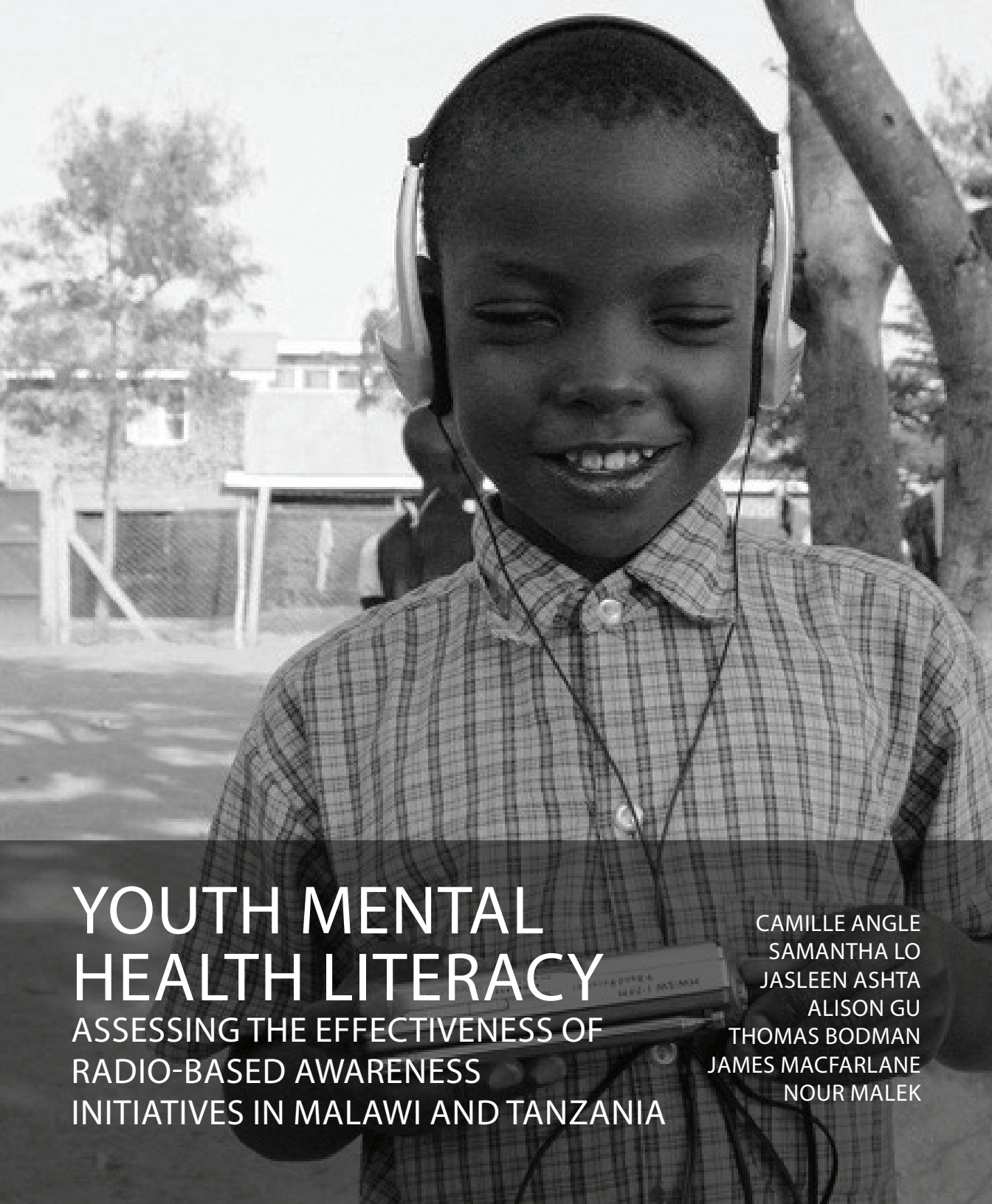

YOUTH MENTAL HEALTH LITERACY

ASSESSING THE EFFECTIVENESS OF RADIO-BASED AWARENESS INITIATIVES IN MALAWI AND TANZANIA

CAMILLE ANGLE
SAMANTHA LO
JASLEEN ASHTA
ALISON GU
THOMAS BODMAN
JAMES MACFARLANE
NOUR MALEK

This paper evaluates the effectiveness of an intervention meant to expand treatment for adolescents with mental illness in Malawi and Tanzania. The researchers developed radio programs addressing mental health for youth and provided training on mental disorders for educators and healthcare workers in Malawi and Tanzania. At a cost of CA$2.7 million, the program treated over 1,000 adolescents for depression and other mental illness.

Introduction

Despite often being left out of the greater discussion on global health, mental health disorders represent a significant burden worldwide. Roughly 5% of any human population is affected by neuropsychiatric illnesses such as psychoses, dementias, drug and alcohol dependence, and depression (1). Approximately 5.9% of total global DALYs lost are due to mental disorders, with the highest burden occurring between the ages of 20 to 30 years old (2). Mental disorders also contribute significantly to global mortality; for example, suicide is reported to be a leading cause of death for youth in China and India (3). Compared to physical and biomedical pathologies, mental illnesses tend to be more difficult to identify and understand, and are thus neglected as a global health concern (4). Depression is projected to soon be responsible for the highest burden of disease in young people worldwide (5).

A large proportion of the population in both high-income countries (HICs) and low and middle income countries (LMICs) are affected by mental illness. People living in LMICs face increased exposure to social and health risk factors for mental illness such as poverty, malnutrition, and violence. LMICs also have a high percentage of youth within their populations. Specifically, 60-70% of people living in Malawi and Tanzania are under age 25, with children between 0-14 years of age comprising 45% of their total populations (5). Over half of the population in Malawi lives in poverty (6, 7). Additionally, in Malawi, 2.1 million adolescents aged 10-19 live with HIV (7). And while the exclusive prevalence of mental disorders among youth in both Malawi and Tanzania is unknown, the prevalence among youth in sub-Saharan Africa is between 13% and 20% (8, 9). Furthermore, these sub-Saharan LMICs also suffer from poor quality of health care. The lack of mental health literacy among the public and training among healthcare workers, coupled with high levels of stigma, result in large treatment gaps for mental illness—especially for youth. In addition, Malawi's youth struggle to receive an education due to the lack of infrastructure and resources. In 2014, 69.4% of Malawi youth aged 15-24 did not progress beyond a primary school-level of education (5, 6).

In Malawi, it could be argued that treatment of mental illness is neglected due to the country's focus on infectious disease treatment and prevention. In 2012, only 0.9% of the country's healthcare budget was allocated to mental health, amounting to US$0.293 per capita (10). Furthermore, tertiary mental health services are only available through three sources in the country: two hospitals associated with the Ministry of Health and a non-governmental organization, Scotland-Malawi Mental Health Education Project (SMMHEP; mostly tailored to graduate students and medical doctors rather than the younger population). In 2012, there were only four registered psychiatrists and psychologists in the entire country. There are simply not enough mental health experts and clinics to meet the needs of Malawi's 16 million inhabitants. This

problem is compounded by the stigma surrounding mental health, causing affected individuals to become isolated from their communities and unable to receive the necessary care. This stigma has also discouraged people from entering into psychology-related fields of study and work, further perpetuating the problem.

The United Republic of Tanzania suffers from a similar lack of mental health resources. Tanzania allocates a greater percentage of its budget to mental health than Malawi (2.4% of their budget or US$0.647 per capita) (11), yet there remains a lack of mental health services. There are only four trained psychiatrists and one or two social workers for every one million Tanzanians. In addition, most clinics do not have protocols to guide the management and treatment of mental health disorders (11).

Studies conducted in Goa and Thirthahalli Taluk, India, as well as Uganda, have shown that groups who undergo interpersonal psychotherapy and/or take antidepressant medications experience a greater decrease in symptoms than a non-treated control group (12, 13, 14). However, such treatments can only be provided and prescribed with appropriate training, thus emphasizing the need for better mental health literacy, training, and funding. As approximately 70% of mental disorders can be diagnosed before the age of 25, investments in these areas must target youth (15). Early diagnosis and treatment will increase life expectancy and participation in the labor force, contributing to an overall improvement in productivity (16).

This case study summarizes and evaluates the implementation of Canada's mental health literacy program, The Guide, in Malawi and Tanzania, with the hopes of assessing the potential for scale-up to other countries in sub-Saharan Africa.

Intervention

Principal Investigator Dr. Stanley Kutcher of the Department of Psychiatry at Dalhousie University (Halifax, Nova Scotia, Canada) and his team put together an initiative to apply a unique, integrated Pathway Through Care program for young people with depression in Malawi (starting in 2012) and the Kilimanjaro region of Tanzania (starting in 2014). With a CA$2.7 million contribution from Grand Challenges Canada (GCC), this initiative was carried out by Farm Radio International, a Canada-based not-for-profit organization dedicated to fighting poverty and food insecurity in Africa (Box 1). Farm Radio International contributed its expertise in radio-based and mobile phone-based communication, which are frequently used by farmers to promote greater collaboration, communication, and sharing of agricultural knowledge.

To pioneer their project, Dr. Kutcher's team worked to create relations with key policymakers in both Malawi and Tanzania. Additionally, the team conducted surveys to assess baseline knowledge of mental health and stigma among youth in Malawi and Tanzania. The survey gathered information about the respondents, their radio-listening habits, as well as their knowledge, attitudes and opinions about depression. The survey revealed that there is no word for "depression" in Chichewa, one of the main languages of Malawi, nor does it exist in other dialects native to sub-Saharan Africa. Victims of depression were stigmatized and labeled as either weak, lazy, or possessed by spirits, and were often punished as a result.

Box 1. Farm Radio

Farm Radio International is a Canadian not-for-profit organization which works with approximately 600 broadcasters in 38 countries across Africa to fight poverty and food insecurity using the medium of radio to provide information (31). Farm Radio International started out as Developing Countries Farm Radio Network (DCFRN) in the late 1970's. It was the brainchild of George Atkins, voice of CBC's noon farm radio program for 25 years. While visiting Africa, George Atkins saw the value in being able to reach farmers with information about affordable, sustainable farming techniques to improve self-reliance, increase food security, gender equality, and reduce poverty. Radio is a particularly efficacious method of reaching farmers in many places in Africa due to the prevalence of radio sets relative to other methods of communication. A 2011 study by Farm Radio International showed that only 2% of farmers had access to a landline, 3% to the internet, and 18% to mobile phones, yet 76% of farmers had access to a radio set (33). This, coupled with the low production cost of radio programs and relatively low cost of maintaining infrastructure, allows Farm Radio International to reach millions with Participatory Radio Campaigns at the cost of "pennies per farmer".

Reflecting these beliefs, health and government officials coined the term, matenda okhumudwa, which roughly translates to "disease of disappointment." Additionally, the survey also revealed that approximately 25% of students reported feeling hopeless on a daily basis. Dr. Kutcher et al. designed a set of unique interventions that: (i) raised mental health awareness through a radio program for youth, (ii) trained teachers with the use of a mental health literacy program adapted from a Canadian mental health curriculum, and (iii) instructed community health care providers on the identification, diagnosis, and treatment of adolescent depression. Together, these programs represent "An Integrated Approach to Addressing the Challenge of Depression Among the Youth in Malawi and Tanzania" (IACD).

The IACD was comprised of four integrated components (17, 18, 19, 20): (i) raise awareness, provide information, and broadcast first-person testimonies through the use of radio programs broadcasting music, a "soap opera" story of youth, and interactive discussion; (ii) decrease stigma through the development of youth listening clubs led by teachers or peer educators to guide discussions on the content; (iii) train teachers to increase mental health literacy through the implementation of a mental health school curriculum; (iv) train community health care providers in the identification, diagnosis, and treatment of youth depression, and encourage the development of a "hub and spoke" model, linking schools to these trained providers.

Raising Awareness and Mental Health Literacy on Air and through Youth Groups

Three radio stations in Malawi and one in Tanzania broadcasted interactive radio programs tailored to youth, including a soap opera that addressed topics of mental health, sexual and reproductive health, and substance abuse (21). The radio program also recruited famous Malawian and Tanzanian personalities as ambassadors to break down stigma associated with mental health. The Diktator—a well-known Malawian rapper—was voted by youth to host the radio program Nkhawa Njee 'Yonse Bo' ("Depression Free, Life is Cool"). Since its debut four years ago, the program has reached over 500,000 youth in both Malawi and Tanzania. The aim of this intervention was to break down

negative stereotypes surrounding mental disorders. Using mobile phones, listeners were able to leave comments and feedback for radio hosts and mental health experts, ask questions, and participate in quizzes and polls.

To guarantee that youth both within and outside schools were tuning in to the radios shows, the IACD trained peer educators to lead radio listening clubs and promote discussions to improve mental health literacy. The in-school youth clubs were comprised of students and teacher mentors. The out-of-school clubs were comprised of school drop-outs as well as unemployed youth that had completed secondary school (aged 20-30 years). Additionally, listeners were given the phone number of an automated, interactive voice response system through which the location of their closest mental health provider could be obtained. These calls were provided free of charge. Over 3,000 youth approached teachers with concerns about mental health and more than 1,000 reached out to mental health providers to receive treatment.

Surveys, in the form of short questions, were used to assess youth awareness of mental health issues and available care options. Post-implementation surveys indicated that the mental health literacy of youth significantly improved in both Malawi (N≈500) and Tanzania (N≈200) ($p<.001$, paired t test) (22). In addition, attitudes towards mental health issues also improved ($p<.001$) (22). Students reported being more inclined to advise friends and classmates to seek mental health care, suggesting that the program promoted an impactful "pay it forward" effect ($p<.001$; Figure 1) (21, 22).

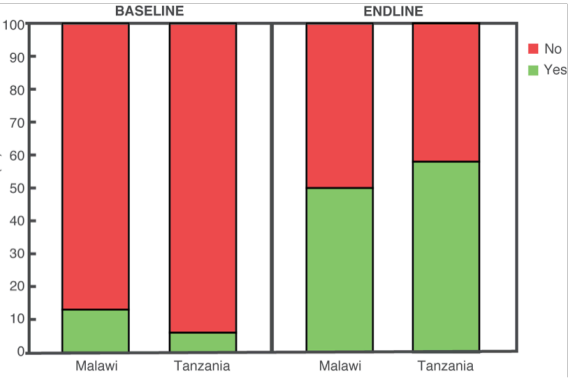

Figure 1.
The percentage of youth who advised a peer to get help from a healthcare professional in Malawi (MW; N≈500) and Tanzania (TZ; N≈200) before (baseline) and after (endline) being exposed to the radio program. Adapted from Kutcher, 2016.

Improving Mental Health Literacy through School Curriculums

Oftentimes, teachers are the first contact to mental health literacy for adolescents through the school curriculum. Teachers provide an opportunity to enhance access to mental healthcare for youth that may have a mental disorder. Thus, it is necessary to train teachers to identify high risk students and refer them to trained health providers. To achieve this, Dr. Kutcher worked with local mental health experts in both countries to adapt a training program he had helped to develop in Canada, the Mental Health and High School Curriculum Guide (The Guide) (Box 2). As a result, the African Guide (AG) was assembled and three-day training workshops were provided to educators that included a module-by-module revision of the AG on mental health literacy and a how-to for integrating basic concepts of mental health and mental disorders into classroom teaching (23). Moreover, the training provided teachers with basic Cognitive Behav-

Therapy (CBT) based interventions to help them talk to students in distress and offered a program that helped them learn how to identify mental health problems in students and appropriately select a clinic for referral. In Malawi, the workshop involved 218 teachers and youth club leaders (121 males, 96 females, and 1 gender not provided) that were selected by Malawi's Ministry of Education from primary and secondary schools (22, 24, 25). In Tanzania, the program was conducted in fewer districts—namely, Arusha and Meru; 61 secondary school teachers (29 males, 29 females, and 3 of anonymous gender) participated (20).

To assess whether teachers' levels of mental health literacy and attitudes changed over the course of their training, they were given pre- and post-intervention questionnaires. These questionnaires assessed general mental health knowledge and consisted of questions with the options "true", "false", and "I don't know". Participants were encouraged to use "I don't know" to avoid guessing. They also answered eight questions about attitudes and stigma on a seven-point Likert Scale that ranged from "strongly agree" to "strongly disagree". Finally, participants responded "yes" or "no" to questions about their experience referring or advising others to seek professional help for a mental health problem, as well as questions about whether or not the teachers themselves personally recognized and/or sought professional help (21).

Prior to the training, educators in Malawi correctly answered an average of 58.3% (Mean (M) = 17.5±4.07) of the 30 questions about mental health, mental illness, and depression. This improved to 76.3% (M= 22.94±2.89) following completion of the workshop (22, 24, 25). A paired t-test indicated this to be a highly significant difference ($p < 0.0001$, paired t-test). Interestingly, this improvement did not differ by gender or region ($p>0.05$). In Tanzania, educators correctly answered 65.9% (M = 19.76±3.57) of the 30 questions prior to training. This improved to 77.8% (M = 23.34±2.63) after training ($p < 0.001$) (20, 22). Moreover, attitudes toward mental health ($p < 0.001$) and comfort levels for addressing mental health needs ($p > 0.05$) significantly improved after the workshop, signifying a decrease in stigma.

Box 2. The Mental Health and High School Curriculum Guide (The Guide)

The Guide* is a web-based mental health literacy curriculum comprising of a teacher self-assessment tool, a teacher self-study module, a student evaluation tool, and 6 classroom ready modules (23). The modules include learning objectives, lesson plans, classroom-based activities, and teaching resources (e.g., written materials, animated videos, and PowerPoint presentations). The 6 modules are as follows: the stigma of mental illness, understanding mental disorders and their treatments, experiences of mental illness, seeking help and finding support, and the importance of positive mental health. The Guide has been certified by Curriculum Services Canada, a pan-Canadian curriculum standards and evaluation agency, and endorsed by the Canadian Association for School Health. The Guide was field tested in numerous schools across Canada, and pilot studies have confirmed its effectiveness in the province of Nova Scotia (34) and in the city of Toronto, Canada's largest metropolitan area (35).

The efficacy of the workshops is further reflected in the percentage of educators that referred students to seek mental health care. 95% of teachers in Malawi and 84% in Tanzania reported that they identified students with mental health problems, and

a subset reported advising the students to reach out for help (Figure 2) (22). During this preliminary analysis of the intervention's impact, the trained educators had taught over 500 classes in 30 Malawian schools and over 300 in 20 Tanzanian schools. A later assessment conducted to measure the one-year impact of improving mental health literacy in Tanzania demonstrated that the number of teachers trained in the guide increased to 159 and the number of students exposed reached about 4657 (M=145.53 per teacher) (26). Interestingly, not only did the same analysis show that teacher referrals increased by a factor of 3 over time, but roughly 400 students (M=13.76 per teacher) said they would approach teachers with a mental health concern. Similar significant improvements were found in Malawi (22).

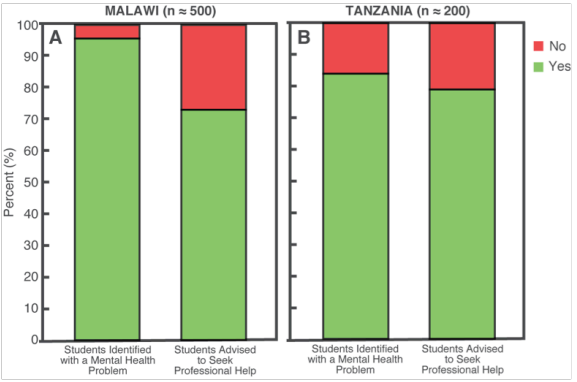

Figure 2. The percentage of students identified by teachers in Malawi (A) and in Tanzania (B) to have a mental health disorder (bar on the left) and referred to seek professional help (bar on the right). Adapted from Kutcher, 2016.

Providing Mental Health Care, Not Just a Rare Service

Finally, utilizing AG training modules similar to those developed for teachers, the IACD program taught frontline healthcare practitioners how to screen for, diagnose, and treat depression, while also emphasizing mental health care provided by community healthcare providers rather than mental health services provided by mental health specialists. These healthcare providers worked in communities near the target schools and served as the resources to which the teachers were instructed to refer students.

A survey was conducted in two sections: the first assessed healthcare professionals' (HCPs) self-reported confidence regarding identification, diagnosis, and treatment of depression in young people; the second was a questionnaire featuring similar questions to those used to assess teachers' mental health literacy before and after training. The confidence self-reports used a 4-point Likert scale that asked HCPs to rate their confidence from "not confident" (1 point), "somewhat confident" (2 points), "very confident" (3 points), to "extremely confident" (4 points). Forty-six HCPs were on average "very confident" in their ability to identify, diagnose, and treat depression in adolescents, yet the average score of the knowledge assessment questionnaire was only 55% correct answers (19). While the sample size was small, the results indicate that training of HCPs in Tanzania is inadequate, and that simply asking them about their competence is not an appropriate metric for assessing capability. In an attempt to compensate for this, Dr. Kutcher trained a group of 4-6 Master Trainers composed of a mix of psychiatrists, psychologists, counselors, and psychiatric nurses. The Master Trainers then trained 20 future trainers, who in turn trained community-based healthcare providers (27). In total, a year after the initial implementation of IACD, 94 HCPs had received training in Malawi, and 75 HCPs had received training in Tanzania (22).

Additionally, fluoxetine—the generic equivalent of Prozac and a relatively cheap medication (~CA$0.78/20 mg capsule)—was made available for the first time by the Ministry of Health in both Malawi and Tanzania as the first-line pharmacological intervention in the treatment of adolescents with depression.

Discussion

The popularity, efficacy, and longevity of the radio-based mental health programs are key indicators of the value of this medium in reaching young people in sub-Saharan Africa. While the cost-effectiveness of these mental health programs has not been specifically assessed, analyzing studies of analogous farm radios in Africa may provide insight into this factor. In 2007, the African Farm Radio Research Initiative (AFRRI) examined the effectiveness and efficiency of radio communications in improving agricultural productivity and food security for rural communities in five countries: Malawi, Tanzania, Uganda, Mali and Ghana (28). The costs associated with installing Farm Radio in these countries are highly variable and depend on the type of station as well as other environmental factors. For example, a 'micro-station' in Mali with a broadcast range of 2.5 km costs US$650 to set up, while a public broadcaster with the signal strength to serve the entirety of Tanzania costs roughly US$8 million. The average cost of setting up a station for AFRRI partners was approximately US$100,000. Indeed, running costs varied widely, as an AFRRI partner survey revealed costs ranging from US$20,330-$541,000 per annum for public broadcasters, US$2,500-$930,000 per annum for commercial stations, and US$2,500-$286,000 for community stations (28).

With GCC's funding coming to an end, constant revenue is essential for the radio initiative to be viable in the long-term. Farm Radio stations typically have two avenues of revenue available to them: 10% internally-generated (advertisements, competitions, subscription fee) and 90% externally-generated (grants and loans from NGOs/IGOs including the Canadian International Development Agency (CIDA), the Bill and Melinda Gates Foundation, Alliance for a Green Revolution in Africa (AGRA)) (29, 30, 31). However, this has led to a "too many cooks in the kitchen" effect causing disagreements over how farm radio in Malawi and Tanzania should be regulated and discouraging continued funding. A recent documentary, "Mental Health on Air," summarizes the impact of the IACD program and shows interviews and clips of children participating in the youth clubs. This documentary may help sway other funders to join the efforts to continue to combat the stigma surrounding depression in sub-Saharan Africa.

Enhancing mental health literacy through a school rather than a non-school curriculum approach has several advantages. For example, it does not require additional program development as it utilizes methods already used by Western educators that have been adapted for sub-Saharan cultures. The IACD approach worked well in both Malawi and Tanzania, appealing to major governmental institutions. For example, Malawi's Ministry of Education is reviewing the AG to incorporate it into the national school curriculum, rather than just the four districts where this case study was implemented. Furthermore, the Ministry of Health is recognizing the IACD as an integral component of the reform of Malawi's mental health policy and plan.

Finally, the potential for the cascade model of training to scale up is considerable. However, due to the lengthy training times, the HCP trainees must have sufficient resources to enable them to train without a drop in frontline care (27).

Unfortunately, the IACD approach has some limitations. The study lacks a control group, which means that it is not feasible to attribute the improvement in referrals made by teachers solely to the influence of the intervention—although other explanations are unlikely since no referrals were made prior to the intervention. In addition, while the number of mental health care referrals significantly increased, there is no data that indicates whether or not the advisees actually sought care. Moreover, data on whether those students continued to seek help and if their conditions improved is difficult to obtain due to the limited duration of the program. Fortunately, an extension phase funded by GCC is examining some of these areas. It is also worth noting that all results in this case study were obtained from the work of Dr. Kutcher and his colleagues; an independent source—ideally within Malawi and Tanzania—would be favorable to validate the data and impact. Finally, considering the positive influence that radio has had on the youth of Malawi and Tanzania, the authors of this case study question whether television could serve as an even more potent medium due to its visual nature. However, televisions are inconsistently available within sub-Saharan communities, which explains the need for the greater coverage achieved by radio.

Conclusion

Radio-based mental health awareness/literacy programs for youth have immense potential to proliferate. In 2014-2015, Farm Radio International worked with more than 600 broadcasters in 38 African countries to reach an estimated 20 million farmers (32). The radio programs may be an effective way to raise awareness, but the capacity of these programs to improve mental health outcomes is limited without the support of the youth radio clubs, school-based mental health literacy programs, and HCP training and treatment availability.

The IACD approach increases mental health awareness among youth and members of their support networks because of its integrative approach and capacity-building initiatives. Further, IACD allows for community-based HCPs to provide treatment through closer training and provision of medications and psychological interventions known to be effective in treating depression.

The results of the studies conducted by Dr. Kutcher and his colleagues suggest that mental healthcare outcomes among youth in sub-Saharan Africa could be substantially improved if the IACD approach were scaled up to cover the entirety of Malawi, Tanzania, or even the full extent of the Farm Radio International coverage area. Unfortunately, cost remains a barrier to the scale-up process. To this end, Farm Radio International and the IACD must strengthen partnerships with major health and aid organizations to ensure sustainability by securing funding, and to maintain accountability for ongoing improvement in training.

Acknowledgments

We would like to thank Dr. Stanley Kutcher for his guidance and input in understanding the data and assembling this manuscript, as well as for editing the final version. We thank Adena Brown for providing additional resources and clarification. We also thank Dr. Madhu Pai and Sophie Huddart for their comments and assistance while making revisions of this manuscript.

References

1. Patel V. Why mental health matters to global health. Transcultural psychiatry. 2014 Dec;51(6):777-89.
2. Whiteford HA, Ferrari AJ, Degenhardt L, Feigin V, Vos T. The global burden of mental, neurological and substance use disorders: an analysis from the Global Burden of Disease Study 2010. PloS one. 2015 Feb 6;10(2):e0116820.
3. Patel V, Flisher AJ, Hetrick S, McGorry P. Mental health of young people: a global public-health challenge. The Lancet. 2007 Apr 20;369(9569):1302-13.
4. McInnis MG, Merajver SD. Global mental health: Global strengths and strategies: Task-shifting in a shifting health economy. Asian Journal of Psychiatry. 2011 Sep 30;4(3):165-71.
5. Population ages 0-14 (% of total). The World Bank: Data. 2016 [cited 15 January 2017]. Available from: http://data.worldbank.org/indicator/SP.POP.0014.TO.ZS?locations=MW-TZ
6. Government of Malawi. 2015 Statistical Yearbook. Zomba, Malawi: National Statistical Office; 2015.
7. Kim M, Mazenga A, Yu X, Devandra A, Nguyen C, Ahmed S et al. Factors associated with depression among adolescents living with HIV in Malawi. BMC Psychiatry. 2015;15(1).
8. Atilola Ola B. Towards school mental health programmes in Nigeria: systematic review revealed the need for contextualised and culturally-nuanced research. Journal of Child & Adolescent Mental Health. 2016;28(1):47-70.
9. Cortina M. Prevalence of Child Mental Health Problems in Sub-Saharan Africa. Archives of Pediatrics & Adolescent Medicine. 2012;166(3):276-81.
10. Silvestri M. Growing mental health awareness in Malawi calls for more trained medical professional. Field Notes: Living and Working Overseas with jhr. 2012 [cited 15 January 2017]. Available from: http://www.jhr.ca/blog/2012/02/growing-mental-health-awarenes-in-malawi-calls-for-more-trained-medical-professionals/
11. Department of Mental Health and Substance Abuse. United Republic of Tanzania: Mental Health Atlas. World Health Organization; 2011. Available from: http://www.who.int/mental_health/evidence/atlas/profiles/tza_mh_profile.pdf
12. Patel V, Weiss HA, Chowdhary N, Naik S, Pednekar S, Chatterjee S, De Silva MJ, Bhat B, Araya R, King M, Simon G. Effectiveness of an intervention led by lay health counsellors for depressive and anxiety disorders in primary care in Goa, India (MANAS): a cluster randomised controlled trial. The Lancet. 2010 Dec 31;376(9758):2086-95.
13. Thirthalli J, Venkatesh BK, Kishorekumar KV, Arunachala U, Venkatasubramanian G, Subbakrishna DK, Gangadhar BN. Prospective comparison of course of disability in antipsychotic-treated and untreated schizophrenia patients. Acta Psychiatrica Scandinavica. 2009 Mar 1;119(3):209-17.

14. Bolton P, Bass J, Neugebauer R, Verdeli H, Clougherty K, Wickramaratne P et al. Group Interpersonal Psychotherapy for Depression in Rural Uganda. JAMA. 2003;289(23):3117-24.
15. Kessler R, Berglund P, Demler O, Jin R, Merikangas K, Walters E. Lifetime Prevalence and Age-of-Onset Distributions of DSM-IV Disorders in the National Comorbidity Survey Replication. Archives of General Psychiatry. 2005;62(6):593-602.
16. Kutcher S, Chehil S, CASH C, Millar J. A competencies-based mental health training model for health professionals in low and middle income countries. World Psychiatry. 2005 Oct;4(3):177-80.
17. Kutcher S, Bagnell A, Wei Y. Mental health literacy in secondary schools: a Canadian approach. Child and adolescent psychiatric clinics of North America. 2015 Apr 30;24(2):233-44.
18. Kutcher S, Wei Y, Coniglio C. Mental Health Literacy Past, Present, and Future. The Canadian Journal of Psychiatry. 2016 Mar 1;61(3):154-8.
19. Kutcher S, Wei Y, Gilberds H, Brown A, Ubuguyu O. Evaluating Community Health Care Providers Knowledge and Self-Confidence in the Identification, Diagnosis and Treatment of Adolescent Depression in Tanzania. Arch Depress Anxiety 2 (1): 026-030. DOI: 10.17352/2455.2016;5460:026.
20. Kutcher S, Wei Y, Gilberds H, Ubuguyu O, Njau T, Brown A, Sabuni N, Magimba A, Perkins K. A school mental health literacy curriculum resource training approach: effects on Tanzanian teachers' mental health knowledge, stigma and help-seeking efficacy. International Journal of Mental Health Systems. 2016 Aug 4;10(1):50. DOI: 10.1186/s13033-016-0082-6.
21. Kutcher S, Gilberds H, Perkins K, Udedi M, Ubuguyu O, Njau T, Chapota R, Emmanuel J, Sabuni N, Magimba A. (Submitted[b]). Creating evidence based youth mental health policy in sub-Saharan Africa: a description of the integrated approach to addressing the issue of youth depression in Malawi and Tanzania. World Psychiatry.
22. Kutcher S. Addressing Youth Depression in Africa. Powerpoint Slides presented at; 2016; International Association for Child and Adolescent Psychiatry and Allied Professions World Congress, Calgary.
23. Kutcher S, The Canadian Mental Health Association. The mental health and high school curriculum: Understanding mental health and mental illness. Halifax (NS): The Printing House Limited; 2009.
24. Kutcher S, Gilberds H, Morgan C, Greene R, Hamwaka K, Perkins K. Improving Malawian teachers' mental health knowledge and attitudes: an integrated school mental health literacy approach. Global Mental Health. 2015;2(e1):1-10. DOI:10.1017/gmh.2014.8.
25. Kutcher S, Gilberds H, Morgan C, Udedi M, Perkins K. Malawi Educators' Assessment of Student Mental Health Outcomes. Int J Sch Cog Psychol S. 2015;S2: 009. DOI:10.4172/2469-9837.S2-009
26. Kutcher S, Wei Y, Gilberds H, Brown A, Ubuguyu O, Njau T, Sabuni N, Magimba A, Perkins K. (Submitted[c]). The African Guide: One Year Impact and Outcomes from Implementation of a School Mental Health Literacy Curriculum Resource in Tanzania.
27. Kutcher S, Wei Y, Gilberds H, Brown A, Ubuguyu O, Njau T, Sabuni N, Magimba A, Perkins K. (Submitted[d]). Addressing Adolescent Depression in Tanzania: Positive Primary Care Workforce Outcomes Using a Training Cascade Model.

28. Yordy C. The Economics of Rural Radio in Africa. Ottawa, Canada: Farm Radio International; 2008. Available from: http://unpan1.un.org/intradoc/groups/public/documents/unpan/unpan037356.pdf
29. Ahede Y. The development of community media in French-speaking West Africa. UNESCO; 2000.
30. Wanyeki LM. The development of community media in East and Southern Africa. Promoting community media in Africa. 2000:25-43.
31. Partners - Farm Radio International. Farm Radio International. 2017 [cited 3 March 2017]. Available from: http://www.farmradio.org/about-us/partners/
32. Farm Radio International. Annual Report 2015. Ottawa: Farm Radio International; 2015.
33. Huggins-Rao S. Marketing on the airwaves: Marketing Information Service (MIS) and radio. Farm Radio International; 2011.
34. Kutcher S, Wei Y. Challenges and solutions in the implementation of the school-based pathway to care model: the lessons from Nova Scotia and beyond. Can J Sch Psychol. 2013;28(1):90–102.
35. Kutcher S, Wei Y, Morgan C. Successful application of a Canadian mental health curriculum resource by usual classroom teachers in significantly and sustainably improving student mental health literacy. Can J Psychiatry. 2015;60(12):580-586.