Bridging the Gap on Early Identification and Treatment of Mental, Neurological and Substance Use Disorders in Sub-Saharan Africa

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Abstract

Although communicable diseases remain a priority in Sub-Saharan Africa (SSA), the demographic, epidemiologic, and nutritional transitions occurring in the region is expected to change the narrative to non-communicable diseases. Mental, neurological, and substance (MNS) use disorders contribute substantially to the Global Burden of Disease (GBD) worldwide, with MNS accounting for about 350 million Disability-Adjusted Life Years (DALYs) lost per annum in Sub-Saharan Africa. This picture is made bleaker by the huge treatment gap in the sub-region with over 90% of persons with MNS disorders lacking access to optimal health care services. The Mental Health Gap Action Program (mhGAP) was designed to bridge this gap in treatment. However, after over a decade it was first launched, access to optimal care for MNS disorders is still lacking in most SSA countries despite some positive efforts. The authors opine that bridging the treatment gap for MNS disorders will require the following: forging a common terminology for MNS disorders in the SSA countries for a comprehensive policy, integration of mental health services into existing health care services (e.g. primary health care, HIV/AIDS and maternal and child health care services), the use of mobile phone or other application-based technology and leveraging on the informal health care systems (e.g. traditional and faith-based healers) to deliver some level of care to persons with MNS disorders.

Keywords: *Sub-Saharan Africa (SSA); Mental, neurological, and substance (MNS); Global Burden of Disease (GBD); Disability-*

Background

In 2008, the World Health Organization stated that: "Mental, neurological, and substance use (MNS) disorders are prevalent in all regions of the world and are major contributors to morbidity and premature mortality, 14% of the global burden of disease, measured in disability-adjusted life years (DALYs), can be attributed to mental, neurological and substance use disorders. The stigma and violations of human rights directed towards people with these disorders compounds the problem. The resources that have been provided to tackle the huge burden of mental, neurological, and substance use disorders are insufficient, inequitably distributed, and inefficiently used, which leads to a treatment gap of more than 75% in many countries with lower and middle incomes" [1].

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After over a decade this call for action was made, the picture of MNS disorders in Sub-Saharan Africa (SSA) largely remains the same. Mental, neurological and substance use disorders contribute substantially to the burden of disease in Sub-Saharan Africa, accounting for approximately 350 million disability adjusted life years lost per annum in the region, which is higher than 150 million DALYs per year in the developed countries [2]. It has been predicted that with the epidemiologic and demographic transitions occurring in Sub-Saharan Africa, that an estimated 130% increase in the burden of MNS is likely to occur by 2050 in the region [3]. It has also been estimated that the point and lifetime prevalence of any mental disorder is about 10% and 25%, respectively [4]. About 15.3 million persons have drug use disorders in SSA with cannabis being the most widely used illicit substance in the sub-region with a prevalence ranging from 5.2% to 13.5% [5]. Similarly, neurological disorders are very common in SSA with epilepsy being the most common with a prevalence of 2.2 to 58.0 per 1000 population [6].

Despite these gloomy predictions, the treatment gap remains high with over 75% in most low and middle income countries [1]. Treatment gap represents the absolute difference between the true prevalence of a disorder and the treated proportion of individuals affected by the disorder or the percentage of individuals who require care but do not receive it [7]. The treatment gap for people with MNS disorders exceeds 50% in all countries of the world, approaching 90% in low-resourced countries like in SSA [8]. Generally, the situation across Africa with regards to health care workforce is already gloomy; in Kenya, there are 20 physicians per 100,000 in the population as against 270 doctors per 100,000 people in the United Kingdom [9]. In Nigeria, the picture is similar. According to the World Health Organization's (WHO) recent report on global workforce, the physician-to-patient ratio in Nigeria is 4 per 10,000 patients [9]. This is far less compared to 26 per 10,000 and 28 per 10,000 for the United States of America and the United Kingdom, respectively [9]. Specifically, a recent report on the global mental health care workforce show that most countries in the SSA have 0.1 psychiatrists and 0.3 psychiatric nurses per 100,000 [10]. The rate of psychiatrists in high income countries is 120 times greater and for psychiatric nurses is more than 75 times greater [10]. In Nigeria, it has been reported that the ratio of mental health beds is 0.4 per 100,000 persons, 4 psychiatric nurses per 100,000 persons, 0.09 psychiatrists per 100,000 persons and 0.02 psychologists and social workers per 100, 000 persons [11]. The psychiatrists-population ratio of 0.09 per 100,000 in Nigeria is grossly lower than 1 per 10,000 traditionally perceived as optimal [12]. In Neurology, both facilities and manpower is grossly inadequate in the SSA [13]. For example, Preux., *et al*. [14] reported that in 2005, there were 75 electroencephalographs and 25 computed tomography scanners in the tropical Africa, which are frequently out of order. Although these numbers may have changed in the last decade, but the picture still remains the same in clinical experience. The World Health Organization recommends a ratio of 1 neurologist to 100,000 persons [13]. In SSA nations where there are neurologists, the ratio is up to 75 times that recommended by WHO [15]. Bower., *et al*. [15], reported that in 2014, there were neurologic societies in fewer than 50% of the countries in SSA.

In an attempt to reduce the treatment gap, the World Health Organization (WHO) rolled out a number of initiatives (i.e. the Mental Health Gap-Action Programmes and the Mental Health Gap-Intervention Guide) to scale up services for MNS disorders [1]. Despite the laudable efforts of the WHO, the treatment gap in the SSA still remains high. In Nigeria, our practical clinical experience is as follows: (1) In the large towns with the Federal Neuro-Psychiatric Hospitals, people easily identify that those hospitals treat people with severe mental illnesses and readily patronize them, if they have the money to pay for the services. These hospitals are highly patronized; (2) In states with no such hospitals, many families are not aware that the Federal Medical Centers and primary health care centers do offer some mental health care. Hence, such centers are far less patronized. In addition, many state government hospitals do not have psychiatric care facilities; (3) the available private psychiatric care facilities are far less known; (4) even then, many families are aware of these facilities, but do not have the money to pay for the services; (5) many families prefer to be treated in the Pentecostal Churches and strongly believe in the supernatural causation of illness.

There are a number of reasons for the gap in access to treatment in SSA: first, mental, neurological and substance use disorders receive very little attention in the region. Health is generally a poorly funded area of social services in most sub-Sahara African countries

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despite the proclamation by the Africa Union that, all countries in the region should dedicate at least 15% of the budget to health services [16]. However, even within the health services, there is a disparity in allocation of resources, with mental health services being grossly neglected [17]. Second, available mental health services are limited to standalone specialist mental health centers, psychiatric units of general hospitals, few private and community-based mental health services which are mostly driven by faith-based organizations [18,19]. Similarly, low level of skilled professionals is the norm in SSA [20]. This is particularly true for highly skilled MNS disorders service providers such as the psychiatrist, neurologist, and clinical psychologist [21]. There is also, the additional problem of inter-country, intra-country and rural versus urban disparities in the allocation of MNS services in the sub-region [22]. Charlson., *et al*. [3], estimated that the required MNS workforce will have to increase by 216,600 full time equivalent staff from 2010 to 2050 to meet the needs of persons with mental, neurological and substance use disorder in the SSA. This is far more compared to the existing workforce. Third, the influence of socio-cultural factors especially those hinged on the belief in causation of the disease, limits access to optimal care, distorts the pathway to care and prolongs the duration of the untreated disease [19]. The conclusion from the above points is that a large proportion of needy people are not accessing the available services, not only because they do not have access to them, but due to a combination of others reasons, including: lack of insight on the part of the patient, belief in supernatural causation of severe mental illnesses, lack of sufficient money to pay for the service, and lack of awareness of the availability of the service, outside of the large stigmatized psychiatric hospitals.

Bridging the gap

In order to improve access to treatment of MNS disorders, the World Health Organization developed the Mental Health Gap Action Programme (mhGAP) to provide health planners, policy-makers, and donors with a set of clear and coherent activities and programmes for scaling up care for persons with MNS disorders [1]. Although some efforts have been made across the SSA countries in this regard, for example, in Ghana, a new mental health legislation was enacted in 2013 whereas in Nigeria, the process of contextualization of mhGAP is on-going, the treatment gap still remains high [23]. In this paper, the authors highlight ways to improve access to early treatment for people with MNS disorders. First, there is need to establish a common terminology and coherent front for MNS disorders across the sub-region with regards to a comprehensive unified policy framework. Despite evidence of the biological relatedness of the MNS disorders, a wide range of MNS disorders are still encapsulated in treatment silos of neurology, psychiatry and psychology in most countries in the Sub-Saharan Africa [24]. The consequence is the failure to have a coherent policy framework to address these disorders as a group. The scientific underpinnings of MNS disorders are now better understood, most have their origin in the brain structure or functions. Adapting such terms like the World Health Organizations' "MNS" or "neuroscience" will lead to a multidisciplinary effort to address these disorders in the sub-region. Advancing the use of the term "MNS disorders" will enable policy makers, health care providers, and advocacy groups to focus on a common front instead of isolated efforts targeted towards individual disorders. Second, the time is ripe for the integration of mental, neurological, and substance use disorders services into the existing health care systems leveraging on existing resources to reduce the treatment gap through evidence-based treatment. Researchers in Africa tend to agree that integration of mental health services in the primary health care will scale up services for MNS disorders [23,25]. However, the challenge has been on how to get the primary health care centers to function optimally. Some countries have proposed task-sharing/or task shifting approaches [23,25]. In the task sharing approach, standard services for MNS disorders are carried out in the existing primary and secondary health care facilities under the supervision of a specialist tertiary center in this same locality. This method aims to address the problem of not having experts in the decentralized locations, and not having sufficient support for non-specialized health care workers trained in the basic skills to work in the MNS disorder services. In Nigeria and Zimbabwe, these methods have been used and the results are encouraging [23,25]. However, we suggest that, MNS services' integration should go beyond the primary care centers to other established health care services such as the HIV/AIDS program and maternal and child health care services. This diversification of the care point will enhance early detection and treatment of MNS disorders in the sub-region without necessarily setting up new services. This is cost effective as there is no requirement of new manpower but a re-training of the already existing human resources and support by already existing specialists. Third, the use of mobile phone technology to enhance information dissemination, early recognition and some levels of care has become necessary in this

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region. According to the recent report from the Global System for Mobile Communication Association (GSMA), there are over 747 million mobile phone subscribers, and about 302 million have a smart phone in 2018, this is projected to rise to above 1 billion in 2025 [26]. This provides a wide range of opportunities for low- to medium level interventions for persons with mental, neurological and substance used disorders. There is some evidence on the usefulness of mobile technology in administering psychotherapy [27], out-patient clinic care and relapse prevention [28]. Fourth, optimizing treatment and care for people with mental, neurological, and substance use disorders in Sub-Saharan Africa requires utilization of all available resources within and outside the mainstream health care system. The authors re-echo what have been suggested by some other researchers, that the traditional and faith-based healers should be integrated to carry out some form of care specifically for case detection and referral for persons with MNS disorders [23,29]. Studies on pathway to care in Sub-Saharan Africa have shown that patients preferred consulting traditional and faith-based healers to attending primary health care centers [19]. This is because the former provided more culturally acceptable explanations for diseases, are more easily accessible, they spend more time with the client and allow for flexible modes of payment [23]. To effectively improve access to treatment in the sub-region, there is need to articulate a comprehensive policy framework to incorporate traditional and faith-based healers, who are ubiquitously available, easily accessible and acceptable by the natives. Finally, other remedies are public mental health education and national health insurance to cover to erase or minimize ignorance and reduce the cost of out-of-pocket payment, respectively.

Conclusion

The substantial burden of MNS in the SSA is well known [2]. Similarly, the disparities in the treatment gap between Sub-Saharan African countries and the developed countries is also known [1]. What is not very clear is a comprehensive and coherent framework and interventions to improve access to treatment of MNS disorders in the sub-region. We recommend leveraging on already existing formal and informal health care systems and the use of mobile phone technology to deliver public mental health promotion and preventive activities, early detection of cases, prompt referral and treatment of MNS disorders in the sub-region.

Bibliography

1. World Health Organization. "Mental Health Gap Action Programme: Scaling up Care for Mental, Neurological and Substance use Disorders". Geneva: WHO (2008).

2. Whiteford HA., *et al.* "The Global Burden of Mental, Neurological and Substance Use Disorders: An analysis from the Global Burden of Disease study". *PLoS ONE* 10.2 (2010): E0116820.

3. Charlson FJ., *et al.* "Mental and substance use in sub-Saharan Africa: predictions of epidemiological changes and mental health workforce requirements for the next 40 years". *PLoS ONE* 9.10 (2014): e110208.

4. World Health Organization. "The World Health Report: Burden of Mental and Behavioral Disorders". World Health Organization, Geneva (2014).

5. World Health Organization. "Substance abuse overview". World Health Organization Regional Office for Africa, Brazzaville (2016).

6. Silberberg D and Katabira E. "Neurological disorders". In: Disease and mortality in sub-Saharan Africa. 2nd Edition, Washington DC (2006).

7. Jansen S., *et al.* "The "treatment gap" in global mental health reconsidered: sociotherapy for collective trauma in Rwanda". *European Journal of Psychotraumatology* 6 (2015): 28706.

8. Patel V., *et al.* "Reducing the treatment gap for mental disorders: a WPA survey". *World Psychiatry* 9 (2010): 169-176.

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9.   World Health Organization. "The global atlas of the health workforce". World Health Organization, Geneva (2018).

10. World Health Organization. "Global Health Observatory Data". World Health Organization (2016).

11. Uwakwe R. "Mental health service and access in Nigeria: A short overview". *International Journal of Global Social Work* 2 (2018): 103.

12. Burvill PW. "Looking beyond the 1:10,000 ratio of psychiatrists to population". *Australian and New Zealand Journal of Psychiatry* 26.2 (1992): 265-269.

13. Atlas. "Country resources for neurological disorders". *World Health Organization and World Federation of Neurology* (2004): 1-59.

14. Preux PM and Druet-Cabanac M. "Epidemiology and Aetiology of Epilepsy in sub-Saharan Africa". *Lancet Neurology* 4 (2005): 21-31.

15. Bower JH and Zenebe G. "Neurologic services in the nations of Africa". *Neurology* 64 (2005): 412-415.

16. African Union. "African summit on HIV/AIDS and other related infectious diseases". Abuja, Nigeria: AU (2001).

17. Eaton J., *et al.* "Scale up services for mental health in low-income and middle-income countries". *The Lancet* 378.9802 (2011): 1592-1603.

18. Gater R., *et al.* "Pathways to psychiatric care in Eastern Europe". *British Journal of Psychiatry* 186 (2005): 529-535.

19. Lasebikan VO., *et al.* "Social network as a determinant of pathway to mental health sciences utilization among psychotic patients in Nigerian hospital". *Annals of African Medicine* 11 (2012): 12-20.

20. World Health Organization. Country profile of Nigeria mental health atlas of the World Health Organization. Geneva: WHO (2011): 348-351.

21. Scheffler RM., *et al.* "Forecasting the global shortage of physicians: an economic- and needs-based approach". *Bulletin of the World Health Organization* 86.7 (2008): 516-523.

22. Kohn R., *et al.* "The treatment gap in mental health care". *Bulletin of the World Health Organization* 82.11 (2004): 858-866.

23. Abdulmalik J., *et al.* "Country contexualization of the Mental Health Gap Action Programme Intervention Guide: a case study from Nigeria". *PLoS ONE* 10.8 (2013): E1001501.

24. Institute of Medicine and National Academy of Sciences. "Mental, Neurological, and Substance use Disorders in Sub-Saharan Africa: Reducing the Treatment Gap, Improving Quality of Care: summary of the workshop by the institute of Medicine and the Uganda National Academy of sciences. Washington, DC: The Academies Press (2010).

25. Bitta MA., *et al.* "Priority mental, neurological and substance use disorders in rural Kenya: Traditional health practitioners' and primary health care workers, perspectives". *PLoS ONE* 14.7 (2019): E0220034.

26. Global System for Mobile Communication. "The mobile economy sub-Saharan Africa". GMSA (2019).

27. Anthony K. "The use and role of technology in counselling and psychotherapy. In: Technology in counselling and psychotherapy. Palgrave, London (2011).

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28. Duarte AC and Thomas SA. "The use of phone technology in out-patient populations: a systematic review". *Open Nursing Journal* 10 (2016): 45-58.

29. Uwakwe R and Otakpor A. "Public mental health-using the Mental Health Gap Action Program to put all hands to the pumps". *Frontiers in Public Health* 2.33 (2014): 1-5.

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