Available online at www.sciencedirect.com

ScienceDirect

journal homepage: http://www.elsevier.com/locate/poamed

Original Research Article

Autism in Poland in comparison to other countries

Krystyna Piskorz-Ogórek [a], *Sławomir Ogórek* [b], *Anna Cieślińska* [c], *Elżbieta Kostyra* [c,*]

[a] *Nursing Department, Faculty of Medical Sciences, University of Warmia and Mazury in Olsztyn, Poland*
[b] *Public Health Department, Faculty of Medical Sciences, University of Warmia and Mazury in Olsztyn, Poland*
[c] *Biochemistry Department, Faculty of Biology and Biotechnology, University of Warmia and Mazury in Olsztyn, Poland*

ARTICLE INFO

Article history:
Received 16 January 2015
Accepted 18 March 2015
Available online 22 April 2015

Keywords:
Autism
ICD-10 F84
Epidemiology
ASD

ABSTRACT

Introduction: In recent years, it has been suggested that the increasing incidence of autism diagnosed in Poland highlights improved diagnostics as well as the recorded increase in morbidity. The precise number of individuals with autism in Poland has not been determined, and current sources are unable to provide unequivocal Polish data.

Aim: The aim of this study is to compare the epidemiology of autism-related disorders in Poland with other European countries and the United States.

Material and methods: Statistical data provided by the Polish National Health Fund Headquarters in June 2013 and data pooled from international journal articles were analyzed in detail.

Results and discussion: The National Health Fund reported that 13 261 individuals up to 18 years of age received health services for autism and related disorders in Poland in 2012. This is a prevalence rate of 3.4 cases per 10 000 individuals. Incidence rates vary in different Polish regions, with the highest rates recorded in the following voivodships: warmińsko-mazurskie (6.5 cases per 10 000 individuals), śląskie (5.0), and pomorskie (4.6). The provinces with lowest rates were podlaskie (2.1), małopolskie (1.9), zachodniopomorskie (1.9), and łódzkie (1.8). These rates are far lower than those in European countries (20 per 10 000) and United States (200 per 10 000) epidemiological surveys.

Conclusions: Information on the prevalence of autism in Poland and in the world remains unclear and imprecise. This results from global differences in diagnostic criteria. There is urgent need to develop global standards for the diagnosis of autism in children.

* *Correspondence to*: Biochemistry Department, Faculty of Biology and Biotechnology, University of Warmia and Mazury in Olsztyn, Oczapowskiego 1A/319, 10-719 Olsztyn, Poland. Tel.: +48 89 523 39 38; fax: +48 89 535 20 15.
E-mail address: elzbieta.kostyra@uwm.edu.pl (E. Kostyra).

http://dx.doi.org/10.1016/j.poamed.2015.03.010

1. Introduction

The term ''autism'' was introduced in 1911 by Paul Eugene Bleuler[1] as one of the basic symptoms of schizophrenia. He defined autism as ''a withdrawal from the outside world and a predominance of the inner life.'' The discernment of autistic children as a separate diagnostic category was established by Leo Kanner in 1943.[2]

Asperger's published research[3] described the behavior of boys with peculiar social issues such as avoiding eye contact, poor facial expression and gesticulation, engagement in repetitive and stereotyped movements and tongue clicking. These boys had well-developed memory but a narrow range of interests. However, it was not until 1980 that the American Psychiatric Association included autism in the list of pervasive developmental disorders (PDDs). In 1993, the World Health Organization further distinguished atypical autism and Asperger's syndrome from the previously recognized autism spectrum.

Currently, autism spectrum disorders (ASDs) are a set of complex neurological developmental disorders which include autistic disorder, Asperger's syndrome and PDDs not otherwise specified.

The criteria for diagnosing autism and ASDs are specified in the 10th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10) by the WHO,[4] and in the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) by the American Psychiatric Association.[5]

The ICD-10 classification enables precise diagnosis of disorders. Thus, it allows epidemiological analysis of both the number of treated patients and the services provided to groups of patients with the same diagnosis. In the ICD-10 classification ASDs are coded to F84, which include childhood autism coded to F84.0 (DSM-IV 299.00 Autistic Disorder), Asperger's syndrome coded to F84.5 (DSM-IV 299.80 Asperger's disorder), as well as atypical autism coded to F84.1. Codes F84.8 and F84.9 refer to PDDs not otherwise specified (DSM-IV 299.80 PDD-NOT).

The ICD-10 classification defines childhood autism as a PDD that manifests itself in behavioral dysfunctions. These are characterized by problems with social communication, qualitative communication abnormalities and repetitive, limited and stereotyped patterns of behavior, interests and activity.[6,7]

Until recently, autism was diagnosed by middle childhood, especially when a child exhibited speech delay.[8] Although retrospective studies suggest that most parents identify the first signs of autism in their children as late as 18 months of age,[9,10] certain symptoms of autism, such as impairment in social attention or lack of smiling, can be identified in the first year of life.[11] Studies have shown that although autism can be reliably diagnosed between the 1st and the 2nd year of life, the diagnosis of a wider autistic spectrum is more reliable at a later age.[8,12,13]

2. Aim

The aim of this study is to assemble available information on the prevalence of autism in Poland, with particular emphasis on the Warmia and Mazury region. Our immediate intention is to then provide the Polish autism prevalence data to worldwide bases.

3. Material and methods

3.1. *The criteria for autism diagnosis in Poland*

Diagnosis of autism in the Polish National Health Service is compatible with the ICD-10 classification. In addition, it is extended to differential diagnosis based on a multidisciplinary diagnostic model which includes neuroimaging in the neurological tests, and assessment of endocrine, genetic and laryngologist-phoniatric tests. Psychiatric IQ evaluation studies are conducted under the Leiter scale, assuming that the normal condition requires 70–107 points, and 90–104 points on the Wechsler scale.

3.2. *Data sources*

The 2012 data on Polish patients diagnosed with F84 (PDDs) came from National Health Fund Headquarters (Polish: Narodowy Fundusz Zdrowia – NFZ), and 2006–2011 data for Warmia and Mazury province were obtained from the Specialist Children's Hospital in Olsztyn and the Office of the Warmia and Mazury Voivodship. In addition, all available literature on the frequency of autism in European countries and the United States was reviewed.

Statistical studies covered all 16 Polish provinces throughout its 312 685 km^2 dominion. The 31st of December 2012 population recorded 38 533 299 inhabitants in the following voivodships: mazowieckie – 5 301 760, śląskie – 4 615 870, pomorskie – 2 290 070, warmińsko-mazurskie – 1 450 697, podkarpackie – 2 129 951, wielkopolskie – 3 462 196, lubelskie – 2 165 651, dolnośląskie – 2 914 362, kujawsko-pomorskie – 2 096 404, małopolskie – 3 354 077, lubuskie – 1 023 317, łódzkie – 2 524 651, świętokrzyskie – 1 273 995, zachodniopomorskie – 1 721 405, podlaskie – 1 198 690, and opolskie – 1 010 203. The number of infants born between 1994 and 2012 were registered as children aged 0–18 on 31 December 2012, and these numbered 7 531 582.

4. Results

Fig. 1 shows the total number of patients throughout the provinces of Poland and the rate in parentheses of those diagnosed under F84 who received medical services in 2012.

The highest rates of children with autism determined by analytic data were as follows: warmińsko-mazurskie voivodship (6.5 cases per 10 000 individuals), śląskie voivodship (5.0), and pomorskie voivodship (4.6); and the provinces with lowest rates were podlaskie voivodship (2.1), małopolskie voivodship (1.9), zachodniopomorskie voivodship (1.9), and łódzkie voivodship (1.8). Our results indicate that the largest group of children were aged 0–6, then 7–14, 15–18 and finally adults over 18 years. The frequency of health care used by autistic people decreased with age.

Table 1 shows the number of people with PDDs treated in warmińsko-mazurskie voivodship between 2006 and 2011.