RETHINKING PSYCHIATRIC CARE: ASSESSING THE IMPACT OF A COMMUNITY INTERVENTION PROGRAME

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Abstract

Rehabilitation connects the personal relevant goals of the person to services that reduce disability and promote recovery. Achieving this goal requires the integration of medical and psychosocial models of interventions through a multidisciplinary team. In Romania the development of community alternatives to hospitalization and recovery-oriented services has been one of the main aims since 2005, as indicated by the Action Plan and Strategies of Ministry of Health. Despite that, little improvements were made, and health care is still mostly hospital based. In these problematic contexts, and drawing on previous experience of ACT interventions, an experimental case management program was implemented at Campulung Moldovenesc Community Mental Health Center in order to bridge the existent gap between hospital and community and support people with mental health problems not just improve their access to treatment services but also to improve their overall functioning and health. We have evaluated the impact of a Mental Health Program implemented Campulung Moldovenesc in comparison with standard treatment, on reducing symptoms and improving the overall level of functioning in a group of 91 participants diagnosed with depression and schizophrenia. Specifically compared with standard treatment, case management was associated with greater improvement in symptoms, fewer of hospital days, increased number of contacts between clients and professional staff, decrease of dropout rates from mental

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health services, greater improvement in the global and social functioning level, decreasing burden of care and increasing client and his family satisfaction with services and last, but not least, with lower total cost of care.

Keywords: case management, mental health, community intervention, impact, mobile intervention.

Introduction

Psychiatric reform in Europe is largely characterized by deinstitutionalization process and closure of old mental institutions, the development of alternative community services and programs, integration with health services and with social and community services (Becker & Vasquez-Barquero, 2001). According to Thornicroft & Tansella (2002; 2003; 2004), there is enough evidence supporting a balanced care approach, where hospital based and community based services commonly aim to provide treatment and care that are proximal to home, including acute hospital-care and long-term residential facilities in the community and address both symptoms and disabilities. Moreover, they are sensitive to the priorities of service users themselves and are able to offer treatment and care specific to the diagnosis and particular needs of each individual care consistent with human rights international conventions; are integrated and based on the coordination between mental health professions and agencies; and are mobile and dynamic rather than static. The overarching goal of psychiatric rehabilitation is to promote the highest level of social, occupational functioning and well being for persons with severe mental health problems so that they may enjoy optimal levels of independence and pursue meaningful life aims, beyond illness and disability, with the least interference from symptoms and impairments and the least professional supervision (Liberman *et al.*, 2001; Liberman, 2008). The multidisciplinary community mental health teams are the basic building block for community mental health services (Mihai *et al.*, 2017). The simplest model of provision of community care is for non-specialized teams to provide the full spectrum of interventions, including the contributions of psychiatrists, community psychiatric nurses, social workers, psychologists and occupational therapists, prioritizing adults with severe mental illness, for a local defined geographical catchment area (Thornicroft & Tansella, 1999). Within community mental health teams, case management is more a method of delivering care than a clinical intervention in its own right, it is a style of working characterized by 'coordination, integration and allocation of individualized care within limited resources' (Thornicroft *et al.*, 1999).

In Romania Mental Health Centers were established, yet they do not function at full capacity, due to challenges such as lack of funding or staff, weak cooperation with other health professionals or local authorities, geographical constraints such as having a too large catchment area (Junjan *et al.*, 2009) and reduced accessibility

due to poor transportation. An international study comparing local mental health care systems (Gutierrez-Colosía *et al.*, 2017) indicated that in Suceava in 2002 deinstitutionalization process is still at the early stages of development, with a pattern of care characterized by institutionalization with high rates of beds devoted to long term residential care in hospital and non-hospital setting, lack of non-acute day care in the community setting, generic and non-specific day care being provided within hospital observation wards, focusing predominantly on providing pharmacological treatment. According to the same study, Suceava registered the highest dependency index and highest number of people per household. Many of the people with severe mental health problems are unemployed and still live with their parents, rather secluded, with little access to support groups or recreational activities within the community. There are few services directed at assisted employment and few job opportunities. Most occupational therapy is delivered within institutional setting, and though basic daily living and occupational skills are trained, there is no continuity after discharge, there is still a gap between the services provided by the hospital and the community alternatives. Moreover, though the quality of care provided within the hospital has increased in the past years, due to investments, specialization of staff, establishment of multidisciplinary teams and diversification of services (social and psychological support offered in addition to pharmacological treatment), the scarce community resources and alternatives, not just contributes to high rates of hospitalization, inflating care costs, but also encumbers recovery and progress. At Campulung Moldovenesc Mental Health Center an assertive community treatment (ACT) program was implemented 5 years before the present study (Marginean & Marginean, 2013), and though it obtained good results during the first year, it was not continued due to lack of material and human resources. In this context, in Campulung Moldovenesc, case management and home treatment and care through mobile team interventions are feasible and sustainable in the present economic context, therefore if proven effective; they can facilitate the advance of Romanian psychiatric reform through replication in other areas with geographical and economical similarities.

Methodology

Using a pretest-posttest quasi-experimental design of non-equivalent groups, we have evaluated the program's impact in comparison with standard treatment, on reducing symptoms and improving the overall level of functioning in a sample of 91 participants diagnosed with depression and schizophrenia.

Participants

Admission criteria included age 18-60 years old, ICD diagnosis of schizophrenia or depression disorder, illness duration of at least one year, informed consent and

residence in the catchment area. Exclusion criteria were having a secondary diagnosis of intellectual disability, substance or alcohol dependence and refusing admission. In the study group were included 43 participants (17 diagnosed with schizophrenia and 26 with depression); 48 participants (21 with schizophrenia and 27 with depression) were allocated to control group. The distribution of participants to study and control group were based on diagnostic and consent for mobile intervention criteria. If the participants did not want to receive home treatment or care they would be included in the standard treatment group. The participation was on a volunteer basis, no money or other material incentives were offered to the people included.

Procedure

The participants from the study group received individualized psychosocial rehabilitation services, delivered by a mobile multidisciplinary team, based on the treatment plan. The setting of service delivery was both the psychiatric hospital and the community. The control group received standard medical treatment in the hospital setting. The community intervention was based on case management, understood as the process of accessing, coordinating and assuring the delivery of services to maintain a long-term support relationship with the persons and assist them to meet their multiple and complex needs in an effective and efficient manner (Corrigan *et al.,* 2008). Two models of case management were considered: strengths-based case management (identification and capitalization of individual resources and community opportunity) and rehabilitation case management (person centered and active involvement of the person, assessment of functionality and training of abilities). The community intervention was possible through involvement of multiple professionals: psychiatrist, psychologist, social worker, nurse, recruited from employees of Campulung Psychiatry Hospital and Mental Health Center, as members of the mobile team. Team management was performed by the psychiatrist who also coordinated the intervention. The mobile team also provided home care and treatment and at least two professionals with different specialization were included in the service delivery.

The planning and delivery of medical and psychosocial services followed the established procedure of case management: (1) the integrated needs assessments, with focus on strengths and the existing community and family resources and opportunities; (2) Intervention planning included planning discharge and establishing the individual treatment plan, according to needs, relapse circumstances, adverse environmental factors and risks; (3) Establishing contact with other professionals providing services (GP, social worker for the local community, community nurse); (4) Implementing the intervention plan; (5) Monitoring and adjustment of the plan. The areas of intervention included mental health (psychoeducation, symptoms and relapse management, counselling, crises management and planning admission), somatic health (early detection of somatic health problems, prevention

and intervention on risk behaviors - poor nutrition, smoking, assistance with planning the required medical investigations, counselling), treatment (adherence and side effects monitoring, information, facilitating access to medication and support with organizing and administering the treatment), leisure time and day structure (ex. organizing visits to local museums and short hiking trips, assistance with activity planning, behavioral activation), social support network (family counselling and psycho-education, conflict mediation), administrative and judicial assistance (informing about rights and the laws protecting them).Services were offered continuously through a period of 2 years and involved different types of contacts: inpatient and outpatient visits, home visits, phone calls and meetings in the community setting. According to treatment plan, frequency of contact ranged from daily to monthly. The evolution of the participants included in the study was constantly monitored, after 6, 12 and 24 months the clinical outcomes and the overall level of functioning were assessed.

Standard treatment included services offered mainly when the persons were hospitalized or during the regular psychiatric assessment, every three months, and consisted of mostly medical treatment and medical exam. Some accessed counselling and occupational therapy services provided by other professionals in their local community.

Data Collection and Statistical Analyses

For all participants the clinical symptoms and general functioning were assessed at the beginning of the study and after 2 years of service delivery. The study group received additional 6 moths and 12 months assessment. The instruments used were selected for their psychometric properties: Positive and Negative Syndrome Scale for Schizophrenia (PANSS), Beck Depression Inventory (BDI) and Global Assessment of Functioning Scale (GAFS). PANSS (Kay, Fiszbein, & Opler, 1987) consists of a semi structured clinical interview that comprises 3 subscales for assessing symptoms of schizophrenia: Positive, Negative and General. PANSS has good psychometric properties and permits a precise evaluation of symptoms and their subtle changes. BDI (Beck *et al.,* 1961) is a 21 items multiple choice self-report inventory and one of the widely used psychometric test for measuring the severity of depression. GAFS (Endicott *et al.*, 1976; Van den Oord, Rujescu, & Robies, 2006) evaluates the global social, occupational and psychological functioning.

The total scores of PANSS, BDI and GAFS were computed. Number of admissions and days of hospitalization were also taken into consideration. Statistical analyses were undertaken using SPSS version 20. Data distribution was analyzed using Shapiro Wilk test and accordingly Mann Whitney, Wilcoxon and pair and independent t-test analysis were conducted.

Results and Discussions

The socio-demographic characteristics of participants are summarized in *Table 1*. 53.3% of the participants in the control group were diagnosed with depression and 44.7% were diagnosed with schizophrenia. From the study group, 38.6% had depression and 61.4% had schizophrenia. The difference regarding diagnostic distribution in control and study group is not statistically significant (χ^2=2.538, p>.05). Also, no statistical difference was found between the two groups regarding the age at the time of the study (Mann-Whitney U=1043, p>.05), the age of onset (Mann-Whitney U=1024, p>.05), gender (χ^2=1.201, p>.05), education level (χ^2=7.674, p>.05), marital status (χ^2=2.477, p>.05.), work and living environment (χ^2=2.836, p>.05), area of residence – urban vs rural (χ^2=.033, p>.05), occupational status (χ^2=10.093, p>.05.), income (t=1.318, p>.05).Only 10.6% participants in the control group and 4.4% participants in the study group had college degree, most of participants had middle education level. Only 44.7% participants in control group and 42.2 participants in the study group are married and the majority lives with their own family (partner, parents, siblings or other relatives) - 53.2% from the control group and 53.3% in the study group. The majority live in a rural area (57.4% from the control group and 55.6% from the study group) and 10.6% from control group and 22.2% from the study group have no access to means of transportation or poor transport connections. Only 6.4% participants from the control group and 4.4% from the study group were employed at the time of the study, the main sources of income for the majority in both groups remain the disability allowance and the illness pension, the average monthly income being 554.6 RON (~120 Euro) for study de group and 474.29 RON (103 Euro) for control group.

Table 1. Sociodemographic characteristics of participants

	Study sample (N=43)	Control sample (N=48)
Age	m=52.46 yrs (SD=11.97).	m=48.91 yrs (SD=13.59)
Gender	35.6%M and 64.4%F	46.8%M and 53.2%F
Education	62.3% without highschool dipl. (Bac.)	61.7% without highschool dipl. (Bac.)
Marital status	42.2% married	44.7% married
Occup. Status	4.4% employed	6.4% employed
Residency area	55.6% rural area	57.4% rural area
Mean age at onset	37.44 yrs (AS=14.14)	37.14 yrs (AS=14.62)

As shown in *Table 2*, the evolution of PANSS total scores of the participants in the schizophrenia control group show little improvement after 24 months as compared to baseline, no significant reduction of mean total PANSS score was found (W=42.5, p>.05). Pair t test analyses of global functioning scores (GAFS) also show no statistically significant difference between pretest and posttest (t=.824, p>.05). The situation is quite the opposite for the study group.

Tabel 2. The evolution of sympthoms of participants with schizophrenia from study group as compared to control group

	Group	N	Mean	SD	t	p
GAFS scores after 2 years	Control group	21	49.0476	10.56161	2.956	.005
	CI group	27	58.0741	10.44372		
PANSS Positive subscale scores after 2 years	Control group	21	21.9524	5.01474	2.96	.005
	CI group	27	18.0000	4.23357		
PANSS negative subscale scores after 2 years	Control group	21	23.8571	4.38504	2.057	.04
	CI group	27	21.1481	4.63020		
PANSS General Subscale scores after 2 years	Control group	21	57.9524	6.77109	3.207	.002
	CI group	27	51.2222	7.53624		
PANSS Total scores after 2 years	Control group	21	105.1905	15.51973	3.451	.001
	CI group	27	90.0000	14.82202		

Though no significant difference was found between the two groups baseline PANSS and GAFS scores t=.072, p>0.05 and respectively t=.034, p>0.05, as shown in *Figure 1*, after 24 months, the participants in the study group show significant reduction of the mean of total PANSS scores in post-test as compared to pre-test (t=5.726, p<.001) and control group (t=3.451, p<0.01); they have also obtained significant higher mean scores on the global functioning scale as compared to baseline (t=6.09, p<.001) and control (t=2.956, p<.05). Also, after 24 months the study group obtains significant lower scores at positive, negative and general PANSS subscales compared with baseline and control group (*Table 2*).

Regarding the number of days of hospitalization, a statistical difference is also found, with participants in the schizophrenia study group having significant fewer admissions and shorter inpatient stay duration compared with the control group (t=2.407, p<.05).
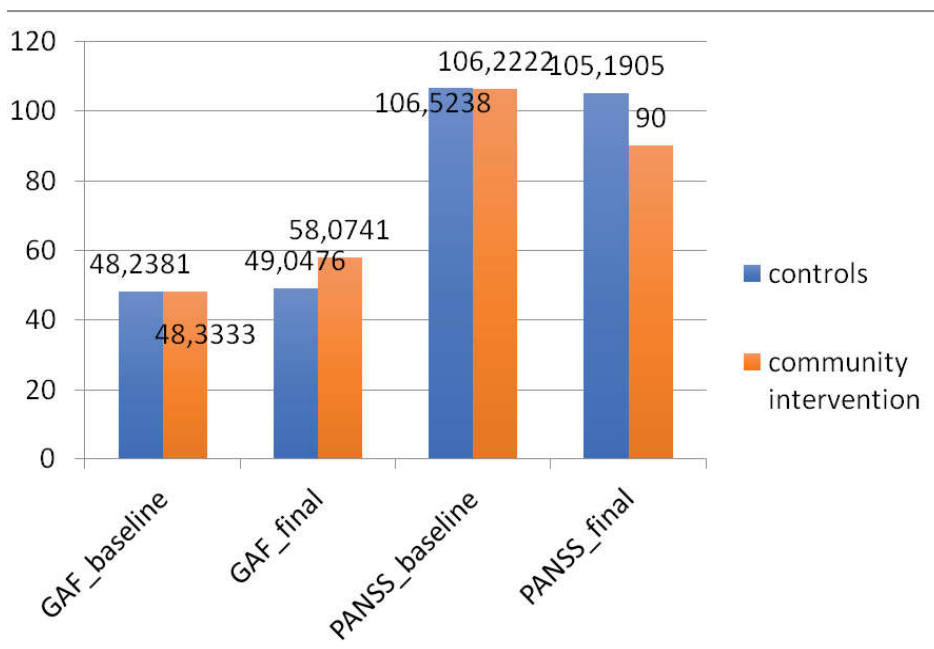
Figure 1. PANSS and GAFS scores evolution

As shown in *Figure 2*, the participants from the depression control group show a significant reduction of the mean of BDI total score compared to baseline (t=3.848, p<.001), yet no statistically significant difference was found between the means of GAFS scores at baseline and posttest (W=6.5, p>.05). However, participants from the depression study group show both a decrease of mean BDI scores and an increase of mean GAFS scores in posttest as compared to baseline: t=4.53, p<.001 and respectively t=4.162, p<.001.Though no significant difference is found between depression study and control group regarding symptoms severity (t=0.086, p>0.05) and overall functioning (t=0.294, p>0.05) at the baseline, the participants in the study group have obtained significant lower mean BDI and higher mean GAFS scores as compared to control, after 24 months of intervention (t=2.08. p<0.05 and respectivelyt=3.364, p<0.05 and have significantly fewer days of hospitalization (t=4.24, p<.001).
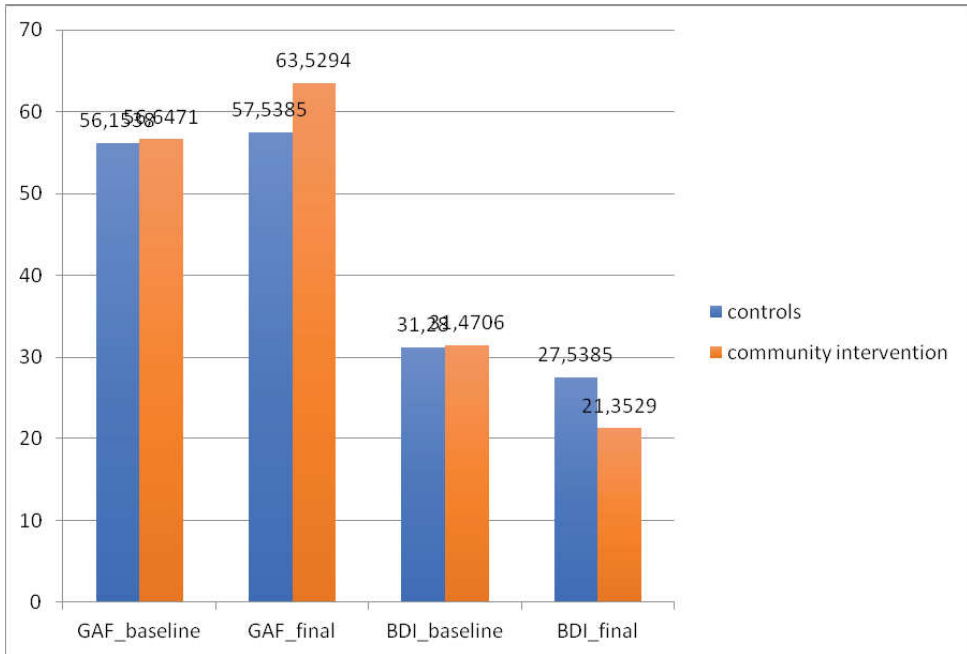
Figure 2. GAF and BDI evolution

The current view in psychiatry is that psychotropic medication represents a critical component of treatment, yet better outcomes are to be obtained if psychosocial interventions are also present (Corrigan *et al*., 2008; Scott & Lehman, 2001; Hughes, Lehman, & Arthur, 2001).The present study allowed us to evaluate the feasibility and effectiveness of a case management program that included psychosocial services and home treatment through mobile interventions, implemented in rural and micro-urban regions of Campulung Moldovenesc psychiatric sector. Consistent with the existing literature, the main hypotheses were that after 24 months, participants with schizophrenia and depression included in the study group will show significant improvement of both clinical symptoms and general functioning and, accordingly will have fewer hospital admissions and shorter duration of stay. Our findings support this initial claim. Though impact of community mental health programs on improving symptoms or social functioning is yet unclear, a series of studies and systematic reviews, comparing community mental health teams with standard treatment, indicate that there are certain benefits of multidisciplinary approach: they are more flexible and can address a variety of needs, therefore they can improve engagement with services, increase user satisfaction, increase met needs and improve adherence to treatment (Tyrer *et al.*, 1995; 1998; 2003; Thornicroft *et al*, 1998; Burns *et al.*, 2007). Case

management has been shown as moderately effective in improving continuity of care, quality of life and patient satisfaction (Ziguras & Stuart, 2000; Ziguras, Stuart, & Jackson, 2002). Specifically compared with standard treatment, case management was associated with greater improvement in symptoms, fewer of hospital days, increased number of contacts between clients and professional staff, decrease of dropout rates from mental health services, greater improvement in the global and social functioning level, decreasing burden of care and increasing client and his family satisfaction with services and last, but not least, with lower total cost of care (Ziguras & Stuart,, 2000). In the past years there has been a constant debate between those who arein favor of the provision of mental health treatment and carein hospitals, and those who prefer to use the community settings, the two forms of carebeing often seen as incompatible.

Conclusions

We believe that the best solution for patients or service users is an approach that balances both community services and hospital care. If care is not continued within community, and solely takes place in institutional setting, progress is hindered. The needs of people with mental health problems are complex and cannot be addressed strictly through pharmacotherapy or by professionals alone within the hospital setting. For example, clients with schizophrenia can have serious difficulties in understanding and respecting their treatment schedule; they can forget to take their prescribed meds or can be exposed to serious levels of stress in their home environment. Family members also, can have negative beliefs about treatment and exaggerated expectation regarding their relative with mental health problem. Factors as though mentioned above can decrease treatment adherence and facilitate dropout from mental health services and relapse, therefore hindering the recovery process. It is clearly that those factors cannot be targeted through pharmacotherapy or by the clinician alone. The recovery process is complex and multifaceted, therefore coherent and joined efforts of professionals of different specialties from both clinical and community settings and provision of continuous, integrated, dynamic and flexible services are needed for obtaining not just better health outcomes but also a better quality of life. Even in the situation when symptoms cannot be mitigated, the person can develop proper compensatory strategies and still find ways to live a meaningful and enjoyable life despite the limitations of disability. Psychiatric rehabilitation is more about reducing the impact of disability on general life domains and training remaining abilities for better social and personal outcomes. In this way, the initiative of implementing the components of a modern mental health service with focus on rehabilitation can be seen as a pragmatic exercise that needs to be undertaken by all those with an interest in improving care.

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