Consumer and Provider Responses to a Computerized Version of the Illness Management and Recovery Program

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Abstract

Objective: To explore mental health consumer and provider responses to a computerized version of the Illness Management and Recovery (IMR) program.

Methods: Semi-structured interviews were conducted to gather data from 6 providers and 12 consumers who participated in a computerized prototype of the IMR program. An inductive-consensus-based approach was used to analyze the interview responses.

Results: Qualitative analysis revealed consumers perceived various personal benefits and ease of use afforded by the new technology platform. Consumers also highly valued provider assistance and offered several suggestions to improve the program. The largest perceived barriers to future implementation were lack of computer skills and access to computers. Similarly, IMR providers commented on its ease and convenience, and the reduction of time intensive material preparation. Providers also expressed that the use of technology creates more options for the consumer to access treatment.

Conclusions and Implications for Practice: The technology was acceptable, easy to use and well-liked by consumers and providers. Clinician assistance with technology was viewed as helpful to get clients started with the program, as lack of computer skills and access to computers

was a concern. Access to materials between sessions appears to be desired; however, given perceived barriers of computer skills and computer access, additional supports may be needed for consumers to achieve full benefits of a computerized version of IMR.

Keywords: illness management and recovery, computerized intervention, web-based, consumer usability

Consumer and Provider Responses to a Computerized Version of the Illness Management and Recovery Program

Illness Management and Recovery (IMR) is a comprehensive, curriculum-based approach designed to help people with severe mental illness (SMI) overcome barriers to wellness and accomplish meaningful goals that define their personal recovery (Gingerich & Mueser, 2010). IMR incorporates a combination of approaches to teaching information and skills, including psychoeducation, motivational and cognitive-behavioral strategies, as well empirically supported interventions for illness self-management, including behavioral tailoring for medication adherence, relapse prevention techniques, and coping skills for reducing stress and persistent symptoms. Rigorous research of the IMR program has grown significantly in recent years. Randomized controlled trials have shown IMR to be effective at improving illness management skills (Fardig, Lewander, Melin, Folke, & Fredriksson, 2011), and functional outcomes (Levitt et al., 2009), increasing consumer knowledge, and achieving recovery goals (Hasson-Ohayon, Roe, & Kravetz, 2007).

The standard IMR program includes a toolkit with a variety of resources, including a manual for providers and educational handouts for consumers. Educational materials are typically printed and organized in individual binders, which participants bring to each of the IMR sessions. One way to decrease costs and increase efficiency is to provide a computerized

version of the IMR program. This would eliminate printed material costs and decrease the burden on staff time to create individual binders. Although we envision a computerized IMR program that would still involve oversight by trained mental health providers, such a program may allow agencies to serve a greater number of consumers with fewer staff resources. Further, providing multiple local computer stations hosting IMR's resources and educational materials, or offering a web-based version of the program, would allow immediate access for consumers between sessions. Additionally, the program could be accessed at the agency, the consumer's home, or in the community- wherever there is computer and internet access.

A prototype web-based version of the IMR program, entitled IMR-Web, has recently been developed through NIMH funding (Author & Cite, 2010). IMR-Web adds to a quickly growing body of literature demonstrating feasibility, acceptability and validity of computerized assessment (Wolford et al., 2008) and treatment methods (Brunette et al., 2011; Drake et al., 2010; Rotondi et al., 2010; Rotondi et al., 2007) for people with SMI. Consumer response to these technologies has been favorable (Wolford et al., 2008), and studies have shown that computerized forms of mental health intervention are at least equally as effective as those that occur "in-person" (Brunette et al., 2011; Rotondi et al., 2010). In addition, consumers who use computerized programs that combine assessment and education prior to medication appointments have reported improved communication with their physician (Chinman et al., 2007; Deegan, Rapp, Holter, & Riefer, 2008). A study evaluating the use of a patient information website, where persons with SMI could get information about their illness and other related topics, reported that consumers of mental health services had positive experiences using the computer and internet, but expressed a desire for assistance along the way (Kuosmanen, Jakobsson, Hyttinen, Koivunen, & Välimäki, 2010).

Methods

Participants

Six providers who were already doing IMR were recruited from an urban Midwestern community mental health center (CMHC) to test the IMR-Web program. Each provider approached 2 consumers on their treatment teams to describe the study and obtain an initial agreement to participate (overall 12 consumers). If a consumer agreed, a research assistant met individually to further explain the study, answer questions, and obtain written informed consent. Participants were at least 18 years old, diagnosed with a severe mental illness, such as schizophrenia, bipolar disorder or major depression, interested in trying the IMR-Web program, and willing to participate in a program evaluation. All consumers approached by the providers agreed to participate.

Seven female (58%) and five male consumers participated. The median age of the consumers was 52.5 years (SD=10.1 years). Ten (83%) self-reported as Caucasian race, 1 (8%) as African-American, and 1 (8%) as Native American. Six (50%) reported completing high school, four (33%) reported having some college, 1 (8%) reported some high school, and for one (8%) the information was not available. Six (50%) had a diagnosis of schizophrenia-spectrum disorder and 6 (50%) had been diagnosed with major depression according to medical record. Although providers were asked to identify one consumer who was new to IMR and one consumer who already had some experience with IMR, 10 of the 12 (83%) participants recruited had either previously completed or were currently participating in the IMR program using the manualized/paper version. The study site has a long history of providing IMR and targets nearly every consumer as a potential candidate for receiving IMR, therefore recruiting consumers

without IMR exposure was difficult. Six providers participated in the study, four (67%) were female, and all were Caucasian.

Procedures

The qualitative evaluation used semi-structured interviews to elicit feedback from providers and consumer participants. Consumers received eight weekly sessions of IMR-Web. Providers performed in-home visits and brought laptops provided by the study loaded with the program. Session times varied in duration, generally ranging from 30 minutes to an hour. Surveys and an interview were administered by a research assistant with each participant individually in a private setting of their choice (for consumers home or the CMHC; for providers in the CMHC). Although we did not assess fidelity to IMR during this prototype pilot, the CMHC has good IMR fidelity (most recent fidelity score = 4.0 out of 5). IMR providers at the CMHC have been trained in IMR, Motivational Interviewing and Cognitive Behavioral techniques, and participate in weekly peer supervision. Procedures were approved by the University's Institutional Review Board.

Data Analysis

We used a consensus-based, interpretive approach to qualitative analysis based on grounded theory (Charmaz, 2006) and other qualitative techniques (Crabtree & Miller, 1999; Miles & Huberman, 1994). Two members of the research team reviewed two transcripts independently to begin an open coding process to identify initial themes in the data. Meetings were held to discuss ideas and to develop an initial coding structure. Subsequently, two more transcripts were reviewed individually and discussed as a team. After four of the interview transcripts were reviewed and discussed, a coding scheme was constructed to use on all of the

transcripts. After all were coded, individual quotes were extracted that represented and clarified the meaning behind the themes.

Results

Provider Involvement

One aspect of IMR-Web that consumers found valuable was the presence of the provider during the session. The provider and the consumer would interact with the material side-by-side at the computer. Several of the participants talked about how helpful it was to have the provider there to assist with using the computer and navigating the program format. One consumer said "I wasn't totally on my own…providers should be there to help clients use the equipment…the client may not understand how to work things out, and that's what the providers are there for." Some consumers also indicated that they might be able to do IMR-Web alone if someone showed them how to get started. One consumer suggested that a provider might just need to be available for a question: "…if I'm going through it enough with some help, I think I can pretty much get it on my own even. As long as I could go ask somebody a question, if I got stuck."

Providers reported similar feelings- that having the clinician there helps those who need some guidance using the computer or navigating the system. One provider stated "…once I explained it and coached him through it, he was comfortable with it," and another provider said "I feel like the program needed a clinician to navigate the system- just because the different assessments and things, [with] the flow of the program."

Personal Benefits

Consumers described a variety of ways in which IMR-Web helped them personally. Most consumers (n=8) mentioned learning new things in the program. Some in more general terms (e.g., "you're able to grow more"), while others mentioned more specific gains, such as learning about one's disability, learning how to meet new people, and developing computer skills. One participant reported that "I felt I knew myself better after using it. I learned areas where I needed improvement and where I felt confident and which areas I felt I had pretty well under control." Another participant thought that the computer-based IMR program could help people whether "they were suffering with mental health issues or not, there's a lot of valuable helpful information in there that could help anyone improve the way they lead their life."

Providers administering IMR-Web with consumers also described how the program benefitted consumers. One clinician stated: "It prompts for the person's goals to come up every time; what their goals were; what their steps were to achieve the goals. It also prompts for homework." Another clinician noted: "And one client also gave me feedback that it was kind of fun to do it that way as opposed to just sitting there and reading."

Convenience and Accessibility

There were several aspects of IMR-Web that consumers found user-friendly, which increased the availability and access of the IMR materials. Almost half of the participants noted how quick and easy it was to do the computer-based IMR modules. One participant reported: "It is real fast and easy to do that [use the computer]. Instead of flipping through books and papers and things and writing everything down, dotting I's and T's and all that …more time to talk while provider [types] than writing [in a] book." Others felt that it was easier, simply because it was on a computer, and that made it faster to get through, and less stressful to use.

Another positive aspect commented on by several consumers was that the language used in the IMR-Web modules was simple and easy to understand. For example, one participant stated: "I could understand all the words…they didn't go into all psychobabble about it. It was like real English."

Providers offered a personal perspective on how the program was easier on their workload. One provider noted: "It cuts down on prep time. Not having to sticky note what pages I need to run copies of to prep for a session. Not having to go pull a chart and look to see where I left off on the previous session. All I need is my computer," and another clinician commented on the potential reduction of cost: "It just cuts down on labor costs, potentially cuts down on paper and ink costs. It saves time."

Elements of IMR

In addition to provider involvement, personal benefits, and accessibility, consumers also described elements they liked about the IMR-Web computerized materials. "With the questions on the screen I could look at them at the same time as he was and so in that way it kind of kept me more focused." A few people liked using the computer as part of the session. For one participant, the multi-modal learning was important "Compared to just talking, I found the combination of talking and writing…and typing it in very helpful."

One clinician also mentioned the concept of focus by using the computer. "Using it on the computer, people maintaining their focus, I think they'll learn more, they'll retain more… it wouldn't be a chore." In addition, the same clinician reported the computer seemed to add ease and enjoyment to the process of doing IMR. "It's more fun on the computer from what I could

tell with people and for me. I think they could more easily complete the homework, more easily retain the information- making it something that's fun to do."

Recommended Improvements

When asked how IMR-Web could be improved, one concern was that IMR-Web could be repetitive. "It seemed like I had just answered it…maybe it was asking it in a different way," while another consumer said that that the repetition might be more noticeable if someone "has been through the IMR program," but if someone were new to IMR "it is also a plus because one person might need all of that and everything, and for someone else … they might be better served by moving on, rather than doing this much."

Some consumers felt that the brevity of the modules in the Web version affected the IMR program. The modules tailored for the pilot web version were shorter in an attempt to make the material more concise. However, not all of the consumers thought this was best. One participant said that the program could be improved "If there are longer sessions and more in detail." A similar comment was made by another consumer, including some remedies: "maybe have a little more detail, a little more explanations, maybe a couple more examples."

Lastly, there were comments about the desire to have hard copies, or access to the materials, homework, or other reminders between sessions. Notably, this is not a limitation of the IMR-Web program itself, but in our pilot version we did not have access to printers with the laptops to print the generated reports. One participant noted, "One thing I found difficult about it was…because I didn't have any paper printouts, if I want to go back and look at something, especially if I'm having a hard time … I didn't have the paper work to just grab them and look through it to help review." Two providers offered similar insights. One clinician suggested it

would be helpful if consumers could have "the availability of the written copies. You know, being able to print the stuff out right then" and another clinician stated that maybe having external access - outside of the session, would be helpful. "I think it would be good if they could get on the computer and do it themselves…they would get into it a little deeper."

How IMR-Web Compares to the Paper Version

Ten of the consumers had previous IMR experience using the paper format prior to the IMR-Web trial. When comparing IMR-Web to the original version, five explicitly preferred the computer, generally stating that the IMR-Web version was quicker and/or easier. However, two of them also said that they would like to have the ability to review materials between sessions. This is one aspect of the IMR-Web program that will be addressed in the next iteration. Three consumers preferred the original IMR version on paper, one primarily because he had limited computer skills and no access to a computer to review IMR materials in-between the session if desired, but said "If I owned a PC …I'd probably give you a different answer". The other two believed that the paper version of IMR had more detail.

All but one provider reported preferring the computer version of IMR. One clinician stated that it improved the consumer focus, saying, "They might drift off cause I've found that happening before with paper." A second provider reported on how it helps the session flow and how the program kept interest in the treatment: "I think it's more efficient. Like I said it helps with the flow of the interview. I think the clients that I did it with they both really liked it. They felt like it was, you know, something neat, different." The provider that did not prefer the computer said that he wanted both options present, that they both had value, but it would depend on what the consumer preferred. One difference that favored the paper version of IMR was the

inclusion of consumer testimonials, as one provider noted, “some of the quotes and testimonials from the IMR notebook could be included in the software.”

Impact of IMR-Web on mental health services - Improving mental health services

One consumer reported that she did not know how to answer the question of whether IMR-Web could improve mental health service; however, the other 11 participants did report that the program could have a positive impact. Similar to previous themes discussed, several consumers talked about the benefit of learning new things through the program. For example, one consumer reported “I have learned truths by going through IMR… it helped me deal with so many things". Four people focused on how the program would increase access to and involvement in services. Another consumer thought that “more people would be able to go to it for help” and another said “I think it would open a whole new world. Everyone would have access to the information.”

Impact of IMR-Web on mental health services - Barriers to implementation of IMR-Web

Participants were asked what they perceived as the potential barriers to implementing IMR-Web at mental health centers. Although the program was intended to be delivered with a provider present, there was wide convergence (ten of twelve participants) describing the importance of requisite computer skills to navigate the program materials, or have access to computers in-between sessions. One participant mentioned “I would like to learn how to use the computer. I was never any good at typing” and another stated “Because for some people, I don’t think they could do it. And then there’s the ones that would be capable of functioning with the computer and understanding what was being said and then could answer. But, it would depend on the person and the ability.”

Clinicians reported potential barriers as access to computers and skills for using them, as well as reading skills. One clinician stated: "If clients that had reading barriers or something that would be an issue," and two clinicians noted that the agency implementing would have to make a financial commitment to laptops or portable devices for the staff to do community-based IMR-Web. "Making sure that an agency was on board with making that financial investment to get everybody, staff, you know, that were trained in IMR a computer that functions quickly and well."

Discussion

Both providers and consumers had a positive response to IMR-Web. They liked the convenience and accessibility of the program, and they emphasized personal benefits of increased learning and being more actively involved in the process. Consumers also described specific ways in which they believed IMR-Web could improve mental health services. Although other computer-based interventions have previously reported likeability in the literature (Chinman et al., 2007), we were interested to find out if consumers would like IMR-Web more than the paper version to which they were accustomed. All of the consumers reported having a positive experience with the program. For those with previous IMR experience, half expressed strong preference for the new IMR-Web version, often because it was perceived to be quicker or easier to use.

The IMR-Web prototype, setting it apart from many other mental health computer interventions, is designed so providers and consumers work together to complete the program. In contrast, other programs have involved a computer kiosk that consumers use independently prior to an appointment with a provider (Chinman et al., 2007). In the CommonGround program

(Deegan, 2010), peers are present to help consumers navigate the program prior to seeing the provider. Consumers in our study appreciated the presence of someone working with them, although some consumers suggested that once they learned the program, they felt they could do it independently.

It will be important to remove barriers of computer and internet access in agencies seeking to implement IMR-Web. For the study, providers carried laptops to appointments, but other agencies may not have laptop availability. Future implementation of IMR-Web will require implementation plans specific to the needs and resources of the agency setting to ensure feasibility of IMR-Web use. Consumers frequently mentioned lack of computer skills and access to computers when asked about continued use of the program beyond the study. Because the next phase of IMR-Web aims to provide supplemental program materials, review materials, and reminders to consumers for additional practice between sessions via the internet, computer skills and access will be important factors for agencies to consider.

Limitations

This study had several limitations. One limitation is that these were short-term observations with limited time for data collection. We initially set out to recruit an equal number of consumers with previous IMR experience and no previous experience. However, because more participants were recruited who had prior IMR experience, responses may not adequately reflect the views of consumers new to IMR, and the likeability of the software could have been influenced by previous exposure. Additionally, we had a small number of participants in this study, which under-represents the voices of those with SMI.

Conclusion

Our study shows how consumer feedback can be used to provide guidance in using and improving technology to deliver treatment interventions. This information can also help us to further understand consumers' relationship with technology so that we can remove barriers that could prevent integration of technology into treatment. Even in the presence of technology that was viewed as helpful, efficient, and personally beneficial, the role of the provider is still highly valued. In addition, future self-management programs like IMR-Web will need to ensure access to materials between sessions and at home to maximize retention and utility.

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