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Annals of Community Medicine and Primary Health Care

Open Access | Review Article

Exploring the Impact of Lay Counseling Model in Terms of Competency and Diversity of Problems in Primary Health Care Settings in Pakistan - A Mixed Method Retrospective Study

Maria Baig; Onaiza Qureshi; Iqra Nasir; Aatika Ahmed; Aneeta Pasha*

Interactive Research and Development Karachi, Pakistan.

***Corresponding Author(s): Aneeta Pasha**

Interactive Research and Development Karachi, Pakistan.

Email: aneeta.pasha@ird.global

Received: Sep 07, 2022

Accepted: Oct 03, 2022

Published Online: Oct 05, 2022

Journal: Annals of Community Medicine and Primary Health Care

Publisher: MedDocs Publishers LLC

Online edition: http://meddocsonline.org/

Keywords: Primacy Health Care (PHC); Lay counseling model; Low and Middle Income Countries (LMICs); Underprivileged communities.

Abstract

The integration of mental health services in primary health care settings through a lay counseling approach is a globally recognized, evidence-based and an effective public health approach to bridge the mental health care gap. This gap is a result of the high demand for and lack of mental health professionals who can cater to diverse and complex mental health issues influenced by culture and context. While evidence exists on the efficacy of this approach, there are comparatively fewer studies on analyzing lay counselor performance during primary care integration or the process by which they learn and translate their learning and experience into practice. This paper examines the competency development of lay Community Health Workers (CHWs) who deliver mental health counseling in low resource settings. We also seek to identify and share key challenges and mitigation strategies for the task-sharing approach through a mixed-methods retrospective analysis in primary care settings. The sample consisted of 242 clients (people enrolled for community mental health counseling), and 12 lay counselors deployed at 6 primary health care sites between February 2020 to April 2021. We found that with rigorous training lay counselors can efficiently deal with diverse mental health problems in primary health care.

Introduction

Background

Globally, mental health disorders are increasingly becoming a public health concern. With detection and diagnosis for mental health problems becoming more widespread, one in eight individuals are likely to experience a mental disorder in their lifetime [1]. Many people lack access to appropriate care, resulting in unnecessary suffering, related disabilities, and financial loss due to impairment in mood and functioning [2]. It is widely acknowledged that mental and physical health are intimately linked. To this end, integrating mental health into routine primary care has been recommended to address the burden of untreated mental disorders through physical comorbidities, and achieve more holistic health and well-being outcomes. Primary care integration also promotes comprehensive and person-centered care, offers care without the stigma, discrimination and

Cite this article: Baig M, Qureshi O, Nasir I, Ahmed A, Pasha A. Exploring the Impact of Lay Counseling Model in Terms of Competency and Diversity of Problems in Primary Health Care Settings in Pakistan - A Mixed Method Retrospective Study. Ann Community Med Prim Health Care. 2022; 1(1): 1011.

possibility of inhumane treatment associated with psychiatric facilities [3].

The treatment gap for mental disorders is extensive in terms of the prevalence of mental disorders and those able to access treatment. In LMICs like Pakistan, there is only 1 psychiatrist for 100,000 people [4]. This ratio is even more conservative in rural areas and urban slums due to access barriers of distance and cost. Task shifting (the act of transferring knowledge and skills to a non-specialist workforce to deliver healthcare interventions) is acknowledged as a practical solution to addressing this challenge and enhancing health systems throughout the world [5]. Many international programs have utilized lay counselors to address the treatment gap in their countries. But for task-shifting to be successful and to guarantee high-quality care, mental health practitioners must provide in-depth training, oversight, and support [6].

Academics have tested the flexibility of implementing the task-sharing model in LMICs and South Asian contexts with varied training, delivery methods while targeting a range of mental health concerns. In a local urban settlement, Ali et al. (2003) trained lay counselors over the course of four weeks with eleven 3-hour training sessions on a cognitive behavioral therapy-based (CBT) intervention [7]. In a randomized evaluation for counseling on alcohol problems in India, lay counselors provided psychological treatment for harmful drinking in primary care [8]. In both studies, the required skills included motivational interviewing, assessment and personalized feedback, family engagement, problem solving skills, handling difficult emotions, and relapse prevention and management. Depending on the program and the complexity of the interventions, counselors can receive from 1 to 30 days training (in-person and virtual) in counseling as well as regular supervision (by specialists or peers) during the trial. In terms of the effectiveness of this approach, a systematic review of community-based mental health interventions in LMICs identified that in a variety of contexts and mental health concerns; post-traumatic stress disorder, anxiety, depression, and alcohol use, studies yielded considerable improvements in mental health problems [5].

Ongoing quality control and sustainability of skills learned however, require special and on-going attention. Investigative studies where counselor's experiences and feedback on training and therapy delivery found mixed feedback. Counselors felt that sufficient information on mental health disorders was not delivered during their training and believed that more detailed training would be required for dealing with a population with a range of health issues and consistent field supervision during therapy can improve lay counselors' credibility within the community [9,10]. Another study noted that factors like training inadequacies, difficult clients and organizational difficulties limited the lay counselors abilities and competency in delivering the interventions with a recommendation for more advanced training and opportunities to share and network with other counselors [11].

There are many factors influencing counselors' competencies. Wall et al, (2020), focused on perceived identity, motivation, self-efficacy, stress, and burnout in lay counselors and found that counselors identified innate motivation as key to positive working experiences, impactful counseling and post-training self-efficacy [12]. Stress and burnout however, can be caused by client engagement issues, juggling numerous obligations, which decreases motivation and self-efficacy. Coping mechanisms, such as enlisting the assistance of peers and supervisors, were found to help them rediscover their perseverance. Wall concluded that counselors must possess specific abilities and competences to efficiently assess, diagnose, treat, support, and refer persons with mental disorders and that they must be sufficiently prepared to address their own concerns psychologically prior to working in real-world settings [12].

While prior analyses examined the effectiveness of lay counseling as a kind of treatment for mental diseases, there is still little evidence around how counselors were prepared for the various causes of mental health problems. The degree to which an integrated lay counseling strategy may successfully address related issues in primary health care (PHC) settings requires rigorous attention to how counselor's capacity can be sustained. Our study therefore explores the evolution of lay community health workers' aptitude in delivering mental health counseling addressing comorbidities to patients in a primary healthcare setting, and the subsequent challenges and facilitators which can hinder and aid them.

Method

Study design

This is a mixed-method retrospective study, carried out in Karachi, Pakistan to investigate the relationship of lay counseling with competency and the variety of concerns found in clients within PHC settings. The study includes counselors' experience working within IRD Pakistan's mental health initiative, "Pursukoon Zindagi (PZ - Peaceful Life)" mental health integration program within primary healthcare services. The program trained an estimated 200 counselors who were assigned to 30 PHC sites since 2017. This study looked at the competency data from routine supervisory assessments of 12 counselors from six PHC sites and the mental health outcomes of 242 patients to understand if PZ's training improved their competency and ability to handle a range of issues.

For six months up until the conclusion of this particular project, the counselors were evaluated using a 34-item questionnaire with a 5-point rating scale (Significantly Poor = 1, Poor = 2, Fair = 3, Good = 4, Excellent = 5) and relevant dimensions that were important for the assessment and treatment of mental health problems were explored. Counselors were assigned codes for anonymity.

Under the PZ program, counselors were deployed (Appendix-F) to the sites, monitored for six months, and evaluated for each subsequent six months for their use of relevant intervention, psychoeducation, skillful questioning, and command of assessment tools. Differences between the initial evaluation right after six months of their deployment at the sites and the final score right after twelve months of their deployment at the sites were analyzed using the mean and t-test. With 242 cases, content analysis was conducted to generate relevant themes for the variety of client reported problems counselors had to address through counseling.

Study setting of data collection

A total of 12 lay counselors who worked at six PHC locations were evaluated on their performance. Patient mental health outcomes were assessed by clinicians of PHC sites at each location using the 4-item Patient Health Questionnaire (PHQ-4) [13], and symptomatic patients were referred to lay counselors. Locally validated and translated versions of the Patient Health Questionnaire (PHQ-9), Generalized Anxiety Disorder (GAD-7),

and Manchester Short Assessment of Quality of Life (MANSA) were then used by the counselors to further evaluate symptomatology pre- and post-intervention (talk-therapy) [14-17].

Subjects, sampling, recruitment

As the study is exploring the experiences and competencies of lay counselors in PHC settings, purposive sampling was used for analysis. The study sample included 12 counselors deployed at six PHC sites who were given supervision by a psychologist for challenging mental health issues. The 242 client cases chosen had at least three sessions of talk-therapy which was concluded (with 5 point decrease in scores on PHQ- 9 & GAD-7). The findings also reflect the difference in competency scores between the initial (pre-intervention) and final (post-six-month intervention) evaluations.

The program team was able to reach 46 patients out of 242 to get their feedback. 53% of the patients who used the service were contacted by the programme team, and 36% of them provided feedback on their experience. The team was unable to communicate with the whole patient group due to human resource availability restrictions. A chi-square t-test and mean was computed to examine their responses.

Measuring tools

- A 34 item questionnaire to evaluate counselor's competency (Appendix-C) – for analysis of competency for 12 counselors.
- Client's feedback form (semi-structured questionnaire) to analyze improvement in patient's mood, health, relationships, emotional management and problem solving (Appendix-D) – for the analysis of perceived impact of counseling for 46 clients.
- Template for case discussion (Appendix-E) – for analysis of concerns discussed during counseling for 242 clients.

Analysis

We estimated the mean and t-test for differences after analyzing the data obtained through the evaluation questionnaire. Thematic content analysis was used to address the wide range of variation of mental health issues and client concerns experienced by lay health professionals. The patient's feedback was also analyzed with mean and t-test.

Results

Sociodemographic tables

Table 1: Demographic profile of 12 counselors and 242 clients.

Patients (242)			Lay Counselors (12)		
Socio-demographic variables	**n**	**%**	**Socio-demographic variables**	**n**	**%**
Age (years)			**Age (years)**		
<19	16	6.6	<19	0	0
20-49	174	72	20-49	12	100
>50	50	20	>50	0	0
Gender			**Gender**		
Female	211	88	Female	12	100
Male	29	12	Male	0	0
Ethnicity			**Ethnicity**		
Punjabi	25	10	Punjabi	1	8
Sindhi	17	7	Sindhi	1	8
Balochi	6	2.5	Balochi	0	0
Pashto	100	41	Pashto	3	25
Urdu Speaking	40	16	Urdu speaking	6	50
Other	27	11	Other	0	0
Marital Status			**Marital Status**		
Single / Unmarried	27	11	Single / Unmarried	7	58
Married	184	76	Married	2	16
Separated / Divorced	10	4.1	Separated / Divorced	2	16
Widow / Widower	18	7	Widow / Widower	1	8
Education			**Education**		
No education	86	35	Intermediate	6	50
Primary or less	116	47	Bachelor	3	25
Secondary Education	30	12	Post-graduate	3	25
Intermediate and above	8	3			

The study evaluated 242 successfully completed cases with varied causes for mental health issues, as well as the counseling skills of 12 lay counselors. At six primary healthcare facilities, all of the deployed counselors were adult females who had never worked in the field of mental health, were between the ages of 24 to 47 and were primarily of Urdu-speaking ethnicity (50%). Important to mention 1 counselor joined late as in 2 last months of the project, while another had to take long leaves around 5-6 months (maternity and physical health issues) so these particular counselors have fewer clients as compared to rest.

The group was diverse in terms of education, prior work experience, ethnicity and marital status. Out of the 242 patients, 211 (88%) were women, 174 (72%) were between the ages of 20 and 49, 184 (76%) were married, and 116 (47%) had only completed primary school (up to the fifth grade).

In terms of training, no significant variations were found between pre-test (M=16.44; SD=13.77) and post-test (M=17.11; SD= 4.61) results in the very first 6-day training for basic counseling skills **(Figure 1)**. In reviewing the findings for counselor competency evaluations, there is a considerable improvement observed by counselors in addressing diverse mental health conditions by lay counselors **(Figure 1)**. Based on the outcomes of the pre- and post-six-month evaluations, figure 1 displays the initial and final evaluation of each counselor. The graph shows that virtually all of the counselors initially obtained "fair" ratings, and the graph's upward trend demonstrates that most counselors' screening instrument proficiency increased with time. We also saw improvement in the initial and final ratings (pre and post six months) for giving the awareness of depression and anxiety especially relevant to patient's symptoms and intensity which is crucial in developing insights for mental health problems. Most of the counselors grew significantly in this area except four (counselor 12 also joined in the last two months of the project which may explain the difference in their ratings). In terms of the SMART goals, most counselors' rising trends between initial and final ratings indicate that they have made progress in defining treatment objectives that are relevant to their clients' problems.

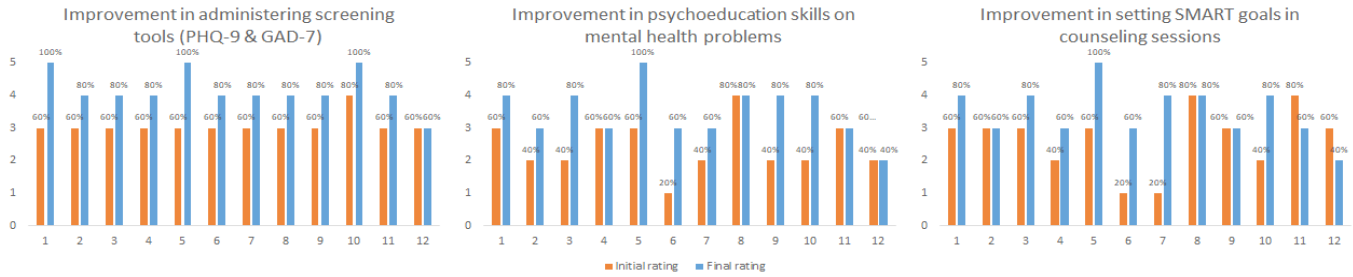

Figure 1: Improvement in competency of lay counselors in terms of assessment tools administration, psycho-education, and setting SMART goals, Feb 2020-April 2021, (n=12).

Operational advice on problem evaluation and management was commonly seen with reference to counseling management which a majority of counselors struggled with (70%) (Table 2). The table also describes the other common elements that counselors struggled with around assessment (24.3%), counseling (5.7%) and communication skills and understanding of depression and anxiety (1.6%).

In terms of the technical advice provided to lay counselors by a supervising psychologist, counselors actively sought out supervision to handle the case properly, and recommendations were based on observation of the session run by lay counselors as well as individual case discussion. Table 2 highlights the areas of improvement most often sought by the counselors. While 80% of the recommendations centered on developing effective treatment strategies, 23% of the advice required proper assessment of the problem, 5% emphasized the need for empathy, a non-judgmental attitude, and striving to overcome personal prejudices.

Table 3 highlights the counselor's capacity in terms of dealing with diverse mental health problems. Twenty-four different themes were observed and categorized into 4 main groups of physical health, psychosocial factors, socio-economic and social and behavioral factors. Most observed factors included financial difficulties (29%), marital problems (28%), traumatic experiences (19%), worries about children (14%), comorbidities (14%), and insomnia (14%).

Table 2: The following table manifests recommendations and frequencies in terms of operational issues.

Framework for counselors' typical operational issues and suggestions for improvement during monitoring and evaluation, n=242			
Thematic cluster	**Sub Themes**	**Frequency**	**%**
Management	Utilizing relevant interventions to patients' problems, setting SMART goals, actively taking supervision for addressing challenges	170	70
Assessment	Effective questioning	56	24.3
	Scoring of PHQ-4, PHQ-9 & GAD-7	3	
Counseling & Communication skills	Verbal and non-verbal communication skill, empathy, Judgemental, personal biases	14	5.7
Psycho-education (Depression & Anxiety)	Knowledge and understanding of depression and anxiety, and psycho-educating the patients about the course, risk, and prognosis of Mental Health problems	4	1.6

Note: see appendix for detail description of sub themes

Table 3: Framework for counselors' typical operational issues and suggestions for improvement during monitoring and evaluation, n=242

Diversity of problems experienced by clients and addressed by counselors through counseling			
Thematic knots (Nature of problem)	**Sub Themes**	**Frequency**	**%**
Physical Health	Comorbidities	33	14
	Infertility	8	3
	Physical trauma	1	0
Psycho-social factors	Traumatic experiences	46	19
	Insomnia	33	14
	Stress	11	5
	Psychosomatic issues	11	5
	Addiction	9	4
	Psycho-tropic medication	5	2
	Self Image	8	3
	Lack of concentration	2	1
	Negative thought pattern	2	1
Socio-economic factors	Financial issues	71	29
Social and behavioral factors	Marital issues	65	28
	Problem with children	35	14
	(worry related to children)		
	Anger	21	9
	Abuse	16	7
	Mental health problem in family	11	5
	Burdened being caregiver	6	2
	No family support	5	2
	Problems in own upbringing	4	2
	Poor decision making	3	1
	Harassment	2	1
	Obesity	2	1

The programme team was able to get in touch with 46 patients out of 242 for details on their perceived improvement in mental health outcomes following counseling. This data was also analyzed to substantiate the claim that counselors most struggled with the management of problem-solving during counseling sessions. Around 41 (89%) of clients experienced some level of improvement in their mood, 43 (93%) when their health did, 40 (87%) perceived an improvement in relationships, 39 (85%) felt their daily routine had improved and 37 (80%) reported improvement in their problem-solving skills and being able to manage their emotions. Likewise, the area where 9 (20%) clients faced the least improvement was in emotional management and problem-solving, an area where counselors also reported struggling with the most during counseling with their clients.

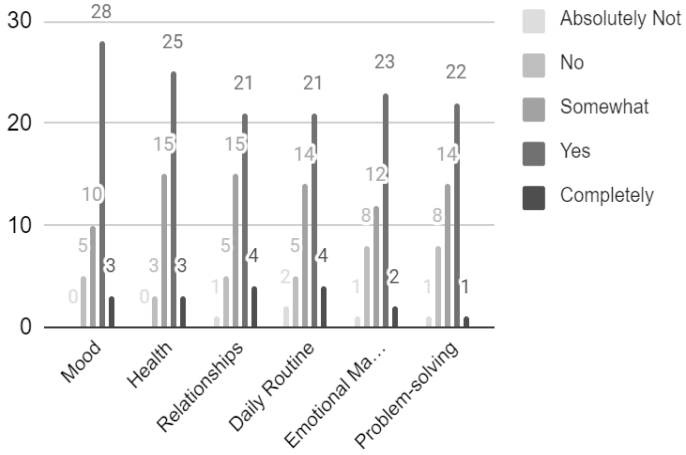

Figure 2: Client's self-reported improvement post mental health counseling sessions (n=46).

Figure 2 also exclusively shows mood improvements before, during, and after counseling sessions based on the patient feedback indicated above. Since anxiety and depressive symptoms fall under the mood category, improving mood was the major goal. The results show a significant difference in the mean scores.

Discussion

The study's goal was to draw attention to the competency development and quality control measures required to facilitate the lay counseling method's success in treating a range of persistent, complex mental health issues in primary care. Given the broad and interdisciplinary nature of mental health, limited days for basic counseling skill training for lay people with no prior experience can be perceived as a challenge when it comes to utilizing these skills in primary healthcare settings. PHC settings introduce additional real-world challenges for counselors where presenting patients may have comorbidities whose symptoms primarily overlap with mental health issues [18] and for which lay people have little prior knowledge and expertise of addressing. While these difficulties have been found to respond well to ongoing technical supervision, addressing diverse concerns within PHC calls for a flexible and comprehensive lay counseling approach [19]. Focusing on strengthening supervisory support in key areas such as problem-solving and management of diverse concerns can generate significant progress in counselors' understanding of both physical and mental health, and better equip them to independently manage these concerns in the PHC patient population. For the management of diverse mental health problems counselors have used different elements while delivering the PZ mental health intervention (Appendix-B).

The twenty-four themes of diverse concerns that lay counselors addressed throughout the course of their 14-month deployment in PHC provides recommendations for strengthening the ability of lay counselors in primary care settings by targeting key areas during on-going supervision. It also calls to attention the importance of incorporating M&E and quality control mechanisms to better understand the process whereby counseling leads to an improvement in mental health outcomes [19]. Observations of individual supervisions for each counselor, identified a lot of technical challenges around encompassing management and assessment for novel factors behind common mental health problems, effective questioning, practical implications of counseling and communication skills. This was ad-

dressed through regular support throughout the program and monthly assessments for improvement and quality assurance. Motivation being an intrinsic factor to successful outcomes can be linked to refresher trainings, mitigating concerns around capacity and being open to constructive feedback due to a perceived fulfillment of helping the community. Working in disadvantaged communities presents additional difficulties because socio-economic reasons (e.g. income, education, employment, community safety, and social supports) are the most common perceived cause of mental health problems (29% among 242 cases). Lay counselors were able to address this by encouraging clients to seek out other alternative resources (including vocational skills development, educational attainment, learning from observation and budget management) and encouraged perseverance towards SMART goals to problems by the end of counseling sessions.

Counselors work at the frontlines when it comes to the assessment of mental health issues. As a result, a focus on polishing skills for screening and referral are critical for addressing this diversity of mental health issues within PHC. As evidenced in the results, relying solely on pre- and post- training test scores is not reflective of counselors ongoing competency development. To this end, programs must ensure that the quality of service delivery can be ensured through monthly evaluations for competency, assessment, tool administration, and creating SMART (Specific, Measurable, Achievable, Realistic, and Time-Bound) goals for counseling sessions. This has been substantiated by other studies who have linked the integration of evaluation methods for lay counseling to improved mental health outcomes for clients in various programs [20].

While mental health programmes in LMICs have benefited from the relevance and appropriateness of recruiting lay counselors from similar communities and socio-economic backgrounds as the target population, it can be challenging for non-specialists to work in the mental health field and balance their own concerns with those of their patients. The counselors included in this study have also used acquired skills from counseling to resolve their own personal life challenges. This is reflected by the "helper therapy principle" put forth by Riesman (1965), according to which lay counselors who share the same traits or issues as their clients gain "helper benefits" which may help to increase the effectiveness of a variety of lay counselor-delivered interventions [20]. These 12 counselors receive counseling for their issues from a psychologist in the programme (data not shown), illustrating the need for building supportive systems for counselors and improving their confidence in the effectiveness of counseling sessions.

Lay counselors are becoming increasingly important in bridging the gap in global mental health care as more programs worldwide continue to incorporate them in their routine community-based and primary care programming. The results of this study support recommendations for future mental health programs including the reinforcement of evaluation methods for increasing lay health worker capacity and assessing its impact on counseling and mental health outcomes. Case discussions, ongoing technical supervision, peer learning, and psychological help build the skill and aptitude of non-specialists and are key approaches to overcoming psychological and practical life obstacles faced by this workforce to handle a variety of complex issues. The key to improving outcomes is to integrate comprehensive evaluation and quality control strategies for strengthening monitoring and evaluation and supporting programs to better establish the link between process and counseling outcomes. Further research in this area is advised for analyzing lay counseling strategies with reference to targeted challenges with youth mental health and in community-based settings.

Limitations

One limitation of the study was that the sample size of counselors consisted solely of females and as such the results cannot be generalized to the experience of male counselors working within PHC settings. While this gender disparity made sense operationally (the program was designed to address a higher burden of disorders among women, creating a culturally-driven preference for female counselors). However, male patients made up 12% of the 242 enrolled patients, and while it is a small pool, it is important to maintain gender equity for mental health interventions to address challenges related to transference, gender bias, and cultural sensitivity.

Another limitation of the study was the low number of feedback responses from beneficiaries due to retrospective data the study was unable to detect most of the missing responses.

References

1. WHO. Mental Disorders. 2022.
2. WHO, World Organization of Family Doctors (Wonca): Integrating mental health into primary care-A global perspective. Geneva, Switzerland: WHO, 2008.
3. Funk M. Integrating mental health into primary care: a global perspective. 2008: World Health Organization.
4. Najam S, Chachar AS, Mian A, The mhgap; will it bridge the mental health Treatment gap in Pakistan? Pakistan Journal of Neurological Sciences (PJNS). 2019; 14: 28-33.
5. Connolly SM, Vanchu-Orosco M, Warner J, Seidi PA, Edwards J, et al. Mental health interventions by lay counsellors: a systematic review and meta-analysis. Bulletin of the World Health Organization. 2021; 99: 572.
6. Osei A, Mcloughlin DM, McAuliffe DM, Boath E. Task shifting-perception of stake holders about adequacy of training and supervision for community mental health workers in Ghana. Health Policy and Planning. 2016; 31: 645-655.
7. Ali BS, Rahbar MH, Naeem S, Gul A, Mubeen S, Iqbal A et al. The effectiveness of counseling on anxiety and depression by minimally trained counselors: a randomized controlled trial. American journal of psychotherapy. 2003; 57: 324-336.
8. Nadkarni A, Velleman R, Dabholkar H, Shinde S, Bhat B, et al. The systematic development and pilot randomized evaluation of counselling for alcohol problems, a lay counselor-delivered psychological treatment for harmful drinking in primary care in India: the PREMIUM study. Alcohol Clin Exp Res. 2015; 39: 522-531.
9. Armstrong J. Training for paraprofessional counsellors: evaluating the meaning and impact of a common factors approach. Counselling and Psychotherapy Research. 2003; 3: 270-277.
10. Atif N, Lovell K, Husain N, Sikander S, Patel V et al. Barefoot therapists: barriers and facilitators to delivering maternal mental health care through peer volunteers in Pakistan: a qualitative study. Int J Ment Health Syst. 2016; 10: 1-12.
11. Jordans MJ, Keen AS, Pradhan H, Tol WA. Psychosocial counselling in Nepal: Perspectives of counsellors and beneficiaries. International Journal for the Advancement of Counselling, 2007; 29: 57-68.
12. Wall JT, Kaiser BN, Friis-Healy EA, Ayuku D, Puffer ES et al. What

about lay counselors' experiences of task-shifting mental health interventions? Example from a family-based intervention in Kenya. International journal of mental health systems. 2020; 14: 1-14.

13. Kroenke K, Spitzer RL, Williams JBW, Löwe B et al. An ultra-brief screening scale for anxiety and depression: the PHQ-4. Psychosomatics. 2009; 50: 613-621.

14. Ahmad S, Hussain S, Akhtar F, Shah FS Urdu translation and validation of PHQ-9, a reliable identification, severity and treatment outcome tool for depression. J Pak Med Assoc. 2018; 68: 1166-1170.

15. Ahmad S, Hussain S, Saleem Shah F, Akhtar F et al. Urdu translation and validation of GAD-7: a screening and rating tool for anxiety symptoms in primary health care. J Pak Med Assoc. 2017; 67: 1536-1540.

16. Saleem S, Baig A, Sajun S, Bird V, Priebe S, Pasha A et al., A mixed methods exploration of the role of multi-family groups in community treatment of patients with depression and anxiety in Pakistan. International Journal of Mental Health Systems. 2021; 15:1-8.

17. Waqas A, Malik A, Atif N, Nisar A, Nazir H, et al. Scalable screening and treatment response monitoring for perinatal depression in low-and middle-income countries. International journal of environmental research and public health. 2021; 18: 6693.

18. Phelan JC, Link BG, Diez-Roux A, Kawachi I, Levin B, et al. Fundamental causes" of social inequalities in mortality: a test of the theory. J Health Soc Behav. 2004; 45: 265-285.

19. Leocata AM, Kaiser BN, Puffer ES. Flexible protocols and paused audio recorders: The limitations and possibilities for technologies of care in two global mental health interventions. SSM-Mental Health. 2021; 1: 100036.

20. Riessman F. The" helper" therapy principle. Social work. 1965: 27-32.

Appendix-A: (Detail description of reported mental health problems).

Thematic knots (Nature of problem)	Sub Themes	Description
Physical Health	Comorbid condition	DM, Hernia, HTN, Hep-C, Gynecological problem, Headache (weak eyesight), hysterectomy, asthma, nephrolithiasis, H-pylori, cardiac arrest, migraine, early menopause (in 35 age)
	Physical trauma	Accident (fracture leg and hand), amputation
	Infertility	Psychological aspect of infertility
Common Mental Health problems	Anxiety	Moderate to severe range on GAD-7, fear of losing loved one, hemophobia,
	Depression	Moderate to severe range on PHQ-9 scale
Psycho-social factors	Stress	Unable to cope with current situation (not happy with engagement), proposal issues, involve in someone but conflicts
	Traumatic experience	Death of close family member (Husband's death, daughter died with burnt, father death, son with TB), end of relationship (divorced), still birth
	Addiction	Tea, Anxiolytics, Heroin, chewing tobacco
	Negative thought pattern	Unable to report any single positive event from life, thoughts of revenge
	Psychosomatic issues	Body ache, stomach aches,
	Insomnia	Trouble falling or staying asleep
	Self Image	Lack of confidence, inferiority complex
	Lack of concentration	Forgetfulness, problem in memorizing
	Psycho-tropic medication	Taking or history of (psycho-tropics for Severe Mental Illness)
Socio-economic factors	Financial issues	Lack of resources, skills, opportunities
Social and behavioral factors	Anger	Emotional regulation
	Marital issues /marital status	Partner isn't loyal, Partner having extra marital affairs violence, non-cooperative, scold children, is extravagant, is drug addict, partner left city and went somewhere (village), early marriage, struggling being widow with no support at all, loss of libido, sexual health problem, unable to adjust with new responsibilities/a new personality, husband's more tilt towards second wife and not giving rights to first one, divorce
	No family support	Parents died living with brother who is not supportive
	Problem with children (worry related to children)	Daughter's proposal issues, son are disobeying, waste more time in mobile, TV, daughter is divorced, daughter in law got divorced, daughter is not happy after getting married, son and grandson drug addict
	Problems in own upbringing	Got no affection from father, parents separation in early age

	Problem in parenting	Not much affectionate towards children
	Poor decision making	Inconsistent personality
	Obesity	Urge for food, inactivity, idleness
	Mental health problem in family	Family member is taking psychotropics for Serious mental illness
	Abuse	Physical, psychological abuse by in laws/partner/own family, financial, sexual (raped)
	Harassment	By brother in law, by rickshaw driver,
	Burdened being caregiver	Caring physically handicap son and husband who is paralyzed and having Hep-c, children and husband having night blindness

Appendix –B: Detail description of problems faced by lay mental health counselors.

Thematic cluster	Sub Themes	Description
Assessment	Effective questioning	Appropriate use of open & close-ended questions; probing, proper history taking isn't done, irrelevant history/detail taken, effective questioning to develop insight (can and can't control, cost-benefit analysis, thinking this way is helping you?)
	Scoring of PHQ-4, PHQ-9 & GAD-7	Proper administration and scoring of each scale (PHQ-9, GAD-7 & MANSA)
Psycho-education (Depression & Anxiety)	Psycho-education about the course, risk, and prognosis of Mental Health problems	Knowledge and understanding of Mental health problems, then Psycho-educating the patient about the course, risk, and prognosis
	Knowledge and understanding of depression	
	Knowledge and understanding of anxiety	
Management	Utilizing relevant interventions to patients' problems, setting SMART goals, actively taken supervision for challenges	Applying problem-solving (making a list of all reported problems, then prioritizing them and generating alternative solutions for each problem one by one) technique, more specifically, to financial issues. Proper assessment of problems and then applying appropriate/relevant techniques for client's problems: Referral for drug dependence (by explaining tolerance and dependence to addict and family along with cold turkey method), assertiveness, anger management, parents and child bonding, SMART action plan, psycho-somatic, parenting issues, self-defense for harassment, coordinate with doctors in PHC regarding medical side for clients. Supportive counseling for Diabetes, Hypertension, and Hep-C. Insomnia Management, stress management, psychological aspects of infertility (sex education), financial counseling (problem-solving, brainstorming bubble, budget management), relaxation techniques (Deep breathing, Progressive Muscle Relaxation, Bio-feedback training), worry time technique, improving self-image/confidence building (five good and five bad qualities of self, Big I), focusing on "Here and Now," short term coping, decision making (cost-benefit analysis), counseling for interpersonal relationships, positive therapy, achievements of life, thanking therapy, trauma management (re-experience, stages of grief and loss).
		Working on Marital issues: Sexual health problems, unable to adjust with husband, Infertility (sex education), coordinating with a doctor for medical side, conflicts with the husband
		Data entry (in PZ application): Missing proper entries of forms, especially end-of-treatment forms, baseline assessment, and post-assessments, missing follow-up forms
		Assessment of Serious Mental Illness and referral: OCD, Psychosis, Epilepsy, Dementia, Mental Retardation, addiction (referral to a psychologist)
		Session agenda (current and upcoming): How was last week? Any good or bad event happened? feedback on the given assignment, a summary of the previous session, plan for the upcoming session
Counseling & Communication skills	Verbal and non-verbal communication skills, empathy, Judgmental	Summarization, paraphrasing, reflection, eye contact, body language, gestures, postures, etc., leading question, giving too many suggestions, Counselor's own biases (Identify and replace counselor's irrational thoughts)

Appendix – C

Counselor monthly evaluation format	
Significantly Poor = 1 , Poor = 2, Fair = 3, Good = 4, Excellent = 5	
1	Introduction of program, self, and counseling
2	Giving information about sessions recordings and maintenance of privacy and confidentiality
3	Giving information about session time limit and frequency
4	Beginning the session with less intimidating and less sensitive issues
5	Rapport building (respectful; clarifies concerns/queries regarding counseling, recordings; creates a comfortable environment)
6	Assuring and maintaining patients' confidentiality
7	Setting SMART goals for counseling sessions
8	Utilizing interventions that are relevant to patients' problems
9	Dealing comfortably with a variety of emotions and feelings
10	Psycho-educating the patient about the course, risk, and prognosis of Depression/Anxiety/Other Mental Health problems
11	Maintaining appropriate pace of the session in conformity with patients' feelings
12	Knowledge and understanding of depression
13	Knowledge and understanding of anxiety
14	Providing information and listening to patients without judgment
15	Briefing the patient about the need for next session along with the brief agenda of it
16	Active listening (maintains eye contact; responds through verbal/non-verbal communication such as hmmm, nodding, go on etc.)
17	Use of appropriate body language and voice tone
18	Demonstrating empathy via verbal and non-verbal expression
19	Effective questioning (appropriate use of open & close ended questions; probing)
20	Verbal communication (clarification, paraphrasing, reflection and summarizing)
21	Informing patients about next session beforehand and setting an appointment
22	Maintaining regular follow-up sessions track for each patient
23	Beginning and ending sessions on time
24	Submitting field reports and recordings on time
25	Maintaining notes and recordings of sessions correctly and completely
26	Explaining the procedure of screening
27	Filling the Enrollment Form with appropriate details (where required)
28	Giving instructions for PHQ-4
29	Explaining each item of PHQ-4 in a way that the patients understand
30	Scoring of PHQ-4, PHQ-9 & GAD-7
31	Delivering interpretation of scoring in a neutral manner
32	Scheduling counseling appointment with the patient; date and time of appointment as well as about the phone call prior to sessions
33	Regularly discussing sessions; attentive and interactive during meetings
34	Sharing challenges/problems with the supervisor/clinical psychologist openly and honestly

Appendix – D

Were counseling sessions effective in terms of:					
	Absolutely not	**No**	**To some extent**	**Yes**	**Completely**
Your Mood	0	1	2	3	4
Health	0	1	2	3	4
Relationships	0	1	2	3	4
Daily routine	0	1	2	3	4
Emotional management	0	1	2	3	4
Problem solving	0	1	2	3	4

Appendix – E

Date of supervision	PSZ ID	Client's name	Gender (M/F/TG)	Age (YY)	AKUADS Sceening Score	PHQ4/GAD7 Screening Score	Presenting problems	Session 1	Session 2	Session 3	Session 4	Session 5	Session 6	Clients' self report	Counsellors' Reported Progress	Counsellors' concerns	Recommendations Provided	Details of follow up	AKUADS Re-Sceening Score	PHQ4/GAD7 Re-Screening Score	Referred to Psychologist (Y/N)	Comments

Appendix – F

The process of deploying lay counselors from recruitment to PHC sites		
Training	**Objective**	**Description**
6 full days of training for Basic Counseling Skills	To understand Mental Health, Counseling and communication skills	The course involves understanding mental health and common mental illnesses, basic mental health counseling skills, assessment and management of depression and anxiety, referral mechanism and ethical guidelines
Counselors were hired based on their course performance and post-test findings at the conclusion of the course.		
2 day refresher training for BCS (every 6 months)	To emphasis learned skills in practical sense	Revisiting common mental health problems, basics of mental health counseling and interpersonal skills
Monthly Capacity Building sessions	To cater to predominant problems	Trainings on ongoing patient needs with diversity (Depression, Anxiety, Psychosomatic, Anger management, Insomnia management, Suicidal ideation, Psychotropic medication etc).
Supervision by Psychologist (Weekly)	To provide technical support	Individual support to all counselors for case supervision with detailed treatment plan, observation of sessions followed by feedback and demonstration.
Counseling of the counselor	To provide emotional support	Counselor's own counseling sessions for their emotional challenges by supervising psychologist
Peer Learning session (Monthly)	To learn with peers	3 hours activity in which 4-5 counselors present anddiscuss a current or completed case, especially highlighting what techniques were used, what was useful and what wasnot.
Monthly evaluations	To ensure quality of counseling sessions	For quality assurance, monthly evaluations wereconducted in terms of Assessment, Psychoeducation, Management, Counseling and Communication skills following feedback and individual training whereneeded.