

Special Article - Family Medicine

Model of Decentralization and Integration of Mental Health into Primary Health Care a Supplement to the mhGAP Program

Haile K*, Assefa D, Chaka A, Ayano G and Abebaw D

Research and Training Department, Amanuel Mental Specialized Hospital, Ethiopia

***Corresponding author:** Haile k, Research and Training Department, Amanuel Mental Specialized Hospital, Addis Ababa, Ethiopia

Received: July 28, 2017; **Accepted:** August 24, 2017;

Published: August 31, 2017

Abstract

Background: Majority 76-85% of people with severe mental illness in Low and Middle Income Countries (LAMICs) and 35-50% in high income countries receive no treatment. Currently the focus is on establishing and improving the capacity of primary health care facilities to deliver mental health care. Strengthening specialist mental health services at the same time as integrating mental health into primary health care is considered necessary.

Methods: Ten primary health centers in the city of Addis Ababa were included in the study. Once a week mental health professionals from Amanuel Mental Specialized Hospital were assigned to coach and mentor mhGAP-trained health center primary health care workers, as well as to consult and deal with difficult cases.

Results: A total of 1012 patients were seen at the primary health centers for mental, neurological and substance use disorders. Majority 85.1% of patients were seen during the 6 months after onset of the study. Of the total patients 64.1% were first diagnosed in the health centers; the rest 35.9% were referred from Amanuel Hospital. Epilepsy was the most frequently diagnosed disorder (46.3%) followed by schizophrenia (14.8%).

Conclusion: Decentralization and integration of mental health services can be better achieved with specialist back-up and supportive supervision of mhGAP-trained primary health care workers.

Keywords: Mental health; Decentralization; Integration; Primary health care; mhGAP; Addis Ababa

Abbreviations

LAMICS: Low and Middle Income Countries; MNS: Mental, Neurological and Substance use; AMSH: Amanuel Mental Specialized Hospital; WHO: World Health Organization; PHC: Primary Health Care; HSTP: Health Service Transformation Plan; MhGAP: Mental Health Gap Action Program

Background

The health sector has not yet addressed the burden of mental disorders. This is evidenced by the fact that 76-85% of people with severe mental illness in Low and Middle Income Countries (LAMICs) and 35-50% in high-income countries receive no treatment [1]. In Ethiopia, mental illness has been identified as the leading non-communicable disorder in terms of disease burden. From a study conducted in rural Ethiopia, mental illness accounted for 11% of the total disease burden, with schizophrenia and depression included in the top 10 most burdensome conditions, outranking HIV/AIDS [2].

Despite the fact that mental health disorders are contributing too much of disease burden, the allocation of resources to meet mental health needs is too low. Globally, the annual spending on mental health is less than 2 US dollars per person, even worse is the spending on mental health in low-income countries which is less

than 0.25 US dollars per person. The inadequate resource allocation is compounded by the inequitable distribution. For instance 67% of the financial resources for mental health are allocated to stand-alone mental hospitals [1]. In addition, the allocation of human resources for mental health is grossly deficient. This is evidenced by the fact that half of the world's population lives in countries where the distribution of psychiatrist is one for 200,000 populations [1].

Considering the discrepancy between the treatment gap, as well as disease burden and shortage of highly trained mental health professionals, the focus is on establishing and improving the capacity of primary health care facilities to deliver mental health care [3,4]. Integration of mental health into a primary care setting necessitates the training of general health staff in basic skills in mental health care such as detection of mental disorders, provision of basic care and referral of complex problems to specialist care [3,4]. Studies indicate that pre-service training of Primary Health Care (PHC) workers in mental health care in many low-income countries is limited to a few hours or days [5].

As per the recommendation of the World Health Organization (WHO), the Ministry of Health of Ethiopia devised a National Mental Health Strategy which is based on the principle of integration of mental health into primary health care system [2]. According to the

strategy this requires mental health service integration into all routine health service delivery systems, supported by expansion of the mental health workforce. The strategy promotes a decentralized approach in which mental health services are available at local hospitals, district and regional health centers and tertiary facilities [2]. It is the aim of the strategy to ensure that those who require services have access to treatment as close to their homes [2]. The strategy requires all health workers to deliver mental health care in line with their level of training. Even when specialist mental health workers, eg psychiatric nurses, are present in PHC, the expectation remains that the role of specialists will be primarily to support the delivery of mental health care through general health workers, for example, by supervision, review of complex cases and conducting in-service training [2]. There is literature showing that customization is essential for planning the integration of mental health care [6].

WHO's Mental Health Gap Action Program (mhGAP), launched in 2008, uses evidence-based technical guidance, tools and training packages to expand service provision in countries, especially in resource-poor settings. It focuses on a prioritized set of conditions and, importantly, directs its capacity building towards non-specialized health care providers in an integrated approach that promotes mental health at all levels of care [1]. This program has been implemented in Ethiopia as well. It was piloted 2010- 2013; the scale up was started on January 2014 [7]. The Health Service Transformation Plan (HSTP) of Ethiopia has devised a strategic initiative to decentralize and fully integrate mental health services into primary health care. In order to achieve this, the HSTP has put in place a performance measure explicitly setting a target of making mental health services available in every locality by 2020 [8].

In general the experiences of mental health integration based on the mhGAP principle in Ethiopia have been promising, but continuous support and training for trained professionals has been considered necessary for sustainability of the program [9]. Strong leadership, enhanced partnerships and the commitment of resources towards implementation are also required for success [1]. The real issues have been the fact that the primary health centers are mostly concerned with providing curable services for acute communicable diseases [5]. Mental, neurological and substance use disorders are not among top ten reasons for outpatient attendance; for example under-nutrition and reproductive health issues were the commonest reasons for outpatient visit in Southern Ethiopia [5]. The fact that mental, neurological and substance use disorders are not priority health conditions is a double-edge sword in that it makes it difficult for the health service management to allocate resources, such as appropriate rooms, human resources and medications; on the other hand the lack of resources in such health facilities makes it difficult for patients to seek treatment at those facilities for mental health care.

In low income countries supply of psychotropic medications was considered unreliable, and psychotropic medications mostly available at primary health care settings were limited to anti- epileptics and benzodiazepines [5]. The other issue is that there is shortage of specialist mental health professionals to support delivery of mental health care by primary health care workers in low-income countries like Ethiopia [5]. On the other hand it has been indicated that for sustainable integration of mental health care into primary health

care, some form of supportive supervision by specialist mental health professionals is necessary [3,6,10]. Shift of role of the specialist mental health professionals to focus on training and supervision is important in this aspect [3,11,12]. There are only a few examples of specialist mental health workers being utilized to support mental health care in the primary care setting [10].

Another barrier in identifying and treating mental disorders worldwide has been lack of community awareness about them, and awareness-raising campaigns can result in increased presentation of persons with mental, neurological and substance use disorders to primary health care [3,13].

The overall recommendations for adequate integration of mental health into primary health care for the African region have been strengthening specialist mental health services at the same time as integrating mental health into primary health care; ensure reliable supplies of psychotropic medications; adequate supervision, ongoing on-the-job training and reliable referral networks [10]. This study has incorporated some of these components to integrate mental health into primary health care centers in Addis Ababa, Ethiopia.

Methods

Study setting and design

Institutional- based study was carried out from April-October, 2016. The study was conducted in the city of Addis Ababa. Addis Ababa is the capital and largest city of Ethiopia. It has a population of 2,739,551 according to the Population and Housing Census Report of 2007 [14]. The city is divided into 10 sub-cities, and 117 weredas (a woreda is an administrative level below sub-city).

Structure of public health care system of Ethiopia

The Ethiopian public health care system is structured in three tiers, having primary, secondary and tertiary levels. For rural settings at the base is the primary health care unit that is a health center with five satellite health posts serving a population of 15,000 -25,000 people; followed by a primary hospital, serving a population of 60,000-100,000 people. This is followed at the secondary level by a general hospital, providing services to 1 up to 1.5 million people. For urban settings at the primary level is a health center serving 40,000 people, followed by a general hospital as in the rural setting. At the apex of both structures is a specialized hospital which serves 3.5 to 5 million people [15].

The Health service status of Addis Ababa

There are 13 public and governmental hospitals in Addis Ababa, among which one is a specialized mental health hospital. All the public hospitals provide outpatient mental health services to a varying extent. Three of the public or governmental hospitals, including Amanuel Mental Specialized Hospital, St. Peter's Hospital, Armed Forces Hospital and Police Force Hospital provide admission services for mentally ill patients. Amanuel Hospital and two other hospitals, St. Paul's Hospital and Zewditu Memorial Hospital provide admission for substance dependent people. There also are 35 private hospitals some of them providing mental health services. There are 98 health centers in Addis Ababa, one in each of most of the weredas. The health centers are the first contact for health service seekers in the public sector. Each health center has a referral link with the

public hospitals, and they refer to designated hospital for a designated service. The referral directory is established and regularly updated by the City Government Health Bureau.

The status of amanuel mental specialized hospital

Amanuel Mental Specialized Hospital is one of the public hospitals in Addis Ababa. It is the only mental health hospital in Ethiopia. Patients with mental health issues come from all over the country. The hospital provides most of the in-patient mental health services for the whole country with a bed capacity of 270. About 200 patients with severe mental illness are admitted to the wards each month. The hospital also serves about 500 outpatients per day, and about 10,000 per month. The hospital report shows the bed occupancy rate to be 91.2%, average length of stay for admitted patients of 33.4 days and average waiting time to get the outpatient service 79.2 minutes.

Study procedure

Ten health centers, one from each sub-city, were selected for the piloting. Each of the health centers had at least one mid-level health professionals trained in the mhGAP except for Lideta Dagim Hidase Health Center before onset of the piloting. Additional professionals were trained after initiation of the piloting. Weekly, one psychiatry professional was assigned from Amanuel Mental Specialized Hospital to support, coach, and supervise mhGAP trained professionals at the health centers. The assigned psychiatry professionals were also available on consultation and worked on evaluating and treating difficult cases which were appointed for them by the mhGAP trained health center professionals. The psychiatry professionals were available once a week to ensure that a psychiatry clinic is run once a week, when difficult cases are appointed. Except on the days when the assigned psychiatry professionals are available, the cases were handled fully by the mhGAP trained health center personnel. Psychotropic medications were supplied by the health centers with the support of the regional health bureau, but in some instances medication supply was temporarily provided by Amanuel Mental Specialized Hospital. Patients from Addis Ababa, who had been on follow up at Amanuel Mental Specialized Hospital for mental, neurologic and substance use disorders, who had been stabilized on medications, were referred to the health centers which are closer to their homes for continued treatment.

Data collection, Processing and Analyses

Six months after initiation of the pilot program, cases treated at the health centers, before and after onset of the program were collected from the records based on a data collection format. For the sake of data quality, incomplete records were not included in the data entry and analysis. Data was entered using Epi Info version 7, and exported to Statistical Program for Social Sciences (SPSS) version 20 for analysis.

Ethical Consideration

Ethical approval was obtained from the Ethical review committee of Amanuel Mental Specialized Hospital. Confidentiality was maintained at all levels of the study.

Results and Discussion

A total of 1012 patients were seen at the health centers for mental, neurological and substance use (MNS) disorders during the study

Table 1: Table showing distribution of patients seen for mental, neurologic and substance use disorders at each health center in Addis Ababa, Ethiopia, 2016.

Name of health center	Frequency (%)
Addis Ketema Wereda 9 Kwas Meda Health Center	47(4.6)
Akaki Kality Saris Health Center	104(10.3)
Arada Semen Health Center	63(6.2)
Bole 17 Health Center	120(11.9)
Gulele Addisu Gebeya Health Center	104(10.3)
Kirkos Hiwot Amba Health Center	132(13.0)
Kolfe Keranyo Wereda 5 Health Center	139(13.7)
Lideta Dagim Hidase Health Center	85(8.4)
Nifas Silk Lafto Wereda 06 Health Center	153(15.1)
Yeka Wereda 8 Health Center	65(6.4)
Total	1012(100)

Table 2: Table showing distribution by diagnosis of patients seen for mental, neurologic and substance use disorders at the health centers in Addis Ababa, Ethiopia, 2016.

Diagnosis	Frequency (%)
Anxiety	35(3.5)
Bipolar disorder	13(1.3)
Childhood behavioral disorder	2(0.2)
Dementia	16(1.6)
Depression	134(13.2)
Depression with psychosis	19(1.9)
Epilepsy	469(46.3)
Intellectual development disorder	5(0.5)
Somatoform disorder	26(2.6)
Organic brain disease	1(0.1)
Other psychotic disorders	78(7.7)
Schizophrenia	150(14.8)
Sleep disorder	3(0.3)
Substance use disorder	3(0.3)
Unspecified	58(5.7)
Total	1012(100)

period. The mean age of the patients was 33.7 with Standard deviation of 14.12 and range of 2-90 years.

Based on the time when patients first registered in the health centers, 151 (14.9%) of the total patients were seen before the initiation of the project, and 861 (85.1%) were seen during the six months after the onset of the project (The project was started on March 27, 2016). Of the total patients, 523(51.7%) were female, and 489(48.3%) were male.

Among those who attended treatment at the health centers, 363(35.9%) were referred from Amanuel Mental Specialized Hospital for continued follow up close to their homes; 649 (64.1%) came directly to the health centers, or were screened for MNS disorders within the health centers and were included in treatment. Nifas Silk Lafto Wereda 06 Health Center treated more patients than any other

Table 3: Table showing distribution of psychotropic medications prescribed to patients with mental, neurologic and substance use disorders in the health centers in Addis Ababa, Ethiopia, 2016.

Medication	Frequency (%)
Imipramine	5(0.5%)
Amitriptyline	202(20%)
Sertraline	2(0.2%)
Fluphenazine decanoate	5(0.5%)
Haloperidol	85(8.4%)
Risperidone	28(2.8%)
Clonazepam	6(0.6%)
Chlorpromazine	185(18.3%)
Phenobarbitone	440(43.5%)
Diazepam	14(1.4%)
Carbamazepine	38(3.8%)
Phenytoin	6(0.6%)
Fluoxetine	20(2.0%)
Valproate	10(1.0%)
Trihexiphenidyl	3(0.3%)

health center with 153(15.1%) patients (Table 1). Epilepsy is the most frequently diagnosed disorder with 469(46.3%) of the total patients receiving the diagnosis, followed by schizophrenia with 150(14.8%) patients diagnosed with the disorder (Table 2). Phenobarbitone is the most frequently prescribed medication prescribed for 440(43.5%) of all patients; chlorpromazine is the second most frequently prescribed medication prescribed for 185(18.3%) of all patients (Table 3). All patients in two of the health centers, Gulele Addisu Gebeya Health Center and Addis Ketema Wereda 9 Kwas Meda Health Center, were seen after the start of the project; besides, except for one of the health centers more patients were seen after start of the project than were seen before it (Figure 1). Most patients seen at Kolfe Keranyo Wereda 5 Health Center, Yeka Wereda 8 Health Center, and Lideta Dagim Hidase Health Center were referred from Amanuel Mental Specialized Hospital (Figure 2).

The study has revealed that 85.1% of the patients were seen after the onset of the project, despite the fact that there were professionals who were trained in the mhGAP before the onset of the project. This shows that strengthening specialist services at the health centers by sending psychiatry professionals from Amanuel Hospital has helped build confidence in handling of people with mental, neurologic and substance use disorders. Apart from this, the supply of medications has been reliable after start of the project, because health center pharmacies were encouraged to avail psychotropic medications. The supply of medications was becoming better because the flow of patients with MNS was increasing, making it necessary for the health center management to buy the medications. The fact that stable patients with MNS were being referred to the health centers for continued follow up was helping in supplying the health centers with increasing number of patients to help them strengthen their services for MNS, allocate resources and avail medications. The more health centers prepare for delivering services for MNS, the more people with the disorders are encouraged to visit the health centers rather than

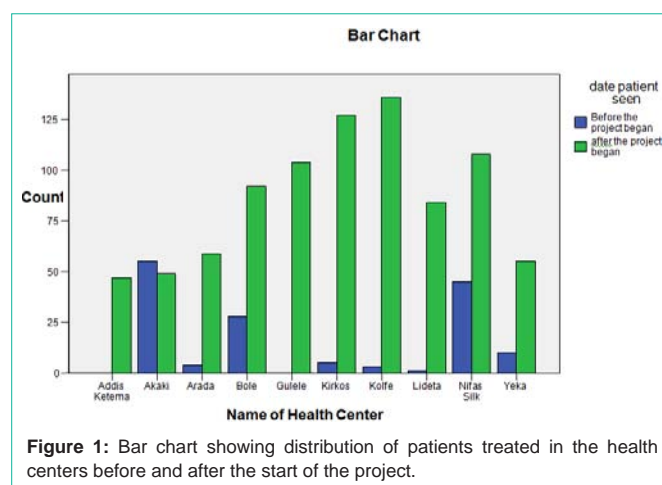


Figure 1: Bar chart showing distribution of patients treated in the health centers before and after the start of the project.

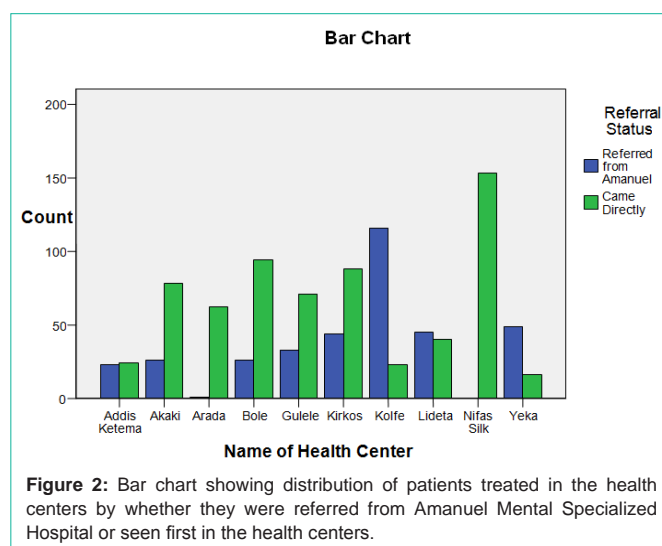


Figure 2: Bar chart showing distribution of patients treated in the health centers by whether they were referred from Amanuel Mental Specialized Hospital or seen first in the health centers.

going to big psychiatric hospital like AMSH. Majority, i.e., 64.1% of patients visited the health centers directly, or were screened and treated for MNS disorders within the health centers *versus* the 35.9% patients who were referred from AMSH. This shows the favorable trend of confidence building in the health centers to handle cases and patients beginning to rely on the service provided at the health centers.

Epilepsy is the most frequent disorder treated in the health centers followed by schizophrenia; this could be due to the relative ease of recognizing or diagnosing these conditions. Depression is only third. Likewise, Phenobarbitone is the most frequently used drug. Amitriptyline is the next most frequently used drug. These two drugs are affordable and easy to avail. There is also better expertise in administering them given that they were in the market for quite some time. Chlorpromazine is third. But the list of psychotropic drugs which were available at the health centers is very encouraging and shows good prospect for decentralization and integration of the services.

Conclusion and Recommendations

The study showed that decentralization and integration of mental

health services can be better achieved with specialist back-up and supportive supervision. Specialist psychiatric professionals, like psychiatric nurses can be hired by the primary health centers with roles of supportive supervision, training and consulting on difficult cases to mhGAP-trained primary health workers. Ownership of the integration process by the primary health center itself is key to success.

Authors' Contributions

KH conceived of the study and was involved in the design of the study, in the coordination and reviewed the article, analysis, report writing and drafted the manuscript. DA, AC, GA, and DeA were involved in the study design, analysis and drafted the manuscript. All authors read and approved the final manuscript.

Acknowledgement

The authors acknowledge Amanuel Mental Specialized Hospital for funding the study. The authors appreciate the Addis Ababa Health Bureau, the sub-city health offices, and the management of the health centers which participated in the study and also supplied information, as well as the study participants for their cooperation in providing the necessary information.

Funding

This research work is funded by Amanuel Mental Specialized Hospital.

References

- World Health Organization. Mental Health Action Plan. 2013.
- Federal Democratic Republic of Ethiopia, Ministry of Health. National Mental Health Strategy. 2012/2013-2015/2016.
- Thornicroft G, Alem A, Antunes Dos Santos R, Barley E, Drake RE, Gregorio G, et al. WPA guidance on steps, obstacles and mistakes to avoid in implementation of community mental health care. *World Psychiatry*. 2010; 9: 67-77.
- World Health Organization. mhGAP Intervention Guide for mental, neurological and substance use disorders in non-specialized health settings. 2010.
- Hanlon C, Luitel NP, Kathree T, Murhar V, Shrivasta S, Medhin G, et al. Challenges and Opportunities for Implementing Integrated Mental Health Care: A District Level Situation Analysis from Five Low-and Middle-Income Countries. *PLOS ONE*. 2014; 9: e88437.
- Patel V, Belkin GS, Chockalingam A, Cooper J, Saxena S, Unutzer J. Grand Challenges; Integrating Mental Health Services into Priority Health Care Platforms. *PLOS Medicine*. 2013; 10: e1001448.
- MhGAP in Ethiopia: Proof of Concept. 2013.
- The Federal Democratic Republic of Ethiopia Ministry of Health. Health Sector Transformation Plan. 2015/2016-2019/2020. 2015.
- Ayano G, Assefa D, Haile K, Bekana L. Experiences, Strengths and Challenges of Integration of Mental Health into Primary Care in Ethiopia. Experiences of East African Country. *Family Medicine and Medical Science Research*. 2016; 5: 3.
- Hanlon C, Wondimagegn D, Alem A. Lessons Learned in developing community mental health care in Africa. *World Psychiatry*. 2010; 9: 185-189.
- World Health Organization. Human Resources and Training in Mental Health. Geneva: World Health Organization. 2005.
- Deva PM. Training of Psychiatrists for Developing Countries. *Aust N Z J Psychiatry*. 1981; 15: 343-347.
- Eaton J, Agomoh AO. Developing Mental Health Services in Nigeria: The Impact of a Community-based Mental Health Awareness Program. *Soc Psychiatry Epidemiol*. 2008; 43: 552-558.
- Population and Housing Census Report-Addis Ababa Region-2007. Central Statistical Agency, 2010-07, English [eng], Ethiopia [eth].
- Federal Democratic Republic of Ethiopia Ministry of Health. Health Sector Development Program IV 2010/11-2014/15. 2010.
- Araya M, Mussie M, Jacobson L. Decentralized Psychiatric Nursing Service in Ethiopia –A Model for Low Income Countries. *Ethiop Med*. 2009; 47: 1.