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Catherine M. Reich[a], Samantha M. Hack[b,c], Elizabeth A. Klingaman[b,c], Clayton H. Brown[b,c], Li Juan Fang[b,c], Lisa B. Dixon[d,e], Danielle R. Jahn[f] and Julie A. Kreyenbuhl[b,c]

[a]Department of Psychology, University of Minnesota Duluth, Duluth, MN, USA; [b]VA Capitol Healthcare Network (VISN 5), Mental Illness Research, Education and Clinical Center (MIRECC), Baltimore, MD, USA; [c]Department of Psychiatry, University of Maryland School of Medicine, Baltimore, MD, USA; [d]New York State Psychiatric Institute, New York, NY, USA; [e]Department of Psychiatry, Columbia University, New York, NY, USA; [f]Primary Care Institute, Gainesville, FL, USA

ABSTRACT

Objective: The study was designed to explore patterns of prescriber communication behaviors as they relate to consumer satisfaction among a serious mental illness sample.

Methods: Recordings from 175 antipsychotic medication-monitoring appointments between veterans with psychiatric disorders and their prescribers were coded using the Roter Interaction Analysis System (RIAS) for communication behavioral patterns.

Results: The frequency of prescriber communication behaviors (i.e., facilitation, rapport, procedural, psychosocial, biomedical, and total utterances) did not reliably predict consumer satisfaction. The ratio of prescriber to consumer utterances did predict consumer satisfaction.

Conclusions: Consistent with client-centered care theory, antipsychotic medication consumers were more satisfied with their encounters when their prescriber did not dominate the conversation.

Practice implications: Therefore, one potential recommendation from these findings could be for medication prescribers to spend more of their time listening to, rather than speaking with, their SMI consumers.

Introduction

Specific medication-taking behaviors such as organising a daily medication schedule, developing memory aid strategies, and administering the medication are important; however, contextual factors such as trusting one's health care provider are also key to long-term medication-taking practices (Bajcar, 2006). For example, the association between medication beliefs and medication-taking behaviors is well-documented (e.g., Beck, Cavelti, Kvrgic, Kleim, & Vauth, 2011; Clatworthy et al., 2009; Patel, de Zoysa, Berndt, & David, 2008). Indeed, each medical encounter involves a conversation between two parties with disparate realms of expertise: the provider being the medicine expert and the health consumer being the expert on his or her own set of beliefs, preferences, habits, and so on. Medication taking, therefore, requires successful two-way communication between provider and consumer.

Recovery-oriented and person-centered approaches to mental health care often evaluate success via client-centered outcomes such as satisfaction with treatment (Klingaman et al., 2015), and connect this satisfaction with consumer-driven patterns of communication (Williams, Weinman, & Dale, 1998). Although the emphasis of these models is on consumer behavior, clinicians play a crucial role in facilitating consumer-driven conversations. In the general medical literature, clinicians tend to be more verbally dominant than consumers (Laws et al., 2013; Levinson & Chaumeton, 1999; Roter et al., 1997; Wissow et al., 1998) and communicate in a more paternalistic and less client-centered style (Roter et al., 1997), which appears to be linked to lower ratings of consumer satisfaction (Bertakis, Roter, & Putnam, 1991;

Clever, Jin, Levinson, & Meltzer, 2008; Hall, Roter, & Katz, 1988; Henry, Fuhrel-Forbis, Rogers, & Eggly, 2012; Kiesler & Auerbach 2003; Ong, Visser, Lammes, & De Haes, 2000; Roter et al., 1997).

Although some psychiatric research has examined communication, this research has not typically examined the relationship between consumer–provider communication and consumer satisfaction among people with serious mental illness (SMI). Instead, psychiatric research has often focused on consumer–provider communication as it associates with shared decision making (Fukui et al., 2014; Matthias, Salyers, Rollins, & Frankel, 2012; Salyers et al., 2012), medication adherence (McCabe et al., 2013), and meta-cognition and functioning (Minor et al., 2015), or simply described the most frequent type of communications (Castillo et al., 2012; Cruz et al., 2011). One exception is a study by Steinwachs et al. (2011) in which individuals with schizophrenia were taught to be more active participants in their appointments. These consumers disclosed more psychosocial information and their providers responded with less verbal dominance and more client-centered communications (i.e., more discussion of psychosocial and medical information and less directives or procedural discussion) than was observed for control participants. The mental health consumers exposed to this intervention also rated their experience with their prescriber as more satisfying (Steinwachs et al., 2011). To our knowledge, no other research has examined consumer–prescriber communication and satisfaction within a sample of individuals with SMI.

An examination of SMI consumer–prescriber communication is especially important for a number of reasons. Individuals with SMI may experience unique difficulties communicating with a

prescriber, which in turn may affect their satisfaction with the encounter and downstream outcomes, including treatment engagement. For example, many individuals with SMI possess cognitive deficits (Elvevag & Goldberg, 2000), poor insight (Lysaker et al., 2011), a lack of knowledge about illness and treatment options (Lincoln, Arford, Doran, Guyer, & Hopper, 2005), internalised stigma (Drapalski et al., 2013), and a lack of trust in providers (Bohnert, Zivin, Welsh, & Kilbourne, 2011), all of which can interfere with their interactions with prescribers. Pharmacotherapy is the frontline intervention for individuals with SMI, and medication management concerns is a focus of conversations with mental health prescribers. Therefore, in addition to being a client-centered goal on its own, consumer satisfaction with these encounters is important for maintaining treatment engagement and medication adherence necessary for treatment effectiveness.

The current research extends Steinwachs et al.'s (2011) work by directly exploring the associations between consumer–provider communication behaviors and consumer satisfaction following a medication-monitoring appointment in a sample of SMI mental health care consumers. Consumer–prescriber communication in the form of facilitation, different types of rapport building, and communication topics (i.e., procedural, psychosocial, or biomedical statements) were each examined as predictors of consumer satisfaction following a medication-monitoring visit. In addition, the total number of consumer or prescriber utterances and the degree to which the prescriber verbally dominated the appointment—as measured by the ratio of prescriber to consumer utterances—were examined for their association with consumer satisfaction with the visit. Quality of the therapeutic relationship was used as an exploratory covariate.

Method

Secondary analysis was conducted with data from a randomised controlled trial examining a computerised intervention that assisted veterans with psychiatric disorders in receiving recommended monitoring for metabolic side effects of second-generation antipsychotic medications (Kreyenbuhl et al., 2016). One appointment from both intervention and control participants were included in the current study.

Setting

Participants were recruited at two VA outpatient psychiatric clinics in the Mid-Atlantic region, USA. Consumer and prescriber participants provided informed consent and were enrolled in the study between March 2010 and October 2011. The Institutional Review Board of the University of Maryland approved the study.

Participants

Consumers were eligible for the study if they were 18–70 years of age; diagnosed with a schizophrenia spectrum disorder, bipolar disorder, major depressive disorder, or post-traumatic stress disorder (PTSD); currently prescribed a second-generation antipsychotic medication by a psychiatrist or nurse practitioner; clinically stable; and able to read at a fourth-grade reading level or higher. Additionally, eligible participants were also required to have had at least two outpatient visits with the prescriber in the year prior to participation. Participating consumers and prescribers also agreed to audio recording of the first regularly scheduled visit after their first exposure to the intervention or control condition during the 1-year study period. Consumers with diagnoses of

dementia, other organic brain syndrome, or traumatic brain injury were excluded.

Of the 240 participants in the study, 175 (73%) had their first medication prescriber visit's post-enrollment audio recorded. Of the 65 participants who were not recorded, the most common reasons were recorder malfunction and participant refusal at the time of the appointment (29% each). Visits were also not recorded due to the presence of non-enrolled family (12%) or non-enrolled prescribers (8%) at the visit, prescriber refusal (3%), or lack of a visit after study enrollment (18%).

Measures

All self-report measures were administered by trained and supervised research assistants with masters-level training in psychology or social work and clinical experience working with individuals with SMI. Assessment administration procedures were unremarkable.

Satisfaction

To assess visit satisfaction, a 19-item questionnaire based on an existing, validated measure of consumer satisfaction (Bertakis et al., 1991) was administered post-session. This measure is designed for use in conjunction with measures assessing consumer–prescriber communication patterns in visit satisfaction research and is frequently used by Roter and colleagues to assess satisfaction with interactions between consumers and their doctors and/or nurses in outpatient care (Agha, Schapira, Laud, McNutt, & Roter, 2009; Cousin, Schmid Mast, Roter, & Hall, 2012; Schmid Mast, Hall, & Roter, 2007). Responses are rated on a 5-point scale (1 = strongly disagree to 5 = strongly agree), such that higher scores represent greater satisfaction with that visit. In this study, the 19 satisfaction items demonstrated good internal consistency reliability (Cronbach's $\alpha = 0.95$,) and were therefore summed to form one satisfaction score (Klingaman et al., 2015).

Therapeutic relationship

To assess the therapeutic relationship, the consumer-rated Scale to Assess the Therapeutic Relationship (STAR-P; Mcguire-Snieckus, McCabe, Catty, Hansson, & Priebe, 2007) was administered at the start of the study. Items on this scale are rated from on a 5-point scale (0 = never to 4 = always), with higher scores indicating better perceived relationship quality. The measure has demonstrated good validity (Mcguire-Snieckus et al., 2007). Based on previous consumer satisfaction research (Klingaman et al., 2015), two subscales were utilised for the current study: positive collaboration subscale (i.e., perceptions of positive rapport, communication of goals, openness, and trust with the provider) and clinician input (i.e., perceptions of encouragement, regard, support, listening, and understanding from the provider).

Communication behaviors

Analysis of the audio-recorded consumer–prescriber visit was conducted using the Roter Interaction Analysis System (RIAS) by coders trained and supervised by the developer of the instrument. The RIAS is a widely used system of coding consumer–prescriber communication and has demonstrated good psychometric properties (Inui, Carter, Kukull, & Haigh, 1982; Mead & Bower, 2000; Roter & Larson, 2002). The system assigns each utterance by the consumer and prescriber one of 41 mutually exclusive and exhaustive categories (RIASWORKS, 2014). Inter-coder reliability for RIAS

categories was good with an average of .929 (range of .829–.987) for prescriber talk composite codes and .948 (range of .850–.996) for consumer talk composite codes.

Per the RIAS system, counts of coded utterances were summed into consumer and prescriber composite codes which indicate the purpose of the communication: facilitation, positive rapport building, emotional rapport building, negative rapport building, social rapport building, procedural, psychosocial, or biomedical communication. The facilitation composite includes requests, reassurance, paraphrasing for comprehension, or queries to check understanding. The positive rapport building composite consists of humor, approval, compliments, and agreement statements. The emotional rapport building composite consists of empathy, legitimation, concern, partnership, reassurance, optimism, and self-disclosure statements. The negative rapport building composite includes communication characterised by disagreement and criticism. The social rapport building code refers to personal remarks. The procedural communication composite consists of administrative or routine procedural statements. The biomedical and psychosocial communication composites consist of statements about each respective topic and were further coded to indicate if the statement represented either a question or information giving statement on the part of the consumer or the prescriber.

Verbal dominance was calculated by dividing the total number of prescriber utterances by the total number of consumer utterances. As such, a verbal dominance score of 1 would indicate equality of utterances in the conversation between the prescriber and consumer, a number above 1 indicates the prescriber spoke more, and a number below 1 indicates the consumer talked more. All RIAS communication categories were standardised to the number of utterances per 15 min to account for session length variability.

Analysis

Variables were assessed for outliers and skewness. Several of the RIAS composites exhibited significant right skew and were log transformed for analysis. The consumer satisfaction scale exhibited significant left skew and was square transformed.

Regression analysis was used to examine the association between consumer satisfaction (dependent variable) and the various prescriber and consumer communication behavior composites (independent variable). The assumption of independent observations, however, was violated in this analysis because clusters of consumers have the same prescriber in common. Hence, a basic linear mixed model with a random prescriber was used to account for the dependence among consumers who had a common prescriber.

Satisfaction level did not reliably differ by study group (all ps > .05) when included in the primary regression analyses and its inclusion did not meaningfully alter any of the estimates. Therefore, the analyses presented below do not include condition.

Results

Sample characteristics

The final consumer sample ($N = 175$) was predominantly African American (47%) or White (46%) males (90%) who had a mean age of 55 [standard deviation (SD) = 8.2 years]. The majority of participants had at least some college education (57%). Prescribers (13 psychiatrists, 8 nurse practitioners) on average had 11 consumers participating in the study (range 3–21). Prescribers were predominantly female (81%) and White (91%). The mean length of each encounter was 20.3 min (SD = 11.4 min).

Table 1. Mean utterances by providers and consumers in a 15-min segment of a medication management encounter.

Talk variable	Provider Mean	Provider SD	Consumer Mean	Consumer SD
Facilitation*	9.38	7.65	47.97	20.71
Rapport				
Positive*	40.47	21.61	31.99	17.99
Emotional	15.13	11.06	13.23	8.46
Negative*	3.56	5.75	1.25	2.24
Social	0.69	2.7	1.01	3.25
Procedural*	10.11	7.68	17.71	11.46
Psychosocial				
Information*	65.67	40.19	15.69	17.45
Questions*	1.06	1.66	14.99	12.58
Biomedical				
Information	42.21	25.85	46.39	30.66
Questions*	4.75	4.66	14.87	10.62
Total talk	193.96	61.68	205.43	60

$N = 175$. Talk variables are categories from the RIAS coding system. For ease of interpretation, the means and standard deviations presented above are the raw rather than transformed numbers.
*$p < .0001$.

Table 1 presents the mean number of utterances for both prescribers and consumers in the current sample for each of the communication categories. In the current sample, prescribers made more facilitation and procedural statements, asked more psychosocial and biomedical questions, and spoke overall more than consumers. These prescribers also made fewer positive rapport, negative rapport, and psychosocial information statements than consumers. Rates of emotional rapport, social rapport, or biomedical information statements were relatively similar between consumers and prescribers. The verbal dominance ratio had a mean of 1.16 (SD = 0.48) indicating prescribers spoke slightly more than consumers on average.

Regression analyses

Neither the prescriber's nor the consumer's communication behaviors (i.e., facilitation, rapport building, procedural, psychosocial, biomedical) were associated with consumer satisfaction, all p's > .05. The associations between the total number of prescriber utterances and consumer utterances were also not associated with consumer satisfaction, p's > .05.

However, the prescriber verbal dominance ratio (ratio of prescriber utterances to consumer utterances) was negatively associated with consumer satisfaction such that consumers were less satisfied when the ratio was greater, $b = -2.10$, SE = 0.59, $p < .001$. This association remained significant after controlling for the length of the session, $b = -1.93$, SE = 0.62, $p = .002$, but it attenuated when models controlled for the quality of the therapeutic relationship (positive collaboration subscale, $b = -1.02$, SE = 0.50, $p = .04$, or the clinician input subscale, $b = -0.84$, SE = 0.47, $p = .08$).

Discussion and conclusion

This research examined the association between consumer–prescriber communication behaviors and consumer satisfaction with SMI medication management encounters. The first finding of this research was that the types of communication (e.g., facilitation, rapport, procedural, psychosocial, and biomedical) did not reliably predict consumer satisfaction. Therefore, the current findings suggest that the category of communication is not important for consumer satisfaction during antipsychotic medication management appointments. Alternatively, the content and type of

communication may be important but perhaps the frequency is less important than the timing of the prescriber communication. That is, it may be more important for prescribers to communicate in a way that is responsive to the needs presented by the consumer at that particular moment rather a one size fits all approach to language use. It is also possible that prescriber communication topics are important for consumer satisfaction but the categorisation was too narrow, broad, or detached from context (e.g., nonverbal behaviors contradicting verbal content) in the current investigation.

Another finding was that the total amount the consumer or prescriber spoke was not predictive of satisfaction, but rather the degree to which the prescriber dominated the conversation was predictive of consumer satisfaction. Consumers with SMI were less satisfied with their medication management visit when their prescriber spoke more than they did. This finding is consistent with what has been observed in medical contexts (Bertakis et al., 1991). Although one might wonder if verbal dominance is the result of rushed appointments in which the prescriber feels pressured to communicate important information, one study found that physicians were even more verbally dominant when visits were longer (Levinson & Roter, 1993) and in fact, the current study found that prescriber verbal dominance continued to predict consumer satisfaction even when controlling for the length of the appointment. Similarly, the association between prescriber verbal dominance and satisfaction remained significant after controlling for consumer ratings of collaboration with their prescriber. Notably, the effect of prescriber verbal dominance was substantially reduced when the clinician input subscale—which includes ratings of how much the consumer felt listened to or heard by their prescriber—was controlled for. Given the importance of medication beliefs and attitudes (e.g., Beck et al., 2011; Clatworthy et al., 2009; Patel et al., 2008), one might wonder if this increased listening gives rise to greater discussion of consumer adherence-interfering concerns. Therefore, one potential recommendation from these findings could be for medication prescribers to spend more of their time listening rather than speaking to their SMI consumers to increase consumer satisfaction. However, another possibility is that verbal dominance does not matter for satisfaction as long as the client feels heard.

It is also possible, however, that the degree of verbal dominance is a sign or signal of broader processes that are leading to satisfaction or dissatisfaction. In other words, prescribers who are more client-centered may exhibit a set of behaviors or attitudes with low verbal dominance being just one behavior consistent with their client-centeredness. Consistent with client-centered theory, an overall client-centered approach to communication may lead to more active consumer involvement, consumer empowerment, and greater met needs, which in turn leads to consumer satisfaction. For example, physicians who are highly verbally dominant report lower levels of respect for consumers (Flickinger et al., 2016) and higher rates of stress (Ratanawongsa et al., 2012), and are rated as less client-centered overall (Laws et al., 2013). In fact, within an SMI population, Salyers, Flanagan, Firmin, and Rollins (2015) found that clinicians who felt burnt out reported listening less to consumers and that burnout was also associated with less consumer satisfaction (also see review article: Morse, Salyers, Rollins, Monroe-DeVita, & Pfahler, 2012). Therefore, it may be that consumers notice signs that their prescribers do not think favorably of them, appear tired or distracted, or are paternalistic, and as a result, consumers are dissatisfied with their visits. Furthermore, this dissatisfaction may have a reciprocal effect in which the consumers react to their dissatisfaction in the moment by speaking less to their prescribers.

Future research could expand the current work by examining global prescriber attitudes in relation to prescriber communication and consumer satisfaction as well as moment-to-moment consumer–prescriber processes that account for context and content of the topics discussed.

In addition, one cannot rule out the possibility that verbal dominance may not actually cause lower satisfaction and that instead there is some other factor may drive the relation between both these factors. For example, some consumers may have a more complicated medical mental health need that results in the prescriber becoming more active out of necessity while these medical issues simultaneously taint the consumers' perspective of their medical encounter. Future research could extend this work by following other areas of medical communication research in examining the role of socially relevant demographics such as gender (Paasche-Orlow & Roter, 2003) as they relate to prescriber–consumer communication for SMI populations. Also, because the communication in the session took place before the consumer rated their satisfaction, it is unlikely that satisfaction led to lower prescriber verbal dominance; however, there could have been carryover from previous encounters. As such, future research could replicate this work at consumer–prescriber encounters earlier in the therapeutic relationship.

As is true with all research, the current study has a number of limitations. The participants in the current study were military veterans with psychiatric disorders receiving antipsychotic medications and as such the current results may not generalise to other mental or medical populations or settings. Also, this research examined VA prescriber communication and it remains possible that their pattern of communication may not generalise to the other providers. Given the relatively small sample size of 175 participants, future replication of these results may be needed. Finally, we have noted already limitations such as the ambiguity of the directionality and causality of effects implicit in the study design as well as limitations of the RIAS coding system and future research may benefit from alternative coding (e.g., Richard & Lussier, 2006) and design strategies.

Conclusions

The frequency of communication behaviors does not appear important for consumer satisfaction. However, imbalanced conversations between prescribers and SMI consumers in which the prescriber dominates the conversational floor is a signal for low consumer satisfaction.

Practice implications

Therefore, one potential recommendation from these findings could be for medication prescribers to spend more of their time listening rather than speaking to their SMI consumers. However, another possibility is that verbal dominance does not matter for satisfaction as long as the client feels heard.

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