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Communication Study

Shared understanding in psychiatrist–patient communication: Association with treatment adherence in schizophrenia☆

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ABSTRACT

Objective: Effective doctor–patient communication, including a shared understanding, is associated with treatment adherence across medicine. However, communication is affected by a diagnosis of schizophrenia and reaching a shared understanding can be challenging. During conversation, people detect and deal with possible misunderstanding using a conversational process called repair. This study tested the hypothesis that more frequent repair in psychiatrist–patient communication is associated with better treatment adherence in schizophrenia.

Methods: Routine psychiatric consultations involving patients with (DSM-IV) schizophrenia or schizoaffective disorder were audio-visually recorded. Consultations were coded for repair and patients' symptoms and insight assessed. Adherence was assessed six months later. A principal components analysis reduced the repair data for further analysis. Random effects models examined the association between repair and adherence, adjusting for symptoms, consultation length and the amount patients spoke.

Results: 138 consultations were recorded, 118 were followed up. Patients requesting clarification of the psychiatrist's talk and the clarification provided by the psychiatrist was associated with adherence six months later (OR 5.82, 95% CI 1.31–25.82, $p = 0.02$).

Conclusion: The quality of doctor–patient communication also appears to influence adherence in schizophrenia.

Practice implications: Future research should investigate how patient clarification can be encouraged among patients and facilitated by psychiatrists' communication.

1. Introduction

In medicine, the quality of doctor–patient communication is associated with patient outcome, in particular patient satisfaction and treatment adherence [1]. In a recent meta-analysis, the odds of having adherent patients were twice as high if doctors were good communicators [2]. However, relatively few studies of communication and outcome have been conducted in mental health care, with many relevant studies excluding psychiatric populations (e.g., [2,3]). Replicating the association between communication and adherence in the treatment of schizophrenia would be of interest given the high rate of non-adherence. The CATIE study found that 74% of patients stopped taking medication prematurely [4]. Meanwhile, a survey of patients found that 38% came off their anti-psychotic medication without telling their psychiatrist [5].

Shared understanding is central to effective doctor–patient communication (e.g., [6]). Most approaches to doctor–patient communication rely on external observers' interpretation of whether participants in a conversation have a shared understanding rather than the participants themselves. A different approach is

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offered by conversation analysis, an established approach to the study of communication, which analyses what people do rather than what they say they do. It is based on micro-analysis of communication. In this framework, participants' utterances demonstrate their understanding or misunderstanding of the previous person's talk. Moreover, a specific practice used by speakers to identify and clarify misunderstandings during conversation is called repair [7,8]. This is pervasive, highly systematic and measurable in conversation [9]. It is a more sensitive measure of shared understanding than is offered by other approaches to communication that is directly linked to peoples' own assessment of how well they understand each other. The amount of repair used by both speakers is a collaborative activity, reflecting how much effort they make to reach a shared understanding that is tied to the specific local context.

The conversation analytic (CA) literature describes three important features of repair (a) initiation: who signals a problem – whether it is the speaker of a problem turn ('self') or a recipient of it ('other'), (b) completion: who completes the repair and actually makes a change (self or other), and (c) position: where in the conversational sequence these events occur; in the same turn as the problem, in the turn after the problem turn or in some subsequent turn [7,8].

For the present purposes, there are two important types of repair. Firstly, a speaker initiating and completing repair of their own utterance while producing it (self initiated, self repair) e.g., "I saw you three, **no two** months ago". This reflects how hard a speaker works to formulate talk that is understandable to their conversational partner. Secondly, a listener initiating repair of their partner's previous utterance (other initiated self repair), e.g., a patient requesting clarification of the psychiatrist's talk, with the psychiatrist providing the clarification:

Dr: Yep well that is a possible side effect
Pat: **Side effect?** [request for clarification]
Dr: **Of the haloperidol** [clarification]

Often people ignore possible differences in interpretation on the assumption that they are not important enough to threaten the business of the conversation. As a result, the points where they choose to signal or address a misunderstanding are, all things being equal, of special significance for the success of the interaction. However, it is well documented that some type of language breakdown is central to schizophrenia. Difficulties on the levels of semantic, syntactic and pragmatic language use have been found [10]. With reference to repair, patients with schizophrenia have been shown to use less self-repair [10]. This may, in turn, affect how they reach a shared understanding with their psychiatrists in treatment.

The current study applies the conversation analytic approach to shared understanding to psychiatrist–patient communication in the treatment of schizophrenia. This study focuses on patients in outpatient clinics in secondary mental health care in UK because they are seen primarily by psychiatrists, making it possible to link treatment outcome with one psychiatrist rather than multiple professionals' communicative input. The study design is longitudinal, focusing on communication at baseline and adherence six months later to allow hypothesis testing about relationships over time.

1.1. Objective

The objective of this study was to test the hypothesis that a better shared understanding, indexed by more occurrences of repair, in psychiatrist–patient communication is associated with higher treatment adherence in schizophrenia.

2. Methods

2.1. Design overview

This was a prospective observational study. Communication, symptoms and insight were assessed at baseline and adherence was assessed after six months.

2.2. Setting and participants

Collection of baseline data began in March 2006 and follow-up data collection ended in January 2008. Ethical approval for the study was granted by the local research ethics committees. Thirty six psychiatrists were randomly selected to participate, and 31 agreed (86%). Patients meeting Diagnostic and Statistical Manual-IV (APA) criteria for a diagnosis of schizophrenia or schizoaffective disorder attending psychiatric outpatient and assertive outreach clinics in 3 centres (one urban, one semi-urban and one rural) were asked to participate. Consecutive attenders were approached in the waiting room by an independent researcher. 579 patients were eligible, 188 did not attend their appointment, 42 were not approached (considered too ill to approach by the psychiatrist or their appointment overlapped with another study participant) and 211 did not consent. After complete description of the study to the participants, written informed consent was obtained from 138 (40%) of those approached.

2.3. Baseline measurements

Psychiatrist–patient consultations were audio-visually recorded using digital video. The consultations occurred within the context of an ongoing relationship. Patients were interviewed, after the consultation, to assess their symptoms and insight. Length of illness was documented.

2.3.1. Communication

Video consultations were transcribed by two independent researchers (AS and ML) who were not involved in patients' treatment. The standardised repair protocol [9] was applied to the written transcripts (by AS and ML) in order to assess the frequency of repair. The protocol has been validated in patients with schizophrenia [11]. Inter-rater reliability was good (Cohen's kappa = 0.73).

The protocol consists of a binary branching decision tree of yes/no questions that are applied to each utterance to identify all instances of repair. The protocol is based on Schegloff et al.'s [8] system of repair, which yields 9 parallel types of repair for the psychiatrist and 9 for the patient defined according to who initiates the repair (self or other), who completes the repair (self or other) and the position of the repair (1, 2 or 3) (as set out in Table 1). Approximately half focus on producing understanding and modifying the other's understanding of one's own talk and the other half focus on clarifying understanding of another person's talk. This captures what participants themselves highlight in producing and clarifying understanding.

2.3.2. Symptoms

Two researchers (AS and ML) not involved in patients' treatment and unaware of the content of the psychiatric consultation and adherence ratings, assessed patients' symptoms on the Positive and Negative Syndrome Scale (PANSS) [12]. Inter-rater-reliability was good (Cohen's kappa = 0.75).

2.3.3. Insight

Insight was measured with the Recovery Style Questionnaire [13]. This is a self-report measure consisting of 39 statements

Table 1
Examples of the nine types of repair.

Formulating or clarifying understanding	Turn position and repair type	Example: the repair is in bold
Formulating understanding: Signal and clarify problem in own turn	**1.** Position 1 Self initiated self repair (articulation)	Dr: "You probably have seen so many psychiatrists **[o-o-]** (over) the years" (P1-SISR-A)
	2. Position 1 Self initiated self repair (formulation)	Dr: "[Did you feel that] (**Did you despair so much that**) you wondered if you could carry on?" (P1-SISR-F)
	3. Position 1 Self initiated self repair (transition space)	P: "Where I go to do [some printing]. (**Lino printing**)" (P1-SISR-TS)
Formulating understanding delayed: Signal and clarify problem in own turn	**4.** Position 3 Self initiated self repair	P1: P: [When I'm in bed}
		P2: Dr: right
		P3: P: (**That's the main time that I hear them** *voices* **is when I'm in bed)** (P3-SISR)
Formulating understanding: Signal in own turn & resolved by the other	**5.** Position 2 Self initiated other repair	P1: Dr: You do feel really you have
		P2: P: **support** (P2-SIOR)
Clarifying understanding: Other person signals & resolves problem	**6.** Position 2 Other initiated other repair	P1: Dr: rather than [the diazepam] which I don't think in the long term is going to do you any good
		P2: P: (The **valium**) (P2-OIOR)
Clarifying understanding successful: Other person signals a problem and the original speaker resolves the problem	**7.** Position 2 Next turn repair initiator complete	P1: Dr: In general terms things haven't been as difficult to cope with
	8. Position 3 Other initiated self repair	P2: P: **Cope with what?** (P2-NTRI-C)
		P3: Dr: **In general terms things haven't been as difficult to cope with but they have become more difficult perhaps** (P3-OISR)
Clarifying understanding unsuccessful: Other person signals a problem and the original speaker does *not* resolve problem	**9.** Position 2 Next turn repair initiator incomplete	(Prior turn) Dr: in that case um so you said the last time before these two nights was about a month ago
		P1: P: yeah
		P2: Dr: **Is that right?** (P2-NTRI-I)
		P3: 0.6 s pause (*no response from patient*)
		Dr: what I'll do is find out from David

(e.g., 'the illness is not part of my personality'). Patients report whether they agree or disagree with each statement. Four recovery styles can be classified: Good insight, mixed picture with good insight predominant, mixed picture with poor insight predominant and poor insight. Higher scores represent poorer insight.

2.4. Follow-up measurements

2.4.1. Adherence

Mean percentage adherence, grouped in clusters, as suggested by Velligan et al. [14] was assessed six months after the consultation, by the patient's psychiatrist. Psychiatrists used collateral information to assess adherence in 50% of cases. In 56% of these cases, this was attendance for depot injection, supervised drug intake or blood tests. In 44%, this was from others involved in the patient's care (e.g., pharmacist, general practitioner, family member).

Adherence to (i) treatment in general (i.e., the percentage of occasions that scheduled appointments were kept and non-medication recommendations were followed) and (ii) medication (i.e., the percentage of medication taken) was rated separately on a three point scale i.e., >75% (rating = 1), 25–75% (rating = 2), and <25% (rating = 3) [15]. The 2 scores were summed to yield a total adherence score ranging from 2 to 6, with a lower score indicating better adherence.

2.5. Statistical analysis

For ease of presentation, only the mean frequencies of repair types (per consultation duration in minutes) relevant for further analyses are displayed in Table 2. A full list is available from the authors. The most frequent repairs were in the formulation of one's own talk, consistent with the preference for self-repair [16]. Due to the interdependence of some of the repair types (e.g., a clarification question [i.e., repair initiation] is typically followed by the response to the question [i.e., repair completion]), a principal components analysis with varimax rotation was conducted to reduce the data to a smaller set of variables [17] to be subsequently analysed with respect to adherence. Four types of repair were excluded due to frequencies below 1 (position 2 self-initiated other-repair and unresolved position 2 next turn repair initiator for patients and psychiatrists in both cases).

For descriptive purposes, possible associations between socio-demographic and clinical characteristics (i.e., psychiatrist sex, psychiatrist and patient ethnic match, patient sex, duration of illness, patient first language, symptoms) and repair were analysed in multiple linear regression models for patient communication and linear mixed effects models for psychiatrist communication (with a random effect for psychiatrist taking into account clustering of patients within psychiatrists).

Factors potentially associated with (good versus poor) adherence, i.e., length of illness, insight and symptoms [18], were explored in random effects logistic regression models taking into account patient clustering within psychiatrists.

The odds of good adherence versus poor adherence was modelled using a random effects model accounting for clustering of patients within psychiatrists. The binary dependent variable was total adherence. The independent predictors were the four repair factors from the principal components analysis, symptoms and consultation length. This analysis was repeated adjusting also for how much the patient speaks. Statistical analyses were conducted using SPSS 18.0 [19] and Stata 10 [20].

3. Results

3.1. Sample

138 consultations involving 31 psychiatrists were recorded. 114 patients were recruited from outpatient clinics and 24 from assertive outreach clinics. The average length of consultations was

Table 2
Mean frequencies of repair per consultation.

	Psychiatrist range	M (SD)	Patient range	M (SD)	Example: the repair is in bold
Formulating understanding (Formulation)	0–268	46.6 (45.0)	2–274	55.6 (42.4)	*Example 1:* Dr: "[Did you feel that] (**Did you despair so much that**) you wondered if you could carry on?" P: "Where I go to do [some printing]. (**Lino printing**)" (P1 SISR transition space) *Example 2* Dr: "[I hope it doesn't take that long]. (**I really hope it doesn't take that long**)
Clarifying understanding (Clarification request)	0–18	3.7 (3.9)	0–14	1.5 (2.3)	*Example 3:* Dr: In general terms things haven't been as difficult to cope with P: **Cope with what?** Dr: In general terms things haven't been as difficult to cope with but they have become more difficult perhaps *Example 4* Dr: yeah, it doesn't happen in real life does it? Pat: **What do you mean by real life?** Dr: you can't- there are no messages coming from the television to people are there?

17.2 min (SD 9.1). 118 patients were followed up at six months. Patient sociodemographic and clinical characteristics are presented in Table 3. 83% of psychiatrists were male and 83% were of White ethnic origin.

3.2. Principal components analysis of repair data

Four factors with Eigen values >1 were retained explaining 71.7% of the variance. Table 4 displays the 4 factors and corresponding item loadings (loadings above 0.5 are considered): (1) psychiatrist led clarification and patient response – 31% variance, (2) patient led clarification and psychiatrist response – 17% variance, (3) patient formulation in producing their own utterances – 14% variance, and (4) psychiatrist formulation in producing their own utterances – 9% variance.

While the first factor loaded most heavily on psychiatrist clarification and patient response, it also had loadings on psychiatrist revising the patient's talk and patient revising the psychiatrist's understanding of their prior talk. Similarly, the second factor had the highest loadings on patient clarification to clarify the psychiatrist's talk and psychiatrist response. Patients revising the psychiatrist's prior talk also loaded on this factor.

Two of the communication factors, patient led clarification and patient formulation, were inversely correlated ($r = -0.3$, $p < 0.001$).

Table 3
Patient sociodemographic and clinical characteristics.

	N	%
Sex		
Male	87	63
Ethnicity		
White	100	72.5
Employment		
Unemployed	86	62.3
Employed/student	30	21.7
Voluntary	10	7.2
Retired	8	5.8
Adherence at follow-up		
Poor/average	33	26.4
Good	92	73.6
	Mean	SD
Age	42.2	11.5
Years in contact with psychiatric services	15.6	11.6
No. admissions	3.4	3.4
No. involuntary admissions	1.8	2.6
Symptoms		
PANSS total	54.4	18.6
Positive	13.1	5.9
Negative	12.5	5.8
General	28.8	9.6

3.3. Repair and participant characteristics

In multiple linear regression models, female patients initiated less clarification ($\beta = -0.29$, 95% CI –0.54 to –0.03, $p = 0.03$) as did patients with a longer history of illness ($\beta = -0.02$, 95% CI −0.03 to −0.01, $p = 0.003$). Patients with more negative symptoms did less repair in formulating their talk ($\beta = -0.04$, 95% CI −0.08 to 0.001, $p = 0.057$) but did not do less clarification. Patients' number of conversational turns was not correlated with negative symptoms (rho = −0.11, $p = 0.22$) or with the amount of clarification they did (rho = −0.05, $p = 0.58$). None of the remaining patient characteristics were associated with repair. Sociodemographic and clinical characteristics were not significantly associated with psychiatrist formulation or psychiatrist clarification.

3.4. Adherence and patient characteristics

Adherence was not associated with length of illness ($\beta = 0.01$, $p = 0.60$, 95% CI −0.03 to 0.05), insight ($\beta = -0.01$, $p = 0.58$, 95% CI −0.04 to 0.02) or symptoms ($\beta = -0.003$, $p = 0.81$, 95% CI −0.03 to 0.02). Hence these factors were not entered in subsequent multivariable analysis.

3.5. Repair and adherence

The distribution of adherence ratings was negatively skewed so it was dichotomized into good adherence, i.e., ≥75% (73.6%) or average/poor adherence, i.e., <75% (26.4%). As displayed in Table 5, patient led clarification was significantly associated with adherence six months later, adjusting for symptoms and consultation length (OR 5.82, 95% CI 1.31–25.82, $p = 0.02$). Adjusting for how much the patient spoke only slightly altered this finding (OR 4.71, 95% CI 1.01–21.87, $p = 0.05$). The intra-psychiatrist correlation coefficient was 0.11 (CI −0.07 to 0.29): 11% of the total variance in patient adherence was attributable to between-psychiatrist variability.

Table 4
Loadings for the four repair factors retained in principal components analysis.[a]

Repair type[b]	1. Psychiatrist led clarification	2. Patient led clarification	3. Patient formulation	4. Psychiatrist formulation
Patient self-initiated self-repair: repeat	0.130	0.042	**0.862**	0.167
Patient self-initiated self-repair: formulation	0.107	0.090	**0.873**	0.276
Psychiatrist self-initiated self-repair: repeat	−0.009	0.069	0.143	0.854
Psychiatrist self-initiated self-repair: formulation	0.049	−0.039	0.336	0.835
Patient other-initiated other-repair: correction of psychiatrist misunderstanding	0.302	**0.538**	−0.136	0.429
Psychiatrist other-initiated other-repair: correction of patient misunderstanding	**0.530**	−0.017	0.156	0.166
Patient other-initiated repair: patient request for clarification	0.044	**0.947**	0.142	0.016
Psychiatrist other-initiated self-repair: provision of clarification	0.123	**0.946**	0.093	−0.040
Psychiatrist other-initiated repair: psychiatrist request for clarification	**0.913**	0.064	0.018	−0.077
Patient other-initiated self-repair: provision of clarification	**0.878**	0.063	0.014	−0.098
Patient self-initiated self-repair delayed: formulation	**0.548**	0.210	0.458	−0.026
Psychiatrist self-initiated self-repair delayed: formulation	**0.590**	0.250	0.108	0.192
Eigen value	3.75	2.09	1.72	1.06
% Variance accounted for	31.2	17.4	14.3	8.8

[a] Loadings above 0.5 are in bold.
[b] *Self-initiation* speaker signals problem with own turn; *Other-initiation* speaker signals problem with another's turn; *Self-repair* person who produced the problematic turn provides solution; *Other-repair* person provides solution to someone else's problematic turn.

Table 5
Associations between repair and treatment adherence in a random effects model.

	Odds ratio	*p* Value	95% Confidence interval
Psychiatrist clarification	1.53	0.29	0.69–3.39
Patient clarification	5.82	0.02	1.31–25.82
Patient formulation	1.63	0.23	0.74–3.59
Psychiatrist formulation	0.96	0.89	0.42–2.18
Consultation length (min)	0.99	0.92	0.89–1.09
Symptoms (PANSS total)	0.99	0.86	0.90–1.09

4. Discussion and conclusion

4.1. Discussion

The main finding of this study is that patient clarification of the psychiatrist's talk is associated with better treatment adherence six months later, after adjusting for symptom severity, consultation length and how much the patient speaks.

There are various possible explanations for the association between patient clarification and adherence. Firstly, it may be that patients who clarify the psychiatrist's talk are more engaged in the consultation because they are more engaged in treatment generally. Patient led clarification comprises two activities, namely correcting something previously said by the psychiatrist (getting the record straight) and understanding what the psychiatrist is saying. Both demonstrate an interest in improved communication and go beyond asking questions. Hence, these patients might be expected to be more adherent independent of the clinical communication. In previous studies, patient knowledge about illness and sharing opinions [21], both of which are probably linked to patient interest in improved communication, were associated with adherence. To date, most of these findings are from primary care. This is the first study to show parallel findings in a psychiatric context.

Secondly, the psychiatrist's communication style may facilitate or hinder patient clarification. If doctors are good communicators, the odds of having adherent patients increases approximately twofold [2]. This is consistent with the finding that a better therapeutic alliance is associated with better medication adherence [22]. Patients' tendency to clarify understanding may be facilitated by psychiatrists' openness or approachability, shared history and the length and quality of the therapeutic relationship. This is in line with findings from conversation analysis, whereby different patterns of communicative behaviour create different possibilities for patient participation in medical consultations [23]. For example, the way in which a diagnosis is delivered can either forestall or encourage further patient contribution. A diagnosis that is asserted and does not refer to the reasons for the diagnosis is more likely to close down patient participation, whereas a diagnosis that makes explicit the evidential grounds for the diagnosis is more likely to lead to patient elaboration [24]. Further research is indicated to identify the communicative behaviours and interpersonal factors such as therapeutic relationship that facilitate patient clarification in this treatment context.

In the current study, female patients and patients with a longer history of illness did less clarification. Other research has found that female patients were given more information than males [25]. If females receive more information, they may then be less likely to seek clarification. Patients with negative symptoms also did less repair in formulating their own talk, which has previously been reported in schizophrenia [10]. Interestingly negative symptoms or the amount the patient spoke were not associated with patients' clarification. On the other hand, patients who did less repair in formulating their own talk were somewhat more likely to clarify the psychiatrist's talk. This may reflect a different balance in the focus of the conversation, with more formulation of one's own talk perhaps suggesting that the patient is more self- than other-focused. After taking into account patient clarification and symptoms, there was significant variation between clinicians in their patients' adherence. This may be partly attributable to other communicative processes, e.g., finding common ground, agreeing on common goals (e.g., [26]) and affective components reflected in nonverbal behaviour, that would be interesting to assess in future studies.

4.1.1. Clinical implications

It is most likely that a combination of patient and psychiatrist communicative behaviours influence medical communication. The findings that patients of doctors who are good communicators are twice as likely to be good adherers along with the role of patient clarification in the current study, point to the roles played by both the doctor and patient. Furthermore, patient and doctor characteristics, and the combination thereof, are also likely to influence communication.

These findings raise further questions such as whether the associations are stable over time or specific to schizophrenia and the potential clinical implications. Given the nature of our sample, it remains to be seen how generalisable the findings are to other patient groups and treatment settings. In terms of clinical implications, patient clarification of the psychiatrists' talk is a positive sign and future research is warranted to identify whether this can be facilitated by psychiatrists' communication or encouraged in patients. Training doctors in communication skills was found to improve patient adherence by 12% in a meta-analysis of intervention studies [2]. Similarly, training patients to participate more is possible and was found to improve information recall, attendance and adherence to recommendations [27]. Interestingly, checking understanding and requests for clarification, rather than asking questions, resulted in greater patient participation. This kind of participation might be expected to lead to more positive outcomes as it involves working collaboratively with the doctor's contributions rather than focusing on asking questions, which may be more one-sided.

Although this finding has clinical implications, and we know that there is variation across psychiatrists in how often patients clarify, it is not yet clear what types of psychiatrist communication facilitate patient clarification. This should be a focus of future research.

Patient interventions could focus on encouraging the patient to clarify and check their understanding of what the psychiatrist is saying. The impact of training on patients' clarification in consultations and subsequent adherence could provide measures of training success. As patient clarification was not very frequent in the current study, with an average of just over one per consultation, interventions leading to small increases may be clinically important in this patient group.

4.1.2. Study strengths and limitations

These findings should be considered in the context of the study's limitations and strengths. The patients who agreed to participate may have been less unwell and more adherent than those who did not participate, contributing to limited variability in treatment adherence. This is an expected limitation in a naturalistic study of this kind. However, bias in the response variables (both repair and adherence) does not necessarily imply bias in statistical associations [28]. While the analyses did adjust for some variables potentially associated with adherence, it did not adjust for others such as substance misuse, complexity of medication regimen and cognitive functioning. In particular, cognitive functioning is known to influence both language and functional outcomes such as adherence. In addition, the patient–psychiatrist dyads already had a relationship established and their shared history is likely to influence both communication and adherence.

An important limitation of this study is that the clinicians rated adherence. Although they used collateral information in half the sample, a direct measure of adherence would be preferable [14]. Most studies of communication and adherence rely on subjective measures of both. For example, in the recent meta-analysis of communication and adherence [2], only 4 out of 127 studies included an objective measure of both communication and adherence. As the psychiatrists rated adherence in the current study, there is a possibility that they are rating those patients who seek a shared understanding with them as more adherent. As this is the first study exploring a link between communication and adherence in schizophrenia, this finding is of interest. The next step would involve testing this association with an objective measure of adherence.

The strengths of this study are that it applied an objective measure of communication, with good validity and inter-rater reliability, to assess psychiatrist and patient effort invested in achieving a shared understanding in everyday clinical practice. It captured what patients and psychiatrists themselves highlight in establishing shared understanding. The statistical analysis accounted for the nesting of patients within psychiatrists. Finally, patients were recruited from urban, semi-urban and rural settings and from different treatment settings increasing the potential generalisability of the study.

4.2. Conclusions

The quality of doctor–patient communication also appears to influence adherence in schizophrenia. In particular, increased patient participation in checking understanding of what the psychiatrist is saying and correcting misunderstandings, was associated with better adherence after six months.

4.3. Practice implications

It is conceivable that patients with a diagnosis of schizophrenia who ask questions or check their understanding of what the psychiatrist is saying may be seen as not following or understanding the conversation. However, it may be helpful for psychiatrists to be aware that this is a positive sign and observe in what contexts this happens less, with a view to encouraging this behaviour. Small increases in this collaborative communication may increase adherence in schizophrenia.

Conflict of interest

There is no conflict of interest to report.

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