

**LEVEL OF FUNCTIONING OF PATIENTS WITH SEVERE MENTAL ILLNESS  
BEFORE IMPLEMENTATION OF MULTIDISCIPLINARY COMMUNITY MENTAL  
HEALTH TEAMS IN SKOPJE, REPUBLIC NORTH MACEDONIA**

Viktor Isjanovski <sup>1</sup>, Andromahi Naumovska <sup>1</sup>, Stojan Bajraktarov <sup>2</sup>

<sup>1</sup>PHI, Health Center Skopje, North Macedonia, <sup>2</sup>Psychiatric clinic, Faculty of Medicine Ss. Cyril and Methodius University in Skopje, North Macedonia

**Abstract**

The main objective of this study was to determine and compare differences in the level of functionality in 180 patients with SMI in WHODAS 2.0 according to their demographic characteristics-gender, marriage, education, and professional arrangement/income before establishing Community Based mental healthcare in Skopje, North Macedonia.

Results show that on subscale Life activities and Participation selected patients are with lower level of functionality. Results for lower level of functionality are obtained on the subscales Cognition and Mobility, and mild level of disability are obtained on the subscales Getting along and Self-care.

The general level of functioning of all examined participants is on moderate level of dysfunctionality.

**Key words:** mental health, demographic characteristics, severe mental illnesses

**Introduction**

In the last two decades the health authorities in the The Republic of North Macedonia have undertaken various efforts in order to develop the community mental health system [1-5].

The key reforms were started in the period 2000-2007. The First National Mental Health Strategy was adopted in 2005 for a period of seven years. The Mental Health Act was enacted in 2005, with a major emphasis on the human rights of people with mental illness, although its application has remained limited.

The conclusions from many reports from domestic and international authorities have pointed to slow development and transformation of mental health practices in community mental health system after the end of the WHO program, and in particular to the decentralization and deinstitutionalisation processes [1-7].

However, the process for reforms towards community mental health system has been re-enforced with the Second Mental Health Strategy and Action Plan 2018-2025, and with start of Horizon 2020 project Recover lead by Trimbos Institute – Utrecht, and University Clinic of psychiatry Skopje as implementation partner (Clinical Trials NCT03892473).

The determined conditions of the plan of psychiatric services in the Republic of Northern Macedonia indicated the necessary redefinition of the role of psychiatry and psychiatric institutions in terms of their therapeutic-rehabilitation function, social function, systemic organization, financing and cooperation with other services that emphasizes community mental health system to improve the life of people with mental disorders.

Special emphasis in this strategy is given to the prevention of diseases and the promotion of mental health, with an appropriate plan for the organization of mental health institutions at each level of health care, with the development of a community-oriented mental health system.

The focus of this strategy is each individual and their needs for improving mental health. It is expected that the implementation of this Strategy, in the medium and long term, by 2025, will achieve the

expected effect: reduction of hospital capacity and establishment of a system of mental health in the community [2-3, 6-7].

The focus is on people with SMI (severe mental illnesses), and organizing a system for improving their psychosocial rehabilitation, level of functioning and reintegration in the community. Therefore, resocialization and processes for improvement of the social skills of people with mental illnesses are at the center of the reformed mental health system.

The concept of lower level of functionality of persons with SMI covers aspects of physical and social level [8-9]. People with SMI have lower level of functionality, in almost all areas of life, on a cognitive, conative and emotional level, as well as in relation to family and social relations (10-12). In terms of professional functioning, people with SMI are more often with reduced achievement or generally unemployed [13-16].

The main objective of this study was to identify factors associated with functioning among people with severe mental illness in a sample in Skopje, North Macedonia before establishing Community Based mental healthcare as a part of RECOVER-E Horizon 2020 funded project.

## **Materials and Methods**

### **Participants**

180 Patients at University Clinic of Psychiatry, Skopje, North Macedonia who were referred by the clinicians in the their initial evaluation in ambulance or hospital, with SMI, diagnosis of schizophrenia, bipolar disorder, and/or severe depression, based on the guidelines ICD-10, from 18 to 65 yrs and have severe limitations in social and community functioning and are not in functional remission.

In all cases, they were men or women of legal age who had agreed to participate in the study and signed the corresponding informed consent form.

### **Instrument**

Each respondent answers questions regarding their gender (male, female, I do not want to answer), level of education (primary, secondary, faculty and more), marital status (have partner, does not have, do not want to say) and have monthly income (yes, no, do not want to say).

The second version of WHODAS 2.0 is used in this study. It provides an objective profile of functioning and the subjective perception of the patient on the impact his or her illness produces in each one of the areas, with a higher score indicating greater disability.

It consists of 36 items with 5-point Likert responses, where 1 refers to no disability in performing the activity and 5 to a total inability to perform the activity. Two types of scores were obtained, referring to each sub-scale and a global score.

The subscales are composed of different numbers of items. For this reason, it is necessary to convert the initial scores by taking into account the importance of each item according to the score manual[(17)].

Üstün et al. confirmed that WHODAS 2.0 has a Cronbach's alpha global internal consistency of 0.86 (ranging from 0.82 to 0.98 for its different subscales), one-week test-retest reliability of 0.98, and good concurrent validity with other instruments measuring a similar concept of disability [18].

### **Data analysis**

Data were analyzed using the SPSS-26 version, for Windows, PC. The descriptive analyses were conducted on the basis of means, standard deviations. ANOVA test for each of the patient groups was used to determine whether there were differences in socio-demographic variables by WHODAS scores among groups of patients.

## **Results**

The subscale Life activities is a subscale where the patients have the highest scores, followed by the subscale Participation with severe level of disability. The lowest scores, are obtained on the subscales Getting along and Self-care (tab.1).

**Table 1.** Baseline WHODAS scores among people with severe mental illness in a sample in Skopje, North Macedonia (N=180).

	M	SD
whodasD_participation	46.48	22.71
whodasD_life activities	59.70	42.83
whodasD_getting along	27.26	21.02
whodasD_self care	21.06	25.18
whodasD_mobility	32.29	31.08
whodasD_cognition	33.43	26.35
whodasD	33.75	19.52

**Table 2.** WHODAS scores by gender

	M female	SD	M male	SD	F	Sig.
whodasD_participation	48.92	21.87	42.41	23.24	3.594	.060
whodasD_life activities	62.17	41.29	56.06	45.14	.641	.425
whodasD_getting along	27.26	19.88	27.28	22.67	.000	.995
whodasD_self care	21.04	25.07	20.68	20.45	.009	.925
whodasD_mobility	35.29	30.76	27.36	20.82	2.882	.091
whodasD_cognition	33.12	24.05	33.94	29.74	.040	.841
whodasD	35.40	18.80	31.15	20.52	1.428	.234

Female respondents have slightly higher scores on all subscales. There is no significant difference between male and female participants on the WHO-DAS scores, but there is a trend among females to have higher functioning scores on all sub-scales (tab. 2).

**Table 3.** WHODAS scores by education

	M primary	M secondary	M faculty	F	Sig.
whodasD_participation	46.50	57.73	45.34	.990	.374
whodasD_life activities	59.89	46.42	60.28	.197	.821
whodasD_getting along	30.70	31.25	24.69	1.837	.162
whodasD_self care	20.00	25.71	21.16	.176	.839
whodasD_mobility	23.36	38.39	37.37	4.563	.012
whodasD_cognition	34.92	35.00	32.37	.198	.821
whodasD	33.58	37.29	34.54	1.130	.326

According the level of education the groups do not differ in the subscales and in general in their level of functionality. Only in the subscale of Mobility respondents with primary education show better functionality compared with the other groups (Tab 3). On the variable- education the respondents with severe mental health problems show no statistical differences in terms of functionality.

**Table 4.** WHODAS scores by marriage status

	M single	M not single	M prefers not say	F	Sig.
whodasD_participation	42.72	53.15	53.44	4.169	.017*
whodasD_life activities	53.81	95.60	77.85	7.042	.001**
whodasD_getting along	24.51	30.30	37.50	4.254	.016*
whodasD_self care	17.28	27.57	29.16	3.717	.026*
whodasD_mobility	27.93	36.55	45.05	3.590	.030*
whodasD_cognition	29.28	38.43	48.75	6.284	.002**
whodasD	31.32	46.54	43.96	5.001	.008**

On tab. 3 we can see that respondents that are single show higher level of functionality, than the one that do not want to explain their status, and the respondents with a partner have higher level of dysfunctionality.

All patients with SMI have highest level of dysfunctionality on Life activities– domestic responsibilities, leisure, work and school. On the subscale Participation– joining in community activities the one that are single and those one that do not express their status show higher level of dysfunctionality compared with the single one. On Self-care– hygiene, dressing, eating and staying alone respondents that are single have lower level of dysfunctionality, compared with the other two groups.

Statistically significant differences are observed for all subscales as well as the global functioning of the respondents compared to the marital status. Best functionality is seen in respondents that are single, and worst in respondents that have partners (Tab. 4).

**Table 5.** WHODAS scores by income

	M (have income)	M (does not have income)	F	Sig.
whodasD_participation	43.03	48.57	2.506	.115
whodasD_life activities	56.91	62.28	.513	.475
whodasD_getting along	23.60	29.46	3.304	.071
whodasD_self care	20.00	21.69	.189	.664
whodasD_mobility	27.89	34.90	2.152	.144
whodasD_cognition	27.87	36.77	4.798	.030*
whodasD	31.49	35.93	1.637	.203

Respondents without income in all subscales and in general show lower level of functionality, i.e. greater impairment in functioning in all categories compared with the one that have income but without significant differences. Only on subscale cognition respondents with no income show significantly lower level of functionality comparing with the one with income (tab. 5).

### **Discussion**

This study examines disability in patients with severe mental health problems using WHODAS-II and compares it to their level of functionality.

SMI patients generally report the highest severity of disability in terms of functionality in society - life activities and participation, which is a reflection of the level of loneliness and psychological distress associated with their mental health as a result of several factors, such as poor social skills, lack of motivation and stigmatization. Psychosocial interventions that address these factors can help improve patient participation in the community, as well as their level of disability.

In terms of level of education, patients with SMI with primary education are more mobile than those with higher education.

The results of the study also show that patients with serious mental health problems report significant disability, but the relationship is monitored only in terms of marital status and level of functionality, with a significant difference in their disability in each of the domains of WHODAS-II. These findings are consistent with previous studies from developed countries [19-20].

Marital status has proven to be an independent predictor of outcome in studies and in high- and low- and middle-income countries [21-22].

Other studies show that higher rates of celibacy in patients probably reflect the effects of schizophrenia, depression, and bipolar disorder on interpersonal and intimate relationships, but in this study the results were the opposite [23-24].

Patients with SMI with income are more functional in the cognitive sphere than those without income. Social determinants of health, such as education and income are important factors influencing mental health outcomes [25].

In our study, we found that those without an income had higher levels of disability (i.e lower functioning) compared to those with a source of income. Prior research has found that people with severe mental illness have improved mental health outcomes through engagement in meaningful employment and income generating opportunities [26,27].

In the RECOVER-E project, the community mental health teams facilitate access to social supports where possible, but in the Macedonian context it is important to continue to develop social care opportunities and benefits for people with mental ill-health.

That is why it is important to focus the intervention on changing mental health care systems to provide community-based mental health care. This will be done through the development and implementation of multidisciplinary community mental health teams.

These community mental health teams are part of an evidence-based service delivery model that provides flexible, assertive community mental health teams providing integrated services to people with severe mental illness (SMI), to structurally attain their recovery goals, as well as timely and appropriate care in the event of a crisis:

### **Conclusions**

Psychosocial interventions such as social skills training targeted towards increasing patients' involvement in community activities may help in reducing disability in patients with schizophrenia. The level of disability is associated with the severity of depressive and other bipolar symptoms, negative and positive symptoms of schizophrenia, as well as number of relapse and marital status. Community mental

health services, multi-professional approach and peer involvement can be crucial for processes of psychosocial rehabilitation, resocialization and community reintegration of people with severe mental illnesses.

### **References:**

1. Promoting mental health: concepts, emerging evidence, practice: summary report. Geneva, World Health Organization, 2004. [http://www.who.int/mental\\_health/evidence/en/promoting\\_mhh.pdf](http://www.who.int/mental_health/evidence/en/promoting_mhh.pdf)
2. Болнички морбидитет од ментални заболувања во Република Македонија, 1998-2012. Институт за јавно здравје на Република Македонија, Анкета спроведена во соработка со ЦЈЗ. Скопје.
3. Програмата за здравствена заштита на лица со душевни растројства во Р. Македонија за 2013 година. Влада на Република Македонија, 2012.
4. Health 2025: the European policy for health and well-being <http://www.euro.who.int/en/what-we-do/health-topics/health-policy/health-2025-the-european-policy-for-health-and-well-being>
5. Comprehensive Mental Health Action Plan 2013-2025. WHO, 2013. ([http://apps.who.int/iris/bitstream/10665/89966/1/9789241506021\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/89966/1/9789241506021_eng.pdf))
6. Националната стратегија за унапредување на менталното здравје во Република Македонија, 2005/2012 година. Национална комисија за заштита на менталното здравје, 2005.
7. WHO-AIMS Report on Mental health System in the Former Yugoslav Republic of Macedonia. WHO, Country Office, Skopje & WHO, Regional Office for Europe, 2009.
8. Murray, C. J., Vos, T., Lozano, R., Naghavi, M., Flaxman, A. D., Michaud, C., & Aboyans, V. (2013). Disability-adjusted life years (DALYs) for 291 diseases and injuries in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. *The Lancet*, 380(9859), 2197-2223.
9. Gold, L. H. (2014). DSM-5 and the assessment of functioning: the World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0). *Journal of the American Academy of Psychiatry and the Law Online*, 42(2), 173-181.
10. Guerra, M., Ferri, C. P., Sosa, A. L., Salas, A., Gaona, C., Gonzales, V., & Prince, M. (2009). Late-life depression in Peru, Mexico and Venezuela: the 10/66 population-based study. *The British Journal of Psychiatry*, 195(6), 510-515.
11. Gómez, P., Enders, J., Alvarado, R., Cometto, M., & Fernandez, A. (2015). Evaluación del funcionamiento psicosocial de los pacientes con trastorno mental. *Revista de la Facultad de Ciencias Médicas*, 72(4), 243-249.
12. Lara C, Medina-Mora ME, Borges G, & Zambrano J. (2007). Social cost of mental disorders: Disability and work days lost. Results from the Mexican survey of psychiatric epidemiology. *Salud Mental*, 30(5), 4-11.
13. Benjet, C., Casanova, L., Borges, G. & Medina-Mora, M. E. (2013). Impacto de los trastornos psiquiátricos comunes y las condiciones crónicas físicas en el individuo y la sociedad. *Salud Pública de México*, 55(3), 248-256.
14. Romera, I., Perez, V., Menchón, J. M., Delgado-Cohen, H., Polavieja, P., & Gilaberte, I. (2010). Social and occupational functioning impairment in patients in partial versus complete remission of a major depressive disorder episode. A six-month prospective epidemiological study. *European Psychiatry*, 25(1), 58-65.
15. Velligan, D., Diamond, P., Maples, N., Mintz, J., Li, X., Glahn, D., & Miller, A. (2008). Comparing the efficacy of interventions that use environmental supports to improve outcomes in patients with schizophrenia. *Schizophrenia Research*, 102(1-3), 312-319.

16. Garin, O., Ayuso-Mateos, J. L., Almansa, J., Nieto, M., Chatterji, S., Vilagut, G., & Racca, V. (2010). Validation of the "World Health Organization Disability Assessment Schedule, WHODAS-2" in patients with chronic diseases. *Health and Quality of Life Outcomes*, 8(1), 51.
17. Vázquez-Barquero, J. L., Vázquez, B. E., Herrera, C. S., Saiz, J., Uriarte, M., Morales, F., ... & Ustün, T. B. (1999). Spanish version of the new World Health Organization Disability Assessment Schedule II (WHO-DAS-II): initial phase of development and pilot study. *Cantabria disability work group. Actas Españolas de Psiquiatría*, 28(2), 77-87.
18. Üstün, T. B., Chatterji, S., Kostanjsek, N., Rehm, J., Kennedy, C., Epping-Jordan, J. & Pull, C. (2010). Developing the World Health Organization disability assessment schedule 2.0. *Bulletin of the World Health Organization*, 88(11), 815-823.
19. Ertugrul A, Ulug B. The influence of neurocognitive deficits and symptoms on disability in schizophrenia. *Acta Psychiatr Scand*. 2002; 105:196–201.
20. McKibbin CL, Patterson TL, Jeste DV. Assessing disability in older patients with schizophrenia: result from the WHODAS-II. *J Nerv Ment Dis*. 2004; 192:405–13.
21. Jablensky A, Satorius N, Emberg G, Anker M, Korten A, Cooper JE, Day R, Bertelsen A. Schizophrenia: manifestation, incidence and course in different cultures. A World Health Organization ten-country study. *Psychol Med Monogram Suppl*. 1991; 20:1–97.
22. Padmavathi R, Rajkuma S, Srinivasan TN. Schizophrenic patients who were never treated- a study in an Indian urban community. *Psychol Med*. 1998; 28 (5): 1113-7.
23. Lane A, Byrne M, Mulvany F, Kinsella A, Waddington JL, Wash D, Larkin C, O'Callaghan E. Reproductive behavior in schizophrenia relative to other mental disorders; evidence for increased fertility in men despite reduced marital rate. *Acta Psychiatr Scand*. 1995; 91:222–8.
24. Zemishlany Z, Weizman A. The impact of mental illness on sexual dysfunction. In: Balon R (ed): *sexual dysfunction the brain-body connection*. *Adv Psychosom Med* 2008; 29: pp 89–106.
25. Hickling FW, McCallum M, Nooks L, Rodgers-Johnson P. Outcome of first contact schizophrenia in Jamaica. *West Indian Med J*. 2001; 50:194–7.
26. Mulkern VM, Maderscheid RW. Characteristics of community program clients in 1980 and 1984. *Hosp Community Psychiatry*. 1989; 40:165–72.
27. Kebede D, Alem A, Shibre T, Negash A, Fekadu A, Fekadu D, Deyassa N, Jacobsson L, Kullgren G. Onset and clinical course of schizophrenia in Butajira-Ethiopia—a community-based study. *Soc Psychiatry Psychiatr Epidemiol*. 2003; 38(11):625–31.