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Title

Evaluating the Feasibility and Potential Impacts of a Recovery-Oriented Psychosocial Rehabilitation Toolkit in a Health Care Setting in Kenya: A Mixed-Methods Study

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Abstract

Objectives: This pilot study evaluated the feasibility and potential impacts of delivering the Psychosocial Rehabilitation Toolkit for people with serious mental illness within a health care setting in Kenya.

Methods: This study used a convergent mixed methods design. Participants were people with serious mental illness (n=23), each with an accompanying family member, who were outpatients of a hospital or satellite clinic in semi-rural Kenya. The intervention consisted of 14 weekly group sessions of psychosocial rehabilitation co-facilitated by health care professionals and peers with mental illness. Quantitative data was collected from patients and family members using validated outcome measures before and after the intervention. Qualitative data was collected from focus groups with patients and family members, and individual interviews with facilitators, after the intervention.

Results: Quantitative findings indicated that patients experienced moderate improvement in illness management and, in contrast to qualitative findings, family members experienced moderate worsening in attitudes towards recovery. Qualitative findings revealed positive outcomes for both patients and family members, as reflected in greater feelings of hope and mobilization to reduce stigma. Factors that facilitated participation included: helpful and accessible learning materials; committed and involved stakeholders; and flexible solutions to promote continued involvement.

Conclusions and Implications for Practice: This pilot study found that delivery of the Psychosocial Rehabilitation Toolkit was feasible within a health care setting in Kenya and associated with overall positive outcomes among patients with serious mental illness. Further research on its effectiveness on a larger scale and using culturally validated measures is needed.

Impact and Implications

This pilot study examined the feasibility and potential impacts of a psychosocial rehabilitation program for people with serious mental illness within a health care setting in Kenya. The program provided a more engaged and inclusive approach to mental health services, through which patients experienced a sense of possibility for their future lives and stakeholders became advocates for mental health recovery within their communities. Study findings also indicated improvements in recovery and increased connections with community among patients, and discussion of opportunities for improving mental health service delivery among stakeholders.

Main Text

Introduction

Background

Mental illness is the leading cause of life-years lost due to disability worldwide (Murray et al., 2012, 2015; Whiteford et al., 2013). In low- and middle-income countries (LMICs), the majority of people living with serious mental illness do not receive mental health care (Alonso et al., 2018; Demyttenaere et al., 2004; Thornicroft et al., 2017). These gaps in care often stem from a lack of investment in resources dedicated to mental health, as well as inefficient and inequitable distribution of existing resources (Kohn et al., 2004; Saxena et al., 2007). Common issues with mental health care in LMICs include a limited number of mental health professionals, a lack of specialized mental health facilities, insufficient mental health training, and high patient loads (Docrat et al., 2020; Rathod et al., 2017). As a result, LMICs experience considerable disparities in the availability, accessibility, and quality of mental health services relative to high-income countries (World Health Organization, 2012, 2021). People in LMICs generally receive minimal social supports related to income, housing, and employment, and often experience social determinants of poor health including poverty, displacement, and conflict (Bass et al., 2012; Becker & Kleinman, 2013). These systemic factors also require consideration when working to improve mental health care in LMICs (Collins et al., 2013; Patel et al., 2018). Accordingly, The Lancet Commission on global mental health and sustainable development proposed that the burden of mental disorders be addressed by reducing gaps in prevention, treatment, and quality of mental health services, as well as expanding the scope of services to include social care (Patel et al., 2018).

Among the innovative approaches recommended by The Lancet Commission to address the global burden of mental disorders, two strategies are particularly relevant to LMICs: (1) community-based interventions that enhance the demand for care; and (2) psychosocial interventions that task-share with non-specialized workers (Patel et al., 2018). Community-based psychosocial interventions have previously been recommended as feasible and flexible methods to aid in mental health recovery in LMICs (Collins et al., 2013; Patel et al., 2013), and have demonstrated effectiveness in improving symptoms and functioning of people with serious mental illnesses in these settings (Asher et al., 2017). Psychosocial rehabilitation is a set of ethics, competencies, and evidence-based practices designed to promote recovery (Cnaan et al., 1988; PSR/RPS Canada, 2017). Recovery has been defined as “a deeply personal, unique process of changing one’s attitudes, values, feelings, goals, skills and/or roles” (Anthony, 1993), and it is considered both the process and desired outcome of psychosocial rehabilitation (Mental Health Commission of Canada, 2015). Beyond improvement in a person’s overall health and wellbeing, recovery implies full integration within communities of choice and equal participation in the various aspects of community life, including family, housing, education, and employment (Deegan, 1996, 1997; Leamy et al., 2011). Thus, psychosocial rehabilitation supports people with mental illness by encouraging development of skills and access to resources that can enhance their capacity to be successful and satisfied in their living, working, learning, and social environments (Mental Health Commission of Canada, 2015; PSR/RPS Canada, 2017).

In Kenya, one in four people who seek health care also have a mental illness, and rates of substance and alcohol misuse have been rising (World Health Organization, 2021). Similar to other LMICs, Kenya has a severe shortage of specialists, facilities, training, and resources to provide adequate care for people with these disorders (Ndeti et al., 2007; Ndeti & Meyer,

2016). The gaps in care for mental health in Kenya may also be related to prominent stigma and oppression associated with mental illness, which arises from perceptions of the public, family members, and even oneself (Ndetei, 2008; Ndetei & Meyer, 2016). While Kenya does not have a specific budget for mental health services, there is growing interest in improving the overall health of its citizens (Kiima & Jenkins, 2010; Marangu et al., 2014; Ndetei & Meyer, 2016). Consequently, there is an urgent need to implement rehabilitation services, within both the community and health care settings, in order to effectively treat and support individuals with serious mental illnesses and their family members.

Objectives

The PSR Toolkit is an intervention in recovery-oriented, group-based, facilitated psychosocial rehabilitation that was developed using current best evidence and practices with input from a range of stakeholders (Citation masked for review). Initially, the PSR Toolkit was delivered to employees of a work integrated social enterprise as part of the Community Recovery Achieved Through Entrepreneurism (CREATE) Kenya project (Citation masked for review). Employees of Point Tech Solutions, the work integrated social enterprise, were people with serious mental illness living within the community in Machakos, a semi-rural region of Kenya. The intervention was facilitated by local health professionals who were trained by co-creators of the PSR Toolkit, including a Canadian occupational therapist with expertise in recovery-oriented psychosocial rehabilitation training and a Canadian academic psychiatrist with expertise in recovery-oriented interventions.

The current study was developed when facilitators from the CREATE Kenya project suggested that delivery of the PSR Toolkit not be limited to employees of the work integrated social enterprise, and that these employees be given the opportunity to help facilitate its future

delivery. Therefore, the purpose of this pilot study was to evaluate the implementation of the PSR Toolkit within a tertiary hospital and satellite clinic in Machakos, with regards to: (1) its feasibility; (2) its potential impacts; and (3) the design, delivery, and contextual factors that influenced participant experience.

Methods

Design and Procedure

This pilot study employed a convergent mixed methods design. The PSR Toolkit intervention was delivered to all participants (patients with serious mental illness), and assessments were conducted before and after the intervention (Time 1 and Time 2, respectively). Participants were allocated to one of three groups that were staggered according to their availability: Group 1 was initiated in summer 2017, Group 2 in fall 2017, and Group 3 in spring 2018. Quantitative data collection involved participants and their family members completing validated outcome measures at Time 1 and Time 2. Qualitative data collection involved focus groups with participants and family members, and individual interviews with PSR Toolkit facilitators, which occurred at Time 2. The study protocol was approved by the respective research ethics review panels at Western University in Canada and Maseno University in Kenya.

Setting and Participants

This study was conducted at two sites providing mental health services in Machakos, Kenya: the Machakos Level 5 Hospital and the affiliated Mutituni Level 3 Outreach Clinic. Participants were eligible for inclusion if they met all of the following criteria: (1) between the ages of 18 and 60 years; (2) registered as a patient at one of the two medical sites; (3) diagnosed with a serious mental illness including but not limited to schizophrenia spectrum disorder, bipolar disorder, major depressive disorder, and severe anxiety disorders; and (4) able to provide informed written

consent in their preferred language (English, Swahili, or Kamba). One family member for each participant was eligible for inclusion in the study, with consent of the participant.

The main modes of recruitment were posters, information sessions, and unbiased introduction to the study by clinicians in the patient's circle of care. Patients who expressed interest in the study met with a trained research assistant to receive a detailed explanation of the study in their preferred language. The research assistant determined the patient's eligibility, including capacity to consent by assessing their ability to comprehend the study information, particularly the benefits and risks of the study. Based on previous experiences of PSR Toolkit facilitators, an optimal number of 8-10 participants per group was determined; this sample size can be considered adequate in terms of evaluating feasibility in a pilot study (Leon et al., 2011).

Intervention

The intervention consisted of 14 weekly group sessions of psychosocial rehabilitation, which each lasted between 1.5 to 2.5 hours. The first 4 sessions utilized psychoeducational materials geared to help participants learn about serious mental illness and its impact on individuals' daily life. The subsequent 10 sessions involved individualized skills-training modules to support self-management of these illnesses: goal setting, wellness recovery plan, healthy living habits, developing social supports, crisis management, relapse prevention planning, and workplace skills. Sessions primarily consisted of didactic teaching (50-70%), followed by facilitated discussion on applying the knowledge and skills being taught (30-50%). Family members attended 2 sessions that were focused on building social supports for people with serious mental illness, given their role in providing and maintaining these supports.

Each group was facilitated by at least one mental health care professional from the Machakos Level 5 Hospital, which included psychiatric nurses, a social worker, and an

occupational therapist. Health care facilitators volunteered as part of their professional role and were provided a stipend to cover additional expenses related to their involvement in the study, including travel costs. These facilitators had previously undergone PSR Toolkit training as part of the CREATE Kenya project (Citation masked for review). Groups were co-facilitated by a peer with lived experience of mental illness, who received an honourarium to support their involvement in the study. Peer facilitators were recipients of the inaugural delivery of the PSR Toolkit as part of the CREATE Kenya project (Citation masked for review).

Analysis

The data analysis used an iterative review process to integrate the quantitative and qualitative findings (Fetters et al., 2013; Guetterman et al., 2015). Members of the research team completed separate analyses of the quantitative and qualitative data, and then reviewed both sets of findings together, such that learning from one set of data was used to inform and raise questions relative to the other.

Quantitative Data Collection Tools

The following questionnaires, which were translated from English to Swahili and Kamba, were completed at Time 1 and Time 2:

Illness Management and Recovery Scale (IMRS) (Mueser et al., 2006): The IMRS consists of 15 items developed to monitor progress towards recovery and better illness management. Each item is rated from 1 (worst) to 5 (best), and these scores are used to generate a total mean score; higher scores indicate improvement in management of and recovery from illness. Research has established validity and reliability of the IMRS among populations with serious mental illness (Färdig et al., 2011; Hasson-Ohayon et al., 2008). Only participants completed the IMRS.

Recovery Attitudes Questionnaire (RAQ-16) (Borkin et al., 2000): The RAQ-16 consists of 16 questions designed to identify beliefs and attitudes about recovery from concurrent disorders. Each question is rated from 1 (best) to 5 (worst), and these scores are used to generate a total mean score; higher scores indicate worsening attitudes towards recovery. Research has established validity and reliability of the RAQ in a mental health services setting (Chiba et al., 2016). Both participants and family members completed the RAQ-16.

Recovery Self-Assessment (RSA) (O'Connell et al., 2005): The RSA is a validated questionnaire that evaluates the degree to which programs implement recovery-oriented practices. Each question is rated from 1 (worst) to 5 (best), and these scores are used to generate a total mean score; higher scores indicate improvement in recovery-oriented practices. Participants completed the abbreviated 12-item client version, which has been validated (Barbic et al., 2015), while family members completed the traditional 36-item family member version.

World Health Organization Quality of Life Scale - Brief (WHOQOL-BREF) (Skevington et al., 2004): The WHOQOL-BREF assesses an individual's perception of the quality of their life in the domains of physical health, psychological health, social relationships, and environment in the context of their culture and value systems. Total scores in each domain are transformed onto a 100-point scale, with higher scores indicating improvement in quality of life. Research has established the validity and reliability of the tool (Skevington et al., 2004), and it has been used to assess quality of life in Kenya (Lund et al., 2013). Only participants completed the WHOQOL-BREF.

Descriptive statistics were conducted to summarize sociodemographic characteristics of all participants. Continuous variables were summarized as means and standard deviations (SD), and count variables were summarized as frequencies and percentages. Paired t-tests were

conducted to assess changes in quantitative measures within subjects from Time 1 to Time 2; significance level was set at $p < 0.05$ based on two-tailed tests. Test results were summarized as mean differences with accompanying 95% confidence intervals (95% CI) and p-values.

Statistical analysis was conducted using Stata 16 statistical software (StataCorp. 2017. College Station, TX: StataCorp LLC).

Qualitative Data Collection Sources

Participants and their family members participated in separate focus groups, and facilitators engaged individual interviews, at Time 2. Focus groups and interviews were facilitated by a Kenyan research assistant in a semi-structured fashion, and were conducted in both Swahili and Kamba. The overarching intent of the inquiry was to consider the potential impact of the PSR Toolkit on the lives of participants by asking the following questions: (1) how does participation in the Toolkit impact the lives of people with serious mental illness and their families?; (2) what design and delivery factors influence participants' experience of the Toolkit?; and (3) what broader contextual factors influence participants' experience of the Toolkit?

Focus groups and interviews were recorded and transcribed. Data were analyzed using framework analysis, which is a qualitative methodology that draws upon principles from various epistemological traditions within the social sciences (Gale et al., 2013; Srivastava et al., 2009). Framework analysis offers an established and structured approach to manage, analyze, and synthesize qualitative data across five stages: (1) conducting multiple readings of the transcripts to gain familiarization with the data; (2) developing a theoretical framework by identifying recurrent and important themes; (3) indexing and charting the data; (4) summarizing the data within the analytical framework; and (5) synthesizing the data through mapping and interpretation.

Results

Sample Characteristics

Initially, 27 pairs of participants and their respective family members (n=54) were recruited. All participants were outpatients during the study, although nearly 90% had at least one prior inpatient psychiatric admission at the Machakos Level 5 Hospital. Four pairs withdrew from the study and were lost to follow-up, yielding a final sample of 24 pairs (n=48). Group 1 consisted of 7 pairs (n=14), with 2 health care facilitators and 1 peer facilitator. Group 2 consisted of 9 pairs (n=18), with 1 health care facilitator and 1 peer facilitator. Group 3 consisted of 7 pairs (n=14), with 3 health care facilitators and 1 peer facilitator. Participant attendance across the 14 sessions was 80% or higher for each of the groups. Sociodemographic characteristics of participants and family members are listed in Tables 1 and 2, respectively. Complete data for these variables were only available for 23 participants and 22 family members.

Quantitative Findings

Descriptive statistics of outcome measure scores and results of statistical tests are summarized in Table 3. Complete data for quantitative measures at Time 1 and Time 2 were only available for 22 participants and 21 family members. Participants experienced moderate, statistically significant increases on the IMRS (0.56, 95% CI 0.17-0.94, $p=0.007$), indicative of improved management of and recovery from mental illness. Family members experienced a moderate, statistically significant increase on the RAQ-16 (6.48, 95% CI 2.82-10.1, $p=0.001$), consistent with worsening of attitudes towards recovery. All other changes were small and not statistically significant.

Qualitative Findings

The following section of the paper examines qualitative findings in relation to each of the three research questions:

1. How does participation in the Toolkit impact participants' lives?

We identified two subthemes which indicated that engaging with the content of the PSR Toolkit: (1) engendered a sense of hope and possibility among participants; and (2) mobilized stakeholders to address the impact of stigmatization within their community.

The first subtheme speaks to the impact of living in line with learned concepts of recovery that offer a sense of possibility for the future. For example, one participant noted, "I am no longer scared about life because it [the Toolkit] gave me hope" (Group C, p10). As well, a peer facilitator said, "Sharing my experience has been very encouraging...just talking to others and getting their questions it has really helped. You realize that there is something small that you can do and you have done and that encourages you to feel good" (AN, p6). Upon witnessing the positive outcomes from former Toolkit participants, a health care facilitator reflected that it inspired them and "gave us courage to begin [to recruit new] participants...who may be at the beginning of their recovery journey" (AK, p3). This implies that early positive outcomes engendered a new sense of hope among health care facilitators for participants who may have significant challenges in the early stages of recovery.

The second subtheme describes interdependence as a springboard for mental health advocacy and addressing stigmatization. Participants supported and challenged each other as they worked together to apply the learning from the Toolkit and became advocates in addressing stigmatization in the local community. A health care facilitator noted that they had begun "encouraging [participants] to talk to the community and especially to go to places like the

chief's bazar where the community converges for meetings" (AK, p5-6), emphasizing that people in recovery should also be seen and heard in these places. This facilitator believed that the community will recognize that "these people [with mental illness] can talk like us, they also behave like us", and even anticipated that "with time the stigma may stop" (AK, p5-6). By enacting a collaborative culture of recovery among patients, family members, and health care professionals, along with the demonstrated initial success of prior participants of the PSR Toolkit (Citation masked for review), stakeholders took on new roles advocating for positive change for people living with mental illness in their local community. As such, these interdependent actors and actions served to promote community inclusion and reduce the impact of stigmatization.

2. What design and delivery factors influence participants' experience of the Toolkit?

We identified three subthemes that examined the need for: (1) committed and involved stakeholders, including peer involvement; (2) helpful and accessible learning materials; and (3) flexible, local solutions to promote continued involvement in the Toolkit for participants and their families.

The first subtheme speaks to the experience of how committed and involved stakeholders uniquely contributed to the successes associated with the intervention. A family member talked about the fact that everyone played a role in the change process, remarking that their role was one of support for their relative with mental illness and that they were planning to "keep encouraging him" (Group A, p6). According to a health care facilitator, there were mutual benefits associated with implementing the intervention, stating that "I have benefited...and other people have benefited through me" (MK, p8). In addition, peer involvement in the delivery of the Toolkit material was valued, and peer facilitators appreciated that they could support the recovery process with others from a lived experience perspective. As one peer facilitator noted,

“it was good because first I have the experience of dealing with mental illness and now [I have] the information about the medications and [I] know the patients” (Group B, p3).

The second subtheme speaks to the need for helpful, accessible, and language-sensitive learning materials. A family member remarked that “there are a few words that we did not understand” (Group C, p12) and recommended adding a reference section at the back for future learning. Design factors associated with the Toolkit that were particularly motivating included messages of possibility and strategies for managing symptoms to allow for engaging in daily activities. One family member noted that the Toolkit had “given our sick members confidence in life and do their normal duties” (Group B, p4).

The third subtheme speaks to the need of offering unique solutions for each local group to ensure continued participation with the Toolkit. According to one health care facilitator, offering local Toolkit groups as close to the community as possible would be a useful solution (AM, p3). They noted that financial incentives for transportation and food may be necessary to support participation for patients, family members, and health care professionals, and recommended that transportation cost less than 100 shillings (AM, p3). Another health care facilitator suggested that Toolkit groups occur on market days, as it could reduce the transportation burden for family members (SN, p2). This facilitator also noted that an effective way to accommodate varying cognitive capacities is through the use of discussions to help participants apply the learning, and offering additional one-on-one time where possible (SN, p2). As noted by a peer facilitator, establishing an opportunity for support “from a friend in the group if not doing well” (Group A, p8) is an essential design feature to promote success.

3. What broader contextual factors influence participants' experience of the Toolkit?

This theme speaks to the need for support at the community level for: (1) mental health service development, broadly; and (2) for the Toolkit implementation, specifically.

One health care facilitator described how “[mental health] services currently are largely ignored and need government support” (AK, p1). This focus on the higher-level change intersects with themes from the first research question, which calls for community engagement to effect this change. When speaking about the Toolkit specifically, another health care facilitator commented on the intersection with the local social-political-economic-cultural climate. They noted that they “would recommend [the Toolkit] to others but it is difficult to launch”, as it needs to be run with hospital support (AM, p8). As well, they noted that facilitators need release from their duties at the hospital, so they can have time to support the Toolkit work (AM, p8). This comment highlights that sustainability of the PSR Toolkit implementation may be an issue without consistent community support.

Financial pressures for people with lived experience of mental illness within a LMIC context demands that mental health programming offers a way to help people gain and keep some source of income generation. Participants noted that the initial linking of the PSR Toolkit with a social business offered new possibilities for recovery, including economic security for participants. In support of promoting economic security, although outside the scope of this project, a participant suggested that “I would like you to give us a go ahead like a loan so that we can start our own businesses” (Group B, p5). Therefore, stakeholders seem particularly interested in economic security as an essential component of their recovery.

Discussion

Strengths

This pilot study evaluated the feasibility of implementing the PSR Toolkit, a recovery-oriented psychosocial rehabilitation intervention for people with serious mental illness in LMICs. When designing and delivering mental health interventions in LMICs, it is critical to utilize existing resources, reflect cultural contexts, and incorporate a public health approach (Collins et al., 2011; Lund et al., 2011; Qureshi et al., 2021; White & Sashidharan, 2014). The concept of “recovery”, however, has been criticized as a Western concept that may require adjustment for societies that are more collectivist and interdependent (Tse & Ng, 2014). In order to help bridge “cultural gaps”, it has been suggested involving “service users” and “family or concerned significant others” in the process of developing interventions (Tse & Ng, 2014). Accordingly, we directly collaborated with patients and their family members, as well as health care professionals, when developing the PSR Toolkit content and in delivering the material. The credibility and uptake of the Toolkit appears to have been enhanced by providing multiple opportunities for co-creation, and showing people with lived experience of mental illness as effective and supportive stakeholders. Notably, several of the primary beneficiaries of the PSR Toolkit from both the current and initial studies continued meeting to review and discuss the PSR Toolkit content as part of a registered self-help and advocacy group in Machakos.

We also examined the potential impacts of the Toolkit on patients, their family members, and health care professionals in terms of recovery from mental illness, attitudes towards recovery, and quality of life. Among patients, we found that the PSR Toolkit was associated with improvements in recovery and positive changes in attitude towards their rehabilitation process. The Lancet Commission on global mental health and sustainable development has recommended

improving the availability of psychosocial interventions to facilitate acquisition of self-management skills and enable social circumstances for recovery (Patel et al., 2018). Patients described the experience of emerging recovery processes both from independent and interdependent perspectives, and were able to identify and apply personal strategies for wellbeing. Patients also highlighted concepts such as connectedness, hope, identity, meaning, and empowerment, which aligns with the CHIME framework of personal recovery processes in mental health (Leamy et al., 2011). This framework noted that among Black and other minority ethnic groups in high-income countries, collectivist notions of recovery and other culturally-specific factors were important to the recovery process, in addition to a greater emphasis on spirituality and stigma (Leamy et al., 2011). A recent review on the concept of recovery and facilitating factors in LMICs similarly found three themes: (1) recovery as a personal journey occurring along a continuum; (2) emphasis on social relationships as a facilitator; and (3) spirituality as both a facilitator and an indicator of recovery (Gamielidien et al., 2021). However, these findings are based on sparse evidence, including only one study conducted on the African continent. Further research is needed on the applicability of the CHIME framework in LMICs such as Kenya and/or the development of a unique framework of recovery from serious mental illness in these settings.

Currently, peers with lived experience have not been fully accepted as a component of the mental health workforce (Byrne et al., 2018). It has been contended, however, that peer involvement “may be scaled up to reduce the treatment gap and reduce the pitfalls of Global Mental Health” (Puschner, 2018). We observed that trained peer facilitators proved to be a strong asset to the PSR Toolkit by naturally supporting the participants within the group and in the community. These peers garnered much respect from stakeholders including health care

professionals as they took on new roles within the community, such as being advocates and facilitators for mental health recovery. Upon witnessing the positive impacts on participants, stakeholders seemed motivated to provide them with opportunities for community connections and local partnerships, which included the articulation of funding for the mental health service delivery (Citation masked for review). Our findings within this context supported the idea that affording people the means to earn an income is central to community-based interventions (Asher et al., 2018; Kidd & McKenzie, 2019). The PSR Toolkit was initially delivered in the context of a work integrated social enterprise that employed people with serious mental illness and paid them fair market wages (Citation masked for review). We are in the process of conducting research on building an implementation and evaluation strategy for the PSR Toolkit in Kenya, with a focus on understanding and overcoming barriers to its sustainable implementation in various settings including health care, education, and business. Overall, the delivery of the PSR Toolkit for registered outpatients in the health care setting provided a more engaged and inclusive approach to mental health services, through which patients experienced a sense of possibility for their future lives and stakeholders became advocates for mental health recovery within their communities.

Limitations

In conducting this study, we observed some apparently contradictory findings between the quantitative and qualitative data. Participants demonstrated a statistically significant improvement in recovery on the IMRS, but not in attitudes towards recovery on the RAQ-16. In the qualitative data, however, participants revealed a strong connection to recovery and held a powerful sense that life was improving. As well, family members demonstrated worsening in

attitudes towards recovery on the RAQ-16, whereas the qualitative data indicated that their feelings about recovery from mental illness had improved.

These apparent discrepancies could have stemmed from limits that we experienced with language and culture. While all quantitative outcome measures were translated to local languages, there may have been a lack of cultural translation related to important concepts, and such nuances may have impacted scores on some of the measures. For example, on the RAQ-16, “hope” and “faith” may have been interpreted within a religious context, while the “impact” and “consequences” of mental illness may have been associated with being cursed. In the future, we will consider our chosen tools more carefully, examine the appropriateness of each scale for the specific environment, and identify factors that need to be considered in design and assessment.

An alternative explanation for these discordant findings is the impact of the intervention itself. In working with the PSR Toolkit, participants likely gained greater awareness and acknowledgment of the impact of their mental illness, the efforts required for their recovery, and the potential issues with their economic security. As a result of this enhanced introspection, participants’ psychological quality of life on the WHOQOL-BREF may have appeared to worsen. Ultimately, if we had collaboratively “included participants in the analysis process” (Jennings et al., 2018), we likely would have been able to better understand some of these discrepancies and thereby improve our analysis.

Another important consideration in interpreting our findings is the study design. As a pilot study, we sought to evaluate the feasibility of implementing the PSR Toolkit and its potential impacts, rather than to determine its efficacy in improving recovery, attitudes, and wellbeing. We used a quasi-experimental, single-group design, which is prone to methodological biases that may have impacted our findings. We also did not determine the sample size required

to detect a specific effect size for any of the outcome measures, and so our findings may be undermined by low statistical power. Nonetheless, exploratory evaluations such as this pilot study hold value in terms of gathering evidence to assess whether the proposed intervention is viable to evaluate using more rigorous methodology and with a larger sample.

Future Directions

We have established strong partners in Kenya, who recognize the potential of the PSR Toolkit to promote recovery within a community and understand the need for financial support for successful implementation. In collaboration with these partners, we plan to implement and evaluate the PSR Toolkit on a larger scale in Kenya, and potentially in other LMIC settings. We will change certain aspects of design and delivery of the Toolkit, such as clarifying the number of sessions per series and providing options regarding content choice. As well, we will review some of the language in the Toolkit to ensure meanings are clear and consistent. We hope to link this work with income generation, such as social enterprise opportunities, which seems essential to its success and requires additional partners. For example, we may approach large businesses in LMICs who would support peers to develop health and wellness interventions for staff, representing new economic opportunities for trained people with lived experience of mental illness.

Conclusions

The present study found that the implementation of the PSR Toolkit in health care settings in semi-rural Kenya was feasible and associated with generally positive outcomes among people with serious mental illness and other stakeholders such as family members and health care professionals. While the PSR Toolkit shaped a more engaged, inclusive, and recovery-oriented

approach to the delivery of mental health services, the challenge is to maintain these changes moving forward.

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Tables

Table 1. Characteristics of participants (N=23)

Characteristic		Mean \pm SD Frequency (%)
Age		35.0 \pm 9.2
Gender	Male	16 (69.6%)
	Female	7 (30.4%)
Highest education level	Primary school	7 (30.4%)
	Secondary school	10 (43.5%)
	Some college/university	2 (8.7%)
	College/university	4 (17.4%)
Current occupational status	Unemployed, looking for work	15 (65.2%)
	Unemployed, not looking for work	2 (8.7%)
	Part time	4 (17.4%)
	Full time	1 (4.3%)
	Student	1 (4.3%)

Abbreviations: SD = standard deviation

Table 2. Characteristics of family members (N=22)

Characteristic		Mean \pm SD Frequency (%)
Age		53.5 \pm 14.5
Gender	Male	6 (27.3%)
	Female	16 (72.7%)
Relationship to primary participant	Parent	12 (54.5%)
	Spouse/Partner	3 (13.6%)
	Sibling	6 (27.3%)
	Grandparent	1 (4.5%)
Living with primary participant	Yes	20 (90.9%)
	No	1 (4.5%)
	Missing	1 (4.5%)
Highest level of education	No formal school completed	4 (18.2%)
	Primary school	7 (31.8%)
	Secondary school	6 (27.2%)
	Trade/technical/vocational	1 (4.5%)
	College	2 (9.1%)
	Missing	2 (9.1%)

Abbreviations: SD = standard deviation

Table 3. Outcomes of participants and family members before and after intervention

Measure	Time 1	Time 2	Mean Difference	p-value
Primary Participants (N=22)				
IMRS	3.25 (2.92, 3.57)	3.80 (3.47, 4.13)	0.56 (0.17, 0.94)	0.007*
RSA-B	3.80 (3.52, 4.09)	3.91 (3.58, 4.24)	0.11 (-0.25, 0.47)	0.54
RAQ-16	32.2 (30.3, 34.1)	29.3 (25.5, 33.1)	-2.86 (-7.07, 1.34)	0.17
WHOQOL-BREF				
Physical	61.4 (54.7, 68.0)	67.4 (60.2, 74.6)	6.01 (-2.13, 14.1)	0.14
Psychological	67.0 (59.0, 75.1)	63.1 (55.9, 70.3)	-3.98 (-15.0, 7.07)	0.46
Social	61.9 (48.6, 75.2)	65.9 (54.5, 77.2)	3.97 (-7.20, 15.1)	0.47
Environmental	56.8 (47.5, 66.2)	60.4 (52.0, 68.8)	3.55 (-6.62, 13.7)	0.48
Family Members (N=21)				
RSA	4.01 (3.56, 4.46)	4.12 (3.91, 4.33)	0.11 (-0.43, 0.64)	0.68
RAQ-16	27.4 (24.4, 30.4)	33.9 (31.8, 36.0)	6.48 (2.82, 10.1)	0.001*

Abbreviations: IMRS = Illness Management & Recovery Scale; RAQ-16 = Recovery Attitudes Questionnaire – 16; RSA = Recovery Self-Assessment; RSA-B = Recovery Self-Assessment – Brief; WHOQOL-BREF = WHO Quality of Life – Abbreviated

Notes: Values reported as Mean (95% Confidence Interval); Mean Difference calculated from Time 1 to Time 2; * denotes statistical significance as determined by paired t-test ($p < 0.05$)