual teaching, may be issued by psychological and pedagogical clinics only after an application submitted by parents or legal guardians of a child along with necessary documentation, including a medical certificate, results of observations as well as psychological and pedagogical examinations. It is apparent that the initiative of increasing the comfort of their functioning is dependent on the parents or legal guardians, as they must show initiative by submitting an application for the issuance of the decision, having previously collected appropriate documentation, exhaustively detailing the child's deficits.

Although the recognition and awareness of FASD in Poland is growing, there are still significant gaps in professionals' interests and knowledge. For example, the Polish Gynecological Society is the sole medical association in Poland with an expressed stance in regard to FASD. Representatives of other medical professionals like pediatricians, neonatologists, and primary care physicians have not yet formulated any official guidelines addressing FASD. However, it is also worth noting that an official statement is not a guarantee of visible changes in professionals' attitude toward the problem. For example, the Polish Psychologists Association (PTP) has not presented any official statement on FASD, but many psychologists in Poland are very active in the prevention and interventions in the area of FASD. Moreover, the group of psychologists engaged in work with individuals with FASD is growing year by year.

Review of Research on Neurocognitive, Academic, and Psychosocial Deficits in Children with FASD

The majority of Polish scientific publications related to FASD provide merely an overview, are based on foreign studies, and pertain to general problems connected with FASD: basic definitions and terminology, the prevalence of alcohol consumption by pregnant women, teratogenic influence of alcohol on fetus, etc. (e.g., Łozińska-Czerniak 2008; Przyłożyńska 2008; Sioda 2009; Szalińska-Wyrzykowska and Dmoch-Gajzlerska 2011; Dębski et al. 2014; Horecka-Lewitowicz et al. 2014). The reviews, more broadly discussing the functioning of a child with FASD, are rare (Liszcz. 2011; Szczupał 2013; Kędra and Borczykowska-Rzepka 2015), and from Polish publications, they cite mostly popular works—not published in the scientific literature (most frequently: Hryniewicz 2007; Klecka 2007b; Liszcz 2005, 2006; Jadczak-Szumiło 2008; Klecka and Janas-Kozik 2009).

Original Polish scientific studies are still very scarce. One of them is the work by Teresa Jadczak-Szumiło ("Diagnostic problems of children with Fetal Alcohol Syndrome (FAS)—opportunities for the use of the WISC-R test in differential diagnosis". Unpublished Ph.D. thesis, Adam Mickiewicz University in Poznań, Poznań 2014, presented at the 3rd EUFASD Conference in Rome, 2014—Jadczak-Szumiło et al. 2014), whose aim was to determine the diagnostic value of the WISC-R battery in the diagnosis of children with FASD.

In the study, the following batteries were applied: WISC-R (Matczak et al. 2008), Right Hemisphere Language Battery (RHLB-PL) (for adults, in Polish adaptation, Łojek 2007), and a proprietary test of verbal fluency. One hundred twenty-four children with history of exposure to alcohol in utero and 52 children from the control group (with no history of prenatal exposure to alcohol) took part in the study. On the basis of the number of key dysmorphias, alcohol-exposed individuals were divided into groups: FAS ($n = 62$), partial FAS ($n = 34$), and alcohol-related neurodevelopmental disorder (ARND) ($n = 28$). Differences in gender, age (children aged 7 to 17), and IQ were noted among FASD groups and controls. Children with FASD achieved extremely varied results in IQ—from normal to impairment, and their results were systematically lower in verbal scales than in nonverbal. The analysis of the results of the RHLB-PL battery and the test of verbal fluency showed weaker cognitive functioning of children with FASD, compared with the children from the control group. Children with FASD had lower capacity for abstract thinking, causal reasoning, and explaining metaphors and had lower language resources and verbal fluency.

Within the framework of the same study, a doctoral dissertation in the field of radiology has also been produced (Nardzewska-Szczepanik, "Evaluation of structural changes of the corpus callosumin MRI examinations of children exposed to alcohol in utero." Ph.D. thesis, Jagiellonian University, Collegium Medicum, 2014, http://dl.cm-uj.krakow.pl:8080/Content/3897/praca_doktorska%20Monika%20Nardzewska%20Szczepanik.pdf). Its objective was to evaluate structural changes of the corpus callosum in magnetic resonance imaging (MRI) examinations of children exposed to alcohol in utero. Ninety-two children were subjected to an MRI examination of the head, and some of them to diffusion-weighted imaging (DWI). It was found that the size of the corpus callosum was significantly lower in the children in the group with FASD compared to those in the control group. In the DWI examination, the intensity of the signal at selected locations was significantly higher among children with FASD, which may indicate their less mature myelin. Moreover, in the study, "a statistical correlation was found between corpus callosum and brain measurements and the psychological tests results (IQ, the parameters of fluency and prosody tests)" (p. 78).

The results of the research, conducted in the Department of Radiology in Collegium Medicum under the direction of Prof. Andrzej Urbanik (the promoter of the aforementioned doctoral dissertation by Nardzewska-Szczepanik), were also presented, rather unconventionally, in the form of a film promoting the achievements of Polish science in the field of research on FASD (the film was presented at several international conferences and it can be obtained from PARPA). In addition to the results, presented in the Nardzewska-Szczepanik doctoral dissertation, Prof. Urbanik also identifies differences in the metabolism of nervous tissue between the group with FASD ($n = 200$, the average age 11.5) and the control group ($n = 30$), characterized by increased lipid (lip) and lactates (lac) spectrum among FASD individuals.

Linguist Halina Pawłowska-Jaroń (2015) carried out a study of the language and communication skills among children of years 1–3 of primary schools (aged 6–9). The author examined 19 children, which included 4 with FAS, 10 with ARND, and 5 children exposed to alcohol, but not showing any symptoms of disorders (unfortunately, the classification criteria for the aforementioned groups have not been specified). The study focused on pronunciation (by listening to audio recordings of conversations), metaphorical expressions (knowledge of meanings), some components of the process of interaction—from the characteristics of vocabulary (choice of words, unusual words, paronymies, vulgarities), and the interpretation of pragmatic expressions (forms of address, stereotypes, emotions). The small size and differentiated age of the study group excluded the possibility of conducting quantitative analysis of the results. The presented qualitative analysis is of a descriptive nature (e.g., the process of substitution of the heard content) without thorough linguistic analysis (e.g., pronunciation). In general, the conducted studies serve to confirm the previously gained knowledge on limited educational abilities of children with FASD, resulting from their disorders in the sphere of language and communication.

Dudek (2014) asked 20 biological and 66 foster mothers of children with FAS about problems connected with development and raising the children. Mothers of younger children (aged up to 6) most frequently pointed to inharmonious development of the child; prolonged crying as well as tantrums and fits of anger; problems with sucking, chewing, or swallowing; adaption problems; and delayed speech development. Mothers of older children (aged 7–17) also underlined sleep and wakefulness disorders as well as delayed motor development, while among psychological features, they pointed to impulsivity, hyperactivity, self-interest, and immaturity. Far less frequently, the mothers pointed to some positive attributes of the child, among which "a caring mind" and "industriousness" were repeated. Adaptation problems of children with FAS included lying, playing truant, theft, disruptive behavior, and sexual disorders as well as serious educational problems.

Still, just over half of the children with FAS (58%) underwent pedagogical therapy at school, and only one third of mothers of those children observed positive results of the therapy.

In the same study, just over half of the mothers admitted that they could not always cope with their own emotions when in contact with their child, and almost all of them stated that the only reliable source of support for them is their closest family. Approximately half of the women could count on some support from specialists, while schools and District Family Assistance Centers (operating within the framework of social assistance) were very seldom helpful.

A study of parents of children with FASD (10 adoptive families and 20 foster families) was also carried out by Kaczmarska (2011). She concluded that at the moment of making the decision about adopting a child, the overwhelming majority of respondents had no knowledge about FASD and did not receive information about the course of pregnancy or the possibility of the occurrence of FASD in the child. Parents usually came to discover the disability of their child gradually, mainly obtaining information from the Internet. It is not clear under what circumstances and how the children from the studied families were diagnosed with FASD. It is known, however, that in the opinion of approximately half of the parents, diagnosis of the disease facilitated their own further functioning, while the remaining parents stated that the diagnosis had not made life easier at all. One could also conclude from the text that every parent had to independently make the decision whether to inform the child about the results of the diagnosis and, if so, in what manner. The parent's tasks usually included explaining to teachers at school or kindergarten the specificity

of disorders of a child with FASD and encourage them to take appropriate actions.

The level of awareness among teachers with regard to the threats and consequences of alcohol consumption during pregnancy as well as educational and pedagogic skills to deal with children with FASD has been the subject of a study by Adamek (2011). In this study, 81% of participating teachers declared the understanding of the term "fetal alcohol syndrome" (FAS), while 67% stated that they do not know how to properly deal with children with FASD and they would not be able to apply appropriate pedagogical and educational methods.

The impact of the FASD diagnosis on the functioning of a child at home and at school was also the subject of a study by Okulicz-Kozaryn and Borkowska (2015). The authors described the life situation of three children who had been diagnosed with FASD during the epidemiological survey (Okulicz-Kozaryn et al. 2015), hence quite late in their development—at the age of 7–8. Within a year from the moment of diagnosis, significant positive changes occurred in the life of the boy who lived with a foster family. The biological parents of two other children, despite best intentions, were not able to help their children because they themselves were in need of therapy and support due to alcohol dependence. The analysis of these cases confirmed the weakness (or the lack) of solutions in the field of comprehensive care for families with alcohol problems, including families with FASD.

The epidemiological surveys, carried out by PARPA (Okulicz-Kozaryn et al. 2015), also showed insufficient preparation of Polish psychologists and neuropsychologists in recognizing disorders of specific functions of the CNS. The most serious problems include limited access to standardized neuropsychological tests and tradition of using nonstandardized diagnostic methods (based on own clinical experience).

Summarizing Polish studies on neurodevelopment and functioning of children with FASD, we have to admit that original research is very rare but interesting. The strength is their interdisciplinary approach, allowing comparison of medical and psychological evidence. The main problem is that the most interesting studies remain unpublished (even in Polish), and therefore, their availability is extremely limited. On the other hand, more socially oriented studies of families with children with FASD provide various practical indications on how to improve services for parents and caregivers.

Description and Review of Prevention Efforts

The first awareness-raising materials on the consequences of alcohol use by pregnant women published in Poland were translations of English publications related to this issue. In 1998, PARPA brought out, within the series "Alcohol and health," report No. 17 entitled: "Alcohol-induced fetal damage," a translation of an article from *Alcohol Health & Research World* (1994). In 2000, in the same series, another translation from the journal *Alcohol Health & Research World* (No. 9, 1997) was released, namely "Studies in children of alcoholics" (2000), which includes chapters on the effect of alcohol on the unborn child. In 2001, for the first time in Poland, an international FAS Day was celebrated and the first training conference dedicated to the consequences of alcohol on the unborn was organized (the event was held in the Town Hall of Ledziny, in the Silesia Voivodship—one of the 16 administrative regions in Poland).

In 2007, PARPA edited a guide for medical doctors, containing basic facts on the alcohol-induced damage to an unborn child and presenting survey methods for the monitoring of alcohol use [Michigan Alcoholism Screening Test (MAST), CAGE, The Alcohol Use Disorders Identification Test (AUDIT)], as well as proposals for their implementation in order to estimate the alcohol consumption of pregnant women (Raczyński 2007). The succeeding stage in the development of Polish literature pertaining to FASD was the development of publications, addressed to the general public and based on knowledge derived from English original sources in English, completed and extended by experience of Polish adoptive parents who raise children with FAS (Liszcz 2005, 2006, 2011; Klecka 2007a).

An important element of propagation of knowledge on impairment in the development of an unborn child due to alcohol consumption by the mother during pregnancy was an awareness-raising campaign "Pregnancy without alcohol," carried out by PARPA in the years 2007–2008. The aims of the campaign were to bring about a reduction in the number of women who drink alcohol during pregnancy and to disseminate knowledge on the noxious effects of alcohol consumption by women during pregnancy. The campaign's slogan "I don't drink to his health" referred to the most common Polish toast: "To health!," thus diminishing any notion of association between a child's health and alcohol consumption of a mother-to-be.

For the needs of the campaign and within the framework of its continuation in the subsequent years, a series of publications under substantive supervision of PARPA has been prepared and has been addressed, in particular, to representatives of certain occupational groups such as teachers, court-appointed guardians and social workers (Hryniewicz 2007; Terlikowska 2015), psychologists (Jadczak-Szumiło 2008), medical doctors and rehabilitants (Klecka and Janas-Kozik 2009) as well as the general public (Klecka 2007b; Jadczak-Szumiło 2015a, b). The publications were largely based on American and Canadian studies, but they also included experience of the first Polish professionals who gather knowledge and experience in working with children with FASD.

For educational purposes, a Polish version of the British film "The eternal child" was created and incorporated into a

preventive program entitled: "I am taking responsibility" (Jadczak-Szumiło and Kałamajska-Liszcz 2009). The aim of the program is to broaden the knowledge of youth concerning the damage which can result from the consumption of alcohol by pregnant women. These are 2-h-long educational workshops intended for upper secondary schools. The program, distributed to schools through local authorities, has become an integral part of school activities in numerous facilities.

Other awareness-raising activities, carried out within the scope of the campaign, included TV and radio spots, billboards and city lights, the website www.ciazabezalkoholu.pl, press articles, and TV programs. To date, the photo exhibition "FAScinating kids," which presents the work of parents and FASD children in the therapeutic camp, has been shown in more than 30 Polish cities.

Within the framework of the campaign, approximately 200 educators have been trained and subsequently carried out local training sessions, discussions, and conferences for people working in healthcare, education, social care, justice, and other services. A collaboration involving nearly 700 local authorities (of a total of approximately 2500) as well as 10 out of the 16 voivodships and numerous nongovernmental organizations (NGOs) has been established. The activities on FASD prevention initiated as part of the campaign "Pregnancy without alcohol" have been continued to date by local authorities.

The Chief Sanitary Inspectorate is a public institution, which, in addition to PARPA, conducted educational and preventive activities related to FASD countrywide. In 2014, the Inspectorate launched a nationwide public campaign within the "Prevention programme in the sphere of counteracting addiction to alcohol, cigarettes and other psychoactive substances." The campaign "Do not let your luck fly away!" will continue until the end of 2016. Its aims are to broaden knowledge about the health effects of drinking alcohol and other psychoactive substances and to limit their consumption among women of reproductive age and particularly during pregnancy. Alongside media activities, within the scope of the project, the preventive program "ARS or how to care about love" was implemented; also, training workshops for medical staff dealing with persons with health problems related to drinking alcohol during pregnancy (www.zdrowiewciazy.pl) were conducted.

Public education in the area of FASD is systematically implemented by local governments in several municipalities. For example, in Gdynia (Pomeranian Voivodship) in the years 2014–2015, within the action "Stop FAS," 13 training conferences were organized and numerous activities involving young people were carried out. A special infomercial was produced and distributed through local media and via YouTube. As part of the campaign, a "Letter to a mother" was published in the local press and handed out to participants of antenatal classes.

The authorities of another city, namely Sosnowiec (Silesian Voivodship), joined the international campaign "Too young to drink" and, in addition to the Polish versions of billboards and posters, produced postcards, which were forwarded to the gynecological outpatient clinics and hospitals, as well as to students participating in the prevention programs. In partnership with a local radio station, a street event was organized in order to verify whether passers-by would react were they to see a woman, in an advanced stage of pregnancy, drinking beer in public (Wojciechowski 2014). The activities conducted in 2015 were rewarded by the international organizers of the campaign with the title of Ambassador of "Too young to drink 2015." So, Sosnowiec is among the five cities globally which can boast of such an achievement.

Educational activities are also carried out by nongovernmental organizations. For example, the public campaign organized in 2012 by the Westpomeranian Family Support Foundation 'Tęcza serc' ["The Rainbow of Hearts"] from Szczecin (Westpomeranian Voivodship) aimed to draw attention to the fact that there is no such thing as a safe dose of alcohol for pregnant women and that even a small amount of alcohol is harmful to a child's health. The slogan of the campaign: 'Po maluchu' ["Just a little one"] used a play on words to get its message across as "maluch" meaning "little child" or "a small measure of alcohol" or a "shot" of alcohol. Hence, drinking a shot may result in a loss of the little one… (www.teczaserc.pl).

The latest example of a public awareness campaign is from Cracow (Małopolskie Voivodship) where the Child's Health Foundation in 2015 conducted a campaign under the slogan: "Choose wisely—don't drink during pregnancy! The life of your child matters most!". The organizers prepared an educational brochure which provides information about the extent of the prevalence of FASD in Poland, the consequences of alcohol use for a fetus, characteristics of children with FASD, types of medical care recommended for children with FASD, and local activities aimed at reducing the occurrence of alcohol consumption by pregnant women. A regional radio station presented a spot, in which a man speaks of a conscious decision he made along his wife on having a baby and on their abstinence from drinking alcohol for the subsequent 9-month period. The message of the spot was to stress the fact that maternity is not something that affects the mother-to-be alone.

Educational activities on FASD prevention are also carried out by producers of alcoholic beverages in Poland. Since 2008, the Association of Polish Spirits Industry Employers has been conducting the campaign "A better start for your child" as a part of a social responsibility program. Informative and educational activities are also conducted in the form of the distribution of flyers; posters; stands for hospitals, clinics, pharmacies, gynecologists, and midwives all over the country; as well as announcements and advertisements in the press and in electronic media. The patron of the

campaign is the Polish Gynecological Society (www.abcalkoholu.pl).

Analyzing the assumptions of several presented educational campaigns organized in Poland, we can observe that the main educational message concerns the principle of "total abstinence during pregnancy." In this regard, for over 10 years, a consistent and unambiguous message, addressed both to the general public, with particular emphasis on pregnant women, and professionals, has been disseminated. However, despite several years of experience in the field of prevention and education on harm resulting from alcohol consumption by pregnant women, relevant activities remain rather incidental. They are based mainly on the projects carried out by local governments or nongovernmental organizations. The prevention program for young people prepared by the central body (PARPA) did not become a permanent element of the educational program in schools, but it is used only by more motivated teachers. A similar situation takes place in case of the educational programs for various professional groups—doctors, social workers, teachers, probation officers, etc. The attempts to introduce the issue of FASD to ongoing university curriculums and mandatory trainings for professionals have failed so far. Those interested in it can only, according to their own choice and interests, participate in training courses organized by some municipalities or several other entities specializing in the field of FASD.

Description and Review of Intervention Efforts

Concurrent to the educational and preventive activities, programs supporting the work with children with FASD and their parents/guardians are organized. The first therapeutic programs in Poland were developed after the year 2000, mainly by nongovernmental institutions. The first educational and therapeutic centers were established on the initiative of adoptive parents raising children with FASD. Seeking help for their own children and, subsequently, sharing the knowledge and experience gained with other parents, they have become experts on the subject in question. At present, there are only few centers specializing in FASD in Poland, and therefore, in our opinion, each of them deserves separate description.

The FASTRYGA Foundation (seated in Lędziny) runs a diagnostic and therapeutic clinic for children. The diagnosis of children and youth with FASD disorders is carried out by means of the 4-Digit Diagnostic Code (Astley 2006).[1] During summer holidays, therapeutic camps for children and their parents are organized. The children are initially assessed for occurrences of disorders typical for FASD or other developmental abnormalities (hyperkinetic syndrome, autistic disorders, and developmental mental disorders). Subsequently, the children participate in therapeutic, rehabilitation, and sociotherapy activities, such as group activities with elements of sociotherapy, music therapy, ergotherapy, psychodrama, polysensory neurostimulation, sensomotoric integration, or training based on the Veronica Sherborne method (Bogdanowicz et al. 1992). Additionally, elements of work with abnormal reflexes (Goddard 2004), tactile therapy, and body work by the sensory experiment method are applied. During summer camps, parents participate in psychoeducational programs with elements of therapy which deal with the disorders appearing after abandonment and due to prenatal exposure to alcohol or other psychoactive substances. Moreover, the parents are given the opportunity to benefit from consultations which help them understand the children's problematic behavior and jointly seek opportunities for development. The Foundation is also implementing the FAS FOOD project which deals with aspects of nutrition for children with FASD (www.fastop.pl, www.fas.org.pl, www.fas.edu.pl).

Similar activities are conducted by the EY Foundation in Warsaw, which collaborates with the Psychological Centre ITEM in Żywiec (Silesian Voivodship). As a part of psychological and therapeutic assistance for children with FASD and their parents, three programs are being conducted. The first program includes a 10-day-long therapeutic camp for children with FASD and their parents. In the camp's first days, each child undergoes an individual diagnosis, aimed at recognizing the spheres for therapeutic work. Parents become familiarized with difficulties and the potential of the child. In the course of the therapeutic procedures, the guardians learn from experts how to diminish developmental deficits of the children, and individualized programs related to the work with children are developed. During group activities, educational and social competences of the guardians are enhanced. Thematic lectures and individual consultations with a psychologist are held. The program includes two subsequent weekend meetings during the school year, which offer a possibility to verify the individual therapeutic programs.

The second project is the program: "To understand a child." The program comprises a series of monthly, independent workshop activities for parents and guardians. The workshops allow participants to discuss topics such as understanding of the dependence between CNS damage and the behavior of children with FAS, education in the field of care-taking and raising of children with FAS, meeting the needs of the children, standards and emotions of the children with FASD as well as social education of the children with FASD. Participants work on adaptations which may help the children to understand standards, and support the educational

[1] Dr Klecka, who runs the Foundation, in her unpublished PhD dissertation ("Validation of the Polish version of the image scale for the evaluation of dysmorphic features characteristic for developmental disorders caused by alcohol" Silesian Medical University, 2012), following the 4-Digit Code procedures, verified test-retest and interrater reliability of facial dysmorphias recognitions on photos and their accuracy with clinical evaluation.

development of children with FAS. One of the workshops is devoted to dietary influence on the function of the organism.

Another project is "The Academy of a Conscious Parent," designed for adoptive parents. The project consists of a series of interpersonal and intrapersonal training workshops as well as eight workshops aimed at providing more in-depth knowledge and helping gain educational skills by parents/guardians, taking into account the issue of raising of a child with FASD and problems related to impaired emotional attachment in children.

Independently, the ITEM company runs a diagnostic-therapeutic center for children with FASD, where children are diagnosed and programs of work with FASD children are developed. Parents are taught how to create certain adaptations for their children in order to facilitate their functioning at home and at school (www.fasd.org.pl).

The 'Daj szansę' ["Give a Chance"] Foundation in Toruń (Kujawsko-Pomorskie Voivodship) has also been running a clinic for children with FAS for many years now. A 3-day visit to the FAS clinic includes a medical consultation and meetings with therapists (psychologist, pedagogues, and rehabilitants). The visit is summarized in an opinion about the child's health condition, and recommendations concerning further future action are made. In 2015, the Foundation launched a program which offered individual and group activities in order to improve the mobility and intellectual skills of the children, as well as guidance and therapeutic consultations with pedagogues and a psychologist.

A FAS center is also run by the Westpomeranian Family Support Foundation 'Tęcza serc' ["The Rainbow of Hearts"] in Szczecin (Westpomeranian Voivodship) which offers both diagnostic activities and therapeutic work with children.

The local authorities not only support therapeutic work with children with FASD by means of grants for NGOs but also establish facilities within their own structures. The city of Gdynia is home to an active FASD Diagnostic and Therapeutic Center, to which children are referred in connection with reported consumption of alcohol by their mothers during pregnancy, a desire to definitively diagnose a child prior to adoption or due to concerns arising from the child's problem behavior and/or difficulties with managing this difficult behavior. The activities of the Center encompass both making a diagnosis within the interdisciplinary team (psychiatrist, neurologist, psychologist, and rehabilitant) as well as development and conducting work with children and their parents/guardians.

In Kielce (świętokrzyskie Voivodship), within the framework of the Municipal Centre for Social Assistance, a network of Community Day Care Centers "4 KĄTY" ["Four Walls"] operates. They carry out diagnostic and therapeutic activity related to FASD. Among the children who are referred to the centers are also those who were referred by trained preschool or school personnel, municipal psychological and pedagogical clinics, private medical practices, or psychiatric departments for children and youths. Occasionally, children are taken to the centers by their parents. Upon receiving a diagnosis, the children participate in rehabilitation activities, sensory integration therapy, and pedagogical therapy. Depending on the child's needs, he or she is offered psychological help and speech therapy. Although the centers do not provide regular workshops for parents of children with FASD, they periodically hold meetings with individual parents, during which progress in terms of therapy is discussed and new work plans are formulated both for parents and for the center.

From the perspective of developing support for individuals with FASD, the event of great significance was the establishment (with the substantive support of PARPA) of the Centre for Comprehensive Diagnostic and Therapy of Children with FASD in the Voivodship St. Ludwick Specialist Children's Hospital in Cracow in 2013. This is due to the fact that the Centre operates as a medical facility, which is financed by NFZ and therefore provides free-of-charge medical services to patients. This fact plays a particularly important role as it frequently occurs that in the diagnosis of children with FASD, nongovernmental organizations, private facilities, or local authorities are not licensed to make a medical evaluation.

In addition to activities aimed at the development of intervention facilities, PARPA also carries out educational projects, aimed at boosting access to diagnostic and therapeutic help for children with FASD. Over a few years, PARPA organized training courses for teachers of the sociotherapeutic day care centers and other educational care facilities in order to prepare guardians for therapeutic and rehabilitation work with children with FASD. The training comprised 120 h of lectures and workshops on the following subjects: medical and neuropsychological diagnosis of a child with FASD, damages of CNS characteristic for FASD, planning therapy for children with FASD, nutrition of a child with FASD, development of a neurological development profile of a child with FAS, diagnosing and sensory stimulation, diagnosis and reflex stimulation, and therapy of higher functions.

In the years 2014–2015, PARPA, along with the Department of Radiology of the Collegium Medicum of the Jagiellonian University in Cracow, organized a pilot training course, regarding the diagnosis of children with FAS, for 12 teams consisting of a medical doctor and a psychologist. The common elements for all participants comprised the basic knowledge on the prevalence, causes, and consequences of FASD as well as possibilities of providing assistance to patients. The modules for psychologists covered the key areas of psychological diagnosis of CNS damage, the possibility of using standardized tests available in Poland, and the clinical assessment of the areas for which the tests are not available. The training modules for medical doctors mostly pertained to the measurement of dysmorphia and the connection between the external features and CNS damage. The last module,

common for all participants, was devoted to contact with the biological mother of the child and communicating feedback to the parents/guardians and establishing cooperation with them.

Summarizing, the number of points dealing with the diagnosis and provision of assistance in Poland is most definitely insufficient. Taking into consideration the existing needs, not only is there a shortage of facilities but also of established standards in the diagnosis and support networks for children, youths, and adults with FAS/FASD and their families. Currently, families raising children affected by FAS/FASD can only count on counseling in the several aforementioned centers in Poland. Moreover, the quality of the offer of assistance carried out by these centers is, generally speaking, unknown. To a greater extent, it reflects the competence of the staff members than a response to the actual needs of clients or up-to date evidence-based standards in diagnosis, therapy, support, or education. Another problem is the fact that, although the centers refer to the 4-Digit Diagnostic Code (Astley 2006) or the Canadian Guidelines (Chudley et al 2005) when making diagnosis, in reality, they make a diagnosis on the basis of vague criteria. It frequently leads to situations where a child receives different diagnoses in different centers in the country. The possibility of obtaining a structured medical, legal, and educational assistance, adequate for the needs of the children, is still insufficient. Therefore, it is crucial that this issue is given priority in the spheres of the healthcare, the educational sector (education of children and youths with FASD), social care, and the judiciary. The fact that diagnostic facilities are run by nongovernmental organizations does not always guarantee the provision of free access to the aid provided. This is dependent on the value of the grant obtained for the given year and other financial means for the conducted activities. Moreover, studies are currently not available on the effectiveness of the intervention/treatment programs implemented in Poland.

Summary and Call to Action

The presented overview on the activities undertaken in Poland in the field of prevention and tackling problems associated with the effects of prenatal exposure of children to alcohol has covered the period from the mid-1990s to the present day and highlights changes which occurred in recent decades. The major difference lies in publicizing the problem in the media and dynamically increasing the number of people interested in this issue. Although 10 years ago, some were still claiming that the problem of FAS did not actually exist in Poland (Moskalewicz 2007a, b), currently, nobody denies its existence. This is apparently correlated with progress in the knowledge on FASD and the intensive activities aimed at promoting awareness in society. Such activities, initiated by PARPA on the central level (through the first publications and the campaign 'Ciąża bez alkoholu' ["Pregnancy without alcohol"]), were met with a very warm reception among local authorities. Owing to the engagement of various institutions, local authorities, and NGOs, activities promoting knowledge on the harmful effect of alcohol consumption during pregnancy on the health of an unborn child continue to be developed and implemented. The transmission of the knowledge does not only take the form of media campaigns or special events (e.g., associated with the celebration of the International FAS Day) but is also mirrored in an increasing number of publications in the Polish language, addressed both to general readers and experts.

In the development of the Polish literature on FASD, several stages can be clearly observed: from translations of English publications (for example: Raport No. 17 entitled: "Alcohol-induced fetal damage", 1998) via elaborations of Polish authors, largely based on foreign publications, but complemented with their own practice (for example, Hryniewicz 2007; Jadczak-Szumiło 2008; Klecka 2007a; Liszcz 2005), to original papers, based on the author's own studies (for example, Dudek 2014; Fijołek 2013; Okulicz-Kozaryn et al. 2015).

Unfortunately, there are still very few of the latter type of Polish publications, and, what is even worse, some interesting studies remain unpublished (e.g., the dissertations of Jadczak-Szumiło or Nardzewska-Szczepanik). Thus far, Polish scientists have paid relatively more attention to the prevalence of alcohol consumption by pregnant women. And although all studies confirm the existence of the problem, the extent of this phenomenon has still not been well-established. The studies that have been carried out to date do not offer clear conclusions on the patterns of alcohol consumption by pregnant women (it is due to an insignificant number of women who admit to drinking alcohol more than symbolically during pregnancy, methodological limitations, incomparable indicators used in various studies, etc.). Also, none of the studies shows a correlation between the drinking of alcohol by a mother during pregnancy and the child's health condition (although such correlations were analyzed by Wierzejska et al. 2011; Żukiewicz-Sobczak and Paprzycki 2013). It is possible that those correlations have not been significant because outcomes were measured at birth or early infancy. Possibly, the effects would be more significant as children get older and higher order neurocognitive functions and behavior develop.

Poland is one of the very few European countries in which population-based surveys have been carried out and the prevalence of FASD among children at school age has been estimated (Okulicz-Kozaryn et al. 2015). The results obtained largely correlate with the results of similar research conducted in Italy (May et al. 2011) but are lower than in Croatia (Petković and Barišić 2010, 2015) and show that FASD is present no less frequently than in 20 Polish children per 1000.

The FASD epidemiological study also revealed a general lack of preparedness of the Polish healthcare system,

psychological aid, public support, and education for the recognition of the FASD problem and support of the patients and their families. It confirmed what other authors (Kaczmarska 2011; Dudek 2014) have also pointed out, namely, that parents (biological or adoptive) of children with FASD are forced to manage the problem on their own, not only by taking care of the child, but also by educating the environment (including schools) about the characteristic features of the neurological dysfunctions resulting from prenatal exposure to alcohol. Undoubtedly, not all parents can cope with such problems, but indeed, the worst effects are observable in families in which the parents themselves are struggling with their own problems (for example, alcoholism). Still, the Internet and their own family are the most important sources of information and support for most families.

In general, assistance for children with FASD and their families is not readily available in Poland (only in a few places in the country) and its scope is insufficient. Due to the fact that the services are rendered predominantly by nongovernmental organizations, financially dependent on the local authorities or private donors, opportunities to access free-of-charge assistance are scarce. Also, the standards of diagnosis, as well as the system of support for children, youths, and adults with FAS/FASD and their families, are also lacking. However, recently, increased engagement of the medical community heralds a positive change. In 2014, the Polish Gynecological Society clearly expressed their confidence that pregnant women or women planning for pregnancy should definitely abstain from drinking alcohol (Dębski et al. 2014). Furthermore, they formulated a series of postulates addressed to their own environment generally pertaining to the increased activity among medical doctors and midwives in the sphere of FASD prevention. Similar opinions were voiced by circles of nurses and midwives (Janiuk 2012; Pałucka et al. 2014). Due to the fact that the aforementioned publications are relatively new, the reaction to them and the extent of the reverberation effect they have in practice among the medical community are yet to be seen. In other words, it is uncertain whether medical doctors now mention the risk connected with alcohol consumption during pregnancy more frequently than previously when talking with their patients (previous studies showed that most doctors do not discuss the issue of alcohol consumption with pregnant women, e.g., Wojtyła et al. 2012).

The interest in the subject of FASD by representatives of other medical specialties (such as pediatricians, internists, psychiatrists, neurologists) is remarkably low, and thus far, it has not been reflected in the issuance of any official statements by expert groups or the development of guidelines on diagnosis and patient care. Also, there have been no official statements on FASD by representatives of the psychological and neuropsychological communities. However, medical doctors increasingly participate more frequently in training workshops and conferences on FASD, and the first medical centers to deal with the problem have begun to appear (e.g., the Centre for Comprehensive Diagnostics and Therapy of FASD in Cracow).

What is currently most needed in Poland, in order to pave the way for better management of the problem of alcohol consumption by pregnant women and its consequences in the form of damage to children's nervous system, is agreement and collaboration. It is necessary to establish cooperation on the centralized level among specialists of medicine, psychology, pedagogy, and social care in order to develop uniform criteria and principles for FASD diagnosis as well as guidelines in working with patients and their parents/guardians. Concerted work among sectors of healthcare, education, and social care is essential for the implementation of the decisions of specialists.

In our opinion, the need for the implementation of systemic solutions, which would allow the reordering of previous efforts taken by parents of FASD-affected children and specialists scattered around the country, is indisputable. In this way, FASD diagnoses would be made according to the same criteria, and the same standards would be maintained in every facility in Poland. Moreover, professional aid, based on the current scientific knowledge, would be more easily accessible to those who need it. As claimed by some specialists, changes in the existing Polish social care and psychological care systems are recommended given the apparent necessity for interdisciplinary work in the field of the FASD problem. Currently, the cooperation among medical doctors of various specialist disciplines is very limited in Poland, and engagement of psychologists in the diagnostic process is very difficult as each specialist makes his own diagnosis, independent of the opinions of other specialists. Consequently, there is no coordination between therapeutic and intervention activities, carried out for an individual patient.

Unfortunately, establishing a nationwide, interdepartmental agreement seems complicated and is made more difficult by the fact that healthcare and education systems are underfunded. What's more, not all representatives of the central authorities are convinced that increased levels of care for patients with FASD are indeed necessary (see the position of the President of the NFZ, presented above). Additionally, competition among certain facilities and local specialists in the field of FASD may become a serious obstacle on the path to agreement and the establishment of uniform standards.

Fortunately, as the practice of recent years has shown, what seems to be unrealistic on a central level is successfully implemented on a local level. For years, local authorities have been active in the field of FASD prevention and have financially supported local organizations, operating in their areas and institutions providing assistance to people affected by FASD and their families.

Another urgent need is to increase the knowledge of specialists and to develop their competence. Scientific research

on FASD worldwide develops very intensively, which has been reflected in practice by phenomena such as the ongoing discussion about standards in FASD diagnosis (Cook et al. 2015) and in reports on the effectiveness of various methods which enhance the progress of the patients (Petrenko 2015). Polish medical doctors, psychologists, and teachers should have regular access to the latest data on FASD and to opinions exchanged regarding their implementation in their own work. Therefore, it is recommended that meetings and training courses for representatives of specific occupational groups and national conferences on FASD be organized on a regular basis. Polish scientists should more frequently undertake their own research related to various aspects of the neurological development of FASD patients, and practitioners should more frequently share their professional achievements from working with patients and their families. Increased research efforts in studying the effectiveness of existing and new prevention and intervention methods are also needed.

International cooperation and the establishment of contact with centers where research and activities on FASD have a longer tradition than in Poland (mainly the USA and Canada) could have tremendous implications for the expansion and dissemination of scientific knowledge on FASD. Collaboration among centers from different EU countries within the framework of the European Commission research and development grants could constitute an opportunity for further development. Unfortunately, none of the FASD-related projects, submitted in recent years by consortia, in which PARPA was one of the shareholders, has been accepted. Moreover, according to the report on the Projects Selected for Funding in Horizon 2020 competitions, currently, the European Commission does not financially support any research projects dealing with the FASD issue (http://www.eurida-research.com/horizon-2020-news/selected-projects/index.html).

Compliance with Ethical Standards This article does not contain any studies with human participants performed by any of the authors.

Conflict of Interest The authors declare that they have no conflict of interest.

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