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Health Care Providers' Knowledge, Attitudes, and Practices on the Management of Depressive Symptoms among People Living with HIV in Dar es Salaam, Tanzania: A Cross-Section Study

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Abstract

Introduction

Mental disorders such as depression are prevalent among People Living with HIV, and therefore health care providers need to be trained well to manage depressive symptoms. This study aimed to assess healthcare providers' knowledge, attitude, and practices in screening and managing depressive symptoms among people living with HIV (PLWH) attending the Care and Treatment Clinics (CTCs) in Dar es Salaam, Tanzania.

Methods

This was a cross-section study that employed a questionnaire to collect data. Convenient sampling was used to recruit 34 healthcare providers providing services at 23 public CTCs in Ubungo, Dar es Salaam. Data were analyzed using the SPSS program. Frequencies and percentages were run between the variables. Furthermore, in bivariate analysis, Pearson's Chi-square test was used to assess the association between independent and dependent variables. A p-value of < 0.005 was used to ascertain significant relationships between dependent and independent variables.

Results

This study revealed that healthcare providers (HCPs) had moderate knowledge of the management of depression in general. There were a few misconceptions about depression, as a vast majority agreed that depressed patients can break down at any time. The majority (64.7%) of the study respondents were trained on depression, and more than half (52.9%) were trained while in medical college. The majority (97.1%) of respondents knew the effectiveness of pharmacological and psychological approaches to treatment. In this study, the majority of respondents (97.1 %) had positive attitudes toward the management of depression, with females being significantly more likely than males to have a positive attitude (p =0.028). Moreover, many years of experience showed a positive significant association with knowledge about the management of depression in PLWH (p =0.002).

Conclusion

The majority of healthcare providers had moderate knowledge and positive attitudes toward the management of depression in PLWH. More years of work experience were associated with higher knowledge. Findings from this study highlight the need for healthcare providers and policy planners to increase knowledge and skills in screening depressive symptoms among PLWH at the CTCs.

Keywords: *Knowledge, Attitudes, Practices, HIV/AIDS, Depression, Healthcare Providers.*

Introduction

HIV and AIDS are global public health problems with more than 75 million people affected and 32 million AIDS-related deaths since the start of the epidemic (1). Besides, depression is also a major public health problem because of its high contribution to the disease burden, high comorbidities with other medical conditions, and associated disabilities (2). The comorbidity of depression and HIV and AIDS is common in low-income countries, particularly in sub-Saharan Africa (3, 4). A global systematic review and meta-analysis revealed that 31% of people living with HIV (PLWH) had depression (5).

PLWH with depressive symptoms and on antiretroviral therapy (ART) can have a problem with ART adherence and, hence, affect the prognosis of HIV treatment (6, 7). Thus, proper screening and treatment of depressive symptoms are highly needed among PLWH. Depression is linked with other problems in this population, for example, decreased work output, unemployment and reduced income, and high HIV infection risk including unsafe sex practices and poor treatment outcomes (8). Detection and management of depressive symptoms in this population group are important. Depressive symptoms in PLWH need more attention due to their associated complications. Depression is the leading mental health complication and is associated with poor adherence to treatment and suicide risk (9, 10).

Screening and assessment skills are limited among healthcare providers due to different factors. A study conducted among non-psychiatrist physicians in Taiwan reported a strong sense of responsibility for managing depressive symptoms among the respondents. However, most of them were not confident in treating depressed patients, and they reported incomplete knowledge and training as major barriers that limited their involvement in depression management (11). Furthermore, a study in South Africa revealed a significant weakness in the detection of mental illness in primary healthcare settings, due to a lack of skills and insufficient screening resources (12). Lack of knowledge and competence is observed in other fields of health practice such as maternal health. In Malaysia, for example, only 64.8% and 51.9% were confident in recognizing postpartum depression and counselling depressed mothers, respectively (2).

In Tanzania, positive views about the pharmacological and psychological treatment of depression were reported among primary care workers and suggested strengthening the training of primary healthcare workers to detect depressive symptoms, pharmacological and psychological treatment, as well as psychosocial interventions (13). However, the study used only four health facilities and 14 healthcare workers, which limits its generalizability to other settings. There is little effort put forward in reinforcing healthcare providers in Care and Treatment Clinics (CTCs) to

screen and provide mental health care including depression symptom management in many countries. It is known that the lack of healthcare providers who can assess and provide appropriate treatment and management of depression among PLWH is associated with poor health outcomes and an increased mortality rate among PLWH (14-16).

In Tanzania, there is a paucity of documented reports about knowledge and skills among healthcare providers in CTCs to screen and manage depressive symptoms among PLWH. Therefore, this study aimed to assess healthcare providers' knowledge, attitude, and practices in screening and managing depressive symptoms among PLWH attending CTCs in Dar es Salaam, Tanzania.

Materials and Methods

Design

This study used a cross-sectional descriptive design using quantitative methods in which the knowledge, attitude, and practices of healthcare providers in diagnosing and handling depressive symptoms among PLWH were assessed. In addition, the design facilitated the determination of relationships between demographic characteristics of health care providers and training and knowledge on the management of depression symptoms among PLWH.

Study Setting

The study was conducted in Ubungo Municipality in Dar es Salaam, which is the major commercial seaport city in Tanzania, with an estimated population of more than 5.7 million (17). Within the Municipality, there are 36 CTCs, of which 13 are privately owned, thus all 23 public CTCs were included in the study. Ubungo Municipality was purposely selected as the setting for the present study because, according to the Tanzania Malaria Indicator Survey (17), the prevalence of depression was 4.7% which is higher compared to other municipalities in Dar es Salaam (17).

Sampling and Sample Size

Convenient sampling was used and all staff working at CTCs were recruited to participate in this study. Hence 34 healthcare providers aged 18 and above from all CTCs in Ubungo municipality were recruited to participate in this study, whose data collection took place between May to July 2020. We used finite population correction for proportion to calculate the sample size (18). All 23 publicly owned CTCs in Ubungo were visited, and all available healthcare providers at CTC at the time of the visit were requested to voluntarily participate in the present study. Those who consented were enrolled in this study.

Data collection tool

The health care provider questionnaire was used to collect data. The tool was available in the English language and consisted of 15 questions that assessed the training and knowledge of healthcare providers on the management of depression among PLWH. The questionnaire was first translated into Kiswahili, the national language of Tanzania, before data collection. A committee translation approach was used whereby two bilingual translators and two researchers who were also bilingual discussed the meaning of each item in the English-language questionnaire and translated it into the Kiswahili language. This approach places more emphasis on constructing and writing good questions than simply translating the words (19). A pilot study of the translated questionnaire was conducted among 5 healthcare providers at one CTC in Kinondoni municipality in Dar es Salaam. Kinondoni municipality was selected for pretesting because CTCs in the municipality have the same characteristics as those located in Ubungo. Feedback from the pilot study was used to improve the arrangement of questions on the tool without changing the original meaning of the validated questionnaire.

Data Collection Procedures

To ensure the quality of the data collected, two days of training were conducted for the two research assistants on the aims of the study, data collection, and logistics of the study. Before the questionnaires were administered, all respondents were informed about the purpose of the study. Respondents were requested to complete the questionnaire which took an average of 20 minutes to fill and then returned to the researcher/research assistants who were experienced nurses working in CTCs. Every day after fieldwork, the researcher and research assistants held a meeting to check for the completeness of the filled questionnaire. These meetings were important for controlling the quality of the information collected.

Data Analysis

Data were entered into the IBM Statistical Package for the Social Sciences (SPSS) database program version 21 for analysis. A data cleaning procedure was conducted to identify missing items in the data set. Variables such as marital status, age, sex, years living with HIV, and education level were analysed in terms of frequency and percentage. In bivariate analysis, Pearson's Chi-square Test was used to assess the association between variables. We categorized respondents' knowledge of the management of depression into three categories so that eleven correct responses and above out of a possible fifteen represented "good knowledge," six to ten correct responses meant "moderate knowledge" and five or less indicated "poor

knowledge". For every question, there was only one correct answer. Attitudinal statements were grouped into two categories so that "strongly agree" and "agree" represented a "positive attitude" and "disagree" and "strongly disagree" were considered to indicate a "negative attitude." Statistical significance was considered to exist at P- value < .005.

Ethics approval and consent to participate

The study was reviewed and approved by the Institutional Review Board (IRB) of the Muhimbili University of Health and Allied Sciences (MUHAS) with Ref. No. MUHAS-REC-2-2020-093. Permission to conduct the study was granted by the District Medical Officer (DMO) of the Ubungo district. Respondents were informed about the purpose, risks, and benefits of the study. They were also informed that their data would be kept confidential by using code numbers instead of names. Moreover, respondents were informed about the right to withdraw from the study at any time they wished to. Written informed consent was obtained before the questionnaires were administered to each study participant.

Results

Demographic Characteristics

All 34 HCPs agreed to participate in the study. Their mean age was 36.2 years (SD= 7.6) and 82.4% were females. About one-third (35.3%) of them were aged between 30 and 39 years. There were more nurses in CTC (64.7%) compared to medical doctors. The majority (64.7%) of them had been trained on depression, and more than half (52.9%) had pre-service training. A high proportion (41.2%) had working experience of between 6 and 10 years (See Table 1).

Knowledge of health care providers about depression and its management

Almost all HCPs working at CTC (n = 33; 97.1%) had heard about depression and they managed depression cases among their clients in one way or another. Concerning viewing depression as a mental health problem, most of them (n = 30; 88.2%) knew that depression was a health problem. The majority reported that depression can affect any age group, cannot be caused by witchcraft, and symptoms can break at any time by 55.9%, 97.1%, and 91.2% respectively. All of them (100%) knew that depression can lead to suicide attempts and/or completed suicides. Regarding management, almost all (n=33; 97.1%) reported that depression can be treated by pharmacological and psychotherapy measures. When asked if traditional healers can treat depression, only one (2.9%) said that they can. On knowledge of individual drugs, the following proportions of HCPs identified antidepressants as potential drugs: Amitriptyline (73.5%),

carbamazepine (61.8%), Fluoxetine (35.3%), and Methotrexate (23.5%). When asked if they know any tool used to categorize depression, only 20.6% of the HCPs reported being aware. Therefore, the overall knowledge about depression among HCPs was categorized as moderate (91.2%) and good knowledge (8.8%). None of the HCPs had poor knowledge (See Table 2).

Table 1: Demographic Characteristics of the HCPs

Characteristics	Frequency (%)
Gender	
Female	28(82.4)
Male	6(17.6)
Age group	
20-29	6(17.6)
30-39	12(35.3)
40-49	9(26.5)
50+	7(20.6)
Work experience (Years)	
Less than 5	7(20.6)
6-10	14(41.2)
11-15	5(14.7)
16-20	4(11.8)
21+	4(11.8)
Profession	
Nurses	22(64.7)
Doctors	12(35.3)
Marital status	
Single	6(17.6)
Married	25(73.5)
Divorced	2(5.9)
Widow/widower	1(2.9)
Training	
Yes	22(64.7)
No	12(35.5)
Where trained	
College	18(52.9)
On job	4(11.8)
Not trained	12(35.3)
Trained on depression	
Yes	22(64.7)
No	12(35.3)

Association between demographic characteristics and knowledge about management of depression in PLWH

We compared work experience, whether trained or not on depression, gender, and profession with knowledge categories about the management of depression in PLWH to find out if there were any associations. Respondents with many years of experience showed a significant association with knowledge about the management of depression in PLWH (P = 0.02). No associations were reported for the other demographic characteristics (See Table 3).

Table 3: Association between demographic characteristics and knowledge on the management of depression in PLWH (*n* = 34)

Variables	Knowledge		P-value <0.05
	Good (n=3)	Moderate (n=31)	
Gender			
Male	0(0)	6(100)	
Female	3(10.7)	25(89.3)	0.401
Profession			
Nurses	3)(13.6)	19(86.4)	0.180
Doctors	0(0)	12(100)	
Trained on depression			
Yes	2(9.5)	19(90.5)	0.855
No	1(9.7)	12(92.3)	
Work experience			
Less Than 5	0(0)	7(100)	
5-10	0(0)	14(100)	
11-15	1(20)	4(80)	
16-20	0(0)	4(100)	0.002
21+	2(50)	2(50)	

Associations between demographic characteristics and attitudes about the management of depression in PLWH

Unanimously, the HCPs responded affirmatively to the questions related to attitudes towards the management of depression among PLWH. The majority (n= 97.1 %) had positive attitudes related to the management of depression. No associations were found between the attitude of the HCPs

regarding the management of depression in PLWH and selected demographic characteristics except for gender. There was a significant relationship between having negative attitudes towards the management of depression among PLWH and being male (P-value=0.028) (See Table 4).

Table 4: **Association between sociodemographic characteristics and attitudes**

Variables	**Attitudes**		**P-value <0.05**
	Negative (n=1)	Positive (n=33)	
Gender			
Male	1(16.7)	5(83.3)	0.028
Female	0(0)	28(100)	
Profession			
Nurses	0(0)	22(100)	0.169
Doctors	1(8.3)	11(91.7)	
Trained on depression			
Yes	1(4.8)	20(95.2)	0.425
No	0(0)	13(100)	
Work experience (years)			
Less than 5	0(0)	7(100)	
5-10	0(0)	14(100)	
11-15	1(20)	4(80)	0.201
16-20	0(0)	4(100)	
21+	0(0)	4(100)	

Discussion

This study intended to assess healthcare providers' knowledge, attitudes, and practices in screening and managing depressive symptoms among PLWH attending CTCs in Dar es Salaam, Tanzania. The study revealed that healthcare providers had moderate knowledge of the management of depression in general. There were a few misconceptions about depression, and the vast majority agreed that depressed patients can break down at any time. This corroborates a study by Ndetei, et al. (20) in Kenya whereby they found some misconceptions about depression, and the majority of the respondents were of the view that depressed patients can break down at any time.

This study revealed that more than half of the study respondents had been trained on depression, and the majority had received pre-service training. Inadequate screening and assessment skills are limited among healthcare providers due to different factors (11). Moreover, a lack of skills and inadequate screening equipment was reported in one study in South Africa (12). Also in Malaysia, some respondents were confident in recognizing postpartum depression and counselling depressed mothers correspondingly (21).

In Tanzania, the pharmacological and psychological treatment of depression among primary care workers suggested strengthening the training of primary health care workers on depression detection, pharmacological, psychological treatment, as well as psychosocial interventions (14). The lack of healthcare providers who can assess and provide appropriate treatment and management of depression among PLWH is related to increased morbidity and mortality rate among PLWH (14, 15, 16).

Regarding the knowledge of the management of depression, many healthcare providers in our study knew the effectiveness of pharmacological methods and psychotherapy. Nevertheless, few of them were knowledgeable about the standard tool used in the screening of depression. This finding corroborates a study by Mulango et al. (22) in Cameroon whereby few healthcare providers were knowledgeable about a standard tool used in screening depression (22).

The latest evidence suggests that healthcare providers should use a standardized screening tool for depression to regulate the diagnosis and avoid overuse and unnecessary detrimental effects of pharmacotherapy (23). The under-diagnoses of depression have been associated with increased morbidity in some studies (14). Our findings are in contrast with those of Seehusen et al. (24) in the United States where a higher proportion (30.6%) of family physicians used a validated screening tool for postpartum depression (24). Moreover, the use of validated tools has been confirmed to be vital in screening for depression (25). Besides, only a few HCPs in our study knew that methotrexate is not an antidepressant drug, similar to the results observed in Nigeria (26).

In the current study, the majority of HCPs had positive attitudes towards the management of depression. However, there was a significant relationship between negative attitudes towards the management of depression among PLWH and being male in our findings. Similar findings have been reported somewhere else on the negative attitudes of healthcare providers (27). Discriminatory attitudes and stigma toward depression have been shown to limit depressed patients from seeking help (28). For example, one study in Canada and Cameroon reported that people from Cameroon had more stigmatizing attitudes toward mentally ill patients when

compared to persons from Canada (29). The similarity in health care providers' and patients' views on depression may strongly be influenced by social and cultural factors (2).

Respondents with many years of experience showed a significant association with knowledge about the management of depression in PLWH. This could be caused by the fact that by working for many years, HCPs accrued adequate knowledge and skills in the management of depression. We could not find any literature in Tanzania about years of healthcare providers' accrued knowledge and skills in the management of depression. However, a study among general practitioners in Nigeria by Bo et al. (30) revealed that those with less experience were less knowledgeable about identifying comorbid depressive illnesses (30).

Limitations

It should be noted that our study used a non-random sampling method and was conducted among healthcare providers working at public health facilities in Ubungo municipality in Dar es Salaam, Tanzania. Additionally, the study was poorly powered as the sample numbers were too few. Therefore, the results may not be a representation of the rest of the country. Moreover, in this study, possible confounders were not considered since only multivariable analysis allows confounding factors to be taken into consideration. These limitations should be considered when interpreting the results.

Conclusion

The findings in this study suggest that the majority of healthcare providers have moderate knowledge of managing depressive symptoms among PLWH and they know that depression is a health problem. Study respondents with many years of working experience showed a significant association with knowledge about the management of depression in PLWH, and females were more likely to have a positive attitude.

Findings from this study highlight the need for healthcare providers and policy planners to increase knowledge and skills in screening depressive symptoms among PLWH clients at the CTC level. We recommend the provision of on-job training programs in the area of mental health for care providers of PLWH to increase their knowledge and skills in screening and treating depression in Tanzania. Attitude toward the management of depression needs also to be improved especially among male HCPs.

Abbreviations

AIDs	Acquired Immunodeficiency Syndrome
ARV	Antiretroviral
ART	Antiretroviral Therapy
CTC	Care and Treatment Clinic
HIV	Human Immunodeficiency Virus
PLWH	People Living With HIV
SPSS	Statistical Package for The Social Sciences

Consent for publication

Before the questionnaire was administered to each respondent selected for the present study, informed consent to publish their data in a journal was obtained.

Availability of data and materials

The data sets generated and/or analysed during the present study are not publicly available due to confidential reasons, as they involve data on individual PLWH, but are available from the corresponding author on reasonable request.

Competing interest

The authors declare that they have no competing interests.

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Authors' contributions

G.G.L. and M.K.I., Investigated, analysed and wrote the manuscript. I.H.M. and J.S.A. investigated and prepared the methodology of the study. All authors reviewed the manuscript and approved the submission for publication.

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