

PUBLIC HEALTH

UNDERSTANDING THE HEALTH CONTEXT FOR IMPLEMENTATION OF A NEW DIGITAL PSYCHOSOCIAL INTERVENTION FOR IMPROVEMENT OF THE MENTAL HEALTH IN NORTH MACEDONIA

Ljubisha Novotni¹, Silvana Markovska-Simoska², Biljana Blazhevaska-Stoilkovska³, Milos Milutinovic¹, Stojan Bajraktarov¹, Antoni Novotni¹, Nikolina Jovanovic⁴, Mome Spasovski⁵

¹ University Clinic for Psychiatry; Ss. Cyril and Methodius University in Skopje Faculty of Medicine, Republic of North Macedonia

² Macedonian Academy of Sciences and Arts, Skopje, North Macedonia

³ Ss. Cyril and Methodius University in Skopje, Faculty of Psychology, Republic of North Macedonia

⁴ Queen Mary University of London, United Kingdom

⁵ Ss. Cyril and Methodius University in Skopje, Faculty of Medicine, Institute of Social Medicine, Republic of North Macedonia

Abstract

Citation: Novotni Lj, Markovska-Simoska S, Blazhevaska-Stoilkovska B, Milutinovic M, Bajraktarov S, Novotni A, Jovanovic N, Spasovski M. Understanding the health context for implementation of a new digital psychosocial intervention for improvement of the mental health in North Macedonia. Arch Pub Health 2022; 14(1). doi.org/10.3889/aph.2022.6029

Key words: local context, psychosocial intervention, DIALOG+, psychotic disorders, mental health

***Correspondence:** Ljubisha Novotni, University Clinic for Psychiatry, Skopje, North Macedonia
E-mail: ljubisha.novotni@gmail.com

Received: 10-Jan-2022; **Revised:** 3-May-2022;

Accepted: 5-May-2022; **Published:** 15-May-2022

Copyright: © 2022. Ljubisha Novotni, Silvana Markovska-Simoska, Biljana Blazhevaska-Stoilkovska, Milos Milutinovic, Stojan Bajraktarov, Antoni Novotni, Nikolina Jovanovic, Mome Spasovski. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author(s) and source are credited.

Competing Interests: The author have declared that no competing interests

The aim of this study was to identify the contextual attributes in North Macedonia and their characteristics relevant to the implementation of a new digital intervention to improve mental health, called DIALOG+. This research is the first of its kind in North Macedonia due to the analysis of contextual attributes that may affect the effectiveness of the intervention and its acceptability in various settings of mental health care. Some of the data processed in this paper were provided and analyzed by the National Mental Health Strategy 2018-2025 and other relevant accompanying documents from the World Health Organization and action plans, as well as through interviews with stakeholders (patients, carers, clinicians and policy makers) for their opinion before introducing the DIALOG+ intervention and the report on the assessment of the situation in the centers where the implementation of the intervention should have started. The collected data were then mapped to a framework developed by the Ottawa Implementation Group, which included 14 contextual attributes. The results are summarized in 2 subgroups, and are presented as facilitators and barriers to implementation, specific to the mental health system in North Macedonia. The characteristics of DIALOG+ (widely applicable psychosocial intervention) are in accordance with modern assumptions for psychosocial rehabilitation of patients with psychosis. Hence, we can conclude that it is a useful tool for professionals in monitoring and achieving the true vision and mission of these institutions. It will help patients reintegrate into society, become more independent and use their full potential in the pursuit of healthy and functional living.

ЈАВНО ЗДРАВЈЕ

РАЗБИРАЊЕ НА ЗДРАВСТВЕНИОТ КОНТЕКСТ ЗА ИМПЛЕМЕНТАЦИЈА НА НОВА ДИГИТАЛНА ПСИХОСОЦИЈАЛНА ИНТЕРВЕНЦИЈА ЗА ПОДОБРУВАЊЕ НА МЕНТАЛНОТО ЗДРАВЈЕ ВО СЕВЕРНА МАКЕДОНИЈА

Љубиша Новотни¹, Силвана Марковска-Симоска², Билјана Блажевска-Стоилковска³, Милош Милутиновиќ¹, Стојан Бајрактаров¹, Антони Новотни¹, Николина Јовановиќ⁴, Моме Спасовски⁵

¹ Универзитетска клиника за психијатрија; Универзитет „Св. Кирил и Методиј“ во Скопје, Медицински факултет, Република Северна Македонија

² Македонска академија на науките и уметностите, Скопје, Република Северна Македонија

³ Универзитет „Св. Кирил и Методиј“ во Скопје, Факултет за психологија, Скопје, Република Северна Македонија

⁴ Универзитет на кралицата Мери, Лондон, Обединето Кралство

⁵ Универзитет „Св. Кирил и Методиј“ во Скопје, Медицински факултет, Институт за социјална медицина, Република Северна Македонија

Извадок

Цитирање: Новотни Л, Марковска-Симоска С, Блажевска-Стоилковска Б, Милутиновиќ М, Бајрактаров С, Новотни А, Јовановиќ Н, Спасовски М. Arch J здравје 2022; 14(1). doi.org/10.3889/aph.2021.6029

Клучни зборови: локален контекст, психосоцијална интервенција, DIALOG+, психотични растројства, ментално здравје

***Кореспонденција:** Љубиша Новотни, Универзитетска клиника за психијатрија; Универзитет „Св. Кирил и Методиј“ во Скопје, Медицински факултет, Република Северна Македонија.
E-mail: ljubisha.novotni@gmail.com

Примено: 10-јан-2022; **Ревизирано:** 3-мај-2022; **Прифатено:** 5-мај-2022; **Објавено:** 15-мај-2022

Печатарски права: ©2022 Љубиша Новотни, Силвана Марковска-Симоска, Билјана Блажевска-Стоилковска, Милош Милутиновиќ, Стојан Бајрактаров, Антони Новотни, Николина Јовановиќ, Моме Спасовски. Оваа статија е со отворен пристап дистрибуирана под условите на нелокализирана лиценца, која овозможува неограничена употреба, дистрибуција и репродукција на било кој медиум, доколку се цитираат оригинално(ите) автор(и) и изворот.

Конкурентски интереси: Авторот изјавува дека нема конкурентски интереси.

Целта на оваа студија беше да ги идентификува контекстуалните атрибути во Северна Македонија и нивните карактеристики релевантни за спроведување на нова дигитална интервенција за подобрување на менталното здравје, наречена DIALOG+. Ова истражување е прво од ваков вид во Северна Македонија поради анализата на контекстуалните атрибути што може да влијаат на ефективноста на интервенцијата и на нејзината прифатливост во различни поставки на здравствената заштита на менталното здравје. Дел од податоците обработени во овој труд се обезбедени и анализирани од Националната стратегија за ментално здравје 2018-2025 и други соодветни придружни документи од Светската здравствена организација и акциски планови, како и преку интервјуа со засегнатите страни (пациенти, негуватели, клиничари и креатори на политики) за нивното мислење пред воведување на интервенцијата DIALOG+ и извештајот за проценка на состојбата во центрите каде требаше да се започне со имплементирање на интервенцијата. Потоа, собраните податоци беа мапирани на рамката развиена од Групата за имплементација на Отава, која вклучува 14 контекстуални атрибути. Резултатите беа сумирани во 2 подгрупи, и се прикажани како фацилитатори и бариери за спроведување, специфични за ментално-здравствениот систем во Северна Македонија. Карактеристиките на DIALOG+ (широко применлива психосоцијална интервенција) се во согласност со современите претпоставки за психосоцијална рехабилитација на пациенти со психоза. Оттука, може да заклучиме дека претставува корисна алатка за професионалците во следење и остварување на вистинската визија и мисија на овие установи. Тоа ќе им помогне на пациентите да се реинтегрираат во општеството, да станат понезависни и да ги искористат своите целосни капацитети во потрага по здравствено и функционално живеење.

Introduction

People with severe mental illness within psychotic disorders, such as schizophrenia, schizoaffective disorder, and bipolar disorder, can have a wide range of symptoms. These disorders can include hearing voices, delusions, suspicion, withdrawal from family and friends, mood fluctuations¹. In North Macedonia, but also in other countries, stigma, discrimination and violation of human rights of people with psychotic disorders are very common. These psychotic spectrum disorders usually last for decades and pose a major health, social and economic burden to patients, families, carers and society at large. Otherwise, life expectancy is 15-20 years shorter than that of the general population due to insufficiently diagnosed physical illnesses, poor access to health care and more frequent suicides¹.

In our country, most of the patients with psychotic disorders are mainly treated in psychiatric hospitals where the treatment is largely focused on psychopharmacotherapy and antipsychotic drugs, and the psychosocial needs of the patients are often secondary. The approach in the Community Mental Health Centers, which are seven in total and were established with the last reform of the mental health system which began in 2000, in cooperation with the World Health Organization (WHO), is completely different. In these centers, the psychosocial treatment is included in the individual treatment plans of each patient, as a complementary part, together with the basic psychopharmacological treatment.

This reform in our country is on a positive path, approaching the orga-

nized health systems in high-income countries that provide a combination of care, including medication and psychosocial interventions, which helps people affected by psychosis to lead a productive life and integrate into the society. However, low- and middle-income countries have neither sufficient funding nor sufficient staff to fully reform the mental health system and provide such specialized services to all patients with severe mental disorders as those mentioned in systems that are predominantly oriented to providing services through community mental health services². One way to accelerate health care reform and improvement for this group of patients would be to implement effective, low-cost psychosocial interventions, which make existing routine clinical examinations more therapeutic.

When introducing such new specialized treatments in the community, contextual factors must be taken into account when assessing whether an intervention is effective or not and whether it leads to improvement in clinical practice³. Context is defined as a factor that is separate from the actual intervention itself (both from the patients receiving the intervention and the clinicians delivering it), but which may still contribute to the success of the intervention^{4,5}. Adapting interventions to local contexts is an essential part of pragmatic research; unfortunately, implementation science cannot explicitly consider how local contextual factors affect the success of implementation⁶. This leads to the implementation of interventions being successful in one context but failing in another⁴. To increase the likelihood of successful implementation, researchers need to

assess and explicitly address contextual barriers and/or promote facilitators and reduce barriers to implementation⁷.

Description of the new digital intervention DIALOG+ for improving mental health

The IMPULSE project (Implementation of an effective intervention for patients with psychotic disorders in low- and middle-income countries in Southeast Europe) aims to apply and evaluate the effectiveness of a new digital psychosocial intervention in patients with psychosis in five countries in Southeast Europe (North Macedonia, Serbia, Montenegro, Bosnia and Herzegovina and Kosovo). The intervention, called DIALOG+, is designed to increase the therapeutic efficacy of routine clinical appointments to improve the mental health of people with psychotic spectrum disorders and thus improve the quality of life for patients. The basic elements of DIALOG+ are structured interviews using a tablet computer, which assesses patients' satisfaction in 11 areas of their lives (mental and physical health, work, leisure activities, residence, partner/family, friends, safety, medication, practical help and satisfaction from the sessions). Then, with the help of the clinician, the patient selects from 1 to 3 areas that will be further examined/resolved during the control examination, through the approach of solution-based therapy in 4 steps (understanding the problem, looking forward, research and agreement). At the end of the session, an agreement is made on the activities that need to be completed between the sessions⁸. Therefore, this new digital psychosocial intervention is a solution-focused

therapy and patient-centered communication, characterized by positive reinforcement. It can be performed by psychiatrists, psychologists and mental health nurses who need to be educated on how to perform the intervention. The interaction between the clinician and the patient during the DIALOG+ session is characterized by positive reinforcement, patient-oriented communication and great patient involvement. More details about the IMPULSE protocol were previously published⁹.

The aim of this study is to identify the contextual attributes in North Macedonia and their characteristics relevant to the implementation of a new digital psychosocial intervention to improve mental health, called DIALOG+. This research is the first of its kind in North Macedonia due to the analysis of contextual attributes that may affect the effectiveness of the intervention and its acceptability in various settings of mental health care.

Material and methods

Some of the data processed in this paper are provided and analyzed by the National Mental Health Strategy 2018-2025¹⁰ and other relevant accompanying documents from the World Health Organization and action plans, as well as through interviews with stakeholders (patients, carers, clinicians and policy makers) for their opinion before the introduction of the DIALOG+ intervention and the report on the assessment of the situation in the centers where the implementation of the intervention should have started. The collected data were then mapped to the framework developed by the Ottawa Imple-

mentation Group, which included 14 contextual attributes.¹¹ The results are summarized in 2 subgroups, as facilitators and barriers to implementation, specific to the mental health system in North Macedonia.

The paper of Squires¹¹ describes the contextual attributes and their characteristics according to which we analyzed and described the conditions of the context, i.e. the barriers and facilitators for the application of the new psychosocial intervention DIALOG+ in North Macedonia. In total, this paper describes 62 unique features of context. They are grouped into 14 broader attributes. The number of features in each of them varies and that number is not the same. To better understand these attributes and their characteristics, we will first give a brief description of each of them, and then present our results obtained from the interviews and the report from the visits to the places where the DIALOG+ intervention should be applied.

1. **Access to resources** - This does not necessarily mean the proximity of such resources, but only their accessibility or availability in the broadest sense (e.g. physical space). The number of features in this attribute is 14: time and space as a resource, guides and instructions, documentation, formal communication, training and education, staff, technology, expert support, online resources, programs and quality. Time as a resource is considered in economic terms, for e.g., how long it takes to complete the tasks, how the staff redistributes the time in the work schedule. Guides and instructions are then included to assist physicians in making appropriate health care decisions in patients' specific clinical circumstances. Formal documentation includes presentations, newsletters, formal meetings, etc.
2. **Structure of work** - This attribute includes 11 characteristics of the structure of the workplace, such as: time frame, continuity and standardization of care, teamwork, work overload, order of work tasks, reminders, delegation of tasks, schedule and shift work. So, this attribute comprises factors such as delegating tasks between supervisors and subordinates; schedule of shifts and duties on call; sequence of work tasks and procedures; and workload management.
3. **Patients characteristics** - Attributes to persons under medical care or treatment refer to the characteristics of patients being analyzed as a group rather than as individuals. This includes 2 attributes: demographics and expectations, and patient preferences.
4. **Professional role** - This attribute describes 7 characteristics / set of expectations, both formal and informal, related to the given clinical profession: clinical skills, training for professional role, conflicts, responsibility, work autonomy, professional development and code of ethics.
5. **Culture** - The inherited ideas, beliefs, values and attitudes of a group are grouped into 2 characteristics of organizational culture and culture in general.

6. **Object characteristics** - These characteristics are 7 in total (object type, geography, volume, atmosphere, general characteristics of the object, size), i.e., include the type of facility (hospital, day care center, outpatient clinic), the number of patients cared for at that location, the geographical location, and the presence or absence of medical personnel.
7. **System features** - 3 features (resource spending, record keeping and logistics and coordination) relevant to the health system operation and clinical practice.
8. **Characteristics of health professionals** - This code refers to the characteristics of individuals who are considered as a group rather than as individuals; thus, all subcodes considered for inclusion here should be generalized to the health professional population (an attribute that can potentially be measured and summed up). They are grouped in 2 characteristics: experience and group composition.
9. **Finance** - Understandably, finance means cash income and expenses (costs) related to clinical work or institutional standards. These include 3 attributes: financial incentives, financing system and finance (general).
10. **Collaboration** - This code refers to collaborative work (including other organizations) and covers only 1 feature.
11. **Leadership** - This code covers 3 characteristics, namely: role modeling, mentoring and leadership, primarily in the introduction and application of some new techniques and methods.
12. **Evaluation** - Evaluation involves the systematic collection of information about the activities, features, and results of programs, services, policies, or processes in order to evaluate program/process, improve effectiveness, and/or inform future and development decisions. It includes 4 features: general evaluation, organizational evaluation, audit and patient evaluation.
13. **Regulatory and Legislative Standards** - The 2 characteristics of law and standard of practice or care are usually beyond the control of healthcare organizations.
14. **Social influences** - This code with 1 characteristic of social influences is a general level of social knowledge and attitude towards a certain clinical behavior or procedure, such as the case with the stigma of mental illness.

Results

Analysis of data from available documents (state of mental health in North Macedonia)

In North Macedonia, the Law on Mental Health was adopted on October 13, 2005¹². Article 7 in the second chapter clearly states that persons with mental disorders have the right to be protected from any form of harassment, humiliation and discrimination. Article 9 specifies that every person with a mental disorder has the right to undergo an optimal rehabilitation/program that will improve his or her mental health status.

According to the National Mental Health Strategy 2018-2025¹⁰, prepared by the Ministry of Health, the current mental health system is characterized by insufficient psychosocial outpatient services that are applied only in community mental health centers, few alternatives to hospital treatment, lack of programs for promotion, prevention and rehabilitation, lack of family involvement and social support, and lack of support and opportunities for people with mental illness to live and join the community. An organized mental health system indicates slow development and significant mental health challenges.

The health care of people with mental health problems is performed at all three levels - in the primary, secondary and tertiary health care. Mental health care in primary health care is the responsibility of selected physicians and they serve as “gatekeepers”; they detect the problem and refer patients to higher levels of health care. The secondary level includes the psychiatric counseling-specialist outpatient services that operate within the Medical Centers throughout the country, as well as the Institutes for Children and Youth in Skopje and Bitola. Neuropsychiatric wards at 13 medical centers (within general and clinical hospitals) throughout the country provide secondary patient care (wards provide hospitalization to both neurological and psychiatric patients). At the secondary level of health care there are three specialized health institutions (PHI Psychiatric Hospital Skopje, PHI Psychiatric Hospital Demir Hisar and PHI Psychiatric Hospital “Negorci” Gevgelija) through which the regionalization and availability of health services is obtained. The Psychiatric Hospital in

Skopje was established in 1954. Its capacity includes 330 beds. Three Community Mental Health Centers are organizationally linked to this psychiatric hospital. Demir Hisar Psychiatric Hospital was established in 1956 and has a capacity of 375 beds. The Center for Community Mental Health in Prilep is organizationally connected with this psychiatric institution. “Negorci” Psychiatric Hospital was established in 1972 and has a capacity of 257 beds. Within this psychiatric hospital there is one Center for Mental Health Care.

In addition, there is only one psychiatric institution that covers the activities in tertiary mental health care, and that is the University Clinic for Psychiatry in Skopje that provides hospital and outpatient services with about 16,000 outpatient visits per year. As part of the University Clinic for Psychiatry in Skopje, there is a day hospital - Center for extended treatment in the community of patients suffering from severe mental disorders, which provides complete psychosocial and extended psychopharmacological treatment for its users. In addition to health care, the Clinic performs educational and scientific research activity, i.e., it is a base for the Department of Psychiatry within the Faculty of Medicine in Skopje at Ss. Cyril and Methodius University in Skopje. The capacity of the Clinic in Skopje is 55 beds. The outpatient services in the health centers provide services mainly from the medical-psychiatric aspect of the treatment, without realizing any effects on the socio-rehabilitation plan.

As part of its support for the Ministry of Health’s mental health reforms, the World Health Organization

(WHO) Mental Health Project has opened 5 Community Mental Health Centers (CMHs) in Skopje - two, and one in Gevgelija, Prilep and Tetovo, between 2000 and 2004. The Ministry of Health, financially supported by the Regional Project of the Stability Pact with the WHO, established the sixth Community Mental Health Center in Strumica at the beginning of 2004. Within the University Clinic for Psychiatry, a Day Hospital for people with psychosis has been established, which functions as a Community Mental Health Center, which makes it 7 centers.

According to a document from 2011¹³, there are 9.98 psychiatrists, 1.47 psychologists, 0.83 social workers and 26.92 nurses per 100,000 inhabitants in North Macedonia. According to this, there are approximately 35 to 40 mental health professionals per 100,000 inhabitants. This assessment should support the need to expand human resources in relation to psychiatric staff. Within the existing Community Mental Health Center only 20-50% of patients receive one or more types of psychosocial intervention compared to 100% of the received treatment with psychotropic drugs.

Users' diagnoses also vary by facility type: neurotic disorders are the most common diagnosis in outpatient facilities and general hospital units, while schizophrenia, schizotypal and delusional disorders are the most common among patients in psychiatric hospitals. The longest stay is in psychiatric hospitals (57 days). Thirteen days is the average length of stay in general hospital units. Psychotropic drugs are available year-round in mental hospitals as well as in psychi-

atric hospital units. The same drugs are available in 91% of outpatient facilities.

Given that the best effect is achieved when drug therapy is combined with other forms of treatment, such as individual and group psychotherapy, occupational therapy, rehabilitation and psychosocial support of the individual and/or the whole family as well as other forms, it is necessary to develop and foster a combined approach to mental health. In North Macedonia, in addition to psychopharmacological therapy, the following psychotherapeutic interventions for treatment of schizophrenia are recommended:

- a) psychoanalytic psychotherapy;
- b) cognitive-behavioral therapy (CBT);
- c) psychoeducation;
- d) rehabilitation (social skills training).

The National Health Insurance Fund includes several psychosocial/psychotherapeutic interventions in the list of mental health care services that are delivered free of charge to all state institutions. In theory, and as stated in the national guidelines, they are offered as regular services, and their implementation should be performed as an outpatient service. However, there is a large gap in practice, for two reasons: either there are few certified professionals or some types of psychotherapy are not covered by the fund and are therefore not available to all patients.

The process of opening the Community Mental Health Centers on the whole territory is relatively slow and there is still a lack of programs and activities for social rehabilitation and

reintegration of people with mental illness. DIALOG+ intervention is one of the measures to improve mental health services. Based on the assessment of the factual situation with mental health, the review of which is given above, we will try in this paper to present the facts according to which psychosocial support would be improved, especially in patients with psychosis and bipolar disorder.

Analysis of interview data

Secondary data analysis was performed using data collected prior to the application of DIALOG+. The findings from this data were coded on the basis of context attributes developed by Squires¹¹.

To assess the understanding of the context, we conducted several interviews to find out the opinion of the participants in each of the groups. The new digital intervention was first presented to all groups, followed by focus group interviews. A transcript was made of the recorded data which was then processed. The groups were as follows:

- group of patients - 15 (8 male and 7 female),
- group of clinicians - 12 (4 male and 8 female) (7 psychiatrists, 1 psychologist, 2 nurses, 1 social worker and 1 special educator),
- group of carers - 6 (6 females),
- group of policy makers - 6 (6 females).

During the interviews, the intervention was explained to the respondents, and then they were asked about the benefits, facilitators or barriers to its application. The results for each of the groups are given below.

The obtained data are explained in detail, but also graphically shown in Table 1 for easier monitoring of the results.

Group of patients

Patients said that the use of **technology** (in the form of computer tablets) during the examination would be more optimal, more pleasant and they would have the information in front of them while talking. According to them, if the family would be involved to some extent, it would be good for the implementation of the intervention itself, but also for the activities between the sessions. **Family members** would be a kind of facilitator of change in the patients and therefore it would be best to do psychoeducation of all family members of patients with mental illness so that they would know how to recognize the deterioration of the condition and accordingly seek help in time. For that purpose, the patients themselves think that they should have **guides and directions** that they would receive from the family doctors for this intervention and in that way they would be informed even before they come for the examination and they would be properly prepared for that.

They also think **more frequent sessions, greater availability of doctors and greater media representation as facilitators would help in better implementation of the intervention.** Training and education of medical staff would also be of great benefit to the implementation of the intervention.

They regard **the culture of living** and the stigma surrounding mental ill-

ness, as well as religious affiliation as barriers in the implementation of the intervention. Then, they think that the **time for conversation** should be longer than now, if digital intervention is applied. It means that the time period given now in “My appointment” for one examination would not be enough in case of application of DIALOG+; therefore the time period is considered as a barrier in the implementation of the intervention.

Regarding the activities and tasks that are given to them between two sessions, they believe that our country does not offer enough activities. For example, there are no support groups, no jobs for this type of patients, etc.

Group of clinicians

Patients also think that **there is a shortage of medical staff**, so that would be another major barrier to implementing the intervention. Some of them also see the professional training of the staff as a barrier, because they think that only psychiatrists would have the appropriate skills and are reserved for nurses or other staff. Also, some patients are afraid that the doctor-patient relationship will be lost if too much time and attention is paid to technology.

Clinicians assessed technology, computer program objectification, questionnaire structuring of the session, measurability of assessment, and continuity of assessment as one of the many advantages of applying this intervention. For them, the preparation and education of professionals is crucial, as well as the involvement of nurses who can apply the interven-

tion while patients wait in the waiting room. According to them, it is an easy tool to learn and to work with especially younger colleagues. The involvement of family members is also important. The choice of the patient is important (demography), etc. It's the patient's choice. A barrier would be the lack of staff because the intervention is applied one by one. Due to that, there would be a lack of time and space. Clinicians also see a financial problem - as the examination would cost more, and those from other cities would have to pay more for the trip. According to them, there is a need for reorganization of the psychiatric service and greater involvement of social services, psychoeducation of the family and its involvement, as well as a multidisciplinary approach.

Group of carers

They think that they need psychoeducation. **Then, financial help is needed, and maybe a patronage service that will visit them at home. The culture of behavior** is also important to them. The lack of small groups, as well as patients, share the opinion that the state needs to support small groups to support these patients, either for socializing or for work. Involvement of the intervention in the first stages of the disease, and not in the more advanced stage, would lead to a faster improvement of the condition.

Group of policy makers

According to them, the benefit of implementation would be that it guarantees **the same approach to all clinicians**. Digital documentation would be a greater value and advantage. It is

important to inform both clinicians and patients of the existence of such an intervention. They suggest having guides for “My appointment” entry and approaching world standards of psychiatry. To make changes and during the studies to introduce the students to the new way of examination and the doctor’s approach to the patient. According to them, the useful thing is that **the software is free and available**. In that way, there would be a need to **open daycare centers and homes for support** or residential homes (which is one of the future

tasks of the mental health strategy). Barriers to implementation would be the limited activities that the doctor can help with. **Reliability of information** received from patients. (Nurses have said the same thing and suggested another scale for a more objective simultaneous assessment by them and by the clinicians).

- No multisectoral connection.
- Resistance to innovations in practice by clinicians.
- The time required for the examination.

Table 1. Attributes mentioned on the interviews

Attribute and Feature				
Subgroups	clinicians	patients	caregivers	Policy makers
I. Resource Access				
1. Time as a resource				
2. Guidelines				
3. Documentation				
4. Proximity				
5. Resource quality				
6. Formal communication				
7. Organizational training and education				
8. Staff				
9. Space as a resource				
10. Technology				
11. Expert support				
12. Programs				
13. Online resources				
14. Team educator				
II. Work structure				
1. Timeframe				
2. Continuity of care				
3. Standardization of care				
4. Team work				
5. Reminders				
6. Work load				
7. Delegation of tasks				
8. Order of work tasks				

9. Work tempo				
10. Scheduling and shift work				
11. Patient wait times				
III. Patient characteristics				
1. Patient demographics				
2. Patient expectations and preferences				
IV. Professional role				
1. Clinical skill set				
2. Professional role training				
3. Job autonomy				
4. Conflict				
5. Professional development				
6. Accountability				
7. Code of ethics				
V. Culture				
1. Organizational culture				
2. Culture (general)				
VI. Facility characteristics				
1. Type of facility				
2. Geography				
3. Size				
4. Volume				
5. Atmosphere				
6. Facility characteristics (general)				
7. Religious affiliation				
VII. System features				
1. Resource waste				
2. Logistics and coordination				
3. Record-keeping				
VIII. Healthcare Professional Characteristics				
1. Experience				
2. Group composition				
IX. Financial costs				
1. Financial incentives				
2. Funding system				
3. Financial (general)				
X. Leadership				
1. Role modeling				
2. Mentorship				
3. Champion				
XI. Collaboration				

1. Social interactions				
XII. Evaluation				
1. Evaluation (general)				
2. Audit				
3. Organizational evaluation				
4. Patient evaluation				
XIII. Regulatory or Legislative standards				
1. Legal				
2. Standard of practice or care				
XIV. Societal influences				
1. Societal influences (general)				

On-site condition assessment analysis

In analyzing the data obtained from the on-site assessment carried out during the visit by a responsible person in charge of Queen Mary University of London, we obtained the following attributes and their corresponding characteristics:

1. Access to resources

- ♦ Number of clinical staff in the service
- ♦ Internet (under technology)
- ♦ Where will a study meeting be held between patients and clinicians?
- ♦ Identified dedicated meeting space

2. Working structure

- ♦ Type of service
- ♦ Do patients in the service see the same clinicians at the patients meeting?
- ♦ Duration of routine meetings (average)
- ♦ Type of therapy

3. Patient characteristics

- ♦ Number of patients with psychosis observed in the previous year
 - ♦ On average, how often do patients with psychosis see each other at routine appointments
- #### 4. Features of the building
- ♦ Type of service
 - ♦ Number of patients recorded in the previous year
- #### 5. System features
- ♦ Preservation of medical records
- #### 6. Evaluation
- ♦ Organizational readiness

Discussion

The idea of this paper was to analyze the attributes of the context in North Macedonia regarding the implementation of a new digital instrument/mental health intervention that can be used in everyday practice and to change the doctor-patient communication. The difference in the application of this intervention is that the quality of life of the patient is developed and seen.

Patients have the right to be actively involved in the design of their treat-

ment plan, along with its implementation. They also have the right to participate in the recovery and resocialization planning process, while respecting their needs and abilities. The health system of North Macedonia is obliged to follow these principles.

DIALOG+ directly addresses these requirements by offering client-centered treatment and active patient involvement through a “four-step approach”. Because it is a time-saving intervention, DIALOG+ has a great potential to help overcome problems (e.g., lack of time, work overload, etc.) resulting from the low ratio of mental health professionals/residents.

All countries have community mental health centers, but they generally do not operate independently of hospitals. In addition, the hospital-based approach is still dominant, especially given the existence of many hospitals specializing in the treatment of psychiatric disorders. The characteristics of DIALOG+ (widely applicable psychosocial intervention) are in line with modern assumptions about the psychosocial rehabilitation of patients with psychosis. Hence, it can be a useful tool for professionals in monitoring and realizing the true vision and mission of these institutions. It will help patients reintegrate into society, become more independent and use their full potential in the pursuit of healthy and functional living.

First, it empowers patients in the community in terms of their satisfaction with life and social functioning. Second, it promotes and encourages the involvement of carers and other community members in the process of psychosocial reintegration of these patients.

In a study conducted in the United Kingdom, Spain, the Netherlands, Sweden, and Switzerland¹⁴ DIALOG+ proved to be an effective psychosocial intervention. If DIALOG+ proves to be an effective intervention (i.e., if it proves beneficial for patients in low- and middle-income communities), it is likely to be recognized and approved by national health insurance funds in low- and middle-income countries.

Contextual implementation facilitators that emerged from our analysis are the following:

- ♦ the use of technology and data storage on tablets
- ♦ objectification through a computer program
- ♦ structuring the session through the questionnaire
- ♦ the measurability of the assessment
- ♦ continuity of assessment
- ♦ involving family members
- ♦ preparation of guides and guidelines for patients, but also for clinicians
- ♦ more frequent sessions, greater availability of doctors and greater media coverage
- ♦ training and education of medical staff
- ♦ involvement of other clinicians in the intervention (for e.g., nurses).

Contextual implementation barriers that will need to be bridged are the following:

- ♦ culture of living and stigma

- ♦ longer talking sessions
- ♦ lack of sufficient activities to be offered to patients
- ♦ lack of medical staff,
- ♦ professional training of staff
- ♦ loss of doctor-patient relationship if too much time is devoted to technology
- ♦ lack of staff
- ♦ lack of time and lack of space
- ♦ financial problem
- ♦ reorganization of the psychiatric service
- ♦ greater involvement of social services.

The basic skills of someone who would work with DIALOG+ should be patience and trust, confidentiality. There is a structure to the interview, and if we stick to the structure, then we will really take the time to ask questions to people who have problems and who have come to discuss their problems. In particular, it does not matter if the ranking will be 2 or 4 at the moment and then it will be 3. It does not matter at all, but it is important to conduct a conversation and find a solution that will be considered. Therefore, this therapy is aimed at finding a solution. The clinician will suggest an activity; the patient will have to suggest an activity. We, of course, will not be able to solve all the problems, but if we stick to this structure, we will be able to have more domains that people can talk about.

The most important thing is that clinicians put all life segments in the

direction of diagnosing, treating and monitoring the whole process. DIALOG+ will monitor all these 11 segments of life that are related and if a smaller part is solved, the remaining cubes will be like a domino effect. Therefore, this domino effect in most cases would have a positive outcome for both patients and clinicians who will learn a more comprehensive approach. Therapists will be upgraded in their domain, and patients will gain that trust and respect in order to get the most out of this. This intervention ensures that the 11 domains of life and treatment are constantly addressed and that patients' attitudes and priorities are always taken into account¹⁵. This is likely to increase awareness of patients' attitudes and their changes over time, resulting in care that reduces unmet needs and increases patients' quality of life and satisfaction with treatment¹⁶. Some authors expect and suggest that patients' quality of life may improve even when symptoms do not show significant changes^{17,18}.

If applied at the secondary level, an information campaign will be required. The directors, i.e. the management of the health institution, will have to lobby for the workers and their employees to use that tool more often. Training of other medical professionals, logistical support (tablet service) will also be required. Patients would prefer this intervention take place in the outpatient services of the community, than in the hospital conditions and because of the stigma not to be seen, but also because of the faster and closer availability of Mental Health Centre.

Conclusions

DIALOG+ training should be included in the continuous professional development of clinicians, to have online tutorials, to organize additional activities with patients who use DIALOG+, to distribute a brochure to introduce the tool to patients (such a brochure already exists), to involve family members in the intervention, support from the association of psychiatrists and support from the Ministry of Health.

Here are some of our recommendations for better implementation not only of this new digital psychosocial intervention, but also for the implementation of some new interventions to improve mental health in the future:

- Application at all levels and electronically documented patient record.
- As one of the basic aspects of DIALOG +, it is a step forward in terms of encouraging the use of technology in health care in our country.
- Access to information in order for clinicians to know how to use it and access to the application and eventually enable some systems to have easier access.
- Self-evaluation for patients.
- Upgrading a system that may already be obsolete, and already with the help of new technologies allows you to save resources and time.
- Appropriate psychoeducation and technical support for practical application of the intervention.
- Systematized scientific research work.
- Financial assistance is necessary because the implementation of services depends on providing tablets, phones and computers dedicated to this type of intervention.
- The long-term effects would be to reduce symptoms, reduce relapse and improve the quality of life of our patients.
- Due to the nature of the intervention, which requires technical knowledge and operation of applications on tablets and smartphones, we expect younger doctors, psychologists and nurses to be the first ones to accept the service in their daily practice.
- The selection of the patient profile is aimed at the younger population who is technically and digitally more prepared to accept this type of intervention that includes working on applications on a tablet or smartphone.
- These contents should be part of the continuous medical education and should be appreciated and evaluated and in the process of renewing the licenses there should be a mandatory number of hours in which the technique would be mastered.
- Its usage to be covered by the health insurance fund.

Acknowledgment

This study was funded as part of the IMPULSE project under the European Union's Horizon 2020 research and innovation programme [Grant Number 779334]. The IMPULSE project has received funding through the "Global Alliance for Chronic Diseases (GACD) prevention and management of men-

tal disorders” (SCI-HCO-07-2017) funding call.

References

1. Sadock B J, Sadock V Kaplan and Sadock’s Synopsis of Psychiatry: Behavioral Science/Clinical Psychiatry. 11th edition, Wolters Kluwer, 2014.
2. WHO-AIMS Report on Mental health System in the Former Yugoslav Republic of Macedonia. WHO, Country Office, Skopje & WHO, Regional Office for Europe, 2009.
3. May CR, Johnson M, Finch T. Implementation, context and complexity. *Implement Sci.* 2016;11(1).
4. Ovretveit J. Understanding the conditions for improvement: research to discover which context influences affect improvement success. *BMJ Qual Saf.* 2011;20(Suppl 1):i18–23.
5. Coles E, Wells M, Maxwell M, Harris FM, Anderson J, Gray NM, et al. The influence of contextual factors on healthcare quality improvement initiatives: what works, for whom and in what setting? Protocol for a realist review. *Syst Rev* 2017;6(1).
6. Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implement Sci.* 2009;4(1).
7. Kaplan HC, Brady PW, Dritz MC, Hooper DK, Linam WM, Froehle CM, et al. The influence of context on quality improvement success in health care: a systematic review of the literature: quality improvement success in health care. *Milbank Q.* 2010;88(4):500–59.
8. Priebe S, Omer S, Giacco D, Slade M. Resource-oriented therapeutic models in psychiatry: conceptual review. *The British Journal of Psychiatry* 2014; 204(4), 256-261.
9. Jovanović N, Francis J, Marić N, Arënliu A, Barjaktarov S, Kulenović Dž, et al. Implementing a psychosocial intervention DIA-LOG+ for patients with psychotic disorders in low and middle income countries in South Eastern Europe: protocol for a hybrid effectiveness-implementation cluster randomized clinical trial (IMPULSE). *Global Psychiatry* 2019; 2(2), 1-14.
10. Ministry of health of the Republic of North Macedonia. National strategy of mental health 2018-2025, Skopje.
11. Squires JE, Aloisio LD, Grimshaw JM et al. Attributes of context relevant to healthcare professionals’ use of research evidence in clinical practice: a multi-study analysis. *Implementation Sci* 2019; 14(1), 52.
12. Official Journal of the Republic of Macedonia no 71/2006. Law for mental health.
13. Mental health Atlas: FYR Macedonia, 2011. Available at http://www.who.int/mental_health/evidence/atlas/profiles/mkd_mh_profile.pdf
14. Priebe S, McCabe R, Bullenkamp J, Hansson L, Lauber C, Martinez-Leal R, et al. Structured patient-clinician communication

- and 1-year outcome in community mental healthcare: cluster randomised controlled trial. *Br J Psychiatry*. 2007; 191:420-426.
15. Rosenheck R, Stroup S, Keefe RS, McEvoy J, Swartz M, Perkins D, et al. Measuring outcome priorities and preferences in people with schizophrenia. *Br J Psychiatry*. 2005; 187:529-536.
 16. Lasalvia A, Bonetto C, Malchiodi F, Salvi G, Parabiaghi A, Tansella M, Ruggeri M. Listening to patients' needs to improve their subjective quality of life. *Psychol Med*. 2005;35(11):1655-65.
 17. Holloway F, Carson J. Subjective Quality of Life, Psychopathology, Satisfaction With Care and Insight: an Exploratory Study. *International Journal of Social Psychiatry*. 1999;45(4):259-267.
 18. Trieman N, Leff J, Glover G. Outcome of long stay psychiatric patients resettled in the community: prospective cohort study. *British Medical Journal* 1999; 319, 13-16.