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PERSPECTIVE

Training of front-line health workers in Somalia on mental health: A mixed-methods effectiveness study on the implementation of mental health gap action programme (mhGAP)

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ABSTRACT

Background: In 2020, The Federal Ministry of Health, the World Health Organization and the Somali National University, rolled out a capacity building programme called mental health gap action programme (mhGAP). An eight-day training was delivered to 24 front-line health workers serving local communities and internally displaced persons in five regions across south-central Somalia. This study assessed the effectiveness of mhGAP-training in improving participants' knowledge, understanding and management of priority mental health conditions.

Methods: A mixed-methods sequential design was applied to collect and analyze quantitative and qualitative data. Participants responded to pre- and post-tests with 16 multiple-choice questions, tailored to the content of the training. Quantitative data was analyzed using median scores. Four interviews were conducted five months after the mhGAP-training to collect data on value and effectiveness. Qualitative data were thematically analyzed.

Results: The median (IQR) score was higher in the post-test compared with the pre-test, with 11 (9.5-13) in the post-test against 7 (4-9.5) in the pre-test. A Wilcoxon signed-ranked test revealed that the post-test score was significantly higher (Mdn =11, n =24) compared to the pre-test score (Mdn =7, n =24), z=-3.82, p =0.001, with a large effect size, r =0.5.The participants believed that their new knowledge and clinical skills-set gained had improved readiness for managing mental, neurological and substance use conditions.

Conclusion: The findings indicate effectiveness of mhGAP-training for integrating mental health in primary health care. In view of limited human resources capacity and conditions in Somalia, the study has identified a way to expand mental health care to hard-to-reach communities. A tailored mhGAP training to community health workers may contribute to reducing the substantial treatment gap that exists for mental health care in Somalia.

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Introduction

Globally, mental, neurological and substance use (MNS) disorders affect between 8 to 10 percent of the general population which means an estimated one in eight people in the world live with a MNS disorder [1]. However, a recent estimate by the World Health Organization (WHO) shows that approximately one in five people (22.1 percent) living in conflict-affected settings in the preceding ten years have suffered from mental disorder at any point in time [2]. Despite this, over 75 percent of people in low- and middle-income countries with MNS conditions do not have access to effective mental health care with a treatment gap as high as 90 percent in low resource settings [1,3]. The barriers to care include stigma, inadequate mental health services and a severe shortage of mental health professionals [1,4].

Somalia has experienced decades of conflicts, political instability and climate-related emergencies exacerbating forced displacement, loss of livelihood and social exclusion which significantly increase the burden of mental health conditions such as anxiety, depression, and substance use disorders [5-7]. Poor living and social conditions can also worsen and amplify pre-existing mental health conditions of affected people when there is a huge treatment gap or inadequate health system capacity for appropriate care and treatment [6-7]. In 2023, a joint study by the Federal Government of Somalia and WHO in three conflict-affected zones showed high prevalence of common mental disorders (78.1 percent) with anxiety disorders being the commonest [8].

Overall, Somalia's healthcare system is fragile, weak, fragmented and extremely underfunded. Despite a very high burden and need for mental health care services, a staggering treatment gap exists in the country and a recent study suggests that between 80–90 percent of Somalis who have a mental health condition do not have access to good-quality, affordable mental health care [7]. Most of the affected people (85 percent) in one study had sought help from a Koranic or a traditional healer at least once. The average time for people with a mental health condition to seek care at a health facility from onset of symptoms was 3.5 years [9]. A major barrier to addressing this huge treatment gap is the acute shortage of mental health professionals and specialized services for mental health in the country [10]. There are only a few low-capacity psychiatric hospitals in the country, primarily located in the relatively stable regions of Puntland and Somaliland [11] making the country's mental health services almost non-existent. According to WHO's Mental Health Atlas 2020 [12], there is less than one psychiatrist per 100, 000 populations (0.03 per 100 000) in Somalia with over 17 million people. With just 0.53 mental health professional per 100,000 populations and 0.5 psychiatric beds/100 000 population compared to 24 beds/100,000 populations globally, the country has one of most poorly served populations for mental health in sub-Saharan Africa [12].

To address the treatment gap, WHO since 2008 recommend the use of the mental health gap action programme (mhGAP) for low and middle-income countries [1,13]. The mhGAP intervention guide (mhGAP-IG), developed by WHO in 2010 and subsequently updated in 2016 [14], aim at decentralizing mental health care services to the primary health care level and in community settings. The mhGAP-IG provides evidence-based interventions for identifying and managing ten priority MNS conditions and offers guidelines to train non-specialists in primary healthcare of resource-limited settings to detect and treat common mental health conditions and make appropriate referrals to the next level of care [15]. WHO advises countries to tailor the mhGAP to align with their specific context, resources, and priorities and has recommended a "train the trainers model" [16] to increase the capacity of primary healthcare workers to manage mental health conditions at the first contact point of the health system. Recent evidence suggests that close to 90 countries/ territories, primarily countries classified as low and middle-income countries (LMICs) according to the World Bank's income categories, have implemented the mhGAP-IG [13,17]. The reviews generated so far highlight the importance of task-sharing and increased involvement of non-specialists for effective delivery of mental health care at the primary care level as an effective strategy to address treatment gaps in mental health care in countries facing acute shortage of mental health professionals.

Recognizing the potential, Somalia has taken steps to implement and integrate the mhGAP-IG within its healthcare system. Based on the evidence drawn from many low-resource countries, some international agencies and one state health authority (Somaliland) started implementing the mhGAP at the facility level either through training of frontline health workers in Sool and Sanag region of Somaliland [18] or through in-service training of undergraduate medical students at universities [19]. However, these were fragmented initiatives, concentrated to small geographic regions in the country and limited data exists on the effectiveness of these capacity building programmes, for them to be replicated at a wider level.

During the COVID-19 pandemic, in late 2020, the first national-level mhGAP capacity-building programme was launched in Somalia through a collaboration between WHO, the Federal Ministry of Health (MoH), and Somali National University (SNU). This initiative involved adapting the mhGAP-IG for the Somali context and conducting a national "train-the-trainer" session for primary healthcare staff. This paper aims to describe the process of adapting and rolling out mhGAP-IG in Somalia and evaluates the short-term impact of the training through pre- and post-test results and qualitative assessments of participants' knowledge and confidence. It highlights the importance of scaling up mhGAP to address the country's mental health care gaps effectively.

Figure 1. Sequential study design

Methods

Study design

A mixed methods study design was employed to assess the mhGAP training in Somalia. Both quantitative and qualitative data was collected and analyzed within the same study. Our study approach closely follows the explanatory sequential design of such mixed methods studies. We first collected and analyzed the quantitative data from the pre- and post- test, followed by collection of qualitative data through interviews of a small cohort with the purpose of explaining and connecting with the quantitative data, as described in Figure 1 above.

Participants and recruitment procedure

A total of 25 participants, drawn from frontline health workers of five major cities, were selected for the training of trainers (ToTs) on mhGAP-IG that took place in Mogadishu from 8 to 15 December 2020. The Department of Mental Health and Substance Use at the Federal Ministry of Health in consultation with the Somali National University and state level MoH officials selected the participants. They were from different regions across south central Somalia, namely Banadir Regional Administration, South-West State, Jubaland State and Galmudug State. One participant dropped out on the fourth day of the ToT, so 24 participants successfully completed the ToT and were awarded a certificate. Our study population consisted of these 24 ToT trainees.

For the qualitative part of the study, four participants amongst the 24 were selected, and were interviewed five months after the ToT was completed. Of these, two were from Kismayo, and one each from Dolow and Baidoa. One participant was a medical doctor, two were nurses and one was a public health officer. The medical doctor worked with a non-profit organization providing health services including mental health care. One nurse worked for the state government as a public health nurse while the other nurse was employed by an international organization as a mental health and psychosocial support (MHPSS) clinician serving internally displaced people. The public health officer was employed in the decision-making position of a mental health hospital with a 100-bed capacity.

Personal information that includes the names, training background, profession, place of work, and contact details were provided by the MoH as part of the selection process. The same information was confirmed/verified during the first day of training. For this study, participants were anonymized and as such their names, contact details, and place of work were removed.

Assessment of pre- and post-tests

We employed similar questionnaires for pre- and post-tests to evaluate the knowledge of the training participants regarding MNS. We adjusted the questionnaires in the mhGAP-IG to align with the educational materials of the guideline utilized for this ToT. The pre- and post-test questionnaire had 16 items pertaining to prioritized mental health conditions. A score of 1 was allocated for each accurate response, while a score of 0 was designated for incorrect answers. If a participant answered all 16 items correctly, their total score was 16. A higher score indicated more knowledge of the subject area by the participant. We have computed the median score values from all participants' scores in the pre-test and post-test. At the beginning of the training and before the commencement of the first lecture, the pre-test was administered, and then a post-test was administered at the end of the final lecture on day eight to assess knowledge on mhGAP. After grading the pre-test, the questionnaire booklet and answers were not handed back to the participants but rather their grades were provided verbally.

Follow-up interview of participants

The interviews with four participants, selected from the ToT trainees, were conducted through online video calls and took an average of 40 minutes each. The interview questionnaire was developed by the first (MI), second (AS), fourth (ZN) and seventh (MOM) authors; all are fluent in Somali and English. A structured interview guide was used. The questionnaire covered topical issues ranging from the participant's background information, previous experience of participating in a similar training programme or previous work experience on mental health, impact of the mhGAP-IG ToT training in their perspectives, knowledge and attitudes, as well as their views on how to improve mental health care through continuous education for frontline health workers in primary care settings.

Table 1. Background information of the participants of the training of trainers (n=24)

Variables	Specifics	n
Gender	Females	6
	Males	18
Profession	Doctor	9
	Nurse	10
	Midwife	4
	Public health	1
Training and mental health experience background	Has taken pre-service mental health theory course during university training	16
	Has taken pre-service clinical practice in mental health during university training	5
	Has attended in-service training in mental health	7
	Has work experience in mental health	7

Data analysis

For the quantitative data collected for this study, data organization and statistical analysis were conducted using excel and IBM SPSS 26.0. First, the data were checked for consistency and then descriptive statistical analysis was performed. For continuous variables, summary statistics were presented as a median (inter quartile range [IQR]). To assess whether the knowledge on priority MNS conditions was significantly changed amongst the ToT participants after the training, a Wilcoxon signed ranked test was performed with the pre- and post-test score of the ToT trainees using IBM SPSS Statistics 26.0. The Wilcoxon signed ranked test was chosen due to the non-parametric nature of the data and the paired design of the study, which did not meet the assumptions of normality required for parametric tests. This test compares the ranks of paired data points (i.e., scores before and after intervention) and tests the null hypothesis that the median difference between paired observations is zero. A significance level of $p < 0.05$ was used to determine statistical significance. For the qualitative component of the study, the information gathered from interviews was transcribed, synthesized and analyzed by major thematic areas relevant to capacity building of frontline health workers in the country.

Result

Characteristics of participants

Table 1 summarizes demographic characteristics of the mhGAP training of trainers' participants. Out of the 24 participants, 18 (75 percent) were male and 6 (25 percent) were female. Ten were nurses (41.7 percent). Others were doctor/physicians (n=9; 37.5 percent), midwives (n=4; 16.7 percent), and one participant was a public health officer. More than half (n=16; 66.7 percent) of the training participants had taken a pre-service mental health theory course during university training with mean hours of training of 51 hours (SD±13.9 hours). However, most of the training participants (79.2 percent) had never taken pre-service clinical practice before. Conversely, a similar proportion (70.8 percent) did not take any in-service training in mental health while nearly 70 percent of the participants had no work experience in mental health.

Assessment of pre- and post-test results

The proportions of correct answers to the 16 questions on knowledge of MNS were significantly increased after the mhGAP ToT training. The median (IQR) score of all ToT training participants for the pre-test was 7 (4-9.5) while the median (IQR) score of ToT training participants for the post-test was 11 (9.5-13). A Wilcoxon signed-ranked test revealed that the post-test score of the training participants was significantly higher (Mdn =11, n =24) after the training compared to pre-test score (Mdn =7, n =24), z=-3.82, p =0.001, with a large effect size, r =0.5. Figure 2 summarizes the result of the pre-and-post-tests conducted before and after the ToT.

Thematic analysis of qualitative data gathered from the interviews

Analysis of the qualitative data gathered from the four interviews revealed four main themes: (i) effect of training on knowledge gain, confidence building and change in skills set; (ii) effect of training on increased readiness and utilization of services for mental health in primary care; (iii) barriers to integrating mental health care in primary care settings; and (iv) opportunities for expanding mental health care for hard-to-reach and marginalized population.

Effects on knowledge gains, confidence building and change in skills-set

Overall, the training was seen as a means of improving the participants' clinical skills and knowledge on assessment, identification and treatment of priority MNS conditions at the primary healthcare level. The participants' confidence and capability to identify and recognize mental health conditions grew substantially through participating in the ToT. Before the training, they felt ill equipped both in terms of knowledge, skills and confidence to deal with common mental health conditions in their practice. However, after the training, they felt they were better equipped in terms of clinical skills and knowledge to assess, identify, and treat common mental

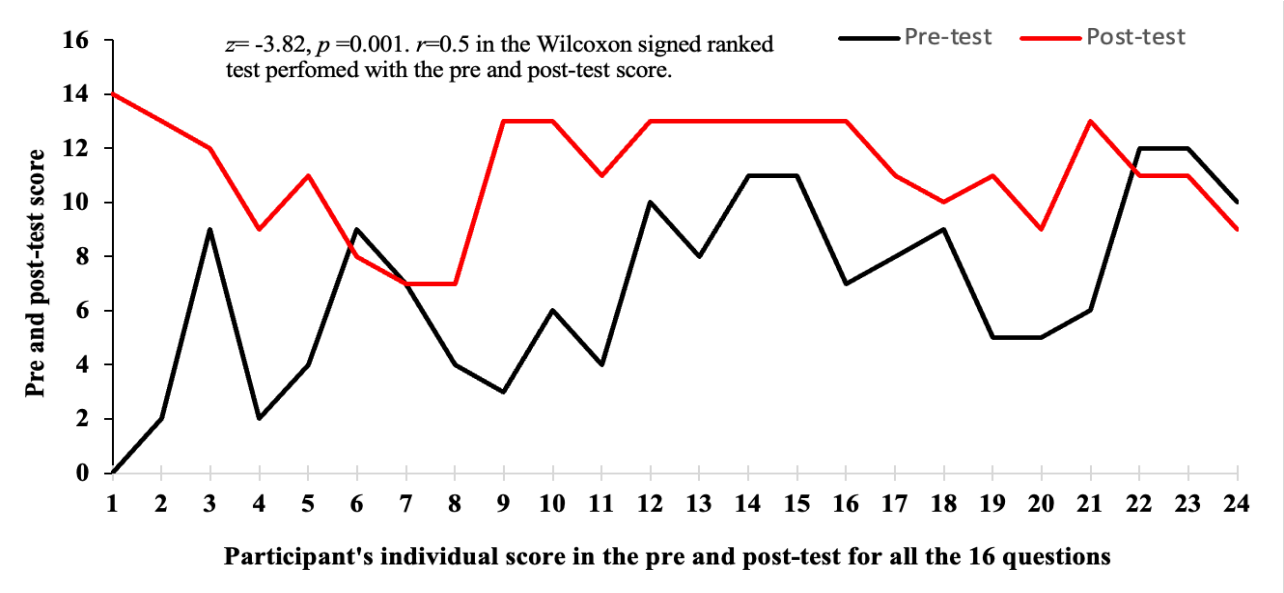

Figure 2. Pre and Post-test score of the participants (n=24)

health conditions.

> *"I have attended other MH trainings before; this was one of the most effective trainings after the WHO Hargeisa training in 2009. It was a good refresher course for me. The mhGAP training was complete. It gave me confidence in my own skills and practice to address [mental health] conditions coming to my facility […] The previous trainings were short, but this was comprehensive, especially the psychosocial interventions"*. (Participant 1).

> *"…the training gave me strong clinical skills and focused more on mental health. Now I have better knowledge and skills after mhGAP. Previous university teaching was minimal with some lessons on psychology."* (Participant 2).

The trainees revealed that the mhGAP-IG training package had a positive impact on confidence building to deal with common mental health conditions in their clinical practice in two ways. First, they acquired the required level of knowledge for assessing the mental health conditions of patients coming to their clinics or health centers. Second, they were able to treat their patients for their existing mental health conditions and follow up with the patients and their families on the clinical outcome of the treatment they received.

The participants also felt that the training has helped them to identify signs and symptoms of gradual recovery and when to refer to higher levels of care. The participants felt that mental health care was missing from their treatment pathway in the past, but the ToT has enabled them with the knowledge and required clinical skills to deal with patients suffering from common mental health conditions with confidentiality and respect. As shared by one of the nurses:

> *"Previously I had limited experience about mental health, just epilepsy and treating with phenobarbital but now I know about psychosis, depression, substance use disorder, behavioral change approach, communication skills, and psychosocial interventions among others"*. (Participant 2).

The training further boosted the participants' knowledge and confidence to effectively engage with patients' families and other care givers of patients in ways they did not do or know before the training. Such effective engagement and interaction with the families of the patients have contributed to reducing stigma and other harmful cultural practices in the community which may have resulted in improved care seeking behaviour.

> *"I come to know a lot, it has changed my attitude, my beliefs around treatment, before, we asked family members to take back their loved ones to traditional or spiritual healing. I have 13 clients under my care in my clinic"*. (Participant 2).

The participants believed that the focus of the mhGAP training on building effective communication skills has helped the participants to effectively engage with the patients and their families. The first module of the ToT training focused on two main principles: use of effective communication skills and promoting respect and dignity of the patients suffering from mental health conditions. The utilization of diverse teaching methods such as videos, role play, and case studies seemed to have had positive impact on trainees' approach to the patients and their families by way of showing empathy and engaging in a respectful way This is summed up by one of the participants:

> *"Most important - the communication skills were very helpful. The most challenging thing for me in the past was how to approach a mental health patient, ask questions and communicate effectively and that has now changed. The course helped me build my basic communication skills in working with mental health patients as normal communication is one of the affected faculties in persons with mental illness"*. (Participant 1).

Readiness for improved care and effect on service utilization

The participants acknowledged that they have used the knowledge acquired through the ToT for organizing cascade trainings for other primary health care workers at the facility level. This has, in turn, translated positively into a change in mindset of frontline health workers being ready to deliver mental health care in primary care settings. As a result, the participants felt that the readiness for delivery of care for people with MNS conditions, in general, has improved in those settings where the staff undertook the training on mhGAP.

In addition, it also emerged how this increased readiness has transcended into improved service utilization of primary health care facilities for mental health. For example, mental health assessments had been included in the triage of every patient coming to the primary healthcare facilities following these cascade trainings. This has resulted in increased case detection of mental health conditions even when the patients main presenting symptoms and reasons for consultation were not related to mental health. A recurrent theme among the interviewees was a shift in their understanding of the value of early recognition of mental health conditions at the first entry point of the health system and how effectively these conditions can be treated at that level with some commonly available drugs, empathetic counselling, showing dignity and respect to the patients as well as regular follow-up at the family and community level. The interviewees repeatedly mentioned that they are more sensitized now than before on the value and importance of identifying individuals with MNS conditions early on and its tangible benefit to the patients, their families and to the community. One participant shared this comment:

> *"The gap is huge and the need for PHC [primary health care] integration is key and that is why this training was crucial. For example, now, any clinic visit includes a mental health assessment which was not the case before. Health workers have the clinical guidelines, know the questions to ask and in that way, patients don't need to visit a mental health clinic just for mental health issues and their needs are met at the same clinic. In fact, during one of the visits by the Ministry of Health they have praised this approach"*. (Participant 3).

The availability and readiness to deliver care for mental health conditions seem to have improved at all primary care levels in some locations following the ToT. For example, some participants reported to provide consultation for mental health conditions at private clinics; something which they did not dare to do before owing to lack of knowledge and clinical skills. One nurse mentioned:

> *"I have medications for mental health issues. It has really changed me as a professional. Of the 13 clients, I have treated three successfully, one is also doing well and following up with nine clients at the moment"* (Participant 2).

The participants noted that such initiatives (providing consultations for mental health conditions at private clinics) had bridged the existing treatment gap for mental health in certain places where such services were either not available or accessible before owing to geographic distance or travel-related constraints of the patients and their families.

Barriers to integrating care at the primary health care setting

The benefits from the training notwithstanding, the participants' positive perspectives also revealed some level of frustration in their experience. Particularly, health system constraints were cited to hinder the full benefit of the training. For example, one participant was concerned about the lack of availability of psychotropic medicines for mental health at the primary health center managed by the public sector, and the proliferation of counterfeit medications in the private market.

> *"The issue of medication supply is so crucial and there is lack of supply. There is also counterfeit medications and this needs to be addressed."* (Participant 4).

The non-availability and stock out of psychotropic drugs at the primary health care level, which are essential for treatment of common mental health conditions was a recurrent frustration of the participants who undertook the ToT training. This was cited by the participants as a major barrier to providing mental health care services at the primary care level and a major hindrance for bridging the staggering treatment gap that exists for mental health in the country.

> *"Medication supply is hugely needed if we want to optimize our acquired knowledge and new diagnostic skills."* (Participant 2).

Opportunities for making mental health care more accessible and affordable to the hard-to-reach community

The interviews also pointed to opportunities for expanding the benefits from the ToTs using the mhGAP module in ways that would further strengthen the health systems through integrating mental health into the community-based care. One of the ways, the participants felt, could be to train community volunteers on the basic steps of assessment and recognition of common mental health conditions and use a referral pathway to enable proper care for those who are missing out on early detection and care owing to stigma, discrimination and lack of community awareness. The participants felt that empowering the lay health workers at the community level will improve detection of cases with early signs and symptoms of mental health conditions, their appropriate home care and referral to higher care level when needed. This way, many patients not seeking healthcare owing to stigma, discrimination and other forms of harmful practice will be identified and receive proper care appropriate for

their conditions.

> *"The need for MHPSS training for volunteers and auxiliary workers will be important. The awareness is helping to sensitize the local communities, and this is new since we didn't have that before."* (Participant 1).

Discussion

In this study, we present findings of a capacity building programme organized at national level for frontline health workers in Somalia for the integration of mental health at primary care level. A train-the-trainer model was used to conduct training of 24 primary health care workers who were selected across the country representing different states and regions. We have assessed the effectiveness of these initiatives using a mixed-methods study design and, probably, this is the first time such an evaluation is being conducted. In the past, a similar capacity building programme has been implemented in Somaliland which is an autonomous state of Somalia [18-19] but the effectiveness has not been studied or published. Though several low-resourced countries in Africa have implemented training of trainer's model to implement mhGAP at the primary health care level [15-16, 20], the impact and effectiveness of such training within individual countries remain limited [20]. This paper adds to the evidence seen in other countries that integrating mental healthcare at the primary health care in complex humanitarian setting is feasible through training of non-specialized service providers.

We have seen significant knowledge gain, improved confidence and a strong positive mindset of non-specialized care givers of primary health care settings for identifying and treating patients with MNS conditions after the training. Both the quantitative (result of pre- and post-test) and qualitative (interviews) data collected for our study indicate a change in perception, attitude and perceived abilities of non-specialized primary health care workers to deliver care for mental health. These findings, anecdotally, also suggest a positive trajectory in case reporting through destigmatizing mental health conditions and care seeking behaviour in the community. Our findings are consistent with other study findings conducted in low and middle-income countries in the past with similar evaluation design. For example, in Malawi, evaluation of mhGAP training of primary healthcare workers using a quasi-experimental design has reported an increase in mean knowledge score from 11.8 (SD:0.33) in the pre-test to 15.1 (SD:0.38) in the post-test [15]. The study also noted a significant upward change in the utilization of mental health services after training. Similar to our findings, improvement of knowledge and confidence of primary health care workers in treating the priority MNS conditions have also been observed in Kenya [21] and South Africa [22]. In another study by Ahrens et al [16], implementing mhGAP-based training increased the knowledge and confidence amongst the non-specialist health care workers immediately after the training in comparison to pre-training and this knowledge gain was retained even 6 months after completion of training. This knowledge gain has resulted in increase in case detection rate for MNS conditions immediately after the training in comparison to pre-training. In Tunisia [23], statistically significant changes were observed for increased mental health knowledge, attitude and increase in self-perceived confidence in capabilities to detect, treat and manage mental health disorders at the primary care level. Similarly, evidence also showed that mhGAP-IG capacity building programmes in refugee settings of Cameroon, Chad, the Democratic Republic of the Congo and Uganda led to 10 percent average increase in mental health knowledge, 15 percent average increase in technical skills as well as improvement in case management skills [20]. In Pakistan, for example [24], the pre and post-test result of training of trainers for implementing mhGAP in internally displaced population settings showed significant improvement in the capacity of primary health workers in recognizing and managing common mental health disorders. Similar results have been demonstrated while responding to the mental health needs of Syrian refugees in Turkey [25]. There were knowledge gains to the level of 5 to 9 percent amongst the healthcare workers which resulted in increase in identification of mental health cases by 38 percent over a three-year period. In addition, client satisfaction was high, and quality of care was perceived to be satisfactory.

Though trainings of primary care workers have proved to be effective across the world for integrating mental health care into the primary care level, training alone doesn't often lead to improved detection and treatment of mental health conditions without a structural change and addressing other health system barriers [26-27]. The benefits of roll out of mhGAP for addressing the huge treatment gap that exists in Somalia can be realized fully if mental healthcare is delivered at the community level through the existing community health workers and integrating it with the closest primary health care center for appropriate referral pathways. Owing to insecurity and geographical inaccessibility, many marginalized populations living in conflict zones and other informal settlements do not seek health care when needed. It is usually these groups of people who experience the huge burden of mental health disorders. Therefore, using community health workers, basic mental health care can be delivered close to where these people live, and the outcome of such interventions can be impactful and far-reaching. One such example of a successful intervention using female community health workers exists in Somaliland [28]. A five-year intervention programme on delivering mental health care using female community health workers in a poor setting witnessed increased case detection of mental health conditions in the community, increased number of people with MNS disorders receiving care in their home environment and a notable reduction in stigma and discrimination in the community against people with MNS disorders. Drawing on this evidence and considering the specific situation prevailing in the country where large number of people are trapped in

active armed conflict zones and experience difficulty accessing health care, we think a tailored and contextualized training of community health workers on mhGAP will enable care for mental health conditions in the community. If this can be achieved along with training of frontline health workers in the country, the current treatment gap for mental health conditions will be substantially reduced. Evidence has also shown that close supervision of the work of primary care workers who have been trained on mhGAP-IG from higher levels, either in person or using any other digital means, plays an important role in knowledge retention as well as in improvement of quality of care delivered. Proper record keeping on new and old cases of mental health conditions identified, treated and followed up at every facility level will help in ensuring that the impact of these capacity building programmes is sustainable in the longer run [29].

Strengths and limitations

Our study has notable limitations. The conclusions of our study are primarily based on the pre- and post-test results of 24 ToT participants. As such, owing to potential information bias, which is inherent in this type of study design, and the small size, the findings may not be applicable to the entirety of Somalia. Since we did not have a control group, our result showcasing changes in attitude and perception of training participants may be subject to confounding and cannot be attributed directly to the impact of the training itself. Consequently, we may be unable to deduce causality and overlook potential alternative causal attributions. We also cannot rule out selection bias while recruiting the interviewees for the qualitative part of our study as they were not randomized.

The qualitative data, gathered from the interviews, pointed out significant changes in service utilization and service delivery. However, as this is self-reported information, the information should be regarded as an indication and may be subject to factual inconsistencies or errors. We could not ascertain this self-reported information, as a major limitation of our study was also non-availability of data on cases of mental health conditions detected and treated at those primary health care settings where the ToT trainees were deployed as care givers. The health information system in the country was not collecting any data on mental health conditions at the facility level at the time of conducting this training. Therefore, in the absence of such data, we cannot conclude what impact these trainings had on delivery of care or clinical outcome of service users at the facility level. Notwithstanding these limitations, this was a unique capacity building programme, where Somali experts from a local university, policy level officials from the Ministry of Health and qualified mental health specialists working for international organizations who are all fluent in Somali language collaborated and participated in the ToT including contextualizing and adapting the mhGAP-IG and translating the guide in Somali language. This facilitated more nuanced communication, conversations, and interpretations of various events in the local language for both trainers and trainees during the ToT and other cascade training. This was also the first such training on the implementation of mhGAP-IG in the country, whose effectiveness has been evaluated using a reproducible design and methodology employed in numerous other low-income nations in Africa and Asia [16, 20, 24-25]

Conclusion

This study provides compelling evidence to Somali policymakers that train-the-trainers model and cascade training utilizing the adapted mhGAP-IG learning materials can be an effective strategy for enhancing knowledge and capabilities of frontline health workers in Somalia for managing and treating people with priority MNS disorders at the primary care level. As previous global research indicates, such capacity-building programmes of non-specialists should be supported by regular oversight and supervision from higher authorities to optimize the full benefits. By conducting regular supervision and assessment by higher levels and monitoring the detection of priority mental health conditions at the primary care level as indicators of change, progress can be made in the integration of mental health services into primary health care. In view of that the country's vast majority of people live in hard-to-reach and inaccessible areas, it is also prudent to consider delivery of basic mental health care services at the community level through trained community health workers. This way, mental health care can be brought close to families of vulnerable communities in Somalia ensuring a continuum of care, improve access and optimal coverage for mental health conditions and reduce the treatment gap.

CINWAAN

Tababarka shaqaalaha caafimaadka ee safka hore ee Soomaaliya ee ku saabsan caafimaadka dhimirka: Daraasad waxtar leh oo habab isku dhafan oo ku saabsan hirgelinta barnaamijka waxqabadka caafimaadka dhimirka.

SOOKOOBID

Asalka: Sannadka 2020, Wasaaradda Caafimaadka ee Federaalka, Ururka Caafimaadka Adduunka iyo Jaamacadda Ummadda Soomaaliyeed, ayaa daah-furay barnaamij karti-dhis ah oo loo yaqaan barnaamijka waxqabadka caafimaadka dhimirka ("mental health gap action programme"; mhGAP). Tababar siddeed maalmood socday oo ku saabsan toddobo qaybood oo ka mid ah hagaha faragelinta mhGAP ayaa la siiyay 24 ka mid ah shaqaalaha caafimaadka ee safka hore ee u adeegaya bulshooyinka maxalliga ah iyo dadka gudaha ku barakacay ee shanta gobol ee ku yaalla koonfurta iyo bartamaha Soomaaliya, si caafimaadka dhimirka loogu daro daryeelka caafimaadka aasaasiga ah. Daraasadani waxay qiimeysay waxtarka tababarka mhGAP ee horumarinta aqoonta ka qaybgalayaasha, fahamka iyo maaraynta xaaladaha caafimaadka maskaxda ee mudnaanta leh.

Hababka: Hababka isku dhafan ee naqshadaynta isku xigxiga ayaa lagu dabaqay si loo ururiyo loona lafaguro xogta tirada iyo tayada. Ka qaybgalayaashu waxay kaga jawaabeen imtixaanadii kahor iyo kadib 16 su'aalood oo kala doorasho ah, oo lagu saleeyay nuxurka qaybaha tababarka. Xogta tirada ayaa lagu falanqeeyay iyadoo la isticmaalayo dhibcaha dhexdhexaadka ah. Afar waraysi ayaa la qaaday shan bilood ka dib tababarka mhGAP-ta si loo ururiyo xogta ku saabsan qiimaha iyo waxtarka. Xogta saameysa tayada ayaa iyana si toos ah loo falanqeeyay.

Natiijooyinka: Dhibcaha dhexdhexaadka ah ee imtixaanka kaddib oo ahaa 11 (IQR: 9.5-13) ayaa ka sarreeyay marka la barbar dhigo kuwii la qaaday imtixaanka ka hor oo ahaa 7 (IQR: 4-9.5)r. Imtixaan la saxeexay oo Wilcoxon (Wilcoxon signed-ranked test) ayaa shaaca ka qaaday in dhibcaha imtixaanka ka dib ay aad u sareysay (MD = 11, n = 24) marka la barbar dhigo kuwii imtixaankii hore (Md = 7, n = 24), z = -3.82, p = 0.001, oo leh cabbir weyn oo saameyn leh, r = 0.5. Ka qaybgalayaashu waxay rumaysnaayeen in aqoontooda cusub iyo xirfadahooda caafimaad ee ay heleen ay hagaajiyeen diyaargarowga maaraynta xaaladaha dhimirka, neerfaha iyo xaaladaha isticmaalka maandooriyaha.

Gabagabo: Natiijooyinku waxay muujinayaan waxtarka tababarka mhGAP ee isku dhafka caafimaadka dhimirka iyo daryeelka caafimaadka aasaasiga ah. Iyadoo la eegayo xaddidnaanta awoodda shaqaalaha caafimaadka iyo duruufaha Soomaaliya, daraasaddu waxay ogaatay hab lagu ballaariyo daryeelka caafimaadka dhimirka ee bulshooyinka ay adag tahay in la gaaro. Tababarka shaqaalaha caafimaadka bulshada iyadoo la isticmaalayo xirmo tababar oo mhGAP ah waxay dhisi kartaa daryeel joogto ah oo loogu talagalay dadka la takooro ee la nool xaaladaha caafimaadka dhimirka. Tani waxay wax ka qaban kartaa daawo-yarida ka jirta daryeelka caafimaadka dhimirka ee Soomaaliya.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Author contributions

MI was the senior most author and lead the capacity building programme contributing to its overall success. MI also coordinated the development of the training materials and prepared the first conceptual draft of the manuscript. Both MI, AS, MMR, ZN, MM, FC, MOM and JN were involved in reviewing the data analysis and contributed to the write-up of the manuscript.

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References

[1] World Health Organization. World mental health report: transforming mental health for all. Geneva: World Health Organization: 2022.

[2] Charlson F, van Ommeren M, Flaxman A, Cornett J, Whiteford H, Saxena S. New WHO prevalence estimates of mental disorders in conflict settings: a systematic review and meta-analysis. The Lancet. 2019 Jul 20;394(10194):240-8. DOI: 10.1016/S0140-6736(19)30934-1

[3] Patel V, Maj M, Flisher AJ, De Silva MJ, Koschorke M, Prince M, WPA Zonal and Member Society Representatives, Tempier R, Riba M, Sanchez M, Campodonico FD. Reducing the treatment gap for mental disorders: a WPA survey. World Psychiatry. 2010 Oct;9(3):169-76. DOI: 10.1002/j.2051-5545.2010.tb00305.x

[4] Islam, M.M., Siyad, A.A. & Malik, S.M.M.R. Mental health problems in Somalia after decades of humanitarian crises: a qualitative exploration of perceptions and experiences. Trop Med Health 52, 58 (2024). DOI: 10.1186/s41182-024-00618-z

[5] Ibrahim, M., Rizwan, H., Afzal, M. et al. Mental health crisis in Somalia: a review and a way forward. Int J Ment Health Syst 16, 12 (2022). DOI: 10.1186/s13033-022-00525-y

[6] Ryan G K, Bauer A, Endale T, Qureshi O, Doukani A, Cerga-Pashoja A, et al. Lay-delivered talk therapies for adults affected by humanitarian crises in low- and

middle-income countries. Confl Health, 2021;15(1):1–16. DOI: 10.1186/s13031-021-00363-8

[7] Carpiniello B. The Mental Health Costs of Armed Conflicts—A Review of Systematic Reviews Conducted on Refugees, Asylum-Seekers and People Living in War Zones. International Journal of Environmental Research and Public Health. 2023; 20(4):2840. DOI: 10.3390/ijerph20042840

[8] Salad AM, Malik SM, Ndithia JM, Noor Z, Madeo M, Ibrahim M. Prevalence of mental disorders and psychological trauma among conflict-affected population in Somalia: a cross-sectional study. Frontiers in Public Health. 2023 Sep 27;11: DOI: 10.3389/fpubh.2023.1219992

[9] Syed Sheriff RJ, Reggi M, Mohamed A, Haibe F, Whitwell S, Jenkins R. Mental health in Somalia. Int Psychiatry. 2011;8(4):89–91. DOI: 10.1192/S1749367600002757

[10] Ibrahim M, Malik MR, Noor Z. Investing in mental health in Somalia: harnessing community mental health services through task shifting. Global Mental Health. 2022 Jan;9:94-8. DOI: 10.1017/gmh.2022.4

[11] Abdillahi FA, Ismail EA, Singh SP. Mental health in Somaliland: a critical situation. BJPsych international. 2020 Feb;17(1):11-4. DOI: 10.1192/bji.2019.14

[12] WHO Global Health Observatory data repository. Beds. Data by country. Geneva: World Health Organization; 2019. https://apps.who.int/gho/data/node.main.MHBEDS?lang=en (accessed 12 November 2024).

[13] Keynejad R, Spagnolo J, Thornicroft G. WHO mental health gap action programme (mhGAP) intervention guide: updated systematic review on evidence and impact. BMJ Ment Health 2021;24:124-130. DOI: 10.1136/ebmental-2021-300254

[14] World Health Organization. mhGAP Intervention Guide - Version 2.0, 2016. Available: https://www. who. int/ publications/ i/ item/ mhgap- intervention- guide- version- 2.0.

[15]15. Kokota, D., Lund, C., Ahrens, J. et al. Evaluation of mhGAP training for primary healthcare workers in Mulanje, Malawi: a quasi-experimental and time series study. Int J Ment Health Syst 14, 3 (2020). DOI: 10.1186/s13033-020-0337-0

[16]16. Ahrens, J., Kokota, D., Mafuta, C. et al. Implementing an mhGAP-based training and supervision package to improve healthcare workers' competencies and access to mental health care in Malawi. Int J Ment Health Syst 14, 11 (2020). DOI: 10.1186/s13033-020-00345-y

[17]17. Spagnolo J, Lal S. Implementation and use of the Mental Health Gap Action Programme Intervention Guide (mhGAP-IG): A review of the grey literature. J Glob Health. 2021 Apr 17;11:04022. DOI: 10.7189/jogh.11.04022

[18] Abdi YA, Hersi LA. A National Program to scale up investment and reducing the gap in mental health in Somaliland: first year achievements. Somali Health Action Journal. 2023 May 16;3(1). DOI: 10.36368/shaj.v3i1.342

[19] Chaulagain, A., Pacione, L., Abdulmalik, J. et al. WHO Mental Health Gap Action Programme Intervention Guide (mhGAP-IG): the first pre-service training study. Int J Ment Health Syst 14, 47 (2020). DOI: 10.1186/s13033-020-00379-2

[20] Echeverri C, Le Roy J, Worku B, Ventevogel P. Mental health capacity building in refugee primary health care settings in Sub-Saharan Africa: impact, challenges and gaps. Global Mental Health. 2018;5:e28. DOI: 10.1017/gmh.2018.19

[21] Jenkins R, Kiima D, Njenga F, Okonji M, Kingora J, Kathuku D, Lock S. Integration of mental health into primary care in Kenya. World Psychiatry. 2010 Jun;9(2):118-20. DOI: 10.1002/j.2051-5545.2010.tb00289.x

[22] Petersen I. Training for transformation: reorientating primary health care nurses for the provision of mental health care in South Africa. Journal of Advanced Nursing. 1999 Oct;30(4):907-15. DOI: 10.1046/j.1365-2648.1999.01166.x

[23] Jessica Spagnolo, François Champagne, Nicole Leduc, Michèle Rivard, Wahid Melki, Myra Piat, Marc Laporta, Imen Guesmi, Nesrine Bram, Fatma Charfi, Building capacity in mental health care in low- and middle-income countries by training primary care physicians using the mhGAP: a randomized controlled trial, Health Policy and Planning, Volume 35, Issue 2, March 2020, Pages 186–198, DOI: 10.1093/heapol/czz138

[24] Humayun A, Haq I, Khan FR, Azad N, Khan MM, Weissbecker I. Implementing mhGAP training to strengthen existing services for an internally displaced population in Pakistan. Global Mental Health. 2017;4:e6. DOI: 10.1017/gmh.2017.1

[25] Karaoğlan Kahiloğulları, A., Alataş, E., Ertuğrul, F. et al. Responding to mental health needs of Syrian refugees in Turkey: mhGAP training impact assessment. Int J Ment Health Syst 14, 84 (2020). DOI: 10.1186/s13033-020-00416-0

[26] Jenkins, R., Othieno, C., Okeyo, S. et al. Short structured general mental health in service training programme in Kenya improves patient health and social outcomes but not detection of mental health problems - a pragmatic cluster randomised controlled trial. Int J Ment Health Syst 7, 25 (2013). DOI: 10.1186/1752-4458-7-25

[27] Goncalves DA, Fortes S, Campos M, Ballester D, Portugal FB, Tófoli LF, Gask L, Mari J, Bower P. Evaluation of a mental health training intervention for multidisciplinary teams in primary care in Brazil: a pre-and posttest study. General hospital psychiatry. 2013 May 1;35(3):304-8. DOI: 10.1016/j.genhosppsych.2013.01.003

[28] Abdi YA, Said NI, Hared YA, Ayeh I, Walhad SA. Mental health care delivery in poor settings through trained female community health workers: A five-year intervention program in Somaliland. Somali Health Action Journal. 2021 Oct 25;1(1). DOI: 10.36368/shaj.v1i1.246

[29] Charlson, F., Chang, O., Kubuabola, I. et al. Implementation of the mental health Gap Action Programme (mhGAP) within the Fijian Healthcare System: a mixed-methods evaluation. Int J Ment Health Syst 13, 43 (2019). DOI: 10.1186/s13033-019-0301-z