

Effective patient–clinician interaction to improve treatment outcomes for patients with psychosis: a mixed-methods design

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Scientific summary

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Scientific summary

Background

Routine meetings between patients and their clinicians are at the heart of community care; however, patient–clinician interactions are not guided by evidenced-based principles. Against this background, the DIALOG intervention was developed as a method to make these interactions more effective. This technology-supported intervention involved clinicians asking patients how satisfied they were with 11 key aspects of their life and treatment. These aspects were mental health, physical health, job situation, accommodation, leisure activities, relationship with partner/family, friendships, personal safety, medication, practical help received and meetings with mental health professionals. Using the computer, patients rated their satisfaction on a scale of 1 to 7 (1 = couldn't be worse, 2 = displeased, 3 = mostly dissatisfied, 4 = mixed, 5 = mostly satisfied, 6 = pleased and 7 = couldn't be better), and also indicated their needs for additional help in each area. They then viewed a graphical display of the ratings and could make comparisons with ratings from previous meetings. This was intended to inform the meeting and make communication more effective. In a randomised controlled trial testing the effectiveness of this new intervention, it was found that the DIALOG approach results in improved subjective quality of life, improved treatment satisfaction and fewer unmet needs.

These findings were encouraging, and DIALOG may be considered an attractive intervention for implementation in the NHS for a number of reasons. First, it is not a specialist programme for a small number of patients, but a generic method that can be utilised in routine care throughout the NHS. It does not require the setting up of new services or the restructuring of organisations. It can be implemented at a relatively low cost, particularly as it would not require extensive training of clinical staff, and could benefit tens of thousands of patients at the same time. Thus, even small health and social gains for individual patients would add up to substantial public health benefits, including potential cost savings.

However, the DIALOG intervention as used in the original trial had two major shortcomings: first, the software was outdated and not very user-friendly. Second, the intervention structured how clinicians should ask for patients' evaluations, but did not provide a model for how they should respond to them. Before DIALOG could be rolled out more widely, these two shortcomings needed to be addressed.

Objectives

The current research programme aimed to improve community mental health care of patients with schizophrenia or a related disorder through a structured approach to routine meetings in community mental health teams (CMHTs). Our research questions were:

1. How can the practical procedure of DIALOG be improved, and what is the best way to deliver the intervention in terms of how the software is designed and which platform is used (desktop computer vs. tablet vs. smartphone)?
2. How can elements of cognitive–behavioural therapy (CBT) and solution-focused therapy (SFT) be incorporated into a clinician manual and training programme for a new, more extensive 'DIALOG+' intervention?
3. How effective is the new DIALOG+ intervention in improving treatment outcomes for patients with schizophrenia or a related disorder?
4. How cost-effective is the DIALOG+ intervention?
5. What can we learn from video-recorded data of DIALOG+ sessions?
6. What are patients' experiences of DIALOG+?
7. What are clinicians' experiences of DIALOG+?

Methods

First, we sought to optimise the practical procedure of DIALOG and the accompanying software and hardware. We analysed video data from the original DIALOG trial to identify potential barriers to the therapeutic relationship, to make recommendations for effective implementation and to inform an initial requirements analysis for new DIALOG software. We conducted six focus groups, with 18 patients from CMHTs, to refine key components of the intervention and gain feedback on mock-ups of the software. We researched the available software and hardware options for delivering the intervention, and collaborated with a software development team in realising the final specification.

Simultaneously, we developed a network of three groups of consultants, with expertise in the use of CBT with patients with psychosis, in delivering training in SFT and in delivering community-based care in NHS services, respectively, to inform the new, manualised DIALOG+ intervention. We then developed and piloted a corresponding training programme, and subsequently tested the effectiveness and cost-effectiveness of DIALOG+ in improving patients' subjective quality of life in a cluster randomised controlled trial. Forty-nine clinicians were randomised 1 : 1 to deliver either the DIALOG+ intervention or treatment as usual plus an active control condition, over a 6-month period, to a total of 179 patients with psychosis in the East London NHS Foundation Trust. Cluster randomisation ensured that clinicians delivered only one type of intervention, to all of their participating patients, thereby preventing contamination. Data were collected at baseline and at 3, 6 and 12 months following randomisation. The primary outcome was subjective quality of life as measured on the Manchester Short Assessment of Quality of Life (MANSA); secondary outcomes were also measured.

Finally, we thematically analysed video data of 16 patient–clinician dyads from the DIALOG+ arm of the trial, assessed their adherence to the manual and conducted focus groups with a convenience sample of 19 patients and 19 clinicians who experienced DIALOG+, in order to gain their experiences of the intervention.

A service user reference group consisting of three patients with psychosis and experience of treatment in a CMHT ensured patient and public involvement in shaping this research. They were involved in piloting interviews, focus groups and training, and checking materials to be presented to patients participating in research, such as information sheets and Microsoft PowerPoint® (Microsoft Corporation, Redmond, WA, USA) presentations. In addition, patients' involvement in focus groups determining the specification of the DIALOG application (app) contributed to patient and public involvement. Furthermore, patients' reports of their experiences of DIALOG+ following the trial contributed to patient and public involvement, which was useful in informing further grant applications. The approach to patient and public involvement was to integrate it fully into the research activities, rather than conduct it as a separate exercise.

Results

An analysis of video data from the original DIALOG trial highlighted the need for revising the response options of the DIALOG scale, producing recommendations for improving the procedure and developing the new software for tablet computers. Focus groups with patients identified the favoured design interface for the new software and recommendations for revising the content of DIALOG, including the response options. Market research into the available tablet computers suggested that the iOS iPad (Apple Inc., Cupertino, CA, USA) offered superior data security and protection, among other advantages.

Consultations with CBT, SFT and community-based experts resulted in a manualised guide for clinicians being developed for DIALOG+. This manual prescribed that, following the initial DIALOG assessment, patients and clinicians should review the ratings, making comparisons with previous ratings when appropriate and, subsequently, choose three topics for further discussion in their meeting. The selection of topics should be in accordance with an established algorithm. Next, each of these topics should be

discussed via a four-step approach: (1) understanding, (2) looking forward, (3) exploring options and (4) agreeing on actions. A brief pilot of the corresponding training programme resulted in a half-day session for clinicians being divided into a briefer initial training session followed by refresher training, after clinicians had the opportunity to practise with patients.

The randomised controlled trial of DIALOG+ found that subjective quality of life was significantly higher in the DIALOG+ group at the 3-month follow-up (effect size: Cohen's $d = 0.34$) and as a trend at the 6-month follow-up (Cohen's $d = 0.29$). It was also significantly higher in the DIALOG+ group at the 12-month follow-up (Cohen's $d = 0.34$), 6 months after the intervention had ended. The number of unmet needs was significantly lower in the DIALOG+ group at 3 and 6 months, reflecting a reduction of needs by 32% at 3 months and by 39% at 6 months. There were also significantly lower levels of general psychopathological symptoms in the DIALOG+ group at 3 months (effect size: Cohen's $d = 0.55$) and 6 months (Cohen's $d = 0.54$). There were no significant differences between treatment groups on any of the other secondary outcomes at the 3- and 6-month follow-up. At the 12-month follow-up, there were still significantly lower levels of general psychopathological symptoms in the DIALOG+ group (Cohen's $d = 0.65$). Objective social outcomes were also significantly better in the DIALOG+ group at the 12-month follow-up.

The total mean costs, including the intervention training and equipment over the follow-up period, were £3279 for the intervention group and £4624 for the control group. Adjusting for baseline, the savings for the intervention group were £1288, but this difference was not statistically significant (bootstrapped 95% confidence interval –£1318 to £5633). There was a high likelihood (72%) that the intervention was effective in both improving outcomes and saving costs. Although there was a 27% likelihood of cost increases and outcome improvements, such a scenario could still indicate cost-effectiveness if the improved outcomes are valued sufficiently highly to justify the extra costs.

Analyses of video data of DIALOG+ sessions showed inconsistent implementation, with adherence to the intervention being slightly over half the possible score. A thematic analysis of qualitative data arising from focus groups with patients ($n = 19$) yielded the following themes: (1) self-reflection through DIALOG+, (2) therapeutic self-expression through DIALOG+ and (3) the role of the clinician in DIALOG+. With clinician groups ($n = 19$), thematic analysis yielded the following themes: (1) efficiency of DIALOG+, (2) empowerment, (3) the role of technology and (4) optimising use of DIALOG+.

Difficulties reported with the intervention were addressed by further refining the DIALOG+ manual and training programme.

Conclusions

The programme developed new software that was well accepted in the trial, and extended DIALOG to the manualised 'DIALOG+' intervention. The findings of the trial showed that DIALOG+ is an effective intervention, despite inconsistent implementation and that it is likely to save costs. The experiences of clinicians and patients were largely positive.

The DIALOG+ intervention influences and utilises the existing therapeutic relationship in community mental health care to initiate positive change and help patients to improve their subjective quality of life. It is an inexpensive intervention that can be used widely and flexibly and does not require extensive training. The underlying psychological model is influenced mainly by principles of SFT, but is also fully compatible with methods of CBT. The DIALOG app, clinician manual and an e-learning version of the training are now freely available for those who wish to deliver the intervention routinely in CMHTs.

Although services might consider adopting the DIALOG+ intervention at this stage based on the existing evidence, a definitive trial appears warranted. Such a trial should include sites outside east London and similar inner-city areas, to test whether or not the suggested effect holds true in different settings and services.

Applying the DIALOG+ intervention to patient groups with other mental disorders may also be considered. It may also be tested outside mental health services and in patients with physical health problems.

Trial registration

This trial is registered as ISRCTN34757603.

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