Wiadomości Lekarskie
Medical Advances

VOLUME LXXVII, ISSUE 5, MAY 2024
Official journal of Polish Medical Association has been published since 1928

ISSN 0043-5147
E-ISSN 2719-342X

ALUNA Publishing

Memory of
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Wiadomości Lekarskie is abstracted and indexed in: PUBMED/MEDLINE, SCOPUS, EMBASE, INDEX COPERNICUS, MINISTRY OF SCIENCE AND HIGHER EDUCATION, POLISH MEDICAL BIBLIOGRAPHY

Distribution and Subscriptions:
Bartosz Guterman prenumerata@wydawnictwo-aluna.pl

Graphic design / production:
Grzegorz Sztank fajne.work

Publisher:
ALUNA Publishing
ul. Przesmyckiego 29,
05-510 Konstancin – Jeziorna
www.wydawnictwo-aluna.pl
www.wiadomoscilekarskie.pl
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Assessment of socio-demographic characteristics and social status of patients with negative symptoms in schizophrenia at different stages of the disease

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ABSTRACT

Aim: To determine the features of socio-demographic characteristics of patients with negative symptoms of schizophrenia.

Materials and Methods: 252 patients with negative symptoms of schizophrenia took part in the study: 83 patients with the first episode of schizophrenia, 88 patients with schizophrenia in a state of exacerbation, and 81 patients with schizophrenia in a state of remission. During the research, a comprehensive approach was used, which consisted in the use of clinical-psychopathological, clinical-anamnestic and statistical research methods.

Results: Socio-demographic characteristics of patients with negative symptoms in schizophrenia were established. Among patients with the first episode of schizophrenia, the majority were of 20-29 years old, mostly with secondary education, unmarried, with a mental labor, with low and average levels of a material well-being, poor and satisfactory living conditions. Among patients with negative symptoms of schizophrenia in an exacerbation state, the majority was of persons of 30-49 years old, with a special secondary education, mostly divorced, with a disability, with a low and extremely low level of material well-being, with poor and very poor living conditions prevailed. Among patients with negative symptoms of schizophrenia in a state of remission, there was a predominance of persons of 30-39 and 50-60 years old, with a special secondary education, divorced, mainly with a physical labor, with a low and average level of material well-being and poor living conditions.

Conclusions: The obtained data can be used to establish diagnostic criteria for patients with negative symptoms in schizophrenia, depending on the dynamics of the disease.

KEY WORDS: socio-demographic characteristics, patients with schizophrenia, negative symptoms, first episode of schizophrenia, schizophrenia in a state of exacerbation, schizophrenia in a state of remission

Wiad Lek. 2024;77(5):943-949. doi: 10.36740/WLek202405110 DOI

INTRODUCTION

Negative symptoms (NS) are an integral part of schizophrenia, which leads to disruption of social adaptation, interpersonal interaction and disability [1]. More than half of patients with chronic schizophrenia have at least one negative symptom, and the prevalence of persistent NS after the first psychotic episode is 11-37% [1, 2]. NS in schizophrenia include motivational (abulia, anhedonia, and social withdrawal) and social (alias and affective flattening) disorders [3]. NS worsen the quality of life and the level of social functioning of patients with schizophrenia [1].

In global psychiatric science and practice, there are still many questions about the typology of schizophrenia, the description of its clinical manifestations [4, 5]. Psychiatrists of different countries draw attention to the fact that these descriptions do not always coincide. And these contradictions, these different interpretations of the same, seemingly, manifestations of the disease, but in different countries, in different people, in people of different ages, different sexes, etc., lead to some confusion [6]. Therefore, modern strategies for the study of schizophrenia require interdisciplinary and multimodal approaches that allow a comprehensive assessment of the conditions of its occurrence, development, and course. Socio-demographic factors can be considered as factors affecting the prognosis of the course and outcome of the disease [1, 7]. In this regard, a comprehensive approach to the study of socio-demographic characteristics of patients with schizophrenia involves

Table 1. Gender distribution of patients with negative symptoms in schizophrenia

Sex	1st group (n = 83)		2nd group (n = 88)		3rd group (n = 81)	
	n	% ± m%	n	% ± m%	n	% ± m%
Men	38*	45.78± 4.11	40*	45.45± 3.86	25	30.86± 3.21
Women	45	54.22± 4.47	48	54.55±4.23	56*	69.14± 4.80

Notes: – n – number of persons in the distribution class; % – relative frequency; m% – average error of relative frequency; differences are statistically significant: * - at $p < 0.05$.

the study of the influence of social factors on the formation and course of schizophrenia and determines the relevance of this study.

AIM

The purpose of this study was to identify the features of determining the socio-demographic characteristics of patients with negative symptoms of schizophrenia.

MATERIALS AND METHODS

252 patients with negative symptoms in schizophrenia took part in the study: 83 patients with the first episode of schizophrenia (1st group), 88 patients with schizophrenia in a state of exacerbation (2nd group) and 81 patients with schizophrenia in a state of remission (3rd group). Patients were given full information about the study, in accordance with the principles of the Helsinki Declaration of Human Rights, the Council of Europe Convention on Human Rights and Biomedicine, relevant laws of Ukraine and international acts, and they were asked to sign an informed consent for participation in the study, which was approved by the ethics committee (protocol No. 26 dated Dec. 18th, 2023).

The following research methods were used: clinical-psychopathological, clinical-anamnestic and statistical. The clinical-psychopathological research method included a standardized interview and observation, with the help of which a primary diagnosis of negative symptoms in patients with schizophrenia was carried out in accordance with the diagnostic criteria of ICD-10. As a result of using the clinical-anamnestic method, socio-demographic data of the patients, information about the characteristics of their material and living conditions, family and professional status and level of education were obtained. Statistical analysis included the use of the following characteristics: relative frequency – P (%), representativeness error – m (mean relative frequency error – m_p (m%)), arithmetic mean (M). The average relative frequency error was determined by the formula:

$$m_p = \pm \sqrt{\frac{P \times q}{n}},$$

where: m_p is the average relative frequency error; q is the difference between the base of the relative frequency and the relative frequency itself (q = 100 - P); n is the number of persons in the distribution class. Fisher's exact test (p-value) was used to compare relative frequencies in two independent samples. For each gradation of the diagnostic criterion, its contribution to the diagnosis was determined: Kullback's measure of informativeness (MI) was calculated and diagnostic (prognostic) coefficients (DC) were calculated [8]. The critical value of the level of statistical significance (p) was taken as $p < 0.05$. The data obtained in the study were processed using Microsoft Excel 2019 MSO license program, serial number 00414-50000-00000-AA861.

RESULTS

Analysis of the distribution of patients with a predominance of negative symptoms by gender showed that the 1st group consisted of 38 men (45.78 ± 4.11) % and 45 women (54.22 ± 4.47) % (Table I). In the 2nd group there were 40 men (45.45 ± 3.86) % and 48 women (54.55 ± 4.23) %. The 3rd group consisted of 25 men (30.86 ± 3.21) % and 56 women (69.14 ± 4.80) %. It was found that there were more women than men in the total examined sample, but the statistical analysis of the results showed that there were more men in the 1st group (45.78 %, p = 0.018, DC = 1.71, MI = 0.13) and the 2nd group (45.45 %, p = 0.019, DC = 1.68, MI = 0.12), than in the 3rd group, in which women predominated (69.14 %, p = 0.019, DC = 1.03, MI = 0.08).

The distribution of patients by age is presented in Figure 1. In the 1st group, persons of age of 20-29 years old prevailed (67.47± 4.69) %, in the 2nd group the majority of patients were represented by the age group of 30-39 years (51.14± 4.11) % and 40-49 years old (36.36± 3.33) %, in the 3rd group most patients were of 30-39 years old (40.74± 3.92) % and a significant part of the patients was of 50-60 years old (25.93± 2.79) %.

It was established that there were more patients of age of 20-29 years old in the 1st group (67.47 %) than in the 2nd group (9.09 %, p = 0.0001, DC = 8.71, MI = 2.54) and the 3rd group (14.81 %, p = 0.0001, DC = 6.58, MI = 1.73). Patients of the 2nd group were distinguished by

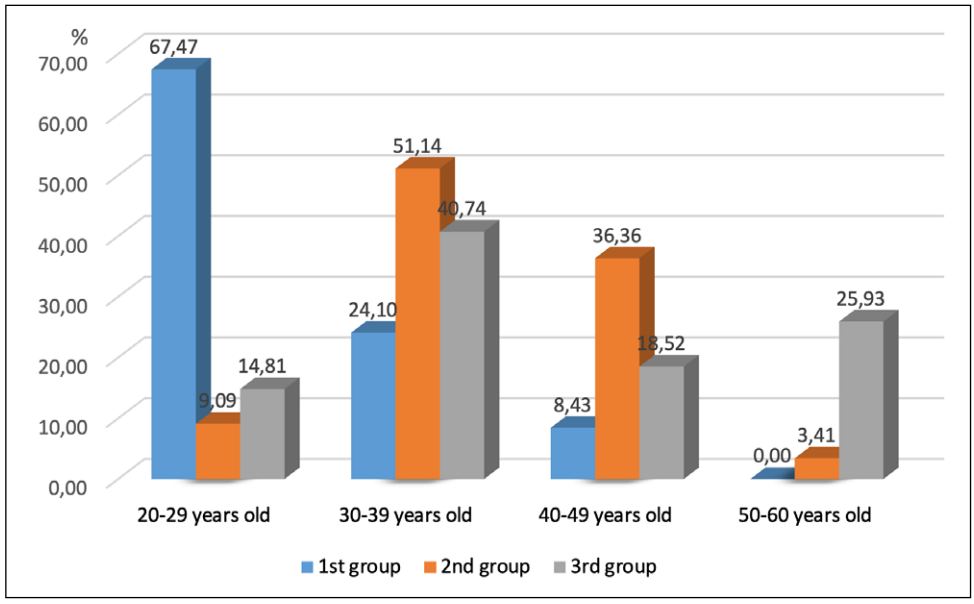

Fig. 1. Distribution of patients with negative symptoms in schizophrenia by age.

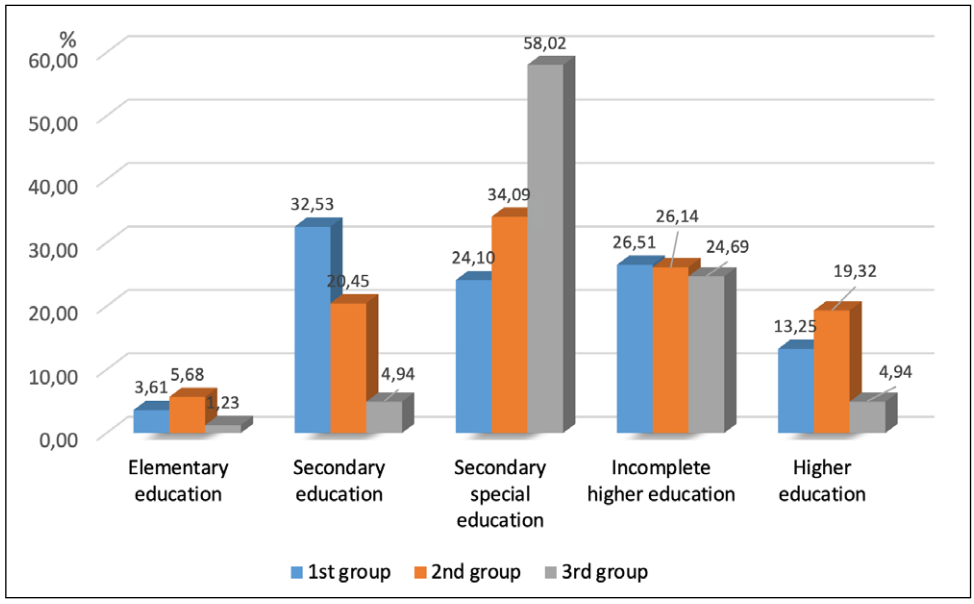

Fig. 2. Distribution of patients with negative symptoms in schizophrenia by level of education.

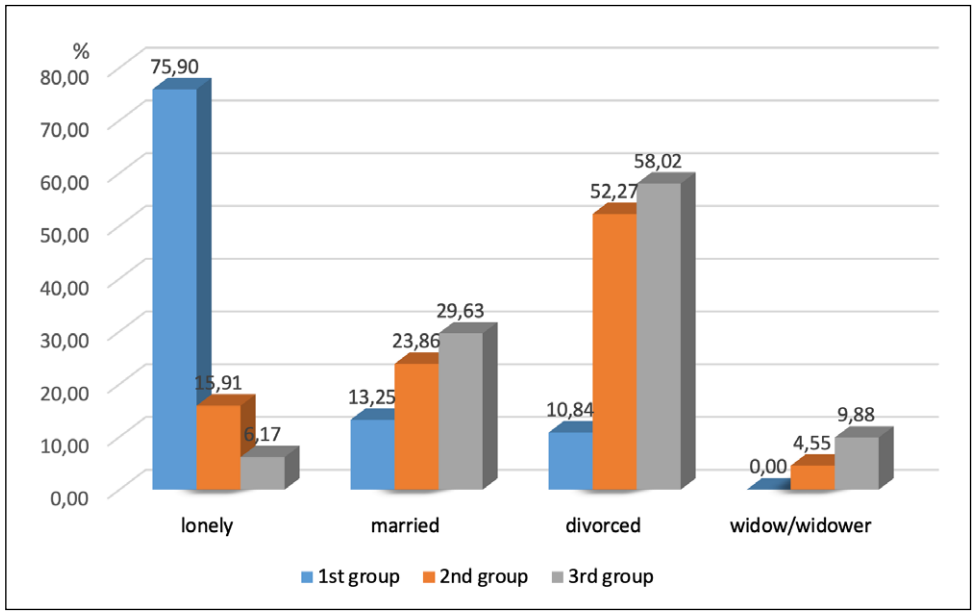

Fig. 3. Distribution of patients with negative symptoms in schizophrenia by family status.

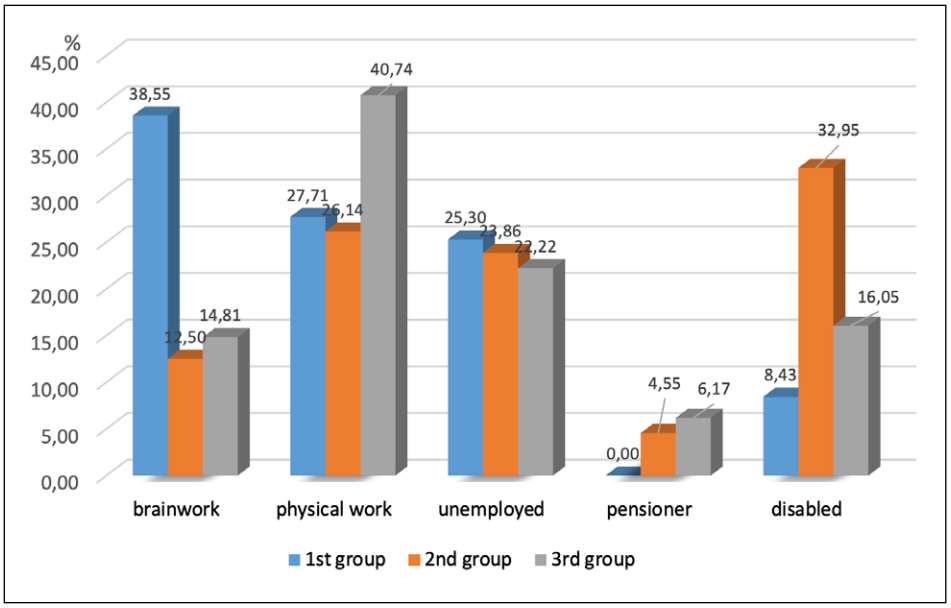

Fig. 4. Distribution of patients with negative symptoms in schizophrenia by kind of job.

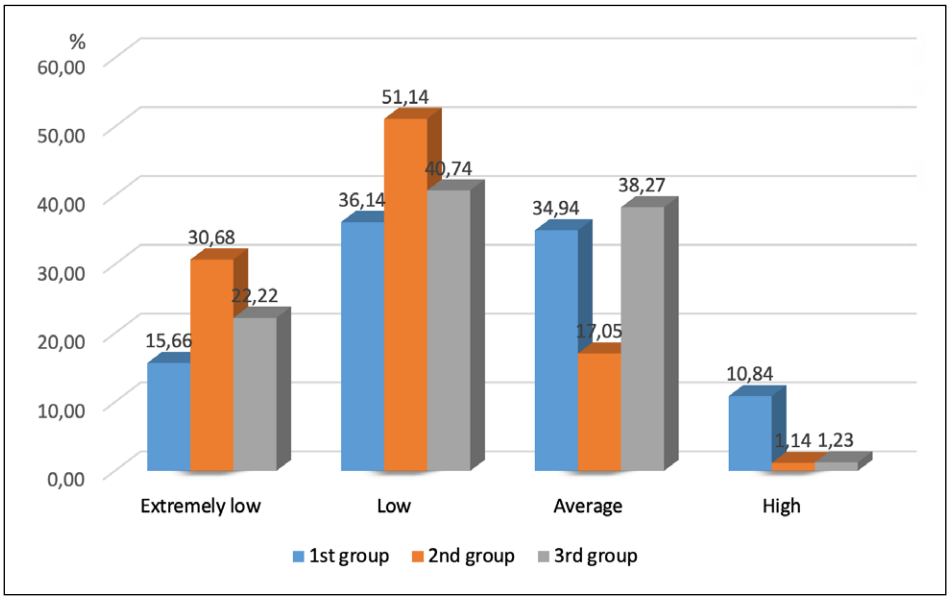

Fig. 5. Distribution of patients with negative symptoms in schizophrenia by level of material well-being.

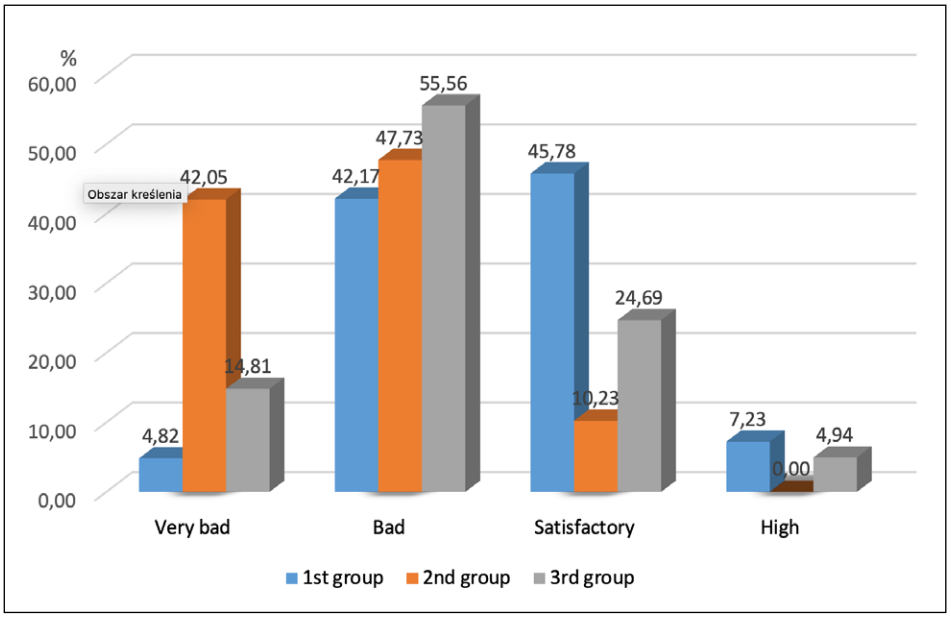

Fig. 6. Distribution of patients with negative symptoms in schizophrenia by level of housing conditions.

the predominance of the number of persons of age of 30-39 years (51.14 %) and 40-49 years (36.36 %) old in comparison with the 1st group (24.10 %, p = 0.0001, DC = 3.27, MI = 0.44 and 8.43 %, p = 0.0001, DC = 6.35, MI = 0.89, respectively) and the 3rd group (40.47 %, p = 0.049, DC = 0,99, MI = 0.05 and 18.52%, p = 0.004, DC = 2.93, MI = 0.26, respectively). Patients of the 3rd group were distinguished by the predominance of the number of people of age of 50-60 years old (25.93 %) in comparison with the 1st group (p = 0.0001) and the 2nd group (3.41 %, p = 0.0001, DC = 8,81, MI = 0.99).

Analysis of the distribution of the examined by level of education demonstrated that among patients of the 1st group there was a predominance of individuals with a secondary (32.53± 3.26) %, incomplete higher (26.51± 2.77) % and special secondary education (24.10± 2.56) % (Fig. 2). In the 2nd group, patients with a special secondary education (34.09± 3.18) %, incomplete higher education (26.14± 2.58) % and with secondary education (20.45± 2.10) % predominated. In the 3rd group, the vast majority of patients had a special secondary education (58.02± 4.70) %.

The analysis of differences made it possible to determine that there were more patients with secondary education in the 1st group (32.53 %) compared to the 2nd group (20.45 %, p = 0.028, DC = 2.01, MI = 0.12) and 3rd group (4.94 %, p = 0.0001, DC = 8.19, MI = 1.13), among which there were more people with secondary special education (34.09 %, p = 0.048, DC = 1,51, MI = 0.08 and 58.02 %, p = 0.0001, DC = 3.82, MI = 0.65, respectively).

The assessment of the marital status of the examinees made it possible to determine, that unmarried persons predominated in the 1st group (75.90± 4.51) %, and divorced persons in the 2nd (52.27± 4.15) % and the 3rd groups (58.02± 4.70) % (Fig. 3).

It was proved that the number of lonely persons was greater among patients of the 1st group (75.90 %) in comparison with the 2nd and 3rd groups 15.91 %, p = 0.0001, DC = 6.79, MI = 2.04 and 6.17%, p = 0.0001, DC = 10.90, MI = 3.80, respectively), and the number of divorced was greater among patients of the 2nd (52.27 %) and 3rd groups (58.02 %) in comparison with patients of the 1st group (10.84%, p = 0.0001, DC = 6.83, MI = 1.42 and p = 0.0001, DC = 7.28, MI = 1.72, respectively).

Distribution of patients by the kind of job demonstrated that the patients of the 1st group had more people with brainwork (including students) (38.55± 3.69) %, a significant part of patients were persons engaged in physical labor (27.71± 2.87) % and a quarter of patients were unemployed (25.30± 2.67) % (Fig. 4). In the 2nd group, 32.95 % of patients had a disability, a significant number of people engaged in physical labor (26.14± 2.58) %, and 23.86 % of patients did not have a job. In the 3rd group, most patients had physical labor (40.74± 3.92) % or did not have a job at all (22.22± 2.45) %.

Statistical analysis of the results allowed to confirm that the patients of the 1st group differed from the 2nd and 3rd groups by a greater number of patients with brainwork (38.55 %, p = 0.0001, DC = 4.89, MI = 0.64 and p = 0.0001, DC = 4.15, MI = 0.49, respectively). Patients of the 2nd group differed from the 1st and 3rd groups by a greater number of patients with disabilities (32.95 %, p = 0.0001, DC = 5.92, MI = 0.73 and p = 0.005, DC = 3.12, MI = 0.26 respectively). Patients of the 3rd group differed from the 1st and 2nd groups by a greater number of patients with a physical labor (40.74 %, p = 0.028, DC = 1.67, MI = 0.11 and p = 0.017, DC = 1.93, MI = 0.14 respectively).

Assessment of the distribution of patients with negative symptoms in schizophrenia by the level of material well-being demonstrated that among the patients of the 1st group there was a predominance of persons with a low (36.14± 3.52) % and average (34.94± 3.44) % level of material well-being, in the 2nd group – with low (51.14± 4.11) % and extremely low level (30.68± 2.94) %, in the 3rd group – with low (40.74± 3.92) % and average level (38.27± 3.76) % of material well-being (Fig. 5).

It was proved that extremely low and low levels of material well-being were more typical for patients of the 2nd group (30.68 % and 51.14 %) than for patients of the 1st group (15.66 %, p = 0.009, DC = 2.92, MI = 0.22 and 36.14 %, p = 0.017, DC = 1.51, MI = 0.11, respectively). The average level of material condition was more typical for patients of the 1st and 3rd groups (34.94 % and 38.27 %) than for patients of the 2nd group (17.05 %, p = 0.003, DC = 3.12, MI = 0,28 and p = 0.001, DC = 3.51, MI = 0.37, respectively).

Analysis living conditions among patients with negative symptoms in schizophrenia demonstrated that the majority of patients of the 1st group defined their own living conditions as "bad" (42.17± 3.91) % and "satisfactory" (45.78± 4.11) %, patients of the 2nd group – as "bad" (47.73± 3.97) % and "very bad" (42.05± 3.68) %, in the 3rd group, the majority of patients considered their own living conditions as "bad" (55.56± 4.63) % (Fig. 6).

Statistical analysis made it possible to establish that "very bad" living conditions prevailed among patients of the 2nd group (42.05 %) in comparison with the 1st group (4.82 %, p = 0.0001, DC = 9.41, MI = 1, 75) and the 3rd group (14.81%, p = 0.0001, DC = 4.52, MI = 0.62). "Satisfactory" living conditions prevailed among patients of the 1st group (45.78%) in comparison with the 2nd group (10.23 %, p = 0.0001, DC = 6.51, MI = 1.16) and the 3rd group (24.69 %, p = 0.0001, DC = 3.83,

MI = 0.28). Patients of the 3rd group were distinguished by a larger number of patients with poor living conditions (55.56 %) compared to patients of the 1st group (42.17%, p = 0.028, DC = 1.20, MI = 0.08).

DISCUSSION

Summarizing the presented results, it should be noted that the carried-out study made it possible to identify the socio-demographic characteristics of patients with negative symptoms in schizophrenia and to determine their features, which are important for assessing the severity and consequences of the mental process. Socio-demographic features of patients with NS in schizophrenia were established:

a) among patients with the first episode of schizophrenia (1st group) there was a predominance of persons of age of 20-29 years old (67.47 %, p = 0.0001), with secondary education (32.53 %, p = 0.028), unmarried (75.90 %, p = 0.0001), with mental labor (38.55 %, p = 0.0001), with low and medium levels of material well-being (36.14 % and 34.94 %, p = 0.003, respectively), poor and satisfactory living conditions (42.17 % and 45.78 %, p = 0.0001, respectively);

b) among patients with NS in schizophrenia in a state of exacerbation (2nd group) there was a predominance of individuals of 30-49 years old (87.50 %, p = 0.049), with special secondary education (34.09 %, p = 0.048), divorced (52.27 %, p = 0.0001), with the presence of disability (32.95 %, p = 0.0001), with a low and extremely low level of material well-being (51.14 %, p = 0.009 and 30.68 %, p = 0.017, respectively), with poor and very poor living conditions (47.73 % and 42.05 %, p = 0.0001, respectively);

c) among patients with NS in schizophrenia in a state of remission (3rd group) there was a predominance of individuals of age of 30-39 years (40.74 %) and 50-60 years old (25.93 %, p = 0.0001), with special secondary education (58.02 %, p = 0.0001), divorced (58.02 %, p = 0.0001) mainly with the physical labor (40.74 %, p = 0.028), with a low and medium level of material well-being (40.74 % and 38.27 %, p = 0.001, respectively) and poor living conditions (55.56%, p = 0.028).

The obtained data are consistent with the studies of K. Altynbekov, N. Raspopova, A. Abetova (2023), the results of which showed that among 1200 patients with paranoid schizophrenia, patients of average working age prevailed (31-50 years old – 55.59 %), a large part of whom, despite a fairly good level of education, were socially maladapted in family and household relations, more than 80 % of them had disabilities due to mental illnesses, which may indicate the severity of the main mental disorder [9]. Other researchers agree that demographic, clinical and treatment characteristics, as well as socioeconomic variables predict the course of schizophrenia [10]. It is also determined that marital status, professional skills, physical exercise and social support influenced the quality of life of patients with schizophrenia [11]. It has been proven that the onset of schizophrenia is associated with socio-demographic, clinical, genetic, and environmental characteristics [12].

Clinical and anamnestic correlations of socio-demographic characteristics of patients with schizophrenia with the severity of forms, type of course and manifestations of schizophrenia, duration and progression of the disease, number of relapses, hospitalizations and duration of episodes, analysis of premorbid features of development and the presence of leading symptom complexes in patients with schizophrenia require further clarification. It would also be appropriate to study the hereditary burden of schizophrenia in order to find out its possible influence on the prognosis of the development of negative disorders in the structure of schizophrenia.

CONCLUSIONS

As a result of the study, the socio-demographic characteristics of patients with negative symptoms in schizophrenia were identified and their typical characteristics were determined. These characteristics include demographic data and features of material and living conditions, family and professional status, and level of education. The obtained data should be used to improve the diagnosis of patients with negative symptoms in schizophrenia.

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The study was conducted in accordance with the principles of the Helsinki Declaration of the World Medical Association «Ethical principles of medical research involving a person as an object of research». The study protocol was approved by the local ethics committee (protocol № 26 dated 18.12.23). All study participants provided informed consent in writing to participate in the study.

The study was conducted as a fragment of the complex scientific project of the National Development Program: "To study factors predicting the formation, course and outcome of depressive disorders in order to develop effective means of therapy and rehabilitation" (registration number 0116U000016, subject code NAMN.DR.2P.16).

CONFLICT OF INTEREST

The Authors declare no conflict of interest

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RECEIVED: 29.12.2023
ACCEPTED: 26.04.2024