A realistic evaluation of evidence-based therapeutic processes in mental health services– Context-Mechanisms-Outcomes

Eric Badu (✉ eric.badu@uon.edu.au)

The University of Newcastle <https://orcid.org/0000-0002-0593-3550>

Anthony Paul O'Brien

University of Newcastle

Rebecca Mitchell

Macquarie University Faculty of Business and Economics

Akwasi Osei

Ghana Health Services

Research article

Keywords: therapeutic relationship, technical competencies, mental health professionals, quality, mental health services, Ghana

Posted Date: October 26th, 2020

DOI: <https://doi.org/10.21203/rs.3.rs-81487/v1>

License: This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Abstract

Background

Evidence-based clinical practice is an inherent component of developed countries mental health professional practice, however, little is known about Ghana mental health professional perspectives on evidence-based practice. This paper outlines the processes involved in the delivery of best practice in Ghana. The paper describes a realistic evaluation of mental health nurses and allied health opinions regarding the evidenced-based therapeutic process in Ghana mental health facilities.

Methods

A purposive sample of 30 Mental Health Professionals (MHPs) was recruited to participate in semi-structured in-depth interviews. Thematic analysis was used to analyse the data. A programme theory of Context + Mechanism = Outcome (CMO) configuration was developed from the analysis.

Results

The thematic analysis identified two CMO configurations: 1) technical competency stimulates evidence-based mental health services; and, 2) therapeutic alliance-building ensures effective interaction. The study demonstrated that contextual factors (technical competencies and therapeutic alliance building) together with mechanisms (intentional and unintentional) help to promote the quality of mental health services. However, contextual factor such as the lack of sign language interpreters yielded an unintended outcome such as consumer-provider communication barrier for consumers with hearing impaired and those from linguistically minority background.

Conclusion

We conclude that government stakeholders and policymakers should prioritize policy documents, periodic monitoring and adequate financial incentives to support the on-going mechanisms that promote mental health professional technical competence and therapeutic alliance building.

Background

Evidenced-based practises (EBP) is a widespread expectation in the delivery of mental health services (1, 2). The process informed by EBP is fundamental to psychological growth and relevant change in the lives of consumers. Several theoretical, conceptual frameworks, as well as principles, have been proposed to govern the implementation of EBP process. The EBP encapsulates person-centred, strength-based, people-first, as well as the active involvement of consumers in decisions about treatment and recovery (1, 2). The evidence-based process incorporates individual clinical expertise with the best available evidence

from systematic reviews, randomized clinical trials, quasi-experimental, pre-post, and correlational designs, but also by continuous clinical education and upskilling (1, 2).

Scholars have proposed several procedures that could enhance the evidence-based process in mental health services (1, 2). For example, Anthony and Mizock (1) recommended that the process of evidence-based practice should encompass, a positive therapeutic relationship, goal setting, expectations and hope, consumers being taught new skills, self-awareness, as well as consumers feeling supported. The therapeutic relationship which constitutes a key component of EBP is a multi-faceted concept used to describe a collaborative and transformative relationship formed between mental health professionals and consumers and their family caregivers (1, 3, 4). Specifically, Kornhaber, Walsh (5) described this relationship as caring and supportive nonjudgmental behaviour, embedded in the process of delivering services. Achieving this relationship requires several ethical principles, which include mutual trust, respect, dignity as well as the nurturing of hope (6, 7).

Several studies have suggested interrelated attributes for characterising this therapeutic relationship (5, 8-10). The therapeutic relationship has largely been characterized as building a rapport (8, 9), therapeutic listening and responding to consumers emotions (5). The relationships are mostly categorized into individual (consumer, family caregivers and mental health professionals) and organizational attributes (environmental attributes) (3, 11). The individual attributes align to consumers and family caregivers as well as MHP factors that enable or hinder the therapeutic relationship process. This could include consumers insights, knowledge, humour, communication challenges (verbal and nonverbal), work fatigue, skills or competency of MHPs, as well as the attitudes of MHPs (3, 11, 12). Conversely, the organizational attributes constitute factors caused by the treatment setting or environment. These attributes may include the philosophy of care (eg. paternalistic and medical model traditions, organisational policies and practices, increasing workload, manpower shortage, a large number of patients (3, 11, 13, 14).

Research have highlighted that the therapeutic relationship could have a positive impact on the quality of mental health services (1, 8, 15). For example, such therapeutic relationship promotes personal recovery, increased service satisfaction, quality of life, reduced symptoms, and consumers functionality (4, 15, 16). Given these significances, mental health stakeholders are increasingly advocating for an evidence-based process to enhance quality mental health services. Although some studies have suggested the need to understand the evidence-based process in mental health nursing, there is little evidence to suggest effective therapeutic alliance-building, particularly into clinical practice. Research evidence on therapeutic alliance building has been limited to the general health services, particularly in developed countries (eg. UK, USA, Germany) and Middle East countries like Saudi Arabia, Kuwait and Dubai.

In developing countries including Ghana, there is limited research evidence on issues about the evidence-based practise which is integral to the recovery of consumers. Although there is increasing effort to improve the living conditions of consumers with mental illness and thus, resulted in growing empirical studies on mental health services; however, to date, the growing evidence has focused on health system weakness, policy implementation challenges, enablers and barriers in accessing services and treatment

pathways using conventional middle-range theories. None of these studies has attempted to understand the perspectives of MHPs regarding the evidence-based therapeutic process. To address this gap, a qualitative study as part of a concurrent mixed method, using realistic evaluation was undertaken to explore the MHPs views on the evidence-based therapeutic process in psychiatric facilities of Ghana.

Middle range theories supporting evidence-based therapeutic processes

Several theories have been proposed to inform evidence-based practice in health service delivery, which applies to mental health. Example of these middle range theories includes the Donabedian theory of quality of care (16) and Hildegard Peplau's middle-range theory of interpersonal relationships (17-19).

The process component of the Donabedian middle range theory describes the evidence-based practice as the actual treatment stage and is comprised of the consumer-based interpersonal relationships and technical skills of the mental health professionals. According to the Donabedian theory, consumer-based interpersonal relationships highlights the therapeutic relationship between consumers and providers. Also, the technical skills describe clinicians' knowledge about appropriate intervention and best practices, as well as the ability to accurately assess consumer problems (16).

Hildegard Peplau's middle-range theory outlines that consumer-based interpersonal relationships must go through three phases, including orientation, working (identification and exploitation), and termination (resolution) (17, 19). The therapeutic interaction between consumers and service providers are central at each of the three phases. For example, at the orientation phase, providers meet consumers and gain essential information. Also, service providers make assessments about consumers through a collaborative and interdisciplinary plan of care at the working phase to determine the best evidence-based interventions. Finally, service providers provide discharge plans, which includes symptom management and recovery plan at the termination phase (18, 19).

Methods

Study setting

The study was conducted in three psychiatric facilities. Two of the psychiatric hospitals were specialized psychiatric hospitals, whilst the other one was a unit within the general hospital. The two psychiatric facilities are located in the Greater Accra Region. The psychiatric unit is located at the Komfo Anokye Teaching hospital in the Ashanti Region of Ghana. The two psychiatric facilities, as well as the psychiatric unit, operated a shared goal and focus of treatment. The realistic evaluation cycle was conceptualized into phases and started with initial theory development (25, 27).

Research design and approach (Phase 1 – initial theory and assumption)

This paper focuses on the qualitative component as part of a larger concurrent mixed-method design which draws on the principles of realist evaluation to explore mental health professionals perspective on evidence-based processes in the provision of mental health services. The realistic evaluation capture

multiple data through semi-structured interviews, surveys, as well as a review of the literature. The literature (20, 21), concepts (16, 22) and quantitative component (23) informing this realistic evaluation has previously been published. The realistic evaluation provides a unique perspective on services and grounded in theory (24, 25). The central tenet of this realist methodology is that the services may work differently in different contexts (26, 27).

This qualitative paper offers ways to address what work or not, when, why and for whom, under what circumstances to promote evidence-based therapeutic interaction in service provision (28, 29). The therapeutic processes in mental health services have traditionally been tested and evaluated through middle-range theory (e.g. Donabedian theory or Hildegard Peplau's theory). However, such theories do not offer ways of identifying contextual factors, and mechanisms that could promote the therapeutic interaction between consumers and providers. This realistic evaluation involves the development and refinement of a program theory, which is explained according to Pawson and Tilley (1997) formula: Context + Mechanism = Outcome (Table 2).

The Donabedian middle-range theory and Hildegard Peplau's theory on interpersonal relations were used to explain the therapeutic processes of providing mental health services. (30). The qualitative data were empirically tested to develop a final program theory that explains contextual factors and mechanisms that enhance the evidence-based therapeutic processes in delivering mental health services (Table 2). The experiences of MHPs based on their therapeutic interactions with consumers were used to refine the program theory. The next step involved developing the underlying assumptions, to articulate the program theory (24, 25, 31).

Data collection (Phase 2 – Recruitment and Fieldwork)

Qualitative approaches such as field notes and in-depth interviews were used to collect data from MHPs. The clinical coordinators in each psychiatric facility facilitated the recruitment of MHPs. The researchers reviewed the list of mental health professionals in each of the selected facilities and selected those who meet the eligibility criteria. MHPs were included if they have worked for at least three years in the respective psychiatric facility and provided daily routine mental health services. The study invited 38 MHPs through email, face-to-face or telephone call. A total of 30 MHPs agreed and were purposively recruited to participate in an in-depth interview. The data were collected until data saturation, where no new information is required from subsequent interviews.

The in-depth interviews were conducted using a structured interview guide (Additional file 1) and captured information on contextual factors and mechanisms that could improve therapeutic processes in mental health services. The interview guide was developed using relevant information according to the Donabedian middle-range theory (16) and Papau theory on interpersonal relations. In the interview session, all MHPs were briefed about the research objectives, procedures and the consent process. The right of participants to safeguard their anonymity and integrity was respected. Therefore, each MHP was adequately informed of the aims, methods, consent to participation, potential risk/benefits and privacy/confidentiality. The MHPs signed a written informed consent form before participation. The

interviewer read the questions on the interview guide to the participants and recorded (with permission) the response, using an audio-tape recorder. All the in-depth interviews were conducted in English language which is the primary language of conversation in formal educational settings in Ghana. Also, the in-depth interviews were conducted at the psychiatric facilities, specifically located at the clinical staff common rooms. The in-depth interviews were conducted privately and separately, thus, no interview was witnessed by a clinical co-ordinator or any service provider. Each interview took an approximate time of 45 minutes to 1 hour.

Data analysis (Phase 3 – Analysis and configuration of CMO)

The field notes data and in-depth interviews, were analysed using thematic analysis. The thematic analysis was conducted according to Braun and Clarke (32) approach for categorising and connecting data, with a goal towards developing a realist theory (Table 2 and 3). This process involved transcribing, reading, familiarising with the data, generating initial codes, searching for themes, reviewing themes, and rigorous interpretation of data.

An independent transcriber transcribed the 30 de-identified audio recordings into a word document. The interviewer listened to the audio-recorded interviews back-to-back and reviewed the transcription and field notes. The transcribed data was then entered into NVivo 12 for analysis. The lead author working closely with all co-authors performed the coding process. For example, as recommended by Saldaña (33), initial coding and focused coding was conducted to develop categories. In the focused coding, the most significant initial codes were used as provisional categories for checking with all the transcribed data. The focused coding continued until saturation was reached – no new ideas emerged from successive coding. The identified codes were categorized according to CMO domain-specific. Memos were written throughout the coding process to record emerging conceptual links and observations from the data. A visual model was developed to establish patterns of CMOs across codes and cases. The patterns denote the causal pathways, thus, the contextual elements that could trigger, or influence mechanisms, to produce mental health service outcome. The most prominent quotes and words from MHPs that were relevant to each of the CMOs are described.

Results

Background information

Table 1 illustrates the background information of MHPs. The average age of MHPs was 36.4 years. More than half of MHPs (17/30; 56.67%) were females, whilst 43.33 were males. The majority of MHPs (20/30; 66.67%) were married, 30% were singles. Also, about a third of the MHPs were Registered Mental Health Nurses, whilst 23.33% were Psychiatrists. The highest level of education among the MHPs was at the Postgraduate degree (eg. MPH, MSc, MPhil and MBChB). The average age of experience of the MHPs was.

CMO configurations from the analysis

The thematic analysis identified two CMOcs configurations as per the program theory. The findings have been arranged according to these CMOcs, and further supported with the relevant verbatim quotes from the transcribed data.

CMO configuration 1: Technical competency stimulates evidence-based therapeutic process in mental health services

This CMO configuration describes the effects of technical competency on the evidenced-based therapeutic process in mental health services. Most MHPs narrated that they have received specialist training, practical skills, certified license as well as being regulated, monitored and supervised. The MHPs perceived that they have insight regarding the theories, concepts and practical skills in providing mental health services. The majority of MHPs expressed that their clinical competency was achieved through mechanisms such as continuous learning, in-service training, professional development, multi-disciplinary team involvement, together with clinical and academic training sessions (tutorials, presentations and discussions). The majority of MHPs confirmed that they receive in-service training opportunity every quarter (e.g. at least 2 to 4 times a year). Some MHPs mentioned that as part of the professional development plan, the psychiatric facilities annually request the training needs of every staff member. Moreover, the majority of MHPs narrated that several clinical and academic training sessions (tutorials, presentations and discussions) are organized in the psychiatric facilities for specific days to update them on specific issues.

The participants explained:

“Yes almost every morning in here we have our morning tutorials or meetings where we have discussions on various topics and we more or less teach each other, we have CPDs where we have lecturers from this country and sometimes from outside the country also coming to update us on relevant information so we always make sure that we update ourselves with relevant information and current information” (Participant 7; psychiatrist; Facility 3).

Again, three MHPs (occupational therapist, psychiatrist and clinical psychologist) elucidated that the various professional associations and bodies for prescribers and allied health services organize training and academic sessions for MHPs to renew their certification and license:

“as part of our allied health association every year you have to go for professional development programs and accumulate a minimum of 12 points to be able to renew your registration with the council yes so for that one throughout the year we go for continuous professional development programs to add on to our knowledge” (Participant 10; Occupational therapist; Facility 2).

The contextual factors regarding the technical competencies together with the unintended and intended mechanisms adopted by the psychiatric facilities influence the outcome of mental health services. For example, some MHPs (11/30) narrated that the clinical competency, in-service training and experiences mostly help them to deliver quality mental health services to consumers. Three RMHNs also mentioned

that their clinical competency and working within the multidisciplinary team helped consumers to build confidence and trust in the care provided which in turn led to reducing inpatient bed days:

"If the nurse is knowledgeable in how to ensure that the client gets well, he/she puts the knowledge into practice so that eventually the client doesn't spend so much time on the ward because spending so much time on the ward means you are paying more, so that if there is the need for a progress report and maybe talking to a prescriber to ensure that the right thing is done it helps the nurse and it also helps the client in the long run" (Participant 21; RMHN; Facility 2).

"If you can communicate well with your clients and your clients have confidence in you it will help them to come back for treatment whenever the need arises and it will also help the client to trust you because they know that you know what you are about, (Participant 16; RMHN; Facility 2).

Further, some MHPs (eg. clinical psychologist, occupational therapist and RMHN) related that the in-service training has improved their knowledge and skills on current treatment methods, and subsequently providing effective and efficient services to consumers:

"It informs us of current trends in treatment, it informs in current trends in diagnosis and identifying psychopathologies and then also basically making our treatments as straight forward and as precise as possible" (Participant 4; Clinical psychologist; Facility 3).

Although MHPs perceived to have adequate clinical competency, they suggested several training needs to further equip their skills and practice. For example, most MHPs suggested that they needed training in aggression and conflict management, training in using psychological tools and tests, infection prevention, operating ECT, dealing with difficult family caregivers, health promotion, as well as, customer care and communication skills:

"We interact with these patients and we get patients becoming aggressive, so training in aggression, conflict management, training in the various therapies that we have and the current therapist that are being used elsewhere... we also need training in customer care, communication skills... training in even conflict management among staff, not just about the patient we care for but among the staff" (Participant 26; RMHN; Facility 1).

Moreover, most MHPs described some challenges that could compromise their competency and the use of evidence-based treatment, which include inadequate clinical and allied health specialties in child and adolescence, forensics, geriatric psychiatry, addiction, substance abuse, social work and psychological services:

"it would be good for us to have specific training in the different branches of psychiatry, further training in the different branches of psychiatry like forensic psychiatry, geriatric psychiatry, child and adolescent, addiction because we are more or less general psychiatrists so it would be good if we got like further training in these areas to make us even more efficient (Participant 7; psychiatrist; Facility 3).

"Yes, for the subspecialties, child, we need psychiatrists, we need forensics, we need substance addition subspecialists so all those things we are specialists providing the care but it could be better if we had people who have fellowship training such specialty skills but that's our vision that in the next 5 years we are hoping to develop all those subspecialty training to get some of us to train in those fields as well" (Participant 6; psychiatrist; Facility 3).

"... training is in general adult psychiatry so when it comes to such specialty services like child and adolescent forensics we have the general training. Our best-trained subspecialists are myself and my colleague who recently joined me. I have a masters in child and adolescent mental health which is not a clinical fellowship but at least some focused training in child and adolescent mental health and that's about the best we have, everybody else here has general adult psychiatry so the geriatric service we are rendering, the forensic course reports are all based on general adult psychiatry knowledge that we have so in that sense we are probably not as resourced-rich as western countries (Participant 6; Psychiatrist; Facility 6).

Some MHPs also added that whilst there is no local protocol to inform the evidence-based treatment, they adhere to international standards in the clinical practice. Some MHPs further recommended that there is an on-going deliberation regarding the need to get a local protocol:

"We adopt international standards slightly but we most of the time comply to international standards and if we have to make a few adjustments concerning local protocols cost usually has a role to play but most of the time international standards evidence-based medicine that is what we roll with and we keep modifying our treatment protocols as and when we need to" (Participant 7; Psychiatrist; Facility 3).

CMO configuration 6: Therapeutic alliance-building ensure effective interaction

This CMO configuration describes that influence of therapeutic alliance building on effective interaction between consumers and MHPs. As per the context of the program theory, the majority of MHPs expressed that they build therapeutic relationships in psychoeducation, consultation, diagnosis, and family therapy sessions. The MHPs recounted that they involve consumers in the care plan, build rapport with them and ensure their dignity and respect. The analysis suggested that the involvement of consumers in the care plan was dependant on their educational background and the philosophical approach to admission (eg. voluntarily or involuntarily). The MHPs believed that consumers who are educated or admitted voluntarily mostly know about the condition and treatment option, therefore, participate actively in the care plan as noted below:

"...patients especially the more educated patients like to have interaction, like to be involved in the decision making on the treatment...by all means go online to be involved in the decision with the side effects profile, we weigh the options" (Participant 30; psychiatrist; Facility 1).

"We don't only involve patient or clients but we involve clients and their relatives to understand the condition the patient is going through... before the admission, we make this known to them... whilst the

patient is going through the treatment, we make the relatives understand what the patient is going through so that even the management of the patient in our facility, they should also be able to better manage the patient after discharge” (Participant 24; Social worker; Facility 1)

“with the voluntary, because they have insight, they admit that they are mentally ill and they need help for coming here. So most voluntary cases are difficult when you are giving them their medicine because they understand that they have to take it” (Participant 22; RMHN; Facility 1).

In contrast, some MHPs (eg. Psychiatrist and RMHN) suggested that consumers with no education including those admitted involuntarily participate less in the care plan. This notwithstanding, some MHPs said that irrespective of the background of consumers, they make several attempts to involve them as much as possible as a fundamental human right to make them aware of their choices:

“Having said all that as a fundamental human right I try to make sure that the patient is involved and is aware of the choices and makes the choices themselves to the best of their educational and you know socioeconomic background” (Participant 6; psychiatrist; Facility 3).

“...we interview them to know why they are being admitted – whether it is voluntary or involuntary. Did they come by their own or they were forced. So if there were brought here involuntary then we explain to them why because some of the allegations are threatening. Example, there is an allegation that the consumer is threatening to kill someone and he's saying that he will commit suicide... That is involuntary admission. So we explain to them why they have come to this place and why there is the need to seek the services” (Participant 22; RMHN; Facility 1).

The analysis highlighted that therapeutic alliance-building are established through several mechanisms as per the program theory. For example, some MHPs (16/30) emphasised that the therapeutic relationship naturally starts by building rapport with the consumer and family caregivers, particularly getting to know their condition whilst instilling hope and realistic expectations. The majority of MHPs highlighted that the therapeutic relationship was realized by recognizing several backgrounds as well as ethical principles. The ethical principles used to promote therapeutic relationship included respect for consumers privacy/confidentiality, dignity, preferences, comfort, seeking informed consent as well as religion, gender, age, belief systems and culture. For example, some MHPs (eg. RMHN) expressed that they ensured these ethical principles to build the therapeutic relationship to avoid being physically attacked or injured by angered consumers, as well as promoting the quality of mental health services:

“...every patient need equal treatment, every patient has an equal right, you know with the condition they have a perception already, some hallucinate and some have a delusion, so if you discriminate and stigmatize and align with what the patient is thinking, it may cause the patient to become aggressive towards you the service provider. There is some time that we have a shortage of staff, so if the patient feels that you discriminate against him based on religious or cultural identity, they can attack you when you are alone in the ward” (Participant 26; psychiatrist; Facility 1).

A clinical psychologist with 3 years' experience described that consumers from Muslim background place significance on the superiority of men, compared to females. Therefore, MHPs could consider such cultural and religious perceptions when providing services to such consumers.

The participant described this issue as follows:

"a woman in a Muslim society does not have much recognition... Its cultural specifics, women are second to the man. So when a Muslim has a psychological condition and they walk into the consulting room and see a woman, their bias is certain. It depends on you the therapist to be competent enough to be able to overlook the fact that you are being looked down upon based on your gender. That is very important, if not, you will not be able to give your best because you may already have a perception that he's already looking down upon you" (Participant 27; Clinical Psychologist; Facility 1).

"So when the client comes and he is not conversant with females you can approach your colleague to come and then talk to the client based on what the client believes in, so you are not here to undermine any religion no we are to give our best of care so that is what we do" (Participant 13; RMHN; Facility 2).

As per the program theory, the contextual factors regarding evidence-based therapeutic process together with the mechanisms helped to achieve some positive impact on the outcome of mental health services. For example, most MHPs expressed that the therapeutic relationship, as well as involvement in the consumer care plan, is relevant to promote the quality of mental health services provided, particularly respecting the fundamental human right, dignity, and helping consumers be aware of their rights and choices. The MHPs narrated that the involvement of consumers and family caregivers helped to equip them regarding their management of the condition, especially when discharged from psychiatric facilities. In particular, the involvement could enhance consumers' knowledge and understanding as well as successful compliance with medications.

Further, three MHPs (clinical psychologist, occupational therapist, art therapist) also noted that therapeutic relationship is very important to make consumers feel accepted, adhere to their prescribed medications, as well as making the service participatory as echoed below:

"Yes so therapeutic relationships start with rapport building, first getting to know the condition then you know how to approach the condition, so before you approach a patient you should know a little about what is going on, , then you know the approach you are going to use in handling or engaging the patient and the family so you build rapport, let them be an integral part of the whole care you just don't impose things on them because they also have a say in what is going on so that together we all can plan and give however it comes" (Participant 2; Occupational therapist; Facility 3).

Two MHPs further expressed that several recommendations have been made regarding the need to stop wearing uniforms among providers, to avoid distinguishing consumers and providers on duty.

The MHPs expressed this as follows:

“Some are even advocating that we shouldn’t wear uniform in nursing so that they will see that there equality... you enter the ward and see that I am in mufti and you are also in mufti, you will see that these are the patient or the service providers... we are all equal. So when you come and we are doing recreational therapy, it is not just the patient who is dancing or singing... you realize that all the nurses are equally doing so” (Participant 26; RMHN; Facility 1).

Despite the increasing therapeutic alliance measures, the analysis demonstrated a contextual challenge related to consumer-provider communication barrier, particularly for consumers with hearing impairment and those from linguistically minority background. The professional-consumer communication barriers were limited knowledge in sign language when communicating with consumers with hearing impairment. Most MHPs (19/30) noted that whilst they did not know sign language, there was no designated sign language interpreter to support communication challenges for consumers with hearing impairments as echoed:

“With people with disability it is a difficulty that we are becoming more and more aware ofwe do not necessarily have an insider translator for people who come and use sign language” (Participant5; Psychiatrist; Facility 3).

“No [no knowledge in sign language] so far we only have one patient that has a problem like that, that is how to sign but she even comes with her daughter who interprets for us so we don’t have to (Participant 21; RMHN; Facility 1).

“These people are naturally by their disabilities are not able to access facilities like this. Especially when it comes to psychological services, being deaf and dumb and living in a society where the majority of the people do not accept such population makes it inaccessible”.(Participant 27; Clinical Psychology; Facility 1).

Six MHPs narrated that despite these challenges, they resort to translators, mostly family caregivers and teachers or instructors to provide sign language support. Two MHPs further expressed that they occasionally rely on health professionals from other units who know about basic signing to provide such support:

Sign language, for now, I think we have one person on the ward that understands sign language, so when the need arises we call that person to leave his/her unit and come and help here (Participant 16; RMHN; Facility 2).

“I am not trained in sign language I could do a few basic sign language but then not entirely everything but as I said I also don’t work alone I work with other professionals so if I would need to and get some kind of communication barrier or something then I have to rely on the other professionals” (Participant 8; Lay Art Therapist; Facility 3).

The analysis from MHPs suggests that their inability to provide adequate sign language for consumers with hearing impairment affect the quality of mental health services provided to such consumers. Also,

an RMHN added that there are sometimes professional-consumer communication barriers, particularly for those who cannot communicate in the same language with the providers. The providers sometimes resort to help from other professionals who could communicate effectively in their language, as exemplified in the quote below:

“Even sometimes language is a barrier... people come and depending on the staff they meet if they cannot speak their language, then it becomes a barrier. So most of the time, you have to find a colleague who can understand so that that person will do the interpretation. Even in the consulting room, we call someone to do the interpretation when the need arises” (Participant 26; RMHN; Facility 1).

Discussion

This paper have answered the research question by identifying two CMO configurations that explain the evidence-based therapeutic process in mental health services. This CMO configuration includes 1) technical competency stimulates evidence-based therapeutic process in mental health services and 2) therapeutic alliance-building ensure effective interaction.

CMO configuration 1: Technical competency stimulates evidence-based therapeutic process in mental health services

Evidence-based therapeutic process in mental health services has been identified as fundamental to psychological growth and change (1, 2). According to Donabedian middle range theory on quality of care, the central tenant to evidence-based treatment is building the technical competency of MHPs (16). Anthony, Ellison (2) have also concluded that the technical competency of MHPs could support consumers goals setting and skills development. As a contextual factor in the current program theory, MHPs perceived to have technical competencies, which is aligned to their specialist training, practical skills, certified license, as well as the regulatory bodies that monitor and supervised their services. The technical competency of MHPs was specifically achieved through continuous learning, in-service training and professional development plan as well as a multi-disciplinary team. The program theory further suggests that these technical competencies could promote quality mental health services, particularly improved knowledge and skills on current treatment methods, ability to provide effective and efficient services as well as enhancing consumers confidence and trust in the care.

The finding confirms previous studies, which have recommended that in-service training and professional development plan are significant attributes for promoting human resources management (34-36). Further, we identified that MHPs needed several training in specific skills to improve their technical competency, particularly to provide holistic mental health services to consumers. For example, the MHPs expressed skills in aggression and conflict management, psychological tools, customer care, health promotion, communication skills, infection prevention as well as dealing with difficult family caregivers. Although MHPs could obtain these skills as part of their training, attaining a refresher training in these areas is important as part of on-going efforts to provide holistic and integrated mental health services. This finding aligns to previous studies that have concluded on the need to develop the skills of MHPs in

specific skills, which promote the recovery journey of consumers (2, 16, 35, 37). For example, Anthony, Ellison (2) recommended that MHPs providing mental health services and rehabilitation counselling are encouraged to gain skills in goal setting as well as various therapies that could promote recovery of consumers. Such MHPs are encouraged to gain technical competencies in recovery based interventions, like integrated services (eg. Illness management, mindfulness-based interventions, music-creation therapy and active leisure or recreational activities), vocational rehabilitation (35, 38, 39), as well as narrative photovoice and art-making services (40-42). Given this, the findings recommend that government stakeholders should prioritize policy commitment and financial incentives that promote the in-service skills development of MHPs, particularly on areas that promote the evidence based therapeutic processes.

CMOc configuration 6: Therapeutic alliance-building ensure effective interaction

Contemporary care philosophies have widely advocated for consumers empowerment contrary to the long-standing socio-medical constructs of mental health services(1, 2, 11). Therapeutic alliance-building constitute measures used to strengthen such empowerment and involvement. Such a relationship could promote collaboration between MHPs and consumers and their family caregivers (1, 2, 43). The current findings indicated that MHPs build a therapeutic relationship with consumers and family caregivers through psychoeducation, consultation, diagnosis, as well as family therapy session. These therapeutic alliance were used to involve consumers in care plan as well as adhering to ethical principles (eg. respecting consumers privacy/confidentiality, dignity, preferences, informed consent, comfort as well as, religion, gender, age, belief systems). Consistent with previous findings (4, 6, 15), the program theory demonstrated that the therapeutic alliance equipped consumers in illness management, for example, adhering to medications. The therapeutic alliance were also relevant in promoting the personal recovery for consumers, thus, improving their knowledge and understanding, feeling a sense of acceptance, hope and expectations as well as active participation in mental health services.

The therapeutic alliance building appears as a relevant platform to promote meaningful involvement of consumers in care planning. However, several factors could hinder or enable such therapeutic alliance building. Consistent with previous studies (3, 11, 12), our findings identified several individuals as well as organizational factors that influenced the therapeutic alliance building between consumers and MHPs. For example, individual factors such as consumers educational background affected the therapeutic relationship building. In particular, consumers with no education as well as those from linguistically minority background did not adequately involve in the care plan, indicating weak therapeutic alliance. Specifically, the findings confirm previous study which concludes that several consumer-related factors impeded the therapeutic alliance building in the psychiatric ward in South Iran (3). In previous findings, limited knowledge of consumers concerning their condition was a key factor that hindered effective therapeutic relationship with MHPs.

Moreover, the organizational factors that affected the therapeutic alliance building between consumers and MHPs were philosophical approach to care, lack of sign language interpreter (nurse-consumer

communication barrier). Consistent with previous findings, (14, 34), the philosophical approach to practice such as paternalistic and medical model traditions, which promote involuntary admission of consumers were identified as a key hindrance to consumers participation in care planning, leading to the limited therapeutic alliance. For example, Bee, Brooks (34) concluded that whilst technical skills of MHPs could promote consumers involvement, the philosophical tensions between consumers and professional accountability could impede therapeutic alliance building in the UK secondary care mental health services.

Also, as per the program theory, contextual factors such as lack of sign language interpreters in the mental health systems created provider-consumer communication barrier, particularly for consumers with hearing impairment. This finding confirms previous studies which have identified communication as a main contextual factor that could enable or hinder therapeutic alliance building (3, 6, 8, 12). For example, Belcher and Jones (8) have suggested that provider-consumer communication involves a two-way process, thus, listening to consumers problems and have a social conversation, and further explaining to them any procedures to be undertaken. Providing adequate effective verbal and nonverbal communication is an important part of the provider-consumer interaction, thus, providing care that enables consumers to be an equal partner in achieving wellness (6). Also, Haydon, van der Reijt (12) concluded that whilst provider-consumer communication is vital to promote person-centred care, the use of humour in the therapeutic relationship should not go unrecognised. Some studies have also recommended that MHPs should consider humour as a useful tool in the therapeutic relationship (6, 13). Although communication is vital in promoting therapeutic alliance, the lack of sign language interpreters to providing communication support for consumers with hearing impairment suggests a significant consumer-provider communication barrier. Moreover, consumer-provider communication for this category of consumers could affect the quality of mental health services provided to them. Given this, stakeholders are encouraged to enforce and monitor policies and regulations that support adequate provision of sign language interpreters in all levels of mental health service provision.

Limitation

Several limitations need to be acknowledged. First, this component of the article is limited to the response from purposively selected MHPs in three psychiatric facilities without the perspectives of mental health policy planners from government ministries as well as consumers and family caregivers. Despite this, the researchers have enhanced the trustworthiness of data collection and documentation according to the seven criteria of Pawson and Tilley (44), which are transparency, accuracy, purposivity, utility, propriety, accessibility, and specificity. The methodology informing this CMO configuration was collaboratively developed by experts in mixed-methods research. For example, the research team first developed, confirmed, and discussed the methodology before implementing it. Other methodological considerations governing this study have been published elsewhere. Moreover, the thematic analysis process was subjected to coding by consensus, member checking, and a series of debriefing sessions. The findings have been compared with those of the international literature on quality mental health services.

Conclusion

This study aims to use a realistic evaluation to explore the evidence-based therapeutic process in mental health services from MHPs perspectives. As per the program theory, contextual factors such as the technical competencies of MHPs stimulate the evidence-based therapeutic process in mental health services. For example, MHPs perceived that they had technical competencies, which were attained through mechanisms such as continuous learning, in-service training, professional development plan and the multi-disciplinary team as well as clinical and academic training sessions. As per the program theory, these contextual factors and mechanisms were relevant to achieve outcomes such as mental health service quality through reduced hospitalization days, improved MHPs knowledge and skills on current treatment methods, as well as building the confidence level of consumers. Contextually, the MHPs established therapeutic alliance during psychoeducation, consultation, diagnosis, as well as family therapy session. These therapeutic alliance were built through mechanisms such as involvement of consumers in the care plan, considering consumers individual factors (eg. education background), philosophy of mental health services (eg. voluntarily or involuntarily nature of admission), building rapport, adhering to high ethical principles (eg. dignity and respect, choices, respecting consumers privacy/confidentiality, dignity, preferences, informed consent, comfort as well as, religion, gender, age, belief systems). As per the program theory, these contextual factors and mechanisms helped to equip consumers in management of the condition, enhance consumers' knowledge and understanding, successful compliance with medications, consumers participating actively in the care plan, feeling accepted, having hope and expectations, and making the service participatory. Despite these, there was consumer-provider communication barrier, particularly for consumers with hearing impaired and those from linguistically minority background. This contextual challenge, together with the unintentional mechanism resulted in communication barriers for this category of consumers.

Implication for mental health practice

The findings have identified some contextual factors and mechanisms that could enhance the evidence-based therapeutic process in mental health service delivery. The findings are relevant to inform policy, mental health nursing practices, as well as the education of MHPs and students. As per the program theory, we recommend that government stakeholders and policymakers should prioritize the current mechanisms used to promote the technical competencies for MHPs. For example, policy document, periodic monitoring and adequate financial incentives should be provided to support an on-going in-service training as well as a professional development plan for MHPs. Health service planners and administrators are encouraged to prioritize on-going clinical and academic training sessions as well as collaborative and multi-disciplinary teamwork. Such measures could enhance the technical competencies of MHPs and subsequently improve the therapeutic process in the services. As per the program theory, the current mechanisms used to promote therapeutic relationships between MHPs and consumers and their family caregivers should be promoted and monitored periodically to ensure effective consumers involvement and participation in the care plan. In particular, MHPs should be encouraged to adhere to the existing ethical principles as well as promote a consumer-centred or strength-based approach to

therapeutic alliance building. Moreover, based on the contextual challenges, for example, consumer-provider communication barriers, government stakeholders and health services planners are encouraged to prioritize on-going laws that support the provision of sign language interpreters to support consumers with hearing impairments. Finally, the identified program theory enhancing the evidence-based therapeutic process should be prioritized in educational program for MHPs and students.

Abbreviations

Community Mental Health Nursing – CMHN; Community Mental Health Office – CMHO; Context + Mechanism = Outcome – CMO; Continuing Professional Development – CPDs; Electroconvulsive therapy – ECT; Evidenced-based practises – EBP; Human Research Ethics Committee – HREC; Mental Health Professionals – MHPs; Registered Mental Health Nursing – RMN.

Declarations

Ethics approval and consent to participate

The study was approved by the Human Research Ethics Committee (HREC) of the University of Newcastle (Approval No.: H-2019-0082) as well as the Ghana Health Service Ethics Review Committee (Approval No: GHS-ERC 003/07/19). The researchers sought written permission from the Ghana Mental Health Authority before conducting the study. The study protocols as well as data collection instruments, the participant information statement were reviewed by the ethics committees for approval. No interviews were conducted without the permission of the respective ethics committee. The right of participants to safeguard their anonymity and integrity was respected. Therefore, all participants were adequately informed of the aims, methods, consent to participation, potential risk/benefits, voluntary participation, privacy/confidentiality, compensation, declaration of conflict of interest, and data.

Consent for publication.

Consent for publication

Not applicable

Availability of data and materials

All data supporting these findings are either contained in the manuscript or available upon request. There are no restrictions to anonymized data sources. All data collection tools, including interview guide, have been uploaded as supplementary files.

Competing interests

On behalf of all authors, the corresponding author states that there is no conflict of interest.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Authors' contributions

E.B, A.P.O, and R.M conceptualized the study. E.B performed the field data collection. E.B, working closely with A.P.O and R.M performed the data analysis and drafted the manuscript. All authors reviewed and made inputs into the intellectual content and agreed on its submission for publication.

Acknowledgements

The authors wish to thank the University of Newcastle Graduate Research Australia, for the Doctoral Scholarship offered to the lead author.

References

1. Anthony WA, Mizock L. Evidence-based processes in an era of recovery: Implications for rehabilitation counseling and research. *Rehabilitation Counseling Bulletin*. 2014;57(4):219-27.
2. Anthony WA, Ellison ML, Rogers ES, Mizock L, Lyass A. Implementing and evaluating goal setting in a statewide psychiatric rehabilitation program. *Rehabilitation Counseling Bulletin*. 2014;57(4):228-37.
3. Pazargadi M, Fereidooni Moghadam M, Fallahi Khoshknab M, Alijani Renani H, Molazem Z. The therapeutic relationship in the shadow: Nurses' experiences of barriers to the nurse-patient relationship in the psychiatric ward. *Issues Ment Health Nurs*. 2015;36(7):551-7.
4. Thibeault C. An interpretation of nurse-patient relationships in inpatient psychiatry: Understanding the mindful approach. *Global qualitative nursing research*. 2016;3:2333393616630465.
5. Kornhaber R, Walsh K, Duff J, Walker K. Enhancing adult therapeutic interpersonal relationships in the acute health care setting: An integrative review. *Journal of multidisciplinary healthcare*. 2016;9:537.
6. Pullen Jr RL, Mathias T. *Fostering therapeutic nurse-patient relationships*. LWW; 2010.
7. Dziopa F, Ahern K. Three different ways mental health nurses develop quality therapeutic relationships. *Issues Ment Health Nurs*. 2009;30(1):14-22.
8. Belcher M, Jones LK. Graduate nurses' experiences of developing trust in the nurse-patient relationship. *Contemp Nurse*. 2009;31(2):142-52.
9. Macdonald LM. Expertise in Everyday Nurse-Patient Conversations: The Importance of Small Talk. *Global qualitative nursing research*. 2016;3:2333393616643201.
10. Dziopa F, Ahern KJ. What makes a quality therapeutic relationship in psychiatric/mental health nursing: A review of the research literature. *Internet Journal of Advanced Nursing Practice*.

2009;10(1):7-.

11. Harris BA, Panozzo G. Therapeutic alliance, relationship building, and communication strategies-for the schizophrenia population: an integrative review. *Arch Psychiatr Nurs*. 2019;33(1):104-11.
12. Haydon G, van der Reit P, Browne G. A narrative inquiry: Humour and gender differences in the therapeutic relationship between nurses and their patients. *Contemp Nurse*. 2015;50(2-3):214-26.
13. Majumder P, Vostanis P, Karim K, O'Reilly M. Potential barriers in the therapeutic relationship in unaccompanied refugee minors in mental health. *Journal of Mental Health*. 2018.
14. Harris B, Panozzo G. Barriers to recovery-focused care within therapeutic relationships in nursing: Attitudes and perceptions. *International Journal of Mental Health Nursing*. 2019;28(5):1220-7.
15. Hartley S, Raphael J, Lovell K, Berry K. Effective nurse–patient relationships in mental health care: A systematic review of interventions to improve the therapeutic alliance. *Int J Nurs Stud*. 2020;102:103490.
16. Badu E, O'Brien AP, Mitchell R. The Conceptualization of Mental Health Service Quality Assessment: Consumer Perspective. *Administration and Policy in Mental Health and Mental Health Services Research*. 2019;26(6):790–806.
17. D'Antonio P, Beeber L, Sills G, Naegle M. The future in the past: Hildegard Peplau and interpersonal relations in nursing. *Nursing inquiry*. 2014;21(4):311-7.
18. Peplau HE. Peplau's theory of interpersonal relations. *Nursing science quarterly*. 1997;10(4):162-7.
19. Senn JF. Peplau's theory of interpersonal relations: application in emergency and rural nursing. *Nursing science quarterly*. 2013;26(1):31-5.
20. Badu E, O'Brien AP, Mitchell R. An integrative review of potential enablers and barriers to accessing mental health services in Ghana. *Health research policy and systems*. 2018;16(1):110.
21. Badu E, Mitchell R, O'Brien AP. Pathways to mental health treatment in Ghana: Challenging biomedical methods from herbal-and faith-healing perspectives. *International Journal of Social Psychiatry*. 2019;65(6):527-38.
22. Badu E, O'Brien AP, Mitchell R. An integrative review on methodological considerations in mental health research–design, sampling, data collection procedure and quality assurance. *Archives of Public Health*. 2019;77(1):37.
23. Badu E, O'Brien AP, Mitchell R, Osei A. Mediation and moderation effects of health system structure and process on the quality of mental health services in Ghana–structural equation modelling. *PLoS ONE*. 2020;15(5):e0233351.
24. Adams A, Sedalia S, McNab S, Sarker M. Lessons learned in using realist evaluation to assess maternal and newborn health programming in rural Bangladesh. *Health Policy and Planning*. 2016;31(2):267-75.
25. Astbury BGP. The practice of realistic evaluation: a conceptual and empirical review: University of Melbourne, Melbourne Graduate School of Education; 2011.

26. Jagosh J, Bush PL, Salsberg J, Macaulay AC, Greenhalgh T, Wong G, et al. A realist evaluation of community-based participatory research: partnership synergy, trust building and related ripple effects. *BMC Public Health*. 2015;15(1):725.
27. Mutschler C, Rouse J, McShane K, Habal-Brosek C. Developing a realist theory of psychosocial rehabilitation: the Clubhouse model. *BMC health services research*. 2018;18(1):442.
28. Flynn R, Rotter T, Hartfield D, Newton AS, Scott SD. A realist evaluation to identify contexts and mechanisms that enabled and hindered implementation and had an effect on sustainability of a lean intervention in pediatric healthcare. *BMC health services research*. 2019;19(1):912.
29. Duncan C, Weich S, Fenton S-J, Twigg L, Moon G, Madan J, et al. A realist approach to the evaluation of complex mental health interventions. *The British Journal of Psychiatry*. 2018;213(2):451-3.
30. Stokes T, Atmore C, Penno E, Richard L, Wyeth E, Richards R, et al. Protocol for a mixed methods realist evaluation of regional District Health Board groupings in New Zealand. *BMJ Open*. 2019;9(3):e030076.
31. Bertotti M, Frostick C, Hutt P, Sohanpal R, Carnes D. A realist evaluation of social prescribing: an exploration into the context and mechanisms underpinning a pathway linking primary care with the voluntary sector. *Primary health care research & development*. 2018;19(3):232-45.
32. Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative research in psychology*. 2006;3(2):77-101.
33. Saldaña J. *The coding manual for qualitative researchers*: Sage; 2015.
34. Bee P, Brooks H, Fraser C, Lovell K. Professional perspectives on service user and carer involvement in mental health care planning: a qualitative study. *Int J Nurs Stud*. 2015;52(12):1834-45.
35. Gyamfi N, Badu E, Mprah WK, Mensah I. Recovery services and expectation of consumers and mental health professionals in community-based residential facilities of Ghana. *BMC Psychiatry*. 2020;20(1):355.
36. Gyamfi N, Bhullar N, Islam MS, Usher K. Knowledge and attitudes of mental health professionals and students regarding recovery: A systematic review. *International Journal of Mental Health Nursing*. 2020;29(3):322-47.
37. Gyamfi N, Bhullar N, Islam MS, Usher K. Knowledge and attitudes of mental health professionals and students regarding recovery: A systematic review. *International Journal of Mental Health Nursing*. 2020.
38. Brooke-Sumner C, Lund C, Selohilwe O, Petersen I. Community-based psychosocial rehabilitation for schizophrenia service users in the north west province of South Africa: A formative study. *Social Work in Mental Health*. 2017;15(3):249-83.
39. Salyers MP, McGuire AB, Kukla M, Fukui S, Lysaker PH, Mueser KT. A Randomized Controlled Trial of Illness Management and Recovery With an Active Control Group. *Psychiatr Serv*. 2014;65(8):1005-11.
40. Mizock L, Russinova Z, DeCastro S. Recovery Narrative Photovoice: Feasibility of a Writing and Photography Intervention for Serious Mental Illnesses. *Psychiatr Rehabil J*. 2015;38(3):279-82.

41. Mizock L, Russinova Z, Shani R. New roads paved on losses: Photovoice perspectives about recovery from mental illness. *Qualitative Health Research*. 2014;24(11):1481-91.

42. Clements K. Participatory action research and photovoice in a psychiatric nursing/clubhouse collaboration exploring recovery narrative. *J Psychiatr Ment Health Nurs*. 2012;19(9):785-91.

43. Schroder A, Larsson BW, Ahlstrom G. Quality in psychiatric care: An instrument evaluating patients' expectations and experiences. *International Journal of Health Care Quality Assurance*. 2007;20(2):141-60.

44. Pawson R, Tilley N. An introduction to scientific realist evaluation. *Evaluation for the 21st century: A handbook*. 1997;1997:405-18.

Tables

Table 1: Background information of MHPs

ID	Health Facility	Profession	Qualification	Age	Gender	Marital status	Experience
001	Facility 1	Mental health nurse	Diploma in Nursing	52	Male	Married	24
002	Facility 3	Occupational Therapist	BSc Occupational Therapist	26	Male	Single	3
003	Facility 3	Mental Health Nurse	BSc Mental Health Nursing	34	Female	Married	11
004	Facility 3	Clinical Psychologist	MPhil Clinical Psychologist	35	Male	Married	8
005	Facility 3	Psychiatrist	MBChB. MWACP	29	Male	Single	3
006	Facility 3	Psychiatrist	MBChB. MWACP	33	Male	Married	5
007	Facility 3	Psychiatrist	MBChB. MWACP	33	Male	Single	4
008	Facility 3	Lay Art Therapist	MPhil Art Education	29	Female	Married	3
009	Facility 3	Clinical Psychologist	MPhil Clinical Psychologist	53	Male	Married	10
010	Facility 2	Occupational Therapist	BSc Occupational Therapist	28	Male	Single	3
012	Facility 2	Community Mental Health Nurse	Diploma in CMHN	29	Female	Single	7
011	Facility 2	Occupational Therapist	BSc Occupational Therapist	25	Female	Single	3
013	Facility 2	Registered Mental Health Nurse	Diploma in Nursing	35	Female	Married	12
014	Facility 2	Community Mental Health Nurse	BSc Community Psychiatric Nurse	36	Female	Married	11
015	Facility 2	Community Mental Health Officer	Diploma in CMHO	34	Male	Married	9
016	Facility 2	Registered Mental Health Nurse	Bed. Health Sciences	35	Female	Married	18
017	Facility 2	Registered Mental Health	BSc Nursing	35	Female	Married	9

		Nurse					
018	Facility 2	Clinical Psychologist	MPhil Psychology	50	Female	Married	3
019	Facility 2	Physician Assistant (Psychiatrist)	BSc Clinical Psychiatry	56	Male	Married	11
020	Facility 2	Registered Mental Health Nurse	BSc Mental Health Nursing	37	Female	Separated	8
021	Facility 2	Registered Mental Health Nurse	Bed. Health Science	35	Male	Married	10
022	Facility 1	Registered Mental Health Nurse	BSc General Nursing	41	Female	Married	12
023	Facility 1	Psychiatrist	MBChB. MWACP	35	Female	Married	6
024	Facility 1	Social Worker	BA, Post-graduate, MSc Development Economics	40	Male	Married	12
025	Facility 1	Registered Mental Health Nurse	Dip. RMN, BSc Nursing	35	Female	Single	11
026	Facility 1	Registered Mental Health Nurse	MPH Public, BSc Psychology, Diploma Nursing	39	Female	Married	16
027	Facility 1	Clinical Psychologist	MPhil Psychology	30	Female	Married	3
028	Facility 1	Resident Trained Psychiatrist	MBChB	29	Female	Single	4
029	Facility 1	Resident in Psychiatrist	MBChB	36	Female	Single	3
030	Facility 1	Resident	MBChB, MPH	48	Male	Married	12

Min/Max; Mean (25/53; 36.4)

Table 2 CMOcs from the configuration

CMOCs from the configuration	Context + Mechanism=Outcome
CMO configuration 5: Technical competency stimulates evidence-based mental health services	MHPs have received a specialist training, practical skills, certified license as well as being regulated, monitored and supervised (Context). This is achieved through continuous learning, in-service training, professional development plan, multi-disciplinary team, clinical and academic training sessions (tutorials, presentations and discussions)(Mechanisms). These are helping to deliver quality mental health services, by reducing hospitalization days for consumers, improved MHPs knowledge and skills on current treatment methods, providing effective and efficient services to consumers, consumers to built confidence and trust in the care (Outcome) This notwithstanding, MHPs needed in-service training (aggression and conflict management, training in using psychological tools and test, customer care, health promotion, communication skills, infection prevention, operating ECT as well as dealing with difficult family caregivers), inadequate MHPs in clinical and allied health specialties (child and adolescent, forensics, geriatric psychiatry, addiction substance as well as social work and psychological services), adhering to western protocols and clinical judgement with on-going deliberation regarding the need to get a local protocol (Mechanisms)
CMOC configuration 6: Therapeutic alliance-building ensure effective interaction	MHPs build therapeutic relationship in psychoeducation, consultation, diagnosis, as well as family therapy session (Context). This was built through consumers involvement in the care plan, considering consumers educational background, philosophical approach to admission (eg. voluntarily or involuntarily) dignity and respect, making consumers aware of the choices,, building rapport, ethical principles(eg. respecting consumers privacy/confidentiality, dignity, preferences, informed consent, comfort, religion, gender, age, belief systems), need to stop wearing providers uniforms (Mechanisms) and this help equip consumers in management of the condition, enhance consumers' knowledge and understanding, successful compliance with medications, consumers participating actively in the care plan (if educated), consumers feeling accepted, having hope and expectations, adhere to medications, making the service participatory, MHPs avoid being physically attacked or injured by angered consumers, promoting the quality of mental health services, help to avoid distinguishing consumers and providers on duty. (Outcome). This notwithstanding, MHPs have limited knowledge in sign language/no designated sign language interpreter to support communication, and using family caregivers, teachers or instructors or health professionals from other units to provide sign language support (Mechnisms) professional-consumers communication barriers (Outcome)

Table 3 CMOcs from the configuration

CMO configuration 1: Technical competency stimulates evidence-based mental health services		
MHPs have received a specialist training, practical skills, Certified license as well as being regulated, monitored and supervised	Clinical competency aligned to continuous learning	Deliver quality mental health services to consumers
	In-service training and professional development plan	Reducing hospitalization days for consumers.
		Improved MHPs knowledge and skills on current treatment methods
		Providing effective and efficient services to consumers
	Multi-disciplinary team, incorporating different professionals with diverse training	Help consumers to built confidence and trust in the care
	Clinical and academic training sessions (tutorials, presentations and discussions)	Renew their certification and license
	Needed in-service training (aggression and conflict management, training in using psychological tools and test customer care, health promotion, communication skills, infection prevention, operating ECT as well as dealing with difficult family caregivers)	
	Inadequate MHPs in clinical and allied health specialties such as child and adolescent, forensics, geriatric psychiatry, addiction substance as well as social work and psychological services	
	On-going deliberation regarding the need to get a local protocol	Improve quality mental health services
	Adhere to western protocols and also apply clinical judgement	
CMO configuration 2: Therapeutic alliance-building ensure effective interaction		
Build therapeutic relationship in psychoeducation, consultation, diagnosis, as well as family therapy session	Involve consumers in the care plan	Helped to equip consumers in management of the condition
		Enhance consumers' knowledge and understanding
		Successful compliance with medications
	Ensure their dignity and respect	
	MHPs consider consumers education to involve them in the care plan	Consumers participate actively in the care plan if educated/consumers participate less if not educated
	Voluntarily or involuntarily nature of admission is considered	Consumers participate actively in the care plan if admitted voluntarily/participate less if involuntary admission
	MHPs make consumers aware of the choices to respect their fundamental human right	
	The therapeutic relationship naturally starts by building rapport	Consumers feel accepted
		Instilling hope and expectations
		Adhere to medications
		Making the service participatory
	Ethical principles promote therapeutic relationship (eg. respecting consumers privacy/confidentiality, dignity, preferences, informed consent, comfort as well as, religion, gender, age, belief systems)	Avoid being physically attacked or injured by angered consumers
		Promoting the quality of mental health services
	Need to stop wearing providers uniforms	Help to avoid distinguishing consumers and providers on duty
Mandated to provide sign language to consumers with hearing impairment	Limited knowledge in sign language/no designated sign language interpreter to support communication	Affect the quality of mental health services
	Use family caregivers, teachers or instructors or health professionals from other units to provide sign language support	Professional-consumers communication barriers

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [Additionalfile1.doc](#)
- [COREQ.doc](#)