

The spatial conditioning in the incidence of depressive and neurotic disorders in a medium-size Polish town

Przestrzenne uwarunkowania częstości zaburzeń depresyjnych i nerwicowych w średniej wielkości polskim mieście

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Abstract

Background: Most of research studies conducted so far have shown a frequent incidence of depression and neuroses in cities compared to rural and to suburban areas.

Aims: We wanted to compare the geographic distribution of affective and neurotic disorders in Polish medium-size town.

Methods: The following research work was carried out in a medium-size town based on address data of people placed in psychiatric hospitals for affective and neurotic disorders in the years 1989-2002. In order to study the differences among particular districts of the town the test for two proportions was applied.

Results and Conclusions: The analyzed group of persons included 311 patients, 141 men and 170 women. It was indicated that patients more frequently lived in the centers of towns as well as women aged 20-29 year in postindustrial districts and women (40-49) and men (50-59) in districts with city housing projects. It should be mentioned that more patients lived in the center of towns, but also in postindustrial districts and in districts with city housing projects.

Keywords: affective disorders, neurotic disorders, urban areas

Streszczenie

Wstęp: większość badań przeprowadzonych do tej pory wykazały częste występowanie depresji i nerwic w miastach w porównaniu do wiejskich i podmiejskich obszarów.

Cele: Chcieliśmy porównać geograficzny rozkład stawek chorób afektywnych i zaburzeń nerwicowych w polskim mieście.

Metoda: Poniższe badania przeprowadzono na podstawie danych adresowych w średniej wielkości mieście wśród ludzi hospitalizowanych w szpitalu psychiatrycznym z powodu zaburzeń afektywnych i nerwicowych w latach 1989-2002. W celu zbadania różnic między poszczególnymi dzielnicami miasta wykonano test dla dwóch proporcji.

Wyniki i wnioski: Analizowana grupa osób wyniosła 311 pacjentów, 141 mężczyzn i 170 kobiet. Wykazano, że pacjenci coraz częściej żyli w centrum miasta, jak i kobiety w wieku 20-29 lat w postindustrialnych dzielnicach, kobiety (40-49) i mężczyźni (50-59) w dzielnicach z projektów mieszkaniowych miasta. Należy wspomnieć, że więcej pacjentów mieszkało w centrum miasta, ale także w postindustrialnych dzielnicach oraz w dzielnicach z projektów mieszkaniowych miasta.

Słowa kluczowe: zaburzenia afektywne, zaburzenia nerwicowe, obszary miejskie

Background

Studies conducted up till now have shown a frequent incidence of depression in urban areas compared to rural areas, as well as a frequent incidence of the same phenomenon in town centres compared to suburban areas (1-9). Some studies did not show a marked statistical difference between cities and the villages, although a segment of them showed a preponderance

of disorders in urban areas (10-16]. Faris and Dunham show in their pioneer study, among other things, the equally frequent incidence of manic-depressive psychosis in affluent areas of cities (17). The purpose of the present work was to study the placement of people in psychiatric hospitals as a result of affective disorders (F30-F39 / ICD 10) and neurotic disorders (F40-F49) in areas of the medium size Polish town, Tarnowskie Góry, as well as selection of their social demographic data.

We aimed to compare the geographic distribution rates of affective and neurotic disorders in Polish medium-size town.

Material and methods

The research was based on admission books and on computer databases in psychiatric wards in Tarnowskie Góry, Toszek and Lubliniec. Among those placed in psychiatric hospitals in the years 1989-2002, persons diagnosed with affective disorders (ICD 10, F30-F39) and neurotic disorders (F40-F49) were selected in the town of Tarnowskie Góry based on their place of residence. Hospitalization indexes were counted in particular districts of the town. Then the relationship among particular districts of the town was studied for testing two proportions ($p=0.025$). ICD9 criteria were initially used for hospital diagnosis, and then ICD10 criteria [18].

In order to add more clarity to the results of the work we offer a brief characterization of the town as well as a distribution of a few categories of particular districts. The town of Tarnowskie Góry with 62,000 inhabitants lies in The Silesian Voivodeship in the Upper Silesian industrial region. It is a city of historical tradition, inasmuch as King John III Sobieski passed through it in 1683. The town has a market square around which the small streets of the town spread out. After Poland's economic transformation in 1989 visible changes began. There has been an increase in service-based companies and a succession of territories formed around the market square in accordance with Burgess's theory [19]. Industries began to have problems and unemployment appeared. The housing in Tarnowskie Góry is public (communist era projects), traditional townhouses, and detached houses. Many buildings require restoration. The town districts did not gain complete independence from the town center because of poorly developed service and cultural life, even though after 1989 there was a material improvement.

Town districts:

I- "Śródmieście" (Downtown). Categories: the main places of employment include a large railway junction, clothing factories, and chemical plants in a distance from the town center that are on the verge of being shut down. There are town houses, government housing (projects), and detached houses, and the cultural hub of the city.

II - "Stare Tarnowice" - the oldest part of the town, consisting of detached houses and a large government housing complex (projects) called "Friendship". In this

district, there is a general hospital with a psychiatric ward.

III - "Osada Jana" with older single and multi-family housing, the second largest government housing project called "Millennium", which is less attractive in terms of appearance and comfort than the "Friendship" projects in "Stare Tarnowice".

IV - "Lasowice". A largely industrialized district with town houses, detached houses, and a public housing complex (projects).

V - "Sowice" which neighbors the district IV, also largely industrialized with predominantly decrepit town houses; it has also "social-care apartments" for persons evicted from other districts.

VI - "Strzybnica" has a few industrial plants and places with farmland. There are town houses, single- and multi-family houses and public housing.

VII - "Pniowiec" has areas rich in greenery, neighboring water and forests. Detached houses predominate.

VIII - "Repty" area with state-owned farmland. Single-family housing, a beach forest, a large rehabilitation hospital.

IX - "Bobrowniki" possesses a brickyard and sports recreation center where in the past dolomite was mined. It has single and multi-family housing, as well as town and government housing.

X - "Opatowice" is the smallest town district with slightly isolated housing, mainly detached houses.

XI - "Rybna" is a district of single and multi-family housing, neighboring "Strzybnica" (VI), with many tillable fields and woods.

Results and Conclusions

The analyzed group of persons comprised 311 patients suffering from affective disorders and neurotic disorders, 141 men and 170 women. The analysis was based on studying the relation between the number of illnesses, which required hospital care, and the place of residence of patients in the years 1989-2002. The numerical force of the ill was defined by counting the number of persons with diagnosed psychiatric data and then grouping them with regard to place residence in a defined area of the town. The numerical index of those hospitalized for affective disorders and neurotic disorders is presented in Table 1. The graphical image of indexes along with the statistical relationships among studied districts is presented in Table 2.

Table 1. The percentage of persons placed under psychiatric care because of alcohol addiction in relation to the number of inhabitants in a given district in the years 1989-2002

City districts	% Hospitalized	Men %	Women %	Number of inhabitants	p
Śródmieście (I)	1.09	0.96	0.13	22,725	0.0000*
Stare Tarnowice (II)	0.8	0.74	0.05	13,428	0.0000*
Osada Jana (III)	0.98	0.89	0.08	5,891	0.0000*
Lasowice (IV)	0.70	0.58	0.11	5,123	0.0000*
Sowice (V)	1.36	1.11	0.25	1,170	0.0034*
Bobrowniki (VI)	0.43	0.43	0	3,947	0.0000*
Repty (VII)	0.44	0.33	0.11	1,804	0.0623
Pniowiec (VIII)	0.26	0.26	0	1,121	0.0354
Strzybnica (IX)	0.39	0.31	0.07	6,572	0.0004*
Rybna (X)	0.54	0.49	0.04	2,014	0.0021*
Opatowice (XI)	0.28	0.28	0	703	0.0700
Town	0.82	0.73	0.09	64,498	0.0000*

* $p \leq 0.025$

Table 2. Comparison in all the town districts of persons placed in psychiatric hospitals as a consequence of alcohol addiction in the years 1989-2002

Town districts	Stare Tarnowice	Osada Jana	Lasowice	Sowice	Bobrowniki	Repty	Pniowiec	Strzybnica	Rybna	Opatowice
Śródmieście (I)	0.0031*	0.22	0.005*	0.190	0*	0.0042*	0.0038*	0.0000*	0.0097*	0.0191*
Stare Tarnowice (II)		0.10	0.238	0.020*	0.007*	0.047	0.0230*	0.0004*	0.106	0.062
Osada Jana (III)			0.052	0.117	0.0009*	0.0140*	0.0086*	0.0000*	0.032	0.031
Lasowice (IV)				0.011*	0.045	0.115	0.046	0.0113*	0.229	0.097
Sowice (V)					0.0002*	0.0027*	0.0017*	0.0000*	0.0069*	0.0095*
Bobrowniki VI						0.472	0.220	0.392	0.267	0.287
Repty (VII)							0.224	0.388	0.325	0.284
Pniowiec (VIII)								0.258	0.130	0.473
Strzybnica (IX)									0.182	0.325
Rybna (X)										0.192

* $p \leq 0.025$

Table 1 shows that in the majority of the town districts significant statistical differences were observed with regard to gender between „Śródmieście” (I) and „Strzybnica” (IX). Data contained in Table 2 shows the assessment indexes of persons hospitalized between the more- and the less- urbanized districts (I-V), including those with rural housing (VI-X). In various age groups (20-29, 30-39, 40-49, 50-59, 60-) there is the same tendency as above.

In the 20-29 age group the situation for women is not very favorable in district (V), where significant statistical differences occurred, particularly in relation to district (I) ($p=0.0019$) and (II) ($p=0.0227$). Also noteworthy is the significant statistical occurrence of problems among women in the 40-49 age group in district (II) in relation to district (III) ($p=0.0171$). Also, among men in the 50-59 age group, statistically significant frequent hospitalizations occur in district (II) in

relation to district (I) ($p=0.0092$). Among the employed, unfavorable and statistically significant differences were received for men in district (IV) in relation to district (I) ($p=0.0115$), whereas, among women, in district (II) in relation to district (I) ($p=0.0070$) as well as (VI) ($p=0.0242$) and (IX) ($p=0.0211$).

Certain conformability appears in the prevalence of mood disorders and nervous disorders in downtown areas as well as in urbanized districts in relation to districts with a lower index of urbanization. In case of employed people, relatively more problems occur in district (II), in particular in women who are just before the eligible age for early retirement, whereas for men a similar situation occurs in district (IV). In district (II), which also embraces a large housing project "Przyjaźń," a range of larger problems can be connected with the relatively greater professional burden of its inhabitants, who, in stress situations at work, manifest symptoms of

depression and other nervous disorders. When taking into consideration the results obtained for employed women, it was precisely in that district that significant statistical differences were found compared to other districts. In a study by Almeida-Filho et al. [20] more frequent incidence of depression and anxiety was found in less affluent urban areas. In a study by Parkar et al. [21] in slum neighborhoods in Mumbai, greater problems connected with stress were found among men than women. Men are more frustrated from the lack of work. This also causes stress in women, as their husbands often "drown their cares" in alcohol, and end up into addiction. However in a study by Kessler et al. [2] women evaluated their health more negatively than men. In work by Kovess-Mastefy et al. [22] it was found that urbanization is a factor for the higher risk of mental disorders taking place, especially for depression disorders, but for anxiety disorders to a lesser extent. It was also found that in urban areas depression occurs more frequently among unemployed men and single women. Sundquist et al. [23] studied in their work the relationship between the level of urbanization measured by population density and the incidence of psychosis and depression. They also took into consideration marital status, socio-economic status and education level. It showed significant statistical differences, particularly for the occurrence of psychosis and depression, depending on the population density of both men and women. When marital status, socio-economic status and education level were taken into consideration, the differences were smaller, although still statistically significant. As to the issue of the incidence of mood disorders, nervous disorders and alcohol addiction in urban and rural areas, it was found that, relatively speaking, mood disorders were more frequent in urban areas than in rural. Regarding affective disorders in contrast to schizophrenia, Giggs and Cooper [24] found a larger group of occurrences in suburban areas, which especially for women, corresponded with studies dealing with the city of Tarnowskie Góry. A certain parallel can be made between suburban districts of a large city and districts surrounding the center of a medium-sized city. This in particular applies to districts, in which neither decapitalization nor post-industrialization have taken place, as have most decidedly taken place in the so-called "project" district (II). Upon observing the results obtained, it can be concluded that a correlation exists between the placement of persons in psychiatric hospitals due to mood and nervous disorders, and between the more urbanized and the less urbanized districts. Those placed under psychiatric care are more frequently inhabitants of highly urbanized areas (I, II, III). As to the question of district (II), it can be added that the cost of rent is relatively higher than in other districts. In 1965 Häfner et al. [25] studied the occurrence of all mental disorders in 20 areas in and around Mannheim. Mannheim, inhab-

ited by 300,000 people, was attractive in terms of industrial development, transport and market potential. Disorders were most frequently found in disorganized areas, chiefly in the downtown, with a smaller index in the outskirts, particularly in rural areas with strong social activity. The same phenomenon was found in the period 1974-1980, despite larger activity within city renewal programs [26]. Greenley and Dottl's [27] confirmed that the difference in depression between less and more urbanized areas was less visible, which, for example, was the case for schizophrenia.

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