

“Epidemiology of mental disorders and access to mental health care. EZOP – Poland” – research methodology

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Summary

Aim. Since the second half of the twentieth century, with the development of structured diagnostic tools, population based studies on epidemiology of mental disorders are carried out. A special role is played by World Mental Health Survey Initiative which brings together a group of countries from different continents in order to carry out research projects according to standard methodology using the Composite International Diagnostic Interview. Polish EZOP study, which was conducted in accordance with the guidelines of WMH joined that group. The project was implemented under the Norwegian Financial Mechanism and the Financial Mechanism of the European Economic Area. Its aim was to estimate the prevalence of mental disorders in the Polish population of adults, assess the distance to mental disorders and to obtain knowledge about the perception of psychiatric disorders and treatment.

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Methods. The research tool was the Polish version of CIDI-WHO ver.3.0., which was developed for the project. The study was performed in accordance with the guidelines of WMH (cognitive interviews, interviewers training, standardization of field procedures) using electronic version of CIDI questionnaire (CAPI) within the 2-stages procedure in randomly selected representative sample of the Polish population aged 18-64. The quality of the study was systematically controlled and reported by MB SMG/KRC, and completed data (10,081 interviews) were sent to the Department-Centre of Monitoring and Analyses of Population Health NIPH-NIH. After the initial analysis data were sent to the analytical centre of WMH, which applied additional cleaning tools and added new variables representing psychiatric diagnoses in DSM-IV and ICD-10

Key words: prevalence of mental disorders, population-based study, CIDI

Introduction

The available epidemiological data regarding the prevalence of mental disorders based on data from mental health care institutions in Poland are published yearly by the Institute of Psychiatry and Neurology in Warsaw with the title “Statistical year-book – Mental health care Institutions”. The data represent the prevalence of mental disorders registered by health care institutions and we do not know how they relate to the actual prevalence of those disorders. For operational purposes, it is particularly important to determine a possible broad range of epidemiological indices in the period of planning health care modernisation and development [1]. Similar difficulties in making conclusions based on information gathered and stored by health care institutions are observed in other countries. Field studies on random samples and based on standardised questionnaires are an efficient method of dealing with this problem [2].

In the 1970s, the first standardised diagnostic interview was developed in the USA: the Diagnostic Interview Schedule (DIS), based on the DSM-III classification. In view of new possibilities, the Epidemiological Catchment Area (ECA) population study was carried out in 5 states and similar studies were carried out in other countries, which contributed to developing new versions of structured diagnostic tools [3]. The application of the DIS made international comparisons of epidemiological data possible for the first time. According to studies of the WHO (Global Burden of Disease Study, GBD), mental and behavioural disorders in the European Region were the fourth most severe burden, following circulatory diseases, neoplasms, and injuries [4].

However, mental care funding is still disproportionately low in many countries [5]. No reliable data on the prevalence of mental disorders in the general population were available. The International Consortium of Psychiatric Epidemiology (ICPE) and later the World Mental Health Survey Initiative (WMH) were formed with cooperation of the WHO to assess prevalence and carry out psychiatric population studies. The Consortium used the DIS to develop the Composite International Diagnostic Interview (CIDI) and guidelines regarding study methods based on a unified study schedule [6]. With the use of CIDI, it is possible to estimate the prevalence of mental disorders in the general population, but also to analyse their relationship with various

correlates, e.g. socio-demographic and related to other health problems, and evaluate the unmet needs related to treatment, the adequacy of treatment for patients suffering from mental disorders, the social burden of mental disorders, and other variables [6].

Consortium

The project entitled “Epidemiology of mental disorders and access to mental health care. EZOP – Poland” responds to the aims of the Mental Health Protection Act and the Polish National Program of Mental Health Protection and it is also in line with the priorities of the World Health Organisation [7, 8]. The study was carried out as part of topic 2.5 Health and Childcare of the Norwegian Financial Mechanism and the Financial Mechanisms of the European Economic Area, the aim of which was to improve the mental health of the population (promotion of health, improvement of health service quality and availability). Application for funding was filed in 2008 by the consortium formed by three institutions: the Institute of Psychiatry and Neurology (IPiN), the National Institute of Public Health – the National Institute of Hygiene (NIZP-PZH), and the Department and Clinic of Psychiatry at the Wroclaw Medical University (UMED). The consortium cooperated with the Psykiatrisk Institutt Vinderen in Oslo, the Department of Health Care Policy Harvard Medical School (HMS), and the Institute for Social Research at the University of Michigan. The field study was carried out by the Institute of Market and Public Opinion Research of Millward Brown SMG/KRC Poland – Media S.A. (MB SMG/KRC). The study was performed in accordance with the Code on Market and Social Research, developed jointly by ESOMAR with the International Chamber of Commerce.

Aim of the study

The project was aimed to assess the prevalence of selected mental disorders in the adult population, evaluate the social distance to mental disorders, and obtain knowledge on the social perception of mental care. Further analysis will be presented in the following articles.

Study questionnaire

The EZOP study used the latest version of the CIDI questionnaire: WHO CIDI ver. 3.0 [9]. This tool is based on ICD-10 and DSM-IV diagnostic criteria; it is recommended by the WHO and WMH for epidemiological studies regarding psychiatry. It is used to estimate the prevalence of mental disorders as well as to evaluate their severity and the subjective burden of disease in 30 days and 12 months prior to measurement, and in the lifetime (LT). The current version of the CIDI can be used to identify symptoms that do not meet diagnostic criteria, weakness caused by disease, subjective suffering, and rare symptoms (PTSD, ADHD, or eating disorders) [10]. The interview is fully

structured and it mostly includes closed-ended questions, so that persons with no clinical education and experience in psychiatry can conduct it, provided they have undergone formal training. The questionnaire is composed of modules. It includes a screening section that decides on the further course of the questionnaire and the selection of diagnostic modules, which include: 2 sections regarding mood disorders, 7 sections regarding anxiety disorders, 2 sections regarding the use of psychoactive substances, 4 sections regarding childhood disorders, and 7 sections regarding other health problems. Moreover, the tool contains many questions used to describe socio-demographic and life-model characteristics and to evaluate the risk factors of mental disorders as well as to identify comorbid psychosomatic disorders. The tool is divided into the screening section and the diagnostic section to complete the interview of respondents without confirmation of psychopathological symptoms in the lifetime faster [6, 10].

The use of the Polish adaptation of the WHO CIDI ver. 3.0

Translation

The current version of the CIDI was obtained owing to cooperation with the WMH. To keep the methodological standards prescribed by the WMH, an investigator certified by the Institute for Social Research of the University of Michigan participated in the adaptation of the tool. In the first stage of the process, the method of parallel translation and panel discussions with experts (psychiatrists, psychologists, and sociologists) were used. Technical doubts were consulted during teleconferences with HMS experts. The translation was done by members of the research team who were fluent in English and experienced clinically. Each section of the questionnaire was translated twice and verified separately. The Polish adaptation of the CIDI does not include the section on psychotic disorders, which was decided jointly with HMS experts. 32 original sections of the CIDI and our own section Y, describing the social distance towards persons with mental disorders, were used in the EZOP project [10].

Electronic version of the CIDI

The electronic version of the CIDI, i.e. the Computer Assisted Personal Interview (CAPI), was managed via the Blaise 4.8 (Statistics Netherlands) software. The electronic version of the questionnaire has a diagnostic algorithm in the SAS program (diagnoses in accordance with ICD-10 and DSM-IV), accessed by licensed CIDI investigators [10].

Tool pilotage

The Polish CIDI studies were preceded by a two-stage pilotage. The first round consisted in interviewing 28 persons (14 without psychiatric diagnosis and 14 with a psychiatric diagnosis, treated in the IPiN and the UMED) using the paper version

of the questionnaire. The first pilot interviews allowed us to identify minor errors and gather opinions of the interviewed persons on the tested tool. The results of that pilot part were then discussed with experts and modifications were introduced regarding the wording and grammatical constructions in the questions. The next round of pilotage was carried out by MB SMG/KRC. The method of cognitive interviews was also used; in this method the base interview questions are accompanied by questions regarding the understanding of individual phrases. During 75 cognitive interviews, respondents mostly pointed to the complicated structure of the interview. Experiences from this round were used during interviewer training.

Interviewer training

Training materials were prepared in accordance with WMH standards and based on the original English version. The training package included the “Interviewer’s booklet”, “Respondent’s booklets” (two versions dedicated for men and women), and “Interview arrangement tips” listing the acceptable formulas for introducing oneself and discussing study aims that can significantly affect the trial implementation index [11]. In the first stage of training, the employees of the WHO-certified CIDI training centre of the University of Groningen carried out a two-day-long training for the Polish CIDI team comprised of psychiatrists, psychologists and a sociologist. In the next stage, members of the Polish CIDI team who had undergone training by experts carried out a three-day-long training of twelve experienced interviewers, who were then assigned to the realisation of in-depth pilotage using cognitive interviews. The proper interviewer training was carried out in groups of ten-odd persons, by teams comprising of one member of the Polish CIDI team and two experienced interviewers. Training lasted three days and was finalised with a practical examination. Only persons cooperating permanently with MB SMG/KRC who had participated in field studies regarding health were included in the training. The implemented recruitment and training procedures as well as interview collection quality control met the standards applicable in other studies coordinated by the WMH [11]. A total of approximately 150 interviewers were trained.

Sample selection

Statistical analysis was performed on the basis of on a random representative group of Polish citizens aged 18–64. Assuming the response rate (RR) of approx. 50%, the size of the random sample was set at 24 thousand persons. The most important factor affecting the response rate was the character and the size of place of residence. The highest response rate was found in rural areas (58.1%) and it was gradually decreasing in towns with the increase in the number of residents (39.6% in cities of more than 200 thousand inhabitants). The sample was selected in two stages. In the first stage, the PESEL (Universal Electronic System for Registration of the Population) was used to create territorial layers defined by province (16 provinces) and locality size class.

Layering was based on data regarding the demographics of the Polish population as of 30.06.2009 [9]. Locality class size was defined as follows: Warsaw, cities over 500 thousand citizens, 200–499 thousand, 100–99 thousand, 50–99 thousand, 20–49 thousand, 10–19 thousand, towns up to 10 thousand citizens, and villages. The number of citizens aged 18–64 was determined for each layer. In each layer, the number of interviews to be carried out was determined proportionally to the number of adults living in the layer aged: 18–29, 30–39, 40–49, and 50–64. The study included all towns and cities with over 50,000 of citizens (86 localities). The remaining communes were randomised proportionally to their size.

In the second stage, potential respondents were randomised in each of the selected communes in such a way that the structure of the randomised sample in each territorial layer was proportional to the adult population of the layer regarding sex and age groups. After randomisation, the sample was weighted so that the demographical distribution of the sample corresponded to the demographic distribution of the adult population of Poland. The weighting procedure had an important impact on estimated number and frequency of disorders and differences between weighted and unweighted values depended on the disorder. The largest increase after weighting was observed in the case of prevalence of DSM-IV Agoraphobia with/without Panic Disorder (increase by 8.1%), while the largest decrease was observed in the case of prevalence of DSM-IV Attention Deficit Disorder (decrease by 54.5%). The Design Effect was in the range from 0.503 (ICD Nicotine Dependence) to 1.268 (ICD Alcohol Abuse with hierarchy).

Standardisation of field procedures

The proper study was carried out in the period from November 2010 to March 2011. 10 081 interviews were taken (over 60 interviews per interviewer) that lasted about 100 minutes, on average. Study progression, including the level of sample completion in individual provinces by locality class and in 12 sex and age groups, was systematically monitored by the Polish CIDI team. At the same time, MB SMG/KRC controlled the work of interviewers via its Quality Control Department. The completion of 1100 interviews (10.9% of the completed sample) was checked by telephone. 19 basic errors were found – respondent did not recall the participation in the survey or the interview was performed without use of the laptop or the interview was performed with other person than randomly selected one. Though such circumstances were less likely the interviews were removed from the study, but no systematic errors were found. Procedural errors were found only sporadically and had no effect on the result of the study. The proportion of interviews with no shortcomings was very high and the result of control confirmed the reliability of interviewers.

After the completion of every interview, the Blaise system exported the recorded interviews to the database managed by MB SMG/KRC for verification and later transferred them to NIZP-PZH, where they were imported to SAS and subjected to initial “cleaning” of data. The Polish database was controlled in accordance with the

WMH standards in the WMH analytical centre, in which new variables based on DSM IV and ICD-10 diagnostic algorithms were also entered.

Promotion

To emphasise the rank of the study and to promote it, an introductory letter was sent to persons selected for participation in the study that presented the main aims of the project and the expected scientific and practical benefits. Persons who agreed to participate in the study received a gift: a wall calendar with images from the collections of “Miodowa” Gallery with materials promoting mental health [11, 12].

Discussion

As a result of the efforts of three scientific institutions (IPiN, NIZP-PZH, and UMED), the first Polish study of mental disorder prevalence on a random, representative sample of the general population was carried out in accordance with the methodology recommended by the WHO. The study included adults aged 18–64. The CAPI version of the Polish adaptation of CIDI was used with the possibility of diagnosing in accordance with ICD-10 and DSM-IV. 10 081 interviews were qualified for analysis, so the prevalence of the selected mental disorders in the last 30 days, 12 months, and the lifetime could be assessed. The EZOP-Poland project also studied social attitude towards mentally ill persons, mental diseases, and psychiatric institutions as well as the availability of mental health care services. Such broad data could possibly be used in creating health policies, including the implementation of assumptions of the National Mental Health Protection Program passed in 2010 [13]. A practical effect of the EZOP study is the creation of the Polish version of CIDI that can be used in further scientific projects (www.ezop.edu.pl). Including Poland in the mainstream of global epidemiological studies carried out under the auspices of the WHO is an incredibly important aspect of the project [14]. Methods were similar and, in most study regions, common, so the Polish sample could be included in the international database of the WMH that now includes 66,000 diagnostic interviews taken globally. Therefore, the assessment of many factors influencing the prevalence and course of mental disorders is possible, including the ethnic, cultural, and medical context relating to comorbid symptoms of somatic diseases [15]. Large sample size, one of the largest in the WMH database, increases the statistical strength of the obtained results. The staged form of the project as well as its structure required the creation of efficient mechanism of cooperation between institutions participating in the study, which was successful. The RR in the EZOP-Poland study was satisfyingly high and, importantly, it was obtained without financial gratification for study participants. This confirms the efficacy of the training tasks and good selection of cooperators [11]. Study logistics and difficulties appearing in various stages were routinely consulted with the HMS, so that errors were avoided and standards set by the WHO were maintained. Cooperation with the partner from

Norway, with previous experiences in CIDI studies, is also important, as it facilitated grant application by sharing the necessary “*know-how*” at the initial stage [16]. Due to time and financial restraints, the study includes a full validation assessment of the Polish CIDI v. 3.0 in comparison with clinical assessment instead of SCID, which would require additional training.

References

1. *Zakłady psychiatrycznej oraz neurologicznej opieki zdrowotnej*. Statistical yearbook 2009. Warsaw: Institute of Psychiatry and Neurology, Department of Healthcare Organizations; 2010.
2. Bruffaerts R, Bonnewyn A, Demyttenaere K. *Mental health in Belgium: current situation and future perspectives*. W: Kessler RC, Ustun TB. ed. *The WHO World Mental Health Surveys: global perspectives on the epidemiology of mental disorders*. New York: Cambridge University Press; 2008. p. 279–304.
3. Robins LN, Regier DA. *Psychiatric disorders in America: the Epidemiologic Catchment Area Study*. New York: Free Press; 1991.
4. www.who.int/mental_health/policy/mhtargeting/development_targeting_mh_summary.pdf [retrieved: 20.05.2014].
5. Ormel J, Petukhova M, Chatterji S, Aguilar-Gaxiola S, Alonso J, Angermeyer MC. et al. *Disability and treatment of specific mental and physical disorders across the world*. *Br. J. Psychiatry* 2008; 192(5): 368–375.
6. Kessler RC, Ustün TB. *The World Mental Health (WMH) Survey Initiative Version of the World Health Organization (WHO) Composite International Diagnostic Interview (CIDI)*. *Int. J. Methods Psychiatr. Res.* 2004; 13(2): 93–121.
7. Dz.U. 1994 no 111 item 535, Mental Health Protection Act of 19 August 1994; <http://isap.sejm.gov.pl/DetailsServlet?id=WDU19941110535> [retrieved: 20.04.2014].
8. *Action Plan for Europe. Facing the Challenges, Building Solutions*; http://www.euro.who.int/_data/assets/pdf_file/0006/99735/edoc07.pdf [retrieved: 20.05.2014].
9. Haro JM, Arbabzadeh-Bouchez S, Brugha TS et al. *Concordance of the Composite International Diagnostic Interview Version 3.0 (CIDI 3.0) with standardized clinical assessments in the WHO World Mental Health Surveys*. *Int. J. Methods Psychiatr. Res.* 2006; 15(4): 167–180.
10. Kiejna A, Moskalewicz J, Rabczenko D, Wojtyniak B, Zagdańska M. *Metodologia*. W: Moskalewicz J, Kiejna A, Wojtyniak B. ed. *Kondycja psychiczna mieszkańców Polski*. Report from the study “Epidemiology of mental disorders and access to mental health care. EZOP – Poland”. Warsaw: Institute of Psychiatry and Neurology; 2012. p. 19–41.
11. Moskalewicz J, Stokwiszewski J, Świątkiewicz G, Zagdańska M. *Badanie terenowe*. W: Moskalewicz J, Kiejna A, Wojtyniak B. ed. *Kondycja psychiczna mieszkańców Polski*. Report from the study “Epidemiology of mental disorders and access to mental health care. EZOP – Poland”. Warsaw: Institute of Psychiatry and Neurology; 2012. p. 43–59.
12. <http://www.ezop.edu.pl/EZOP2013.pdf> [retrieved: 20.05.2014].

13. *Narodowy Program Ochrony Zdrowia Psychicznego*. Council of Ministers of 28 December 2010. Warsaw: Ministry of Health; 2011. http://www2.mz.gov.pl/wwwfiles/ma_struktura/docs/npoz_zdrpub_03112011.pdf [retrieved: 20.05.2014].
14. Kessler RC, Üstün TB. *The WHO World Mental Health Surveys: global perspectives on the epidemiology of mental disorders*. New York: Cambridge University Press; 2008.
15. Kleinman A. *Do psychiatric disorders differ in different cultures? The methodological questions*. W: Goldberger NR, Veroff JB. ed. *The culture and psychology reader*. New York: New York University Press; 1995. p. 631–651.
16. Kringlen E, Torgersen S, Cramer V. *A Norwegian psychiatric epidemiological study*. *Am. J. Psychiatry* 2001; 158(7): 1091–1098.

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