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Implementing a mental health intervention in low-and-middle-income countries in Europe: Is it all aboutresources?

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Abstract

Background: There are limited resources for improving mental health care across Europe, especially in Low-and-Middle-Income Countries (LMICs) in South-eastern Europe with fewer specialist staff and less funding. Scaling up psychosocial interventions that utilise available time and resources more effectively could improve care for people with psychosis in these settings. One intervention is DIALOG+, delivered via an app on a tablet computer: patients identify life areas to improve and clinicians use a solution-focussed process to help improve these areas. This intervention was piloted across mental healthcare systems in European LMICs, and focus groups were conducted to explore whether such interventions could use available resources effectively to improve care for psychosis in these settings.

Methods: Eleven focus groups were conducted with clinicians and patients with psychosis who used the intervention over three months during the pilot study, in Bosnia and Herzegovina, Kosovo United Nations Resolution, Montenegro, North Macedonia and Serbia. The Theoretical Domains Framework (TDF), which describes factors affecting engagement with healthcare interventions, structured topic guides and guided analysis. Codes from the data were mapped onto the TDF, analysed to identify barriers and facilitators, translated into English and checked for inter-rater reliability.

Results: 25 clinicians and 23 patients participated in focus groups. Clinicians' barriers included limited time for sessions and difficulties working with acutely psychotic patients. Patients' barriers were burden of greater concentration when engaging with DIALOG+ and feeling tense or disturbed during the sessions. Facilitators included motivation to use DIALOG+, positive opinions shared by others, perceived benefits for practice and improving clinician-patient conversations, relationships and care.

Conclusions: Barriers to using psychosocial interventions could be overcome even if resources cannot be increased. Despite limited time and other barriers to using DIALOG+, perceived benefits to practice and clinician-patient relationships suggest that psychosocial interventions can use available resources effectively to improve care for psychosis.

Keywords

Theoretical Domains Framework; DIALOG+; psychosis; low and middle-income countries; mental health care

INTRODUCTION

In Europe, around 1–2% of the population are diagnosed with psychotic disorders (World Health Organisation, 2014); however, less than 50% of people with mental disorders receive treatment and only 10% receive adequate care (World Health Organisation, 2013). Across Europe, mental health care systems often lack resources, such as funding and professionals, to provide adequate care for mental health disorders (Barbato, Vallarino, Rapisarda, Lora & de Almeida, 2016). Furthermore, limited time was a barrier for clinicians to deliver interventions for psychosis in studies in the United Kingdom due to staff being overworked (Michie et al., 2007), and across other countries in Europe due to limited time of consultations (Magliano et al., 2005).

Low-and-Middle-Income Countries (LMICs) in South-eastern Europe lack sufficient funding and qualified staff to provide specialist services (Maric, Andric Petrovic, Rojnic-Kuzman & Reicher-Rössler, 2019), with up to 45% of people with psychosis not receiving treatment (World Health Organisation, 2008; McDaid et al., 2005). Mental health care in these countries is moving away from being primarily hospital-based towards more community- based care, a profound change that brings challenges including insufficient funding support, education and motivation of staff in implementing new clinical practice (Švab & Švab, 2013; Injac-Stević, Radojičić & Repišti, in progress). Furthermore, besides lack of access to care and limited resources, psychotic disorders have a high cost on society (Gustavsson et al., 2011).

Therefore, there is an urgent need to test and implement psychosocial interventions, which utilise available time and resources, and limited specialist staff, to improve efficiency and effectiveness of care for patients in mental health care settings in LMICs. A pilot study of one such psychosocial intervention, DIALOG+, was conducted in mental healthcare systems across LMICs in South-eastern Europe, this paper reports the pilot study and the focus groups, which aimed to explore the facilitators and barriers to using this intervention in these settings. The Theoretical Domains Framework (TDF), described in greater detail below, guided this exploration of facilitators and barriers to using such an intervention, whether such barriers could be overcome, and whether the intervention has potential to use available resources effectively to improve care for people with psychosis.

The DIALOG+ intervention

There are a number of interventions for psychosis delivered via apps on mobile devices, such as Actissist, which focusses on self-management and facilitating shared decision-making, targeting symptoms in early psychosis (Bucci et al., 2018) and MATS, which targets medication adherence and symptoms (Granholm et al., 2012). DIALOG+ is a solution-focussed technology-assisted psychosocial intervention, also available as an app on a mobile device, which – compared to other apps – has solid evidence for its effectiveness having been tested in a pragmatic cluster randomised controlled trial with people with psychosis (Priebe et al., 2015). This intervention was selected for this study as it is well suited for mental healthcare systems with limited resources and it utilises existing clinical relationships and does not require establishment of new services or referral to other clinicians. Also, DIALOG+ is a Solution-focussed therapy, which empowers the patient to collaborate with the clinician during their routine meetings and to shape their own treatment. Rather than focussing on problematic feelings and behaviours, as is the case in more traditional problem-focussed therapies, Solution-focussed therapy encourages the patient to think of what has worked well in the past and to imagine a future in which the problem is solved, utilising their strengths (Trepper et al., 2010; Priebe, Omer, Giacco & Slade, 2014). Furthermore, participants receiving solution-focussed approaches show an increase in positive affect compared to those receiving problem-focussed approaches (Grant & Gerrard, 2020; Wehr, 2010). Patients receiving DIALOG+ showed improved quality of life, fewer unmet needs, higher satisfaction with treatment, and improved psychological and social outcomes in the UK studies (Priebe et al., 2007; Priebe et al., 2015) and in a German study (Fichtenbauer et al., 2019). DIALOG+ worked by initiating self-reflection, therapeutic self-expression and empowerment, bringing positive change in specific areas of patients' lives (Omer et al., 2016). Using the app, the patient rates how satisfied they are with different life areas (Figure 1) and selects up to three areas for further discussion. The patient and clinician then discuss the patients' concerns in these areas in four steps (Figure 2) before agreeing on actions to address these concerns. The Supplementary file presents the DIALOG+ intervention, including the template for intervention description and replication checklist (TIDIeR: Hoffmann et al., 2014).

The Theoretical Domains Framework (TDF)

A good theoretical understanding is required of how an intervention causes behaviour change, so that any issues in behaviour change can be identified (Craig et al., 2008) and barriers to implementation overcome. Therefore, the Theoretical Domains Framework (TDF) of behaviour change was used to guide this study. The TDF was developed by a team of expert researchers comprising 33 commonly used theories

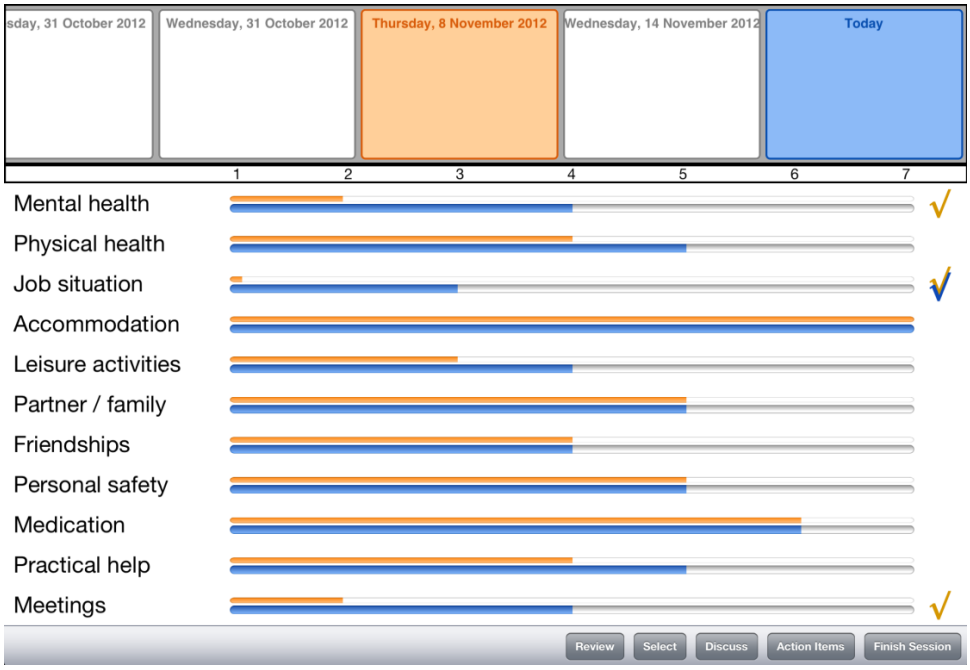

Figure 1. Screenshot showing how DIALOG+ life areas are rated, compared and selected for further discussion (East London NHS Foundation Trust, 2012)

of behaviour change, distilled into 12 theoretical domains of behaviour: Knowledge, Skills, Social/professional role, Beliefs about capabilities, Beliefs about consequences, Motivation and goals, Memory, attention and decision processes, Environmental context and resources, Social influences, Emotion, Behavioural regulation and Nature of behaviour (Michie et al, 2005). In this study, the 12-item TDF was used as it includes the TDF domain 'Nature of Behaviour', a domain which describes the way behaviour change manifests, that is, was a large versus small change in behaviour required, or did it fit with existing habits, which is relevant for the aims and context of the current study. The TDF provides a comprehensive theoretical framework, which includes the potential effect of resource limitations as well as other possible behavioural factors at multiple levels (organisation, team and individual clinician), which could affect the delivery of new interventions. The framework has informed implementation research across various healthcare contexts (Francis, O'Connor & Curran, 2012).

Objectives

The aim of the pilot study was that clinicians and patients could experience delivering and engaging with a technology-assisted psychosocial intervention, DIALOG+, in mental health care systems in European LMICs. This pilot was conducted so that the barriers and facilitators of using such an intervention could then be explored. This focus group study aimed to investigate such barriers and facilitators and whether barriers could be overcome despite limited resources, and whether the intervention has potential to use available resources effectively to improve care for people with psychosis.

METHODS

This study was conducted as a part of the IMPULSE project: Implementation of an Effective and Cost-effective Intervention for Patients with Psychotic Disorders in Low and Middle-income Countries: http://impulse.qmul.ac.uk/home/. Please note that the pilot study has not been published separately to this study.

Study Design

This was a qualitative study using semi-structured focus groups, facilitated using a topic guide based on the TDF to explore clinicians' and patients' experiences with DIALOG+. The Supplementary file presents the consolidated criteria for reporting qualitative research (COREQ: Tong et al., 2007).

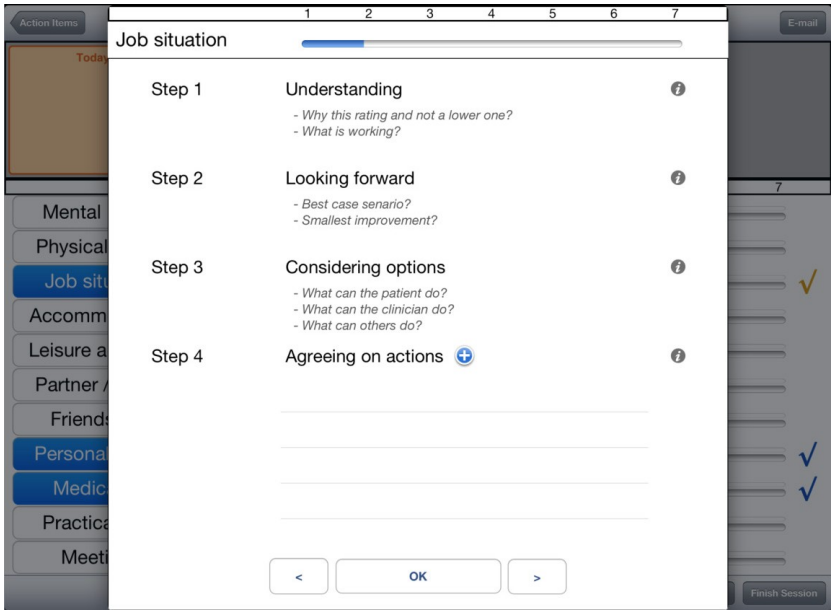

Figure 2. Screenshot showing how the discussion of each DIALOG+ life domain is structured between clinicians and patients (East London NHS Foundation Trust, 2012)

Pilot study

A pilot study was conducted in which DIALOG+ was delivered by 25 clinicians and used by 25 patients (5 clinician-patient pairs) in mental health services in outpatient clinics across five European LMICs: Bosnia and Herzegovina, Kosovo,1 Montenegro, North Macedonia and Serbia. In each country, all the clinics with caseloads of more than 200 patients with psychosis were invited to participate in the study. Two clinics per country were recruited in Serbia, Kosovo[1], North Macedonia, and Bosnia and Herzegovina and three clinics were recruited in Montenegro, with a total of 11 clinics. The pilot study did not include any quantitative patient outcome measures and so a power calculation was not considered necessary, and a minimum sample size of 13 has been recommended for adequate data saturation in interview or focus group studies (Francis et al., 2010). Patients were eligible to take part if they had a clinical diagnosis of psychosis or related disorder (i.e.: ICD-10 F20-29, F31) and excluded if they had a diagnosis of organic brain disorders or had a severe cognitive deficit (unable to provide information to study instruments). Information about the services of these countries is presented in Table 1 below. DIALOG+ was delivered by all clinicians using tablet computers to all patients, that is, there was no randomisation to conditions. Participants completed 1 to 3 DIALOG+ sessions (M = 1.88; SD = 0.60) with sessions lasting up to 70 minutes.

Clinicians had received training in DIALOG+ from local researchers who were trained by experienced trainers from the UK institution coordinating the IMPULSE project where the DIALOG+ intervention was designed (Priebe et al., 2017). As part of this pilot study, focus groups were conducted with clinicians and patients to explore their experiences of using DIALOG+ in their local clinical context.

Focus groups

Participants

Participants were eligible to participate in the focus groups if they had experience of the DIALOG+ intervention in the pilot study. This was a convenience sample from the collaborating university psychiatric clinics across each of the five countries.

Materials

Two semi-structured topic guides were designed, based on the 12 TDF domains; one for clinicians and the other for patients. To minimise burden on participants, guides were kept reasonably short with 10 questions for clinicians and 11 questions for patients. Questions were designed to elicit responses reflecting barriers and facilitators to engaging with DIALOG+. The topic guides were checked by a TDF expert to ensure the questions adequately reflected the 12 TDF domains. The final versions of the topic guides are available in the Supplementary file.

1 By United Nations Resolution

Table 1. Context of the mental health care services in each country involved in the pilot study (Jovanovic et al., 2020)

Country	Description of routine outpatient mental health care
Bosnia and Herzegovina	Hospital-based outpatient services: patients are primarily seen by psychiatrists for every 1–3 months; the duration of routine meetings is 15–30 min. Other staffs include nurses, psychologists, social workers, occupational therapists and trainees. Interventions offered include medication, psychotherapy and occupational therapy.
Kosovo*	Community-based services: patients are primarily seen by nurses one to four times per month, the duration of routine meetings is 15–20 min. Psychiatrists see patients once per month or less frequently mainly to review medication or provide psychotherapy. Other professionals in services include psychologists, psychotherapists, social workers and trainees. Interventions offered include medication, family intervention, occupational therapy and home visits.
Republic of North Macedonia	Hospital-based services: patients are seen predominately by psychiatrists or psychologists once per month or less frequently; the duration of routine meetings is 30 min. Other staffs include nurses, social workers, psychotherapists, occupational therapists, pharmacists and psychiatric trainees. Interventions offered include medication, psychotherapy, occupational therapy, psychoeducation and supportive psychotherapy.
Montenegro	Hospital-based services: patients are seen predominately by psychiatrists once per month or less frequently; the duration of routine meetings 15–45 min. Other staffs include nurses, psychologists, social workers, occupational therapists, psychiatric trainees and defectologists. Interventions offered include medication, psychotherapy and occupational therapy.
Serbia	Hospital-based services: patients are seen predominately by psychiatrists and psychologists every 2–3 months; the duration of routine meetings is 20–40 min. Other staffs include nurses, social workers, occupational therapists and trainees. Interventions offered include medication, psychotherapy, occupational therapy and needs-based supportive psychotherapy.

Procedure

Focus group topic guides were translated from English into local languages professionally or by the local researchers who are fluent in English, and focus groups were delivered in local languages. All the participants provided written informed consent to take part in the focus groups to discuss their experiences with DIALOG+. Focus groups were conducted separately with clinicians and patients in each country during October to November 2018. Focus group facilitators were male and female Research Associates/Assistants and Assistant Professors, citizens of the participating countries, and based at the local universities and psychiatric clinics who had received training in conducting focus groups. Focus groups were arranged at clinics, lasting 40–60 minutes. Prior to the study, researchers had no relationship with participants. Focus groups were recorded using a password-protected audio device and audio files were transcribed verbatim in the researchers' local languages by the local researchers and anonymised. Transcriptions were then checked for accuracy by the local researchers. Clinicians and patients were reimbursed €25 for their time.

Analysis

Transcripts were coded in local languages by the local researchers who were trained in using the TDF. Coding took place in three stages following a method described by Atkins et al. (2017):

1. Using a deductive approach, at least two local researchers at each site (one at Kosovo[1]) coded utterances by mapping them onto TDF domains. This approach was used as the coded data can then be mapped onto appropriate behaviour change techniques (Michie et al., 2013) using validated methods (Carey et al., 2019), to enhance engagement with DIALOG+.
2. Using an inductive approach, researchers grouped utterances with similar meanings together and identified barriers and facilitators across these codes. Researchers discussed and verified coding at each stage of the analysis with their team, and disagreements were discussed until consensus was reached.

   Data were translated into English and a second independent researcher analysed 20% of the translated data to check inter-rater reliability. Following translation into English, the codes, barriers and facilitators were reviewed by the local researchers and considered an accurate representation of the barriers and facilitators described by the clinicians and patients in the original languages. In identifying themes, only codes reported by a minimum of two people were included unless they appeared to represent a strong reported experience, which could affect behaviour.

1 By United Nations Resolution

Opposing opinions on the same topic, for example, highly motivated versus unmotivated, were combined into one (bipolar) theme; this shows how important an issue is by how frequently it was reported.

3. Priority TDF domains were identified as those reflecting the most common and problematic barriers to engaging with the intervention, contained opposing views or strong views, which may have affected engagement with the intervention (Patey et al., 2012). Priority TDF domains were identified, discussed and agreed by the researchers.

Ethics approval and consent to participate

All the participants gave informed consent before participating in this study. Ethics was approved by the committees at each of the participating sites.

RESULTS

Reflexivity

The local researchers who conducted the transcription and coding had mixed backgrounds of research and clinical experience, which may have affected their approach. The researcher who checked accuracy of TDF coding was very familiar with the TDF but less familiar with the cultural context of the countries. The second researcher who conducted the 20% check was familiar with the culture as a citizen of one participating country. The Kappa statistic for inter-coder reliability showed substantial agreement (0.795) according to McHugh (2012). The team faced the challenge of a large team with local reflexive approaches to coding across considerable geographical distance, which may have affected the way the data was interpreted.

Participants

Five focus groups were conducted with 5 clinicians each, totalling 25 clinicians (5 males, 20 females, average 17 years' experience in their profession, *SD* = 5.16), including psychiatrists, psychologists, residents and nurses. Five focus groups were conducted with 4 to 5 patients each, totalling 23 patients (8 males, 15 females, average age of 39.8 years, *SD* = 12.1) who had a clinical diagnosis of Paranoid schizophrenia, Acute and transient psychotic disorder, Schizoaffective disorder, Unspecified nonorganic psychosis or Bipolar affective disorder (ICD-10 F20-29, F31; average 13.2 years' duration of illness, *SD* = 9.97). Two patients who had participated in the pilot study did not participate in the focus groups, one due to deterioration of their illness and one who was uncontactable.

Barriers and facilitators

Barriers and facilitators are reported in detail separately for clinicians and patients in the following sections. Figure 3 below provides a brief summary of the main barriers and facilitators reported by clinicians and patients.

Clinicians

A total of 58 codes from clinicians and their associated quotes are presented in Table 2 below.

Summary of facilitators as reported by clinicians

There were three main facilitators for delivering the intervention reported by clinicians.

Willingness to deliver the intervention

Nine clinicians across the five countries commonly reported that they were willing to continue using DIALOG+ (Domain: Motivation and goals). Eight clinicians considered that colleagues would feel the same way (Domain: Social influence).

Perceived similarity of aspects of the intervention to existing practice

Twelve clinicians across all five countries reported that aspects of the intervention were similar to existing practice (Domain: Nature of behaviour). Two clinicians specified that the patient-centred approach in DIALOG+ was similar to another patient-centred approach they currently provided and one clinician commented that they previously used similar rating scales with patients.

Conversely, nine clinicians felt that other aspects of the intervention, particularly the way it structured practice, was something new and different to their standard approach. Only one clinician saw this as a barrier, while the majority of clinicians saw this as a positive change.

Benefits to practice and patients

Benefits reported by clinicians included empowerment and involvement of patients in their treatment, and improvements to clinician-patient conversations and relationships. Clinicians additionally commented that the intervention made clinical work easier, more structured and more efficient (Domain: Beliefs about consequences).

Barriers	
TDF domain	Barrier
Clinicians	
Environmental context and resources	Limited time for sessions
Beliefs about capabilities Social influence	Difficulties working with acutely psychotic patients
Patients	
Memory, attention and decision processes	Greater concentration when engaging with DIALOG+
Emotion	Feeling tense or disturbed during sessions
Facilitators	
TDF domain	Facilitator
Clinicians	
Motivation and goals	Willingness to deliver the intervention
Social influence	Colleagues would feel positive about the intervention
Nature of behaviour	Intervention is similar to existing practice but also brings positive change
Beliefs about consequences	Empowerment and involvement of patients in treatment, improvements to conversations and relationships, made clinical work easier, more structured and more efficient
Patients	
Motivation and goals	Willingness to engage with the intervention
Social influence	Peers, family and clinicians would feel positive and support patients using the intervention
Emotion	Feeling comfortable, pleasant, relaxed, enjoying the session
Beliefs about consequences	Comprehensive conversations, better relationships with clinicians, increased self-awareness and solving problems

Figure 3. Summary of main barriers and facilitators using DIALOG+

Summary of barriers as reported by clinicians

There were two main barriers to delivering the intervention reported by clinicians.

Limited time to deliver the intervention

Nineteen clinicians across all five countries reported that they had limited time to deliver DIALOG+ during sessions (Domain: Environmental context and resources). This was due to the standard time for routine consultations being too short and due to general organisational issues constraining time and clinicians feeling overburdened by other commitments.

Difficulties with patients when not in remission

Ten clinicians across four countries suggested that patients selected for the intervention were problematic due to their diagnoses, personality and age (Domain: Environmental context and resources). Patients' mood (Domain: Emotion) and symptomology made it difficult for clinicians to deliver the intervention properly (Domains: Social influence; Beliefs about capabilities), for example, when patients showed paranoid behaviour towards the tablet computer.

Less common barriers

Other barriers were reported, which can be found with their associated quotes in Table 2.

Patients

A total of 35 codes from patients and their associated quotes are presented in Table 3 below.

Summary of facilitators as reported by the patients

Patients reported four main facilitators of engaging with the intervention.

Positive experiences with the intervention and willingness to engage with it

Thirteen patients across all five countries were willing to continue using the intervention (Domain: Motivation and goals) and ten considered that others, such as peers, family and clinicians would feel the same way and support them (Domain: Social influence).

Table 2. Analysis of focus groups with clinicians: Summary of codes assigned to the Theoretical Domains Framework (TDF)

High priority TDF domains	Codes	Quote	Frequency of codes out of 25					
			Bosnia & Herzegovina	Kosovo United Nations Resolution	North Macedonia	Montenegro	Serbia	**Total**
Knowledge	Know and understand DIALOG+	'I feel that I know enough about Dialogue +, I have quite enough information so I can use the intervention with my patient.' C4, North Macedonia	2	0	2	1	0	**5**
	Need clarification	'Nothing to add to what my colleagues said, just to insist on seeing the practices from other countries, to see what worked and what did not.' F4, Kosovo 'I think it should be clarified a little bit, because there is always something new that could be added to this, a little about the method, the four steps, this, to clarify this bit more and to talk more on this topic.' P5, Montenegro	0	2	0	3	0	**5**
Skills	I have the skills	'I think I have all the skills to use this app. It is very easy because it guides you with listed answers.' C5, Bosnia and Herzegovina	1	0	2	0	0	**3**
	Need practical experience	'although at this moment I don't have enough practical experience with different patients.' C2, Serbia	0	1	0	2	1	**4**
	Needs for training	'Well, it's not bad, but it has to be prepared a little bit before the meeting, certainly we have to prepare before... Additional preparation before application.' P5, Montenegro	0	3	2	1	2	**8**
		'In my opinion the training we got was sufficient, currently there are no difficulties in delivering Dialog+.' C5, Serbia						
Social/professional role and identity	Does not fit with or adds burden to professional role	Well, I'm not sure that nurses would also have such positive attitude... I think they would consider delivering Dialog+ to patients as another duty that is imposed to them.' C6, Serbia	1	0	0	0	3	4
	Other professions and services can use DIALOG+	'Everybody can use DIALOG+, not just psychiatrists but also, for example, social workers, everybody should be included.' C1, Bosnia and Herzegovina	1	0	0	0	1	**2**
	D+ is part of professional role	'In my opinion it is our professional responsibility to deliver such interventions to our patients.' C3, Serbia	0	0	1	1	3	**5**
	D+ fits with priorities	**'(But is that your professional responsibility?)** Yes it is, because not only symptoms are important, but also patients' overall quality of life.' C4, Serbia	0	0	0	1	2	**3**

Continued **Table 2.** Analysis of focus groups with clinicians: Summary of codes assigned to the Theoretical Domains Framework (TDF)

High priority TDF domains		codes	Quote	Frequency of codes out of 25					
				Bosnia & Herzegovina	Kosovo United Nations Resolution	North Macedonia	Montenegro	Serbia	**Total**
Beliefs about capabilities		Difficulties with patients who are not in remission	'Surely, it will be easier to use Dialog+ among patients in remission, while when they are in psychosis it will be more problematic.' C5, North Macedonia 'My patient had paranoid schizophrenia, it was very hard, and he was constantly asking why I record things, who will get the data…' C3, Bosnia and Herzegovina	3	0	3	2	1	**9**
		Easier with younger patients	'Regarding patients who are easier or more difficult to include, I think we should maybe avoid paranoid schizophrenia, while we should prioritize including younger patients.' C1, Bosnia and Herzegovina	2	0	0	0	0	**2**
		Cannot do anything about unemployment	'For example, what your colleague said when you asked those questions, the client is referring, for example, to the employment that is commonly the case. They fail to find jobs even after three months of searching for it and you cannot help them.' F1, Kosovo	0	1	0	0	0	**1**
		I found it difficult at the beginning	'Yes, I did the first [session] badly… I did not understand it well at all, but now I see it.' P2, Montenegro	0	2	0	2	0	**4**
		We are capable to deliver D+	'It's easy enough for me and from the very beginning there was no problem understanding either the process itself or the questions that were inside and I do not think there is any need for any intervention to make it easier.' C1, North Macedonia	0	1	2	0	0	**3**
Beliefs about consequences	Positive	Improves clinician-patient relationship	'That collaborative relationship gets better, more open and active with this.' C1, Bosnia and Herzegovina	4	0	0	1	1	**6**
		Patients are empowered and involved in their treatment	'Patients feel more important and responsible, it improves insight and awareness about health.' C2, Bosnia and Herzegovina	4	1	1	3	3	**12 ***
		Makes work easier and structured for clinicians	'There are structured questions, scale from 0 to 7, there is an insight to previous sessions… it makes everything easier.' C3, Bosnia and Herzegovina	4	0	3	1	1	**9**
		Improved work efficiency in regular practice	'In my view the good thing is that by delivering Dialog+ we are also improving some of our professional skills, hence we are becoming more efficient in our routine clinical work.' C3, Serbia	1	0	2	1	3	**7**
		Improves patient outcomes	'Well, an interesting and useful tool that can bring structure in the treatment, especially at the psychosocial level and better functioning of the patient.' C5, North Macedonia	0	0	1	2	2	**5**

Continued **Table 2.** Analysis of focus groups with clinicians: Summary of codes assigned to the Theoretical Domains Framework (TDF)

High priority TDF domains		codes	Quote	Frequency of codes out of 25					
				Bosnia & Herzegovina	Kosovo United Nations Resolution	North Macedonia	Montenegro	Serbia	**Total**
Beliefs about consequences		Improved, comprehensive and deepened conversation	'It also seems to me that my patient and I have further deepened the topics that we have discussed...' C2, Serbia	0	0	0	2	3	**5**
	Mixed/ neutral	Newer patients would benefit more from Dialog+	'I think it would be easier to see results in the new cases as opposed to the old ones, for which we cannot do much, apart from social help.' F2, Kosovo United Nations Resolution	0	3	0	0	0	**3**
		Do not know yet how well it will work	'It's just the beginning. And we have a bit of a problem as to what we had too little time evaluated it[sic]. After a few months, we can come with opinions on what we want to change or add..' F1, Kosovo United Nations Resolution	0	1	0	0	1	**2**
	Negative	Could reinforce paranoia and suspicion in patients	'I assume there will be different experiences depending on diagnoses and patients, I guess it could reinforce doubts in paranoid patients.' C2, Bosnia and Herzegovina	1	0	1	0	0	**2**
		Cannot be used as a single method	'It can be used only with them [psychotic patients], but we have for so many years our own system of taking and anamnesis and all other things, maybe possibly we can add it with some parts, but Dialog to be the only way, no.' P2, Montenegro	0	0	0	2	0	**2**
		DIALOG+ can take away spontaneity and limits discussion	'It limits the discussion and also it somehow imposes a task on the clients, and then they seem to answer as if to give an answer as quickly as possible, without the spontaneity that these types of discussions should have.' F1, Kosovo United Nations Resolution	0	1	0	0	0	**1**
		It is like an exam	'We're doing it too fast in a way, they respond as if they were in an exam of some sort.' F1, Kosovo United Nations Resolution	0	1	0	0	0	**1**
Memory, attention and decision processes		Additional mental effort to deliver DIALOG+	'The same as any session and conversation with the patient.' C5, North Macedonia	0	2	3	0	2	**7**
			'I took a lot of my mental effort and focus to keep track of the direction of her thoughts and to lead her to some goals and conclusions.' C3, Serbia						
		Clinicians are overloaded and have trouble remembering	'... if I would remember what happened 10 days ago, what did I tell him and what he told me, to the smallest details, if it wasn't recorded, believe me I could not. Only today I examined 30 patients.' P4, Montenegro	0	0	0	2	0	**2**

Continued **Table 2.** Analysis of focus groups with clinicians: Summary of codes assigned to the Theoretical Domains Framework (TDF)

High priority TDF domains		Codes	Quote	Frequency of codes out of 25					
				Bosnia & Herzegovina	Kosovo United Nations Resolution	North Macedonia	Montenegro	Serbia	**Total**
Environmental context and resources	Barriers	Lacking tablets	'Everybody would have to have tablets to organize this properly.' C5, Bosnia and Herzegovina	4	0	0	0	0	**4**
		Depends on organisation and policy makers involvement	'...but the most important is policy makers to implement it in the everyday practice of mental health professionals.' C4, North Macedonia	3	1	1	0	1	**6**
		The ambulance is not an appropriate context	'Erm, well it can be a problem, well, I mean, specifically in my case, because I have done this with the patient during the ambulance, so this is a little problematic because we have limited time for the patients for about 15 min at the outpatient clinic, then it's much better to do this someplace else, so I did it that way, for the first time - the ambulance, and for the second time I invited the patient to the clinic to discuss and see what he achieved meanwhile.' P5, Montenegro	0	0	2	1	0	**3**
		Limited time for sessions	'The only obstacle in our routine clinical work is lack of time. Structured and focused assessment of all important life domains separately is much more time-consuming, and it's not feasible to devote that amount of time to every outpatient.' C4, Serbia	3	4	4	5	3	**19***
		Lacking medical staff	'There are not enough psychiatrists.' C4, Bosnia and Herzegovina	3	1	0	0	0	**4**
		DIALOG+ is not suitable for some patients	'Throughout the Dialog+ sessions with my patient, I have noticed that lack of training was not the issue, but rather the proper patient selection for the intervention was the main problem.' C6, Serbia 'Well, I could. I could but, I will say this again, only with certain patients, those diagnosed from F 20 to F 29, I, and F 31, so, I mean, I could, but to be cautious with the patients, because for some it may not be good just because of this, because of the tablet usage.' P5, Montenegro	1	0	2	3	4	**10**
		Unemployment affects progress	'You push and urge them to do something, but in the end they know it is difficult to find a job.' F4, Kosovo United Nations Resolution	0	2	0	0	0	**2**
		Need hardcopies or other resources to provide to patients	'... it would be useful if patient could leave the session with a written reminder about the planned activities or if he could have the possibility to log into some kind of platform where he would have access to them.' C3, Serbia	0	0	0	0	4	**4**

Continued **Table 2.** Analysis of focus groups with clinicians: Summary of codes assigned to the Theoretical Domains Framework (TDF)

High priority TDF domains	Codes	Quote	Frequency of codes out of 25					
			Bosnia & Herzegovina	Kosovo United Nations Resolution	North Macedonia	Montenegro	Serbia	**Total**
Social influences	Colleagues have a positive attitude towards DIALOG+	'The colleagues I have spoken with are satisfied and consider that it can be used.' Q5, North Macedonia	1	1	2	2	2	**8***
	Patients seem to accept and engage with DIALOG+	'... The patient gladly accepted this method, in general, and he gladly accepted to be a participant in this... research.' P5, Montenegro 'No, there was no resistance. Rather, he liked it; ... He tried to fulfil the tasks that I gave him, he had two, and completed one, has one more to go.' F3, Kosovo United Nations Resolution	0	1	0	1	0	**2**
	Effect of patients and colleagues negative attitudes	'Patient rejecting it wouldn't influence my trust in this intervention.' C5, Bosnia and Herzegovina	3	0	0	1	4	**8**
		'I do not think there is any barrier for the doctors who want to apply this, and as I said before, there are doctors who do not support the method, and only obstacle could be those clinicians who do not accept the method and they don't want. Whoever wants to accept it, can work with it...' P5, Montenegro						
	Delivery of D+ depends on patients (experience/ suspiciousness/ diagnosis/ acceptability/ familiarity)	'I personally think that with the category of patients for which we estimate that in that moment they will cooperate, we can use this, not for all patients and not every moment. This certainly not, but with patients which[sic] are cooperative in some reliable remission and which[sic] are ready to deal with themselves and their social life and some other things, and they are not focused on their hallucinogenic paranoid symptomatology, which is sometimes dominant and you cannot expect... I think yes, yes.' P4, Montenegro	2	3	1	2	1	**9***
	Patients may be resistant at first and could overcome this over time	'... I realized that there is a lack of trust in the beginning, but after a very short time, on the second session, there is completely another picture, both on my side and the patient's side, so yes, I believe it will grow by time.' P2, Montenegro	0	0	0	2	2	**4**
Emotion	I felt sorry, worried or awkward with patients	'There are times when you go to home visits, you do not even bother asking, and you feel sorry you know that the person has no money, for example. You cannot even ask them if they looked for a job, they probably do it all the time, and live in this extreme poverty...' F4, Kosovo United Nations Resolution	0	1	0	1	0	**2**
	It felt comfortable and pleasant with patients	'The sessions with my patient from the pilot study were highly creative, many interesting conversation topics have opened up, it was very pleasant and I'm truly pleased.' C5, Serbia	0	0	0	1	1	**2**

Continued **Table 2.** Analysis of focus groups with clinicians: Summary of codes assigned to the Theoretical Domains Framework (TDF)

High priority TDF domains	Codes	Quote	Frequency of codes out of 25					
			Bosnia & Herzegovina	Kosovo United Nations Resolution	North Macedonia	Montenegro	Serbia	**Total**
Emotion	Intervention depends on clinicians' and patients' mood	'Intervention's success would depend on [the] patients' and our mood.' C5, Bosnia and Herzegovina	1	0	0	0	0	**1**
Behavioural regulation	There should be a proper assessment and selection of patients	'Again, there should be an individual selection, an assessment would be made where it would be appropriate, where it would be useful, where it cannot be.' C1, North Macedonia	2	0	2	0	0	**4**
	Explain clearly to patients toget responses and acceptance	'I would try to explain in detail to patients and I think they would accept it easier that way.' C2, Bosnia and Herzegovina	2	0	0	0	0	**2**
	Need to plan the frequency of sessions	'I think ... that we have to imagine what could happen. Maybe increase the number of the sessions, from 5 to 6 sessions, to 10 or maybe more, in order to be able to provide more assistance, despite the evaluations that we receive. Maybe the evaluations will get better if we increase the number of sessions.' F1, Kosovo United Nations Resolution	0	2	0	0	2	**4**
	Agree on training	'We just have to make an agreement on our trainings so that we can all be educated and to pay attention to this topic ...' C4, North Macedonia	0	0	1	0	0	**1**
	Put an emphasis on remission	'...and now to put emphasis on that part – not only remission, but strong remission.' C4, North Macedonia	0	0	1	0	0	**1**
	Select one most relevant DIALOG+ life domain to discuss to fit in time	'I was in a dilemma whether to prolong the session up to an hour – as I did, or to follow your recommendation that the discussion should last approximately 30 minutes – so one of three marked life domains should be selected for further in-depth discussion, the one that is most relevant for the patient at a given moment.' C3, Serbia	0	0	0	1	3	**4**
	Influence of protocols and laws on using DIALOG+	'There are no legal barriers in protocols, as I know we can do it with all patients in outpatient ward.' C2, Bosnia and Herzegovina	1	0	0	0	2	**3**
	Use written version instead of tablet if patients are paranoid	' ... if it could somehow be implemented without a tablet, what we were talking about paranoid patients, and in most cases, patients fall in this category, then it might be better, not to be use the tablet in front of the patient but to have some kind of scale to write on it, and then we could insert data in the PC, for archiving and documentation.' P5, Montenegro	1	0	0	1	0	**2**
	Provide hardcopies/ online platform for patient to use to	'Yes, I think that a patient would feel more obliged to complete the planned activities if he would have their list in a written form...'	0	0	0	0	4	**4**

Continued **Table 2.** Analysis of focus groups with clinicians: Summary of codes assigned to the Theoretical Domains Framework (TDF)

High priority TDF domains	Codes		Quote	Frequency of codes out of 25					
				Bosnia & Herzegovina	Kosovo United Nations Resolution	North Macedonia	Montenegro	Serbia	**Total**
Nature of behaviour	Similar to regular treatment with no/small differences		'Considering most of us here are CBT-oriented and everybody uses that approach on a daily basis, I don't think anyone would think this intervention is strange.' C2, Bosnia and Herzegovina	3	1	2	5	1	**12***
	It is something new and different from our standard approach	Positive/ neutral	'Well, I believe that they would find it interesting since it is something new. It breaks this routine that we're used to [it].' F1, Kosovo United Nations Resolution	1	2	2	3	1	**9**
		Negative	'However, we are used to making conversations without interrupting the flow of the conversation with the client, and in this way, when you have to constantly go to the device to make notes and put in answers, I feel is a bit different..' F1, Kosovo United Nations Resolution	0	1	0	0	0	**1**

Low priority TDF domains			Bosnia & Herzegovina	Kosovo United Nations	North Macedonia	Montenegro	Serbia	**Total**
Motivation and goals	Clinicians are motivated for DIALOG+ implementation	'We will do whatever we need to do to make this work. I think it can become routine service eventually.' C2, Bosnia and Herzegovina	2	3	1	1	2	**9***
	DIALOG+ is important to implement	'I think it is very important and useful to implement and continue engaging with Dialog+, because it improves patients' quality of life.' C5, Serbia	0	0	0	0	4	**4**
Data not classified to TDF domains	Certain DIALOG+ life domains (Partner/ family) and questions unclear	'There is one field partner/family, which my patient selected, where she absolutely said that she was essentially dissatisfied with her partner, but because she was extremely satisfied with her relationship with her children, she could not give the grade she gave to her partner, so we gave a middle grade...' P2, Montenegro	0	0	0	3	1	**4**

Patients enjoyed the intervention

Twelve patients described positive emotions during the sessions, such as feeling comfortable, pleasant, relaxed and enjoying the session (Domain: Emotion).

Benefits of the intervention

Patients reported comprehensive conversations and better relationships with clinicians, increased self-awareness, solving problems, increased physical activity, sociability and feeling better (Domain: Beliefs about consequences).

The intervention differed from usual treatment

Two patients commented that the intervention was similar to the usual treatment and three patients commented that it differed, but this was viewed positively (Domain: Nature of behaviour).

Table 3. Analysis of focus groups with patients: summary of codes assigned to the Theoretical Domains Framework (TDF)

High priority TDF domains		Codes	Quotes	Frequency of codes out of 23					
				Bosnia and Herzegovina	Kosovo United Nations	North Macedonia	Montenegro	Serbia	**Total**
Knowledge		It is simple and understandable	'I think it is simple and understandable.' P3, North Macedonia	0	1	4	1	0	**6**
		Need an explanation about DIALOG+	'I would need someone to explain it to me and show how to use it.' P5, Bosnia and Herzegovina	1	1	0	0	0	**2**
		Need to be in remission to engage with DIALOG+	'The only thing that's necessary is to be in a remission.' P1, Serbia	0	0	0	0	2	**2**
Skills		Needs for additional specific skills, training or practice	'It is very simple, I don't need any special skills or training.' P1, Bosnia and Herzegovina	2	1	2	0	0	**6**
			'I think we've got enough, but it is still good to practice and get engaged even more.' F2, Kosovo United Nations Resolution						
		It's important to be honest in communication	***'(In your opinion, what skills do you need to stay involved in Dialog+?)*** It's important to be honest. By being honest we are helping both ourselves and the clinician.' P2, Serbia	0	0	0	0	2	**2**
Beliefs about capabilities		I would be able to do it if I had help	'They can help a lot. They can... family can help, friends, acquaintances. I am not strong enough to start on my own, only with the support of a friend, brother, I mean, children and so on.' P1, Montenegro	1	0	0	1	0	**2**
		Feeling capable to use DIALOG+	'I don't need anything....' P3, Bosnia and Herzegovina	3	2	0	1	2	**8**
			'For me, the method is correct. Now, Now how much we can adhere to it ... I, personally - hard. I would love to change some things... that is impossible.' P3, Montenegro						
		Depends on being in remission	'I also think that patient should achieve stable remission prior to his involvement in Dialog+ intervention. When I felt worse, I wasn't able to perform such tasks...' P1, Serbia	0	0	0	1	2	**3**
Beliefs about consequences	Positive	Increased self-awareness	'... And the benefits are a complete awareness of what is happening and a reminder for the patients.' P4, North Macedonia	0	2	2	0	1	**5**
		Nicer, better conversation	'Nicer conversation with the new method..' P2, Montenegro	1	1	1	3	1	**7***
		Talk about many topics including those previously neglected	'Well, during the Dialog+ sessions we are discussing some important topics that were previously mostly neglected during our usual meetings with clinicians. That's a good thing.' P2, Serbia	0	2	0	1	1	**4**
		Improved clinician-patient relationship	'the relationship with the doctor is improving...' P5, North Macedonia	0	1	2	0	1	**4**
		Able to track own progress	'This is much more specific, I like it very much, and it makes me think about myself, to follow where I am on the scale, to self-rate and to follow one session with another session whether there is improvement...' P2, North Macedonia	0	0	2	0	1	**3**

Continued **Table 3.** Analysis of focus groups with patients: summary of codes assigned to the Theoretical Domains Framework (TDF)

High priority TDF domains		Codes	Quotes	Frequency of codes out of 23					
				Bosnia and Herzegovina	Kosovo United Nations	North Macedonia	Montenegro	Serbia	**Total**
Beliefs about consequences	Positive	Became more physically active and sociable	'Because ever since I took part in Dialog+ I became more physically active and sociable.' P1, Serbia	0	0	0	0	4	**4**
		Solved some problems and corrected situations	'...Moreover, my doctor and I came up with solutions to some other problems...' P3, Serbia	0	0	1	0	4	**5**
		Felt better and relieved from anxiety	'Very comfortable, felt very good. After the session, it is like you get rid of an anxiety when I was able to express my thoughts and clinician woman, took them at face value. I felt very comfortable after the session.' F2, Kosovo United Nations Resolution	0	2	0	1	0	**3**
	Negative		'I am afraid that, with all this IT progress, we will talk with robots instead of humans in the end.' P1, Bosnia and Herzegovina	1	0	1	0	0	**2**
Motivation and goals		Motivation for using DIALOG+	'I found the Dialog+ sessions and conversations really enjoyable, so I'm interested and motivated to keep involved.' P4, Serbia	5	2	4	3	2	**16***
			'I'm not motivated, because I don't trust it [new technologies].' P1, Bosnia and Herzegovina						
Memory, attention and decision processes		Mental effort to engage with DIALOG+	'Yes it was easy, they can be remembered.' P1, North Macedonia	3	2	3	1	5	**14***
			'It's quite demanding for me. Although the questions seem simple, they require a considerable concentration, which was a bit heavy for me.' P1, Serbia						
Environmental context and resources	Barriers	Clinicians may not have time at every session	'I do not know if the doctors will have time for their patients. Perhaps not at every session, but in the second or third session.' P4, North Macedonia	0	0	1	1	0	**2**
		Need more clinicians	'I think that the number of doctors should be increased, since there is already too much pressure on them.' P1, Serbia	0	0	0	0	1	**1**
	Facilitators	All the required resources are available	'...There are people, there are resources, there is time, and everything is there.' F2, Kosovo United Nations Resolution	0	3	0	0	4	**7**

Continued **Table 3.** Analysis of focus groups with patients: summary of codes assigned to the Theoretical Domains Framework (TDF)

High priority TDF domains	Codes	Quotes	Frequency of codes out of 23					
			Bosnia and Herzegovina	Kosovo United Nations	North Macedonia	Montenegro	Serbia	**Total**
Emotion	I felt comfortable, enjoyment and pleasant during session	'We were concentrated, relaxed, I really mean that. Super!' P2, North Macedonia	3	1	3	1	4	**12***
	I felt strange, tense and confused	'Considering this was new to me, I was a little bit tense and confused.' P1, Bosnia and Herzegovina	2	1	0	1	0	**4**
	I don't trust technology	'I don't like new technologies. I don't trust them.' P1, Bosnia and Herzegovina	1	0	0	0	0	**1**
	I felt unpleasant only at first	'It went very well. Maybe a little fright as to have we would fare. ***(So it was a bit frightening...)*** Yes, a little. ***(Is this true for the first session only or for the second session too?)*** The first, not the second one.' F1, Kosovo United Nations Resolution	0	1	0	2	0	**3**
	Some questions made me feel uncomfortable or disturbed	'When I talk about sensitive topics with my doctor, for example partnership problems, I feel really bad afterwards. Sometimes I feel really bad after telling about my problems.' P1, Serbia	0	0	0	0	2	**2**
	It depends on our mood	'Everything depends on our mood, how ready we are. I'm talking in plural, and I can only say in my name how ready I am to open, to talk, to ... I don't know.' P1, Montenegro	0	0	0	1	1	**1**
Low priority TDF domains			Bosnia and Herzegovina	Kosovo United	North Macedonia	Montenegro	Serbia	**Total**
Social/professional role and identity	Can be done by other clinicians besides doctors	***'(Apart from the doctors, do you think that someone else could also deliver Dialog+? Perhaps psychologists, senior nurses or social workers. What do you think?)*** I think they could, that's a great idea!' P2, Serbia	0	2	0	0	2	**4**
Social influences	Not influenced by others' opinions	'I like this, I would use it no matter what they say.' P5, Bosnia and Herzegovina	2	3	1	0	0	**6**
	Others' would be positive about DIALOG+	'They are very satisfied with my involvement in Dialog+ intervention.' P4, Serbia	1	1	1	3	4	**10***
	Guidance from clinician was helpful	'But in any case, I had the help of the doctor to remind me of the ratings.' P4, North Macedonia	0	0	2	0	0	**2**
	Clinicians, family and carers are supportive	'My friends and family are very supportive. Because they believe I really need this type of psychotherapy, and that talking through problems could help us solve many of them.' P2, Serbia	0	2	0	2	2	**6**

Continued **Table 3.** Analysis of focus groups with patients: summary of codes assigned to the Theoretical Domains Framework (TDF)

High priority TDF domains	Codes	Quotes	Frequency of codes out of 23					
			Bosnia and Herzegovina	Kosovo	North Macedonia	Montenegro	Serbia	Total
Behavioural regulation	DIALOG+ helps me focus on what I needto change	'The tasks I get, what I need to fix, I'm thinking more and it help me to make a change to myself.' P1, North Macedonia 'Yes, one of the topics touched upon was unemployment; I tried to have a conversation with the clinician, to advance in this field. She also advised me to go out and seek a job. So that is what I am doing now, seeking a job.' F3, Kosovo United Nations Resolution	0	1	3	0	0	**4**
Nature of behaviour	Differences to regular treatment	'Well, I don't know... It's useful to me from the beginning of my coming to the doctor. So this is nothing new. We talked about everything even before.' P3, Montenegro	1	0	0	1	0	**2**
		'It's different, I like it. When I come to group therapy everybody talks, but these questions are just for me.' P5, Bosnia and Herzegovina	2	0	0	0	1	**3**

Summary of barriers as reported by patients

Patients reported two main barriers to engaging with the intervention.

Using the intervention required more focus and concentration

Eight patients across all five countries reported that the intervention required more focus and concentration compared to the usual treatment, which appeared to be a burden for some patients (Domain: Memory, attention and decision processes).

Feeling unpleasant during sessions

Seven patients across four countries reported that they felt tense and confused, disturbed by certain questions and one patient was suspicious of technology (Domain: Emotion). However, three of these patients overcame this.

Less common barriers

More barriers reported by patients and their associated quotes are presented in Table 3 below.

Comparing clinicians and patients

Though clinicians and patients reported similar facilitators, they reported different barriers. Clinicians reported more practical challenges and patients had more emotional and cognitive challenges with the intervention. Two beliefs reported by clinicians were potentially opposed by the patients, which are summarised below.

Patients being suspicious of the tablet computer

Several clinicians commented that they thought patients would be suspicious of the tablet, but only one patient explicitly reported feeling suspicious. It is possible that other patients experienced this but did not report it, or that clinicians overestimated this perceived barrier.

Limited time

Despite limited time being a commonly reported barrier by clinicians, only one patient reported this. Other patients reported that there was sufficient time and resources. This contrast may be due to the greater awareness clinicians have of organisational constraints compared to the patients.

Comparing across countries

Similar common barriers and facilitators were reported across all five countries. Two less common barriers were reported only by the specific countries below.

Mental effort while delivering the intervention

Clinicians in Serbia reported that delivering DIALOG+ required more mental effort than routine treatment, that is, following the patient's thought processes and focusing on aspects other than hallucinations and delusions (Domain: Memory, attention and decision processes). Patients in Serbia also reported needing greater concentration and focus when using DIALOG+. This was not seen in the other countries, indicating that clinicians may have delivered the intervention differently, for example, Serbia had longer DIALOG+ sessions and patients were given more activities compared to the other countries. Additionally, these patients may have had different co-morbidities compared to the other patients, though this was not assessed. These findings indicate that working to overcome this barrier is a higher priority in Serbia.

Unemployment

A barrier unique to Kosovo,[1] which was described by two clinicians was the effect of unemployment on progress in the DIALOG+ 'job situation' life area (Domain: Environmental context and resources) and clinicians feeling unable to help patients because of this circumstance (Domain: Beliefs about capabilities).

DISCUSSION

Summary of findings

Both clinicians and patients reported similar facilitators including willingness to use the intervention (Domain: Motivation and Goals), others sharing positive opinions about the intervention (Domain: Social Influence), improved conversations, relationships and practice (Domain: Beliefs about consequences), patients' feeling pleasant and enjoying the intervention (Domain: Emotion), and changes in practice brought about by the intervention were positive (Domain: Nature of Behaviour). The most commonly reported barriers to using the intervention were limited time (Domain: Environmental context and resources), clinicians' difficulties with patients who were acutely unwell (Domains: Beliefs about capabilities and Social influence), patients' mental effort during sessions (Domain: Memory, attention and decision processes) and patients feeling tense, disturbed or uncomfortable during the sessions (Domain: Emotions).

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Strengths

First, this study was novel as few studies have applied theory to investigate provision of care in mental health contexts in LMICs. The TDF comprehensively guided identification of multiple barriers and identified similar barriers to those reported in other studies in other mental healthcare settings, such as limited time (Michie et al., 2007; Magliano et al., 2005), clinicians' confidence with psychotic patients (Hetrick et al., 2018; Hazell et al., 2018) and patients being stressed by the questions (Priebe et al., 2017).

Second, the study was one of the first to investigate the use of this type of intervention in countries where care for psychosis is still predominantly institutionalised, potentially showing a way forward for outpatient or community-based care.

Third, the study involved participants who actually experienced using the intervention, and offers insight into the barriers specific to both clinicians and patients, emphasising the importance of involving both clinicians and their patients in research. When delivering a new intervention to improve care, it is important to understand the target population by involving them in the development and implementation process, and to understand the context (Grol, Wensing & Eccles, 2005). This study also sets a collaborative relationship with the target population to further adapt and increase the effectiveness of the intervention in the long term.

Fourth, facilitation of focus groups and coding data was conducted by local researchers in their local languages. These researchers were more familiar with their local health systems, language and culture compared to the researchers in the UK, and thus were more likely to identify barriers specific to their country and identify nuanced TDF domains. Though clinicians and patients did not provide feedback on the findings, the local researchers reviewed the codes to ensure that they represented the barriers experienced by clinicians and patients.

Limitations

First, the quality of the data may have been compromised through translation from local languages, which may have resulted in loss of meaning. Additionally, not all questions in the topic guide may have been covered and responses probed due to limited time or if researchers had less experience facilitating focus groups.

Second, fidelity to the intervention was not formally assessed in this study, therefore any association between the barriers reported and fidelity of the intervention in the pilot study could not be explored.

Third, convenience sampling was used for the pilot study, which likely recruited more engaged clinicians and patients, introducing a potential selection bias. This may have resulted in a non-representative sample compared to the wider group of individuals in European LMICs, and thus would underestimate the extent of barriers to engagement.

Fourth, other than excluding organic brain disorders and having severe cognitive deficits, patients were not screened on the basis of any other comorbidities. Also, data on medications patients were taking were not collected. Therefore, any effects of comorbidities and medications on patients' engagement with the intervention were not accounted for in this study.

Fifth, there was no randomisation of clinicians or patients to conditions in this study, for example, intervention versus treatment as usual, which prevented any investigation of how their outcomes and experiences with the intervention differed compared to the patients receiving usual treatment. However, the aim of the pilot study was to explore how the intervention was used, for example, session lengths and number of actions given to patients per session, and to allow for the exploration of barriers and facilitators experienced during delivery and engagement with the intervention through the focus groups and thus randomisation and comparisons to treatment as usual were not considered necessary.

Sixth, the sample size was selected due to feasibility and not to reach data saturation, although a minimum sample size of 13 has been recommended for adequate data saturation (Francis et al., 2010). Three unique shared codes were developed from the final coded clinicians' transcripts and two from the final patients' transcripts; therefore, it is possible that further codes could have been developed from additional focus groups.

Implications

There are five key implications from this work. First, considering the limited resources in mental healthcare systems across Europe, especially in LMICs, it might be expected that most barriers to using this intervention would reflect the TDF domain Environmental context and resources. However, only one common barrier 'limited time' reflected this. This may be partly due to organisational time constraints, or due to DIALOG+ prolonging usual sessions by around 10 minutes. However, this barrier could be addressed by strategies to enable clinicians to make best use of the limited time available, that is, focussing on fewer life areas in each session. The majority of barriers were mapped onto the other TDF domains, and could also be addressed using strategies for behaviour change. Using the TDF to guide analysis was advantageous here in that there are published methods available, which map appropriate behaviour change methods onto problematic TDF domains to potentially ameliorate behavioural barriers (Carey et al., 2019).

Second, similarities between LMICs in South-eastern Europe and higher-income countries suggest that certain barriers may relate to working with people with significant mental health problems, and thus should be considered high priority for behaviour change across mental healthcare systems in Europe generally. In previous studies, limited time was identified as a barrier to delivering interventions for psychosis due to clinicians being overworked in the UK (Michie et al., 2007) and limited time for consultations across higher income countries across Europe (Magliano et al., 2005). Furthermore, clinicians in the current study perceived and experienced difficulties delivering the intervention to psychotic patients due to their mental state when they were more acutely unwell, for example, feeling paranoid about the tablet. This is similar to a study that assessed barriers to using an intervention in Australia, implementing a model of mental health-care requirements including psychoeducation and therapy, where clinicians lacked confidence to work with young people with psychosis (Hetrick et al., 2018). Also, a review of patient and clinician experiences with a form of CBT aimed at psychosis, found that clinicians were doubtful of their ability to manage the difficult emotions and beliefs raised by patients (Hazell et al., 2018). However, paranoia about the tablet and other cognitive difficulties patients experienced during the intervention could reflect the medication patients are taking, which could have adverse effects (Bačar Bole, Pišlar, Mrhar & Tavčar, 2017), and thus may not necessarily indicate an issue with the intervention or the way it is delivered. The intervention may even present an alternative to using multiple forms of medication in mental health care for psychosis.

Third, this study demonstrates that patients should have the opportunity to participate in future studies to develop and adapt interventions. Understanding the patients' perspectives allows researchers to increase the effectiveness of DIALOG+ and similar psychosocial interventions in mental healthcare settings. This study explored the specific barriers patients with psychosis face when using a new intervention. This has rarely been explored in the literature. Patients reported

needing greater focus and concentration during the sessions compared to routine sessions, and some unpleasant emotions relating to novelty of the intervention and feeling disturbed by some questions. This is consistent with a study assessing the effectiveness of DIALOG+ in the UK where psychotic patients experienced issues with concentration or felt stressed by the questions (Priebe et al., 2017). However, three of the seven patients in the current study said that they only felt uncomfortable at first, and the majority of patients enjoyed the intervention, suggesting that negative feelings towards the intervention could be overcome. For example, the burden of additional concentration could be reduced by focusing on fewer life areas in each session.

Fourth, it is important to note that, though clinicians often commented that the intervention was similar to the existing services, many also reported that the intervention brought a new more structured approach to existing practice and transformed their conversations with patients for the better. These benefits were also shared by the patients receiving the intervention. This suggests that the intervention is worthwhile to implement in these countries and has potential to bring improvements to the way care is delivered to patients with psychosis. Additionally, DIALOG+ was found to be cost-effective in a UK study, saving £1,288 in total costs, including mental and physical health care, over 12 months in the experimental group (Priebe et al., 2015). Therefore, having an intervention such as DIALOG+, which utilises existing resources and requires limited specialist staff or services, may be cost-effective in the long term for mental health services in these countries.

There were a few differences in barriers between the countries. Unemployment was a barrier in Kosovo[1] and mental effort in Serbia. Though only described by two clinicians in Kosovo,[1] the theme of unemployment may have particular importance in Kosovo[1] due to being the only lower-middle income country included in the study, while the other countries are classified as upper-middle income. In Serbia, clinicians' and patients' mental effort engaging with the intervention is unlikely explained by setting as the intervention was tested in similar outpatient settings across countries, with patients with similar diagnoses and with clinicians of similar professional background. However, Serbia had longer DIALOG+ sessions and patients were given more activities compared to the other countries. It is therefore possible that the mental effort is explained in part by how clinicians delivered the intervention in Serbia (Domain: Skills). This suggests that behaviour change methods to overcome these particular barriers should be prioritised in these countries.

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Finally, it is important to note that in only 1 to 3 sessions in which clinicians and patients delivered and engaged with DIALOG+ in the pilot study, they perceived benefits such as improved conversations with clinicians, better therapeutic relationships, and even improvements to lifestyle, solving some of their problems and feeling better and relieved from anxiety. This suggests that despite the barriers, the intervention was able to utilise available resources to bring about positive change; thus, this and similar interventions are worthwhile and warrant further testing in European LMICs. The efficiency in which such interventions utilise available resources could be improved through strategies to change behaviour.

CONCLUSIONS

Limited resources are a prevalent issue in mental healthcare settings. In this study, limited time was a common barrier to delivering a psychosocial intervention in LMIC settings. However, the majority of barriers to using psychosocial interventions mapped onto other TDF domains (Beliefs about capabilities; Social influence; Memory, attention and decision processes; and Emotions) and thus could be overcome even if resources cannot be changed. The perceived benefits to practice and the clinician-patient relationship suggest that DIALOG+ and similar psychosocial interventions can utilise available resources and have the potential to improve mental healthcare in these settings.

LIST OF ABBREVIATIONS

LMICs: Low-and-Middle-Income Countries,
TDF: Theoretical Domains Framework

INFORMED CONSENT

All the participants gave informed consent before participating in this study.

ETHICAL APPROVAL

Ethics was approved by the committees at each of the participating sites: Ethics committee of the Clinical Centre of the University of Sarajevo, Bosnia and Herzegovina (Ref: 03-02-47500, date approved: 13/09/2018); Komisioni Etiko Profesional, Hospital and University Clinical Service of Kosovo, University Clinical Centre of Kosovo, Kosovo[1] (Ref: 904, date approved: 08/06/2018); Ethical Committee for Research with Humans, Medical Faculty at the University of Cyril and Methodius in Skopje, North Macedonia (Ref: 03-2237/12, date approved: 21/05/2018); Ethics Committee for the Clinical

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Centre of Montenegro, Montenegro (Ref: 03/01-11066/1, date approved: 19/07/2018); Ethical Committee of the University of Belgrade Faculty of Medicine (Ref: 2650/V1-3, date approved: 26/06/2018).

CONFLICTS OF INTEREST

Authors report no conflict of interest.

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