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The influence of clinical decision making topic on

satisfaction, involvement and subsequent implementation

Conflicts of interest:

None declared.

Abstract

Introduction

Clinical decision-making is the vehicle for mental health care delivery, and predictors of decision-making experience and adherence are under-researched. The aim was to investigate the relationship between decision topic and kind of involvement in the decision, satisfaction and subsequent implementation, from both staff and patient perspectives.

Method

As part of the "Clinical Decision Making and Outcome in Routine Care for People with Severe Mental Illness" study, patients (n=588) and paired staff were recruited from community-based mental health services in six European countries. Both completed bimonthly assessments for one year using the Clinical Decision Making in Routine Care Scale assessment of decision topic and implementation, and the Clinical Decision Making Involvement and Satisfaction Scale.

Results

Decision topic categories comprised treatment (most frequent), social and financial. The category of the patient-identified decision topic remained stable over 7 time points. Involvement in decision making was higher for social, OR=6.1, 95%CI= 4.1 - 9.1, z=8.7, p<.001 and financial, OR=9.5, 95%CI= 5.1-17.6, z=7.1, p<.001 than treatment decisions. Satisfaction was higher for social, OR=1.5, 95%CI= 1.1- 2.1, z=2.6, p=.01 and financial, OR=1.73, 95%CI= 1.1- 2.6, z=2.5, p=.01 than treatment

decisions. Implementation two months later was higher for social, OR=3.2, 95%CI= 1.9- 5.4, z=4.3, p<.001 than treatment.

Discussion

Treatment-related decisions are associated with lower satisfaction, involvement and subsequent implementation than other types of decision. Clinicians may need to use different decision-making styles for different topics, in order to maximise satisfaction and subsequent adherence.

Introduction

Clinical decision making (CDM) between patients and clinicians is the vehicle for providing health care. A widely used categorisation distinguishes between three levels of involvement: "paternalistic or passive (decision is made by the staff, patient consents)", "shared (information is shared) and informed or active (staff informs, patient decides)" (1). This allows empirical research to investigate influences on involvement.

Shared decision making (SDM) has a long tradition in health care (2) and may contribute to better clinical outcomes (3). A randomised controlled trial (RCT) investigated an intervention including 59 patients suffering from diabetes who were encouraged to participate in therapeutic decisions (4). Results showed that these patients exhibited better values in a follow-up than did the control group. Another study investigated the effect of a decision aid regarding antithrombotic therapy for stroke prevention (5). Patients in the intervention group had more realistic expectations about the risks and benefits of the treatment than in the control group but decided less often in favour of antithrombotic treatment. These studies involved patients who were making longer-term decisions and living with chronic diseases, while most studies that did not show significant outcomes involved single decisions only.

Evidence exists that Shared Decision Making (SDM) is also useful in the treatment of mental illness (6). A brief intervention designed to prevent depression relapse was highly successful in improving outcomes (7). Another study showed that SDM increased perceived active involvement in decisions reported by patients with

schizophrenia and improved their attitudes toward treatment (3). A systematic review found that studies concerning SDM reported improvement in terms of physical and psychological well-being as well as satisfaction for patients with schizophrenia (8). Patients with severe mental illness whose clinicians preferred active or shared to passive decision making, described decreasing unmet needs in a previous study (9).

Effective communication between patients and clinicians may lead to an increase in both treatment acceptance and satisfaction (10). Some studies have found that the effect of SDM on treatment acceptance was completely mediated by satisfaction with the decision made (11). Reasons for more active decision-making preferences in patients with psychosis were dissatisfaction with their psychiatrist or medical treatment (12). Improvements in self- esteem were the most important correlates of service satisfaction for psychotic patients, while clinical symptoms and health unmet needs for care played minor roles (13).

The topic of decision will differ between acute and chronic illnesses (14). Serious mental illnesses are long term conditions and therefore changes in topics discussed by the patient with their clinician might occur over time (15). As well as treatment questions, social issues and lifestyle management are important topics (16). Building on a previous study showing that implementation rates varied by the topic of decision (17) this study investigated the influence of different decision topics on involvement and satisfaction of the patients with the decisions over a longer time period.

Some studies have shown that the majority of patients prefer shared involvement with a psychiatrist only for medical decisions and more active involvement for

psychosocial interventions (18). Psychiatrists on the other hand preferred to share social decisions with their patients rather than medical ones (19). The influence of different kinds of topics on involvement, satisfaction and implementation is under-researched and can inform clinical practice (20).

The aims of this study were to investigate from both patient and staff perspectives the stability of decision topic over time, the relationship between decision topic, experienced involvement, degree of satisfaction and the subsequent implementation rate.

Methods

Design

This study is part of the naturalistic observational study, "Clinical Decision Making and Outcome in Routine Care for People with Severe Mental Illness" (CEDAR) (ISRCTN75841675) which took place over one year with bi-monthly assessments (21). It was conducted 2009-2012.

Setting

Routine mental health services in six countries: Ulm University, Germany (coordinating centre for the study); Institute of Psychiatry, Psychology & Neuroscience, King's College London, England; University of Naples SUN, Italy; Aalborg Psychiatric Hospital, Denmark; Debrecen University, Hungary; and University of Zurich, Switzerland. The study protocol was approved by ethical committees in all six sites and informed consent was obtained from the patients.

Sample

Participants were convenience samples of native speaking adults using local community-based non-forensic mental health services.

Inclusion criteria for patients in the cohort study were: aged 18–60 years at intake, mental disorder of any kind as main diagnosis using SCID criteria (22), presence of severe mental illness (Threshold Assessment Grid (23) with 5 points and illness duration 2 years), expected contact with mental health services (excluding inpatient services) during the time of study participation, sufficient command of the host country's language and capable of giving informed consent.

Exclusion criteria were: main diagnosis of learning disability, dementia, substance use or organic brain disorder, severe cognitive impairment and treatment by forensic mental health services.

Measures

Both CDM measures were developed as part of the CEDAR study, have patient and staff versions which are structured identically with wording changed to reflect the different perspectives, and can be downloaded in all five languages at www.cedar-net.eu/instruments. The CDM in Routine Care Scale (patient version: CDRC-P; staff version: CDRC-S) assesses topic and implementation of decisions. 12 topic categories are covered: Symptoms, Illness deterioration, Physical health, Work, Benefits, Medication, Side effects, Family, Friends, Further Treatment Methods, Free time and others. Respondents are asked to rate the extent to which they had discussed each topic (not discussed; discussed but no decision made; discussed and decision made) and to identify the most important topic. At follow-up, they are

asked to rate the level of implementation of the decision previously made (fully; partly or not implemented).

The Clinical Decision making involvement and satisfaction (patient version: CDIS-P; staff version: CDIS-S) scale assesses satisfaction and involvement in a specific clinical decision (24). The satisfaction sub-scale comprises six items covering being informed, making the best decision, consistency with personal values, expectation of implementing the decision, whether this was the decision to make, and overall satisfaction. Each item is rated on a five-point Likert scale (strongly disagree to strongly agree) and the satisfaction scale is the mean score ranging from 0 to 4. Satisfactions scores were categorised using a tertile approach. The involvement sub-scale comprises one item assessing level of involvement experienced (active, shared or passive).

Procedures

Patients meeting eligibility criteria were approached by clinicians to give permission for researcher contact. A researcher met the patient, explained the study and obtained signed informed consent. The patient named a paired clinician of any profession whom they saw regularly, and completed CDRC-P and CDIS-P. Nominal remuneration was offered at some sites dependent upon local ethical guidelines. The paired clinician was then contacted by the researcher, who explained the study, obtained signed informed consent, and then administered CDRC-S and CDIS-S. Every two months for one year, patients were then re-contacted to complete CDRC-P (assessing implementation of previous patient-identified decision and identifying

new decision from most recent meeting) and CDIS-P (about new decision), and staff were re-contacted to complete CDRC-S and CDIS-S again.

Analysis

First, we summarised the 12 topics into a smaller number of components. The category 'other' was not included in the analysis as it is heterogeneous and accounted for a small proportion of topics across all time points (range 3% to 6%). We conducted an exploratory principal component analysis (PCA) with orthogonal rotation on the remaining 11 topics (not discussed versus discussed) selected at baseline for the 418 of the 588 respondents who had ratings for all 11 topics. Owing to the binary nature of the items, we performed the PCA using a polychoric correlation matrix obtained by implementing the polychoric pca command in Stata 11. The obtained solution was used so that we could categorise each important topic into 1 of the 3 relevant topics.

To evaluate stability of topics over time, we ran a multinomial logistic regression with time point entered as a predictor while the model was adjusted for centre. For our other aims, topic was the predictor and the relevant measure was the dependent variable. Each model was adjusted for centre and education level as the latter was found to be associated with missing data. Regressions also took account of clustering at the level of the patients using the gllamm command in Stata 11, which includes all available data in the analysis. For each model, the reference category for the outcome measure was the least positive: the passive category for involvement, the lowest third for satisfaction and the not implemented category for implementation.

Results

The characteristics of service user participants are shown in Table 1.The mean illness duration was 12.5 years (± 9.3), mean time in school was 10.4 years (±1.9)

Of the 213 staff members 75 (37%) were psychiatrists, 19 (9%) psychologists, 11 (5%) social workers and 101 (49%) had other professions. 123 (62%) were females and 46 years was the mean age (± 10.5).

The 11 categories of topic at time point 1 were reduced to three components with eigenvalues greater than 1, which explained 54% of the variance in the data. These components were interpreted as treatment, social and financial (Table 2).

Staff members independently reported that similar topics were discussed at the same meeting, using CDRC-S.

Table 3 shows the number of respondents who had complete information on each outcome variable across the 7 study time-points.

The results of the GLLAMM analyses including ICC are: service user satisfaction= .24 ICC, involvement = .17 ICC and implementation= .09 ICC; for staff members satisfaction= .17 ICC, involvement= .26 ICC and implementation= .14 ICC.

Aim 1: Stability of topic over time

The important topic identified by patients (n=569) was most often in the treatment category (69% across all time points, range 67%-72%), followed by social (22%,

range 20%-25%) and financial (9%, range 8%-10%). Patient-identified topic was not associated with the study time points, chi^2 =3.2, df=10, p = .98, indicating good stability over time.

Aim 2: Relationship of topic and involvement

A total of 543 patients had at least one round of patient-identified decision and patient-rated involvement with that decision and provided 2,210 paired observations across the seven time points (patient-identified goal plus patient-rated involvement). Patients with complete information at all 7 time points were more likely to have at least a secondary level qualification (13% vs. 6%), chi^2 =6.6, df=1, p = .01. Figure 1 shows the breakdown of patient-identified topic and involvement rated by patients.

Patient-rated involvement differed by topic, chi^2 =117.3, df=4, p<.001. Involvement in social, OR=5.7, 95%CI= 3.8-8.5, z=8.5, p<.001, and financial, OR=9.5, 95%CI= 5.1-17.5, z=7.1, p<.001, decisions was more likely to be rated active (rather than passive) than treatment topics.

A total of 512 patients had at least one round of patient-identified decision and staff-rated level of patient involvement with that decision, providing 1,934 paired observations across the seven time points. Staff-rated involvement differed by patient-identified topic, chi^2=113.4, df=4, p<.001. Active involvement was associated with social, OR = 12.1, 95%CI= 7.2 - 20.2, z=9.4, p<.001, and financial, OR = 14.8, 95%CI= 6.8 - 32.2, z=6.8, p<.001, rather than treatment decisions.

Aim 3: Relationship of topic and satisfaction

A total of 545 patients had at least one round of patient-identified decision and satisfaction with that decision (2,235 paired observations across the seven time points). Patients with complete information were more likely to have a secondary level or higher education qualification (13% vs. 6%), $chi^2 = 6.9$, df=1, p=.009.

Satisfaction differed by topic, $chi^2 = 11.7$, df=4, p=.02. Social, OR = 1.5, 95%CI= 1.1-2.1, z=2.7, p=.01, and financial topics, OR = 1.7, 95%CI= 1.1- 2.6, z=2.5, p=.01, were more likely to lead to higher levels of satisfaction than those making treatment decisions.

Aim 4: Relationship between topic and decision implementation

A total of 498 patients had at least one round of patient-identified decision and a patient rating of implementation two months later (1,639 observation pairs across the seven time points). Patients with complete information were more likely to have at least a secondary level qualification (11% vs. 6%), $chi^2= 4.1$, df=1, p=.04.

Patient-rated implementation differed by topic, $chi^2 = 21.8$, df=4, p<.001. Social goals were more likely to be partly, OR = 3.0, 95%CI= 1.8- 5.1, z =4.1, p<.001, or fully implemented, OR = 1.7, 95%CI 1.1- 2.7, z=2.3, p=.03, than treatment goals. Higher education was a predictor for full Implementation, OR = 1.8, 95%CI= 1.2- 2.7, z=27, p=.004.

1,504 observation pairs, across the seven time points, for at least one round of patient-identified decision and staff-rated implementation two months later could be

evaluated. Staff-rated implementation differed by topic, chi^2= 16.7, df=4, p= .02. Patient-identified social goals were more likely than treatment goals to be rated as partly rather than not implemented, OR=2.2, p=.004; 95%CI= 1.3- 3.8.

Discussion

In this six-country naturalistic study of community mental health services, decision topics identified by patients and staff members as the most important from their last clinical meeting were categorised and found to be stable over 7 time points in one year. The most frequent decision-topic chosen by patients was treatment (69%), followed by social (22%) and financial (9%). Topic was a significant predictor of patient-rated involvement, satisfaction and implementation, with treatment-related decisions consistently being associated with less positive ratings. The same pattern was somewhat evident in relation to staff ratings for the patient-identified goals.

The observed distribution of topics is consistent with previous studies (6). It remains unclear why social and financial topics are less frequent, as these decisions are likely to have major impact on long-term outcome (25). One possible explanation may be that only 5% of the staff members in the present study were social workers, whilst nearly half were psychiatrists and psychologists, leading to a focus on treatment decisions.

In relation to involvement, patients were markedly more passive in treatment decisions than in social or financial decisions, again consistent with existing literature (26). A previous analysis of the CEDAR study data found that even more active involvement in decision-making than the patient stated as desired was associated

with higher satisfaction, indicating that a clinical orientation towards empowering may improve satisfaction for patients (27). Overall, the higher involvement and satisfaction for non-treatment decisions may reflect a complex causal pathway (28), in which both involvement and satisfaction are influenced by a range of factors such as clinical variables, and past history of contact with services.

Research on socio-demographic factors has found that older patients reported a stronger desire for involvement in decision-making compared with younger adults (18). In contrast, our results revealed no differences regarding socio-demographic variables concerning decision topic or patient involvement. SDM generally aims at engaging patients to a greater extent in clinical decisions by decreasing the asymmetry between staff members and patients, but not all staff or patients feel comfortable about this balance (19).

Social goals were more likely to be partly or fully implemented by the patients than treatment decisions. Previous analysis of CEDAR data showed the highest implementation rates for decisions related specifically to medication, although only based on baseline data and two-month assessment of implementation (17). The current use of repeated measures data collected over one year makes the finding that treatment decisions have lower implementation rates more robust.

Strengths and limitations

The main strength of the study is the large and multi-site sample recruited within routine mental health services from six countries from across Europe over seven time-points. The use of convenience sampling means that participants may not be

representative of the population, due to factors such as clinician bias in referral and more satisfied patients are more likely to take part in research. The present findings need to be replicated using a random sample. Measures used were self-reports, and did not include independent observer ratings of involvement style. Different communication styles between different professions may also influence outcome. Future research should record this information and explore this association. A further limitation could be that more satisfied patients may tend to more positive ratings. Finally, drop-outs may be due to certain assessments (such as the satisfaction measurement, consisting of 6 items) and, hence, data may not be missing at random. This meant that multiple imputation could not be implemented and instead we used a prorating approach when less of 20% were missing. Non-random missing data might be associated with selective drop out across time points; however, simulation results have shown this marginally affects results (29).

Conclusion

Decision topics remained stable over one year, indicating that there is a specific and continued focus within clinical interactions over time. Treatment-related decisions were associated with poorer involvement, satisfaction and implementation. This finding has important clinical implications. First, the focus on treatment decisions found may reflect clinical rather than patient priorities, whereas people living with long-term disorders may need a more frequent focus on wider social and financial aspects of life. Qualitative investigation of how topics are chosen is needed. Second, the evidence for differential implementation suggests that different interactional styles by the clinician may be needed for different decision topics (20). We speculate that primary attention in relation to social and financial CDM should be on the goal-

setting process, so as to maximise goal attainability and striving by the patient (30). By contrast, for treatment-related decisions where the adherence is more problematic, a greater focus on behavioural and motivational aspects may be indicated. The development of a training program for staff may benefit patients and decision aids are one approach to increase patients' knowledge about their illness and control over decisions (19).

Future research could elaborate the relationship between decision topic and involvement, satisfaction and implementation, by evaluating whether disengagement or therapeutic alliance breakdown (as sources of low satisfaction) predict a focus on treatment in CDM, or whether current approaches to discussing treatment produce negative outcomes which are not present in discussion of social and financial goals. For future research it would be interesting to investigate the influence of illness severity on the decision making process as well.

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Figure 1 patient-identified decision topic and involvement rated by patients

 (2,210 ratings from 543 patients)

Table 1 Baseline characteristics of patients (n=588)

Study centre	N	%
Ulm	112	19.
London	85	15
Naples	101	17
Debrecen	97	17
Aalborg	98	17
Zurich	95	16
Female gender	307	52
Married	149	25
Caucasian	552	94
Living alone	231	40
Paid or self-employed	110	19
Receiving state benefits	425	72
Diagnosis		
Schizophrenia	265	45
Mood disorder	188	32
Anxiety, dissociative, stress-related	68	12
Disorders of adult personality and behaviour	56	10
Other	11	02
Treatment decision topic	273	67
Social decision topic	101	25
Financial decision topic	35	09
Low satisfaction with decision	213	48
Medium satisfaction with decision	91	20
High satisfaction with decision	143	32
Active involvement in decision making	107	24
Shared involvement in decision making	221	50
Passive involvement in decision making	118	27
Full implementation of decision two months later	52	12
Partly implemented of decision two months later	66	16
No implementation of decision two months later	300	72

Table 2 Factor loadings on the three decision topic categories

CDRC topic	treatment	social	financial
Symptoms	.50	.05	-.06
Deal w. deterioration	.43	.07	-.07
Physical health	.16	.29	.03
Work	.06	-.10	.71
Pension/benefits	-.03	.16	.63
Medications	.51	-.18	.11
Side effects	.47	.02	.06
Family	-.09	.48	.16
Friends	-.02	.57	-.05
Further treatment	.23	.27	-.19
Free time	-.03	.48	-.03

Table 3 Number (%) of respondents with complete information across all 7 time points (n=588)

Patients						Staff					
Satisfaction		Involvement		Implementation		Satisfaction		Involvement		Implementation	
N	%	N	%	N	%	N	%	N	%	N	%
133	23	130	22	129	22	88	15	89	15	142	24

Figure 1 Patient-identified decision topic and involvement rated by patients
(2,210 ratings from 543 patients)