

Psychiatric symptomatology and personality in a population of primary care patients

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Abstract

Introduction and objective. Psychiatric disorders (and their high rates of prevalence) in primary care have been widely analyzed, but the problem of underdiagnosis remains unresolved. This becomes increasingly more important in rural health centres in the face of lack of epidemiological data from these centres. The aim of this study is focused on the relationship between general health, psychiatric symptomatology and personality characteristics in the context of an adequate diagnosis.

Materials and methods. 518 primary care patients in 6 Polish urban clinical centres were studied using (in order of administration): a sociodemographic questionnaire, the General Health Questionnaire (GHQ-28) and Eysenck Personality Questionnaire (EPQ-R).

Results. The investigated sample was representative for urban primary care patients. The findings confirmed a significant association between neuroticism and general health. The strongest relation with current functioning and mental distress of the patients (GHQ general score) was observed in case of symptoms of anxiety and insomnia. The symptoms of depression may be the most difficult to identify (psychiatric symptoms assessed using GHQ sub-scales).

Conclusions. According to the GHQ assumptions and confirmed by the presented study, sub-threshold psychiatric symptomatology affects the functioning of primary care patients and their general health. This correlates with personality factors. Improving adequacy of diagnosis becomes extremely important, as it may often be the only chance for appropriate therapy of mental problems for people living in rural areas due to lower availability of specialistic mental services. Further epidemiological studies concerning rural primary care and prevalence of the spectrum of mental disorders need to be conducted.

Key words

Mental disorders, primary health care

INTRODUCTION

Treatment, and especially the diagnosis of psychiatric disorders in the confines of primary health care has been widely analyzed, even as an official part of WHP projects [1]. 24% of primary care patients suffer from mental disorders and an additional 9% have sub-syndromal disorders [1].

A significant degree of under-diagnosis of mental disorders in primary care is being observed (even up to 75% of patients [2]). The main reasons for this situation include atypical presentation of a clinical picture of disorders in the context of primary health care, as well as an inadequate knowledge and capability of psychiatric diagnostics among general practitioners [2, 3]. Also, sub-threshold disorders require further investigation and studies, as they are clinically significant by increasing the probability of the incidence of

mental disorders throughout life, and affecting the quality of life and functioning of patients [4, 5, 6]. The economical aspect is being underlined.

According to data published in the Council of Ministers Regulation on the National Programme for Mental Health Protection in Poland, primary care is much less available in rural areas. The tendency to seek psychiatric care is much lower among the rural population than in the case of urban residents (in 1990 the difference between availability indices reached 81%, and in 2004 – 66% in out-patient care) [7]. In this context, the diagnosis and treatment of mental disorders seems to be more significant.

Between 2008–2011, an epidemiological survey on 10,082 participants (including 4,287 from rural areas) was conducted in Poland: Epidemiology of Mental Disorders and Access to Care – EZOP Poland [8]. This research was aimed at the general population, but the stratification concerning place of residence was included. The response rate from rural areas amounted to 58.1% and was the highest attained. This leads to the conclusion that rural inhabitants were more willing

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to participate in the survey than others. Therefore, they were more prepared to participate in a dialogue with the representatives of psychiatric care [8]. There is a substantial lack of epidemiological data concerning both primary care patients and rural areas, and very little research has been conducted in rural areas, with a limited outreach (with prevalence indicators pointing to total prevalence of 45.3%) [9].

Examination of personality background may provide further information to help diagnosing and understanding mental disorders. Personality dimensions as defined by Eysenck are a common subject of considerations in the context of psychopathological symptoms and psychiatric care use. A positive correlation between neuroticism (defined by guilt feelings, low self-esteem, tense, anxiety, etc.), and unipolar affective disorder has been confirmed [10]. Knowledge of these associations in the context of sub-threshold symptoms is less profound [11]. At the same time, neuroticism may be the reason for more intense search for help due to depression or anxiety disorders, also from primary care professionals [12, 13].

OBJECTIVES

'The dimensions of personality and the level of anxiety in patients with chronic disorders' is a multi-centre study carried out in Warsaw, Wrocław, Opole, Szczecin, Białystok and Łódź [14]. Measures used in the project were: State-Trait Anxiety Inventory [STAI]; Symptom Checklist-90, Polish version prepared in association with I Clinic of the Psychiatry University of Athens [SCL-90]; and the Social Support Scale [SSS]). The presented report focuses on the following parameters observed in the investigated group:

- general condition of health (as defined in GHQ);
- symptomatology of depression, anxiety and insomnia, somatic symptomatology and social dysfunction as causing distress and affecting current functioning of the patients (sub-threshold disorders – in a period shorter than 2 weeks, according to the assumptions of GHQ);
- personality dimensions (as defined in EPQ-R).

The analysis will involve the possibility of generalization of the study findings.

MATERIALS AND METHOD

The study involved primary health care patients from the 6 above-mentioned centres. The participants (1,000 individuals) were recruited from June 2010 – November 2011. Lack of answers, returning of some of the scales, or ambiguous signing of the consent reduced the number of analyzed sets to 518 (51.8 %).

The current results are based on (in order of administrating): own questionnaire, the General Health Questionnaire (GHQ-28) and Eysenck Personality Questionnaire (EPQ-R). Own questionnaire was prepared for the purposes of the research in order to obtain basic information on the respondents (gender, education, civil status, children, chronic diseases, mental disorders in the respondents and in their families, use of psychoactive substances, etc.).

The GHQ-28 by David Goldberg is a screening tool for evaluating the general mental health condition in adults, and refers to current functioning and psychiatric distress present during the previous 2 weeks. In this context, it differs from the Eysenck personality dimensions, which are constant [15]. In the presented study the 28-item version with Polish validation was used (sensitivity 59%, specificity 75%) [15], and comprised of 4 sub-scales:

- 1) somatic symptoms (GHQ-A);
- 2) anxiety and insomnia (GHQ-B);
- 3) social dysfunction (GHQ-C); 4) depression (GHQ-D).

GHQ-28 includes Polish norms for primary care patients. In the presented study, the Likert scaling method (scores 0–3 for every question) was used.

EPQ-R is used to assess basic personality traits according to the theory of Hans Eysenck: neuroticism (N), extraversion (E), and psychoticism (P) [16], which are supposed to be biologically conditioned. The tool also contains the Lie scale (L), which enables evaluation of a tendency to present oneself in a positive light. Polish norms, taking into account gender and age of the respondents, were available; sensitivity and specificity of the Polish version of the questionnaire allows its wide use in scientific studies [16].

Statistical methods. Descriptive statistics: mean value, standard deviations, standard error, asymmetry index, median, and +/- 95% confidence interval were determined for variables, the results of which were based on statistic interval scales. Normality of distribution for these variables was assessed by means of the following tests: Kolmogorov-Smirnov, Lilliefors and W Shapiro-Wilk at a confidence level $p=0.05$.

In the case of lack of test significance for normal distribution, statistical significance of differences between 2 mean values in the findings which had the features of interval variables was assessed by means of a parametric *t* test for independent trials, or a parametric Cochran–Cox test for unequal variations. In the case of variables which did not meet normal distribution criteria, the difference between 2 mean values was assessed by means of a non-parametric U Mann-Whitney, Wald-Wolfowitz and the two-sample Kolmogorov-Smirnov tests. To compare more than 2 mean values, depending on test results evaluating normality of distribution and variance homogeneity, the parametric analysis of variance (ANOVA), or its non-parametric equivalent, Kruskal-Wallis ANOVA tests were used, together with the median test. The confidence interval $p=0.05$ was assumed in all the tests assessing the statistical significance of differences between mean values.

Correlation between raw findings in the compared scales and subscales was assessed by determining the Pearson's linear correlation coefficient *r*, and correlation between Sten findings was determined on basis of Spearman's, Gamma and Kendall's Tau rank correlation coefficient *R*. The statistical significance of the coefficients was evaluated by means of *t* test at an assumed confidence interval $p=0.05$.

The findings, which had the features of nominal or dichotomous variables, were compared using a non-parametric χ^2 test and multiple correspondence analysis.

The internal consistency of the compared scales was assessed by means of a reliability coefficient (Cronbach's alpha).

Due to the large number of obtained results and editorial limitations, not all the applied analyses are mentioned in the presented study, but are available at reviewers' request.

Statistical analyses were performed using a STATISTICA PL version 9.0 computer programme.

RESULTS

According to expectations, the primarily used tests for normality of distribution did not confirm this trait. The authors' aim was to investigate a group of subjects representative for the population of primary care patients, not for the general population. Thus, the statistical analysis is mainly based on the findings of non-parametric tests.

Table 1. Statistical description of the investigated sample

	Response rate=51.8%	Total
Sample size		518; W: 393 (75.80%); M: 125
Mean age (standard deviation-SD)		42.38 (15.57); W: 42.25 (15.23); M: 42.78 (16.66)
Minimum, maximum age		18; 89
% of married participants		55.9% (N=298)
% of participants with at least secondary education		63.6%, N=339
% of participants suffering from a chronic somatic disease		21.58% (N=115)
% of participants diagnosed with a mental disorder (self-reported)		2.25% (N=12)

Statistical description of the investigated sample. The investigated group comprised primary care patients, and 23.22% of the subjects were nurses (no statistically significant differences were found between the 2 groups).

Table 2. Answers given in the General Health Questionnaire (GHQ-28) – mean values (in brackets – standard deviations)

Results (WS-Likert)	Primary care clinic patients (investigated sample)		Primary care clinic patients (studies of the authors of GHQ manual [17])	
	healthy	ill	healthy	ill
Total score	22.69 (11.64)	24.79 (10.41)	22.25 (11.12)	23.72 (12.31)
GHQ-A	6.80 (3.81)	8.19 (3.55)	6.74 (4.22)	7.35 (4.33)
GHQ-B	6.56 (4.58)	7.26 (4.69)	6.73 (4.35)	7.13 (4.68)
GHQ-C	7.18 (2.81)	7.34 (2.46)	6.98 (2.33)	7.18 (2.58)
GHQ-D	2.19 (3.46)	1.99 (3.13)	1.80 (2.81)	2.05 (3.42)

WS-Likert – Raw result according to Likert; bolding indicates statistically significant differences between scores obtained by healthy and ill subjects in individual subscales; italics indicates statistically significant differences between values obtained in individual subscales.

General health condition and symptomatology. The statistically significant differences (U-Mann Whitney test) observed were analogic to the findings of the authors of the Polish GHQ manual [15]. However, the method of the presented study rendered it impossible to check what diagnosis was made on the patient's visit during which the questionnaire was completed. The category of a somatic disease concerns here a chronic disease as given by the subjects in own questionnaire.

Statistically significant differences (mean test in relation to constant reference value) were observed in the results obtained by ill subjects in the somatic symptoms subscale ($t=-2.51$; $p=0.013$) between the compared studies (Tab. 2); similarly, between healthy subjects in the depression subscale ($t=2.28$; $p=0.023$).

When the raw results obtained in the presented study were compared to the norm, the calculation method proposed by the authors of the Polish version of questionnaire was used [15]. However, these norms concern working people. Information on employment was not obtained from data provided by subjects in the current study.

Table 3. Spearman rank-order correlation – statistically significant correlations ($p<0.0001$)

	RS-Likert	RS-A	RS-B	RS-C	RS-D
RS-Likert		0.736223	0.795079	0.642284	0.559498
RS-A	0.736223		0.646671	0.439147	0.309835
RS-B	0.795079	0.646671		0.543340	0.412007
RS-C	0.642284	0.439147	0.543340		0.407757
RS-D	0.559498	0.309835	0.412007	0.407757	

RS-Likert – Raw score obtained in Likert scale, RS-A, B, C, D – Raw score in respective subscale

Answers given by the respondents in the GHQ were affected by gender. Women obtained higher scores, which is consistent with the reports by authors of the manual and other researchers, including foreign researchers [15]. The Z parameter (U Mann-Whitney test) for variable gender was 2.35 in RS-Likert scale (raw score in Likert scale) ($p=0.01$), for somatic symptoms: 2.84 ($p=0.004$) and 2.15 for social functioning ($p=0.031$).

Table 4. Prevalence of scores obtained in EPQ-R in study group (%); mean answers in brackets

Scores	Raw score (SD)	N	E	P	L
	Stens (SD)	11.06 (5.825)	4.394 (1.953)	5.583 (1.955)	6.780 (3.755)
Low (1–3 sten)		27.53	12.36	28.09	8.24
Medium (4–6)		52.06	32.96	45.13	41.2
High (7–10)		10.30	44.57	16.67	40.45
Lack		10.11	10.11	10.11	10.11

Personality dimensions. Variables which affected statistically significant differences in individual EPQ-R subscales:

- age in the subscales: E and L (at the level of raw scores and stens). Only in the latter case the correlation reached the peak of weak effect: 0.293987 ($p<0.0001$) for raw scores and 0.266420 ($p<0.0001$);
- education (middle vs. higher) in the P subscale (Kruskal-Wallis=3.887; $p<0.0001$);
- civil status of women in the L scale. Married women had higher scores than single women (U Mann-Whitney test): $Z=4.346$ ($p<0.0001$) for raw scores and $Z= 3.449$ for stens ($p<0.0001$) – fig. 1.

General health condition and symptomatology and personality dimensions.

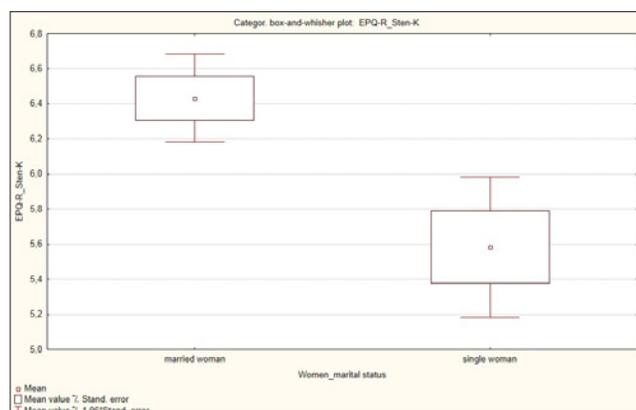


Figure 1. Effect of women's civil status on answers they provided in the Lie EPQ-R Subscale

Table 5. GHQ-28 vs. EPQ-R – statistically significant correlations; lack of data was removed by cases ($p < 0.0001$ if not otherwise specified)

GHQ EPQ-R (rs)	RS Likert	GHQ-A Likert	GHQ-B Likert	GHQ-C Likert	GHQ-D Likert
N	0.600522	0.443193	0.571677	0.355943	0.501907
E	-0.22887	-0.158765 (0.0005)	-0.163408 (0.0004)	-0.159165 (0.0005)	-0.240925
P					0.236904

rs – raw score

DISCUSSION

The scores obtained in the general health condition, psychiatric symptomatology and personality traits by the study group in the project ‘The dimensions of personality and the level of anxiety in patients with chronic disorders’ were similar to available Polish norms. However, the above-mentioned reservations concerning somatic diseases, use of the norms and over-representation of nurses should be taken into consideration.

The findings of presented study confirm a significant association of neuroticism with general health ($R=0.6$; $p < 0.0001$) in the context of current functioning and mental distress existing for a time shorter than 2 weeks. The findings allow confirmation that the correlation not only in clinical groups, at the level of diagnosis of mental disorders, but also in relation to subthreshold symptoms. Thus, individuals with a higher level of neuroticism tend to be more prone to experience (or report) subsyndromal anxiety and insomnia symptoms ($R=0.57$; $p < 0.0001$), and subsyndromal depression symptoms ($R=0.5$; $p < 0.0001$). Neuroticism is not significantly associated with social dysfunction.

Additionally, the presented study provides results which, according to the authors' state of knowledge, have not previously been presented in other reports. Married women may reveal a higher tendency to present themselves in a better light than other women (or may present a bigger need for social approval [16]). No correlation was found for this association with any other parameter investigated in the study. In view of the few reports on possible correlations of the Lie scale with the civil status and the quality of marriage and interpretation of the Lie scale [17, 18, 19], this issue requires further analysis, including remaining data from the presented study (regarding results from STAI, SCL-90

or SWS). 40% of the subjects obtained a high score in Lie subscale. Primary care patients may generally be a group not open to discussing their psychiatric symptoms and psychological problems.

According to the obtained results, the highest effect on the general condition of health – current functioning and mental distress of the patients, was observed in the case of symptoms of anxiety and insomnia ($R=0.79$; $p < 0.0001$). The weakest, although significant, correlation with the total score was observed for the depression symptoms subscale ($R=0.55$; $p < 0.0001$). This may concern the assumptions of GHQ. Subsyndromal anxiety symptoms could be more significantly associated with coexisting somatic symptomatology and general health than symptoms of depression (on the level of experiencing or reporting symptoms). Also, they would be associated with an increased level of social dysfunction. Comparison with other reports inspires further analyses. In another Polish study, anxiety symptoms (but not subsyndromal) exerted a significant effect on the distress level only when the severity of depression was low [20]. The presented study considers only data obtained on the basis of the GHQ and EPQ-R questionnaires. More profound analysis of these phenomena will also include data from the SCL-90-R (Polish version developed in cooperation with that from Athens).

The current study provides results regarding the urban population. Another issue is the question: how many rural residents use urban health care? There is a fundamental gap concerning data from rural health centres. The authors are familiar with Polish studies on the prevalence of mental disorders among primary care patients which are burdened with methodological constraints.

The presented analyses show an issue concerning an openness to talk about psychiatric symptoms and psychological problem with representatives of psychiatric care. Referring back to the EZOP study [8], the place of residence can be most significant for the social support of woman. The female inhabitants of rural areas receive significantly lower social support than others in the face of confronting serious difficulties.

Limitations of the study. This study applies only to urban health centres. A major drawback of the research procedure used is not taking into consideration the reason for which the subjects sought medical attention from primary care physicians, or their professional situation. Also, participation of the professional group of nurses in the investigated sample should be taken into account, as well as the low response rate, although this did not affect the results of the group as a whole, nor its representativeness for primary care patients.

CONCLUSIONS

Sub-threshold psychiatric symptomatology affects the functioning of primary care patients and their general health, and correlates with personality factors.

Taking into account the high rates of prevalence of this symptomatology in general health care, improving the adequacy of diagnosis and making the primary care physicians more aware of the problem among their patients becomes extremely important, especially if any risk factors are observed.

The low response rate observed may indicate a deep-rooted dislike for talking aloud about mental health problems, a phenomenon that may be more common in rural areas.

The necessity for informal actions and prevention programmes concerning mental health problems cannot be omitted, especially in rural centers. Improvement in this field may often be the only chance for appropriate therapy of mental problems for a high proportion of the inhabitants of rural areas. The authors therefore call for more psychiatric epidemiological data from rural areas.

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