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Introduction

Mental health literacy (MHL) in populations is foundational for mental health promotion, prevention, stigma reduction, and care and is comprised of four components: 1) understanding how to obtain and maintain positive mental health; 2) understanding mental disorders and their treatments; 3) decreasing stigma related to mental disorders; and 4) enhancing help-seeking efficacy [1,2]. While mental health literacy is necessary at the population level, where it can enhance access to mental health care and promote appropriate self-care [1-3], it is also needed amongst health care providers, where MHL must be included as part of the necessary competencies needed to enhance the provision of mental health care. This is particularly prescient in the area of Depression, which, is currently the third leading cause of disability worldwide and, according to the World

Research Article

Evaluating Community Health Care Providers Knowledge and Self-Confidence in the Identification, Diagnosis and Treatment of Adolescent Depression in Tanzania

Abstract

Background: Depression, which frequently onsets in young people, is projected to become the largest single burden of disease globally in the next decade. Its impact may be disproportionately felt in low-income countries, such as Tanzania, where availability of appropriate care in the community is poor. As part of the development of a health provider work force that can properly address this issue, assessment of current mental health literacy, focusing on knowledge about and self-confidence in the identification, diagnosis and treatment of Depression in young people by community health care providers is needed. This study addresses that need.

Methods: As part of the Integrated Approach to Addressing Depression amongst Youth in Malawi and Tanzania project funded by Grand Challenges Canada and supported by the Ministry of Health and Social Welfare, we evaluated the knowledge and self-confidence of 109 community based health care providers (HCP) in the Arusha and Meru Districts of Tanzania.

Results: Results demonstrate that baseline knowledge about adolescent Depression among HCP's was poor with a group average score of 55%. However, HCP's demonstrated high rates of self-confidence regarding their ability to identify, diagnose and treat adolescent Depression.

Conclusions: To our knowledge this is the first study investigating these parameters in a cohort of community HCP's in Tanzania (and perhaps all of Sub-Saharan Africa) these findings provide valuable information regarding HCP's knowledge about adolescent Depression. The disconnect between high self-confidence and low level of knowledge suggests that quantitative assessment of baseline competencies in mental health care is necessary when determining future mental health care training needs in this population. This study further indicates the importance of providing training of HCP on adolescent Depression to address the gap between knowledge and self-confidence.

Health Organization, will become the single largest contributor to the global burden of disease in the next decade [4]. Furthermore, since about half of all cases of Depression can be diagnosed prior to age 25 years it is essential that health care workers be able to appropriately identify, diagnose and treat young people who have Depression.

However, despite the high need for mental health care in general and for Depression in particular, these needs are not a priority in many low and middle income countries (LMICs) [5-12]. In addition to the well-described lack of specialist mental health care providers, such as psychiatrists, psychiatric nurses and psychologists in these settings [13-18], the lack of necessary mental health care competencies among community based health care providers (HCP's) continues to be a barrier to the identification, diagnosis and provision of effective primary care for young people with common mental disorders such as Depression [11,19-21]. As a result, in many countries throughout sub-Saharan Africa, community-based mental health care for young people with Depression is not available [19]. Improving access to quality mental health care at the community level is well recognized as a necessary strategy to address the mental health care needs of the

population in low income countries such as Tanzania [11,13,22-24]. Investment in improving access to and quality of care for Depression in adolescents is particularly important in these settings because of the population age distribution, which has a heavy proportional weighting before age 25 years (Central Intelligence Agency, 2015) The potential positive impacts of improving mental health and health outcomes now and as this cohort ages through access to effective treatment of Depression in young people can be expected to pay an economic population dividend that could be of substantial benefit to low income countries [25].

Tanzania is located in sub-Saharan Africa and is one of the world's poorest countries with 67.9% of the population living below the poverty line [26]. The country of approximately 945 thousand square kilometers has a population of over 45 million people [27], over half (63.93%) of Tanzania's population consists of those aged between 0 and 24 years (Central Intelligence Agency, 2015) In relation to mental HCPs, there are only 0.04, 0.01 and 0.007 psychiatrists, medical doctors (not specialized in psychiatry), and psychologists respectively per one hundred thousand people. Mental health legislation was most recently revised in 2008 and components of the mental health plan include reallocating services and resources from mental hospitals to community mental health facilities and integrating mental health services into primary care. Expenditure on mental health services sits at roughly 2.4% of the overall health budget [27].

While research about adolescent mental health is scant in Tanzania, available studies in a neighboring country, Malawi, indicate that Depression is a common disorder. Udedi [28], found a prevalence rate of roughly 30% in attendees of the Matawade Health Center in Zomba, and Kauye et al. [29], reported a rate of 19% in attendees of other clinics. In Tanzania, in a study of pregnant women and young mothers (many of whom are teenagers), Stewart et al. [30], reported rates of Depression ranging between 10.7% and 21.1%. Furthermore, Kim et al. [31], reported a Depression rate of 20% in adolescents attending HIV/AIDS clinics.

Currently, there is little, if any, data available to describe the level of knowledge about adolescent Depression in community based HCP's in Tanzania. Mbatia and colleagues [32], obtained baseline information regarding opinions and attitudes related to adult Depression among HCP's in urban Tanzania using the Depression Attitude Questionnaire (DAQ) and reported that 2/3 of HCPs were confident in their ability to distinguish between unhappiness and clinical depressive disorder [32]. However, this was a small scale study (n=14) conducted in an urban area primarily addressing HCP's self-confidence in their competencies, and did not sufficiently assess knowledge about Depression nor compare knowledge with self-competency assessment.

This report thus addresses a gap in empirical evidence related to knowledge and attitudes about adolescent Depression and mental health more broadly in community based health care providers in Tanzania. The baseline study was conducted as part of a larger Grand Challenges Canada funded project – “An Integrated Approach to Addressing the Challenge of Depression among the youth in Malawi

and Tanzania” (IACD) – in collaboration with implementing partner Farm Radio International and supported by the Tanzania Ministry of Health and Social Welfare. Ethics permission for this work was obtained through the National Institute for Medical Research (NIMR)

Methods

Design

This is a cross-sectional survey measuring community HCP's knowledge and self-reported confidence in the diagnosis and treatment of adolescent Depression.

Participants

With the assistance and support of the Tanzania Ministry of Health and Social Welfare, health providers were recruited to participate in a mental health care for adolescent Depression training program funded by Grand Challenges Canada. Participants were community based HCPs identified by health system administrators in the Arusha and Meru Districts of Tanzania. A representative cross-section of 109 HCPs were recruited for the training program and completed the baseline assessment.

Procedure

The survey contains two sections: the first assesses mental health knowledge and the second assesses the health provider's self-reported confidence regarding identification, diagnosis and treatment of Depression in young people.

Participants were asked to respond to 30 questions to assess their knowledge about the identification, diagnosis and treatment of Depression in young people. For each question, participants were instructed to respond “True”, “False”, or “Do Not Know” by marking an X in the appropriate box. If participants selected “Do Not Know”, selected more than one option (without a clear indication of one option being crossed off) or did not select any option the corresponding question was marked as incorrect. Correct answers received a score of 1 and incorrect answers or “Do Not Know” answers received a score of 0. Confidence self-reports were assessed using a 4-point Likert scale that asked participants to rate their confidence from not confident (1 point), somewhat confident (2 points), very confident (3 points), to extremely confident (4 points)

Analysis

The data was entered and analyzed using SPSS Statistics software for Windows, version 22.0. Descriptive statistics were used to describe the responses to both the knowledge and confidence assessments. An independent samples t-test was used to compare clinician results to other professional groups. A reliability test was conducted to investigate the internal consistency of both the knowledge and self-confidence sub measures.

Results

Sample characteristics

Of the 46 community HP respondents who identified their sex, 55 percent were female. The sample age ranged from 25 to 59 years of age. Most were clinicians (clinical officers and senior clinical officers; n=73, 67%), followed by nurses (including registered nurses, enrolled nurses, psychiatric nurses and midwives; n=20, 18.3%), and other

(including medical attendants, nurse assistants and other health care professionals; n=15, 13.8%)

Knowledge assessment results

The internal consistency of the knowledge measure was $\alpha=0.75$. The scores on the knowledge assessment ranged from 4 to 27 correct out of a possible 30. The average knowledge score in the sample was 16.5 out of 30 (55%) with the median 17.0 (57%) The questions in which the HCP's had the largest proportion of correct responses (over 80%) were numbers 3, 9, 11, 18, 19, and 24.

An independent samples t-test comparing clinician results (M=16.62, SD=4.64) to other healthcare professionals (M=16.26, SD=4.06); $t(106)=0.392$ was not significant ($p>0.05$) (Table 1)

Confidence self-report results

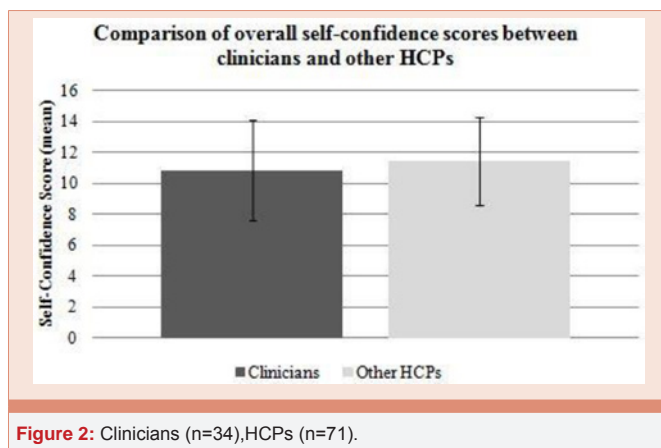
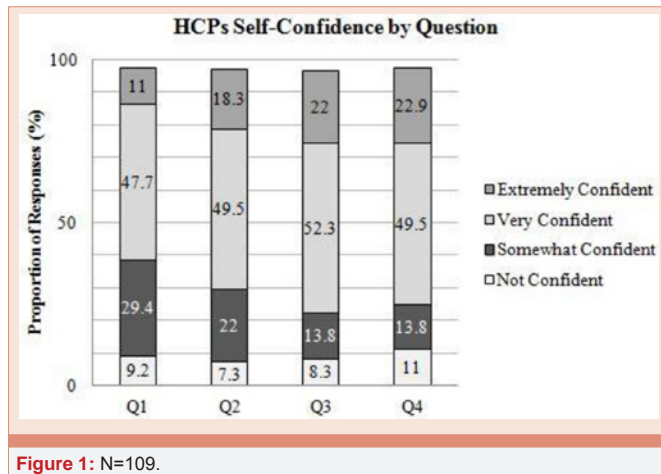
The internal consistency of the confidence measure was $\alpha=0.89$. The scores on the confidence assessment ranged from 4 – 16 out of a possible 16. The average score was 11.2 of 16 with the median being 12. This aggregate finding corresponds to HCP's feeling “very confident” in their ability to identify, diagnose and treat adolescent Depression. No significant differences ($p<0.05$) were found between clinicians (M=11.39, SD=2.84) and other healthcare professionals (M=10.85, SD=3.21); $t(102)=0.876$ (Figures 1,2).

Discussion

The results from this study provides, to our knowledge, the only empirically-validated data in Tanzania about mental health literacy

Table 1: HCP Responses to Knowledge Assessment.s

Questions	Correct N (%)
1 It is normal for teenagers to be depressed much of the time	56 (51.4)
2 Many mental disorders begin during the teenage years	72 (66.1)
3 The diagnosis of Depression in a teenager is usually made using a blood test	96 (88.1)
4 The diagnosis of Depression in a teenager required the presence of a persistent, depressed or irritable mood plus at least five other specified symptoms	84 (77.1)
5 The best way to establish therapeutic trust with a teenager is to know about the kind of music they like	70 (64.2)
6 The prevalence of Depression by the end of the teenage years is about 6 to 8 percent of the population	68 (62.4)
7 Usual life stresses such as having an argument with parents or doing poorly at school often leads to Depression in a teenager	16 (14.7)
8 The KADS-6 is a useful tool to help identify Depression in a teenager	64 (58.7)
9 Psychological and pharmaceutical treatments for Depression in teenagers usually do not work very well	88 (80.7)
10 EBM Depression is a psychological treatment that has been shown to treat adolescents with Depression	12 (11.0)
11 The following are ALL symptoms of Depression in a teenager: fatigue, concentration problems, depressed mood, loss of pleasure	94 (86.2)
12 One useful medication for treating Depression in a teenager is Amytriptyline	42 (38.5)
13 Depressed teenagers should be encouraged to watch TV or work on their computers at night to help cheer them up	74 (67.9)
14 Depressed teenagers who are feeling tired should be advised to avoid strenuous exercise to help conserve their energy	47 (43.1)
15 Depressed teenagers should be encouraged to drink plenty of caffeine and drinks containing sugar to help them get more energy	77 (70.6)
16 The TeFA is a useful clinical tool to help evaluate the day to day functioning of a teenager with Depression	75 (68.8)
17 The CGI is a helpful test to identify a teenager who has psychotic symptoms plus Depression	11 (10.1)
18 A family history of Depression is a significant risk factor for Depression in a teenager	91 (83.5)
19 Depression in a teenager is an important suicide risk factor	92 (84.4)
20 Because suicide in teenagers is so rare, busy health care providers should not routinely do an assessment of suicide risk when diagnosing Depression in a teenager	82 (75.2)
21 The TASR-Am is a good way of predicting which teenager is likely to die by suicide	14 (12.8)
22 Because they are so tired and unhappy, Depressed teenagers should never use alcohol	25 (22.9)
23 The CRAFFT is a useful tool to help a clinician identify if a teenager is at risk for problems with alcohol or drug use	74 (67.9)
24 A clinician should not be concerned with keeping confidentiality with a teenager because he/she is not yet an adult	90 (82.6)
25 The KADS-11 should be used to BOTH help with the diagnosis of Depression and to measure the severity of Depression in a teenager	73 (67.0)
26 If using Fluoxetine to treat Depression in a teenager, the target daily dose for treatment is 20 mg per day continued for a period of 8 – 10 weeks	55 (50.0)
27 TCYH is a self-help health and mental health diary that can be used by a teenager with Depression during treatment	69 (63.3)
28 Whenever possible, an alternative treatment should be used instead if standard treatment, especially if it is more appealing to the Depressed teenager or his/her parents	19 (17.4)
29 During the first ten weeks of treatment the Depressed teenager should be seen weekly in the clinic	12 (11.0)
30 The teenager's family should rarely if ever be involved in his/her treatment	59 (54.1)



that focuses on adolescent Depression and self-confidence related to the identification, diagnosis and treatment of adolescent Depression among community health care providers. And we are confident that both the knowledge and self-confidence measures are reliable as indicated by their appropriate internal consistency.

Given the urgent need to address adolescent Depression in Tanzania, our results are concerning given that knowledge scores pertaining to the identification, diagnosis and treatment of adolescent Depression among HCPs averages barely above 50% correct. This poor knowledge result stands in sharp contrast to self-reported confidence in the identification, diagnosis and treatment of adolescent Depression, findings that are not significantly different across professional designations. These results suggest that significant attention needs to be paid to the education of primary HCPs in the domain of adolescent Depression. It is essential that community health care providers have adequate knowledge and competencies to properly diagnose and effectively treat young people who have a depressive illness. This is particularly important since Depression often onsets early in life (about half of all Depression diagnoses occur prior to age 25 years), and there is substantial evidence that proper treatment early on has significant short and long-term health/mental health and economic benefits [25]. The larger Grand Challenges Canada funded project, from which this study is taken, is to our

knowledge, the only such intervention in sub-Saharan Africa at this time.

Further, these results show that there was no difference between clinicians and other health care providers in terms of their knowledge regarding adolescent Depression. This finding suggests a lack of education and training in this area amongst all health care providers, regardless of professional designation. For this reason, improving mental health literacy among HCPs in Tanzania should not be limited to one professional group (i.e. nurses) alone, but should be provided across the wider spectrum of different types of community health care providers. As part of the ongoing work of this project, our team is addressing this need through the development and deployment of a training cascade model, designed to meet the needs of all types of health care providers working in community health care settings.

Additionally, this data clearly indicates that asking community health care providers about their self-confidence in the identification, diagnosis and treatment of adolescent Depression is not an adequate measure of their knowledge or competency in this area. Similarly, Mbatia and colleagues [32], found (albeit pertaining to adults and not adolescents) that although HCPs may have high confidence and are comfortable when dealing with depressed patients, over half of patients who were referred to a psychiatric clinic to see a mental health specialist received inadequate treatment (60% of patients received psychotropics and 17% were treated with anti-malarials). These findings thus inform future needs assessments, demonstrating that reliance on HCP self-confidence is insufficient, and highlighting the need for systematic quantitative assessments of knowledge. What these findings mean in terms of the quality of care provided could not be determined from this study, but they raise concerns that community HCPs may be applying interventions that they believe are appropriate in the absence of adequate knowledge.

However, despite its innovativeness, this study is limited by its relatively small sample size and although local health authorities recruited participants with the intent to provide representative coverage, we are not certain that our findings can be generalized to the whole body of health professionals in Tanzania. Thus further research may be needed to confirm these results. Additional assessment of actual clinical competencies by direct observation or chart audit could also be considered. However these assessments are time consuming, costly and may not be able to be easily implemented. These additional considerations however need to be kept in mind when interpreting these findings.

Conclusion

The results of this study assessing community HCP's knowledge and self-confidence related to the identification, diagnosis and treatment of adolescent Depression provides, to our knowledge, the first such data of its kind in Tanzania and perhaps in all of sub-Saharan Africa. The study demonstrates that investment in enhancing knowledge and clinical competencies in community health care providers is necessary to appropriately address the issue of adolescent Depression, which has one of the highest global burdens of disease and which significantly inhibits the ability for young people to thrive, in the teen years and later in life.

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