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Research Article

Complementary Alternative Medicine (CAM) Use and Associated Factors among HIV Infected Children and Adolescents Seeking Mental Health Services in Uganda

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Abstract

Background: Given the limited integration of mental health services into pediatric HIV care in sub-Saharan Africa, there is limited information on the nature of mental health service use sought by caregivers of children and adolescents living with HIV/AIDS.

Methods: We analyzed data from a sample of 135 children and adolescents living with HIV/AIDS and attending a pediatric HIV care service whose parents or caregivers had sought for mental health care for their emotional or behavior problems in the past year. We assessed complementary alternative medicine use, socio-demographic characteristics and types of behavioral problems using a SOCIO-DEMOGRAPHIC questionnaire and the child behavioral checklist (6 - 18) respectively. Logistic regression models were used to explore factors independently associated with specific patterns of mental health service use.

Results: Of 135 parents/caregivers interviewed, 38 (28.15%) sought mental health care from only complementary and alternative medicine (CAM) providers (traditional or faith healers), 38 (28.15%) from only conventional medical providers (general physicians, general nurses, psychiatrists or HIV counselors) and 59 (43.70%) sought care from both). Severe HIV disease in the young children [PRR = 2.09, 95%CI = 1.36 to 3.2, p-value = 0.001] and thought problems [PRR 1.26, 95%CI = 0.81 to 1.72, p-value = 0.04] in adolescents were independently associated with complementary and alternative medicine use.

Conclusion: Caregivers of children and adolescents with progressive HIV disease and thought problems were more likely to seek mental health services from complementary and alternative medicine providers.

Keywords: *HIV; Children and Adolescents; Complementary Alternative Medicine Use*

Abbreviations

AIDS: Acquired Immunodeficiency Syndrome; HIV: Human Immune Virus; PLWH: Persons Living with HIV; CBCL: Child behavior Checklist; CAM: Complementary Alternative Medicines; SD: Standard Deviation; PRR: Prevalence Rate Ratio

Introduction

Extensive efforts have been made to eradicate pediatric HIV worldwide; however, the burden persists particularly in Sub-Saharan African countries such as Uganda. As the Acquired Immunodeficiency Syndrome (AIDS) epidemic enters its third decade, advances in treatment, most notably combination therapy and improved prophylaxis, have transformed the disease from a rapidly fatal infection into a chronic illness, greatly extending the life expectancy of infected children and adolescents [1]. As they live longer with chronic HIV infection, however, they may be at greater risk of increased incidence and severity of other health complications like cancer [2] and emotional and behavioral problems [3,4].

Several studies have documented higher rates of psychiatric symptoms, psychiatric hospitalizations, psychotropic drug use and use of behavioral interventions among children and adolescents with HIV infection compared with the general pediatric population [4-6].

In Uganda, a study conducted by Musisi., *et al*. [3] found that 51.2% of the HIV sero-positive adolescents had significant psychological distress and 17.1% had attempted suicide within the last 12 months. Their specific psychiatric disorders were: anxiety (45.6%), depression (40.8%), somatization (18.0%), seizures (8.4%), mania (1.2%), and HIV-associated progressive encephalopathy (4.8%). However, the authors did not provide any information about the nature of mental health services sought by parents of these adolescents and children were not included in the study.

Literature on mental health needs and the provision of mental health services shows that many children receive mental health services outside of the traditional mental health system [7]. In sub-Saharan African countries, studies have shown that emotional and behavioral symptoms are regarded as social problems resulting from supernatural or spiritual attacks and it is believed that, traditional or faith healers have the ability to treat these problems effectively [8,9]. Majority of individuals with mental health problems will at some point consult the traditional healer, regardless of whether they are using conventional medical services or not [8].

Aim of the Study

The goal of this cross-sectional study is to explore the patterns of mental health services sought by caregivers of HIV infected children and adolescents with behavioral problems. We hypothesized that the choice of the mental health service provider may be related to parental or child characteristics, in particular the type of mental health problem.

Methods

Study setting and population

Study participants were HIV positive children and adolescents attending the pediatric HIV service at Mildmay Uganda-an HIV treatment center in Kampala whose parents reported seeking care for emotional or behavioral problems in the past year. Mildmay Uganda is a non-government organization which has been providing specialized, holistic and comprehensive, outpatient care for persons living with HIV (PLWH) since 1998. Specialized services include sexual and reproductive health, ophthalmic and dental services as well as weekly mental health services that were initiated 6 years ago. Currently, it serves over 10,000 persons living with HIV (PLWH) of whom 22% are children and adolescents.

Study procedure

Study data were collected between January and March 2014. The eligibility criteria required participants to be HIV positive children or adolescents aged 6 - 18 years, living with the same primary caregiver for at least 12 months before study entry, and sought interventions for problems with emotions, behavior, thoughts or use of alcohol or drugs. These interventions may have been psychotropic drugs, herbs and or counseling provided by a psychiatrist, a general practitioner, HIV counselor, social worker, psychologist, mental health nurse, a religious or spiritual advisor (e.g. a priest, or pastor), or any other healer (e.g. herbalist, or traditional healer) and use of other treatment settings, including admissions to hospitals and other facilities. Individuals with debilitating illnesses, hearing or visual impairment were ineligible for the study.

On a given clinic day, research assistants worked with primary HIV care providers at Mildmay pediatric HIV treatment center to obtain a register of clients who had come to the clinic on that day. The clients would be seated in the waiting area waiting for their turn to see the HIV care provider. Ten names of clients were called out at ago and asked to identify themselves by show of a hand. Research assistants approached these clients, explained study procedures, determined eligibility and administered the study questionnaires to parents/caregivers who provided informed consent and whose children had provided assent.

Study measures

Socio-demographic variables

Child socio-demographic variables (age, gender, household income, education level, living situation, orphan status) and caregiver socio-demographic variables including "caregiver age, gender, and relationship to the child (birth parent vs. non-birthparent), current employment, marital status, education level and household income were assessed using a socio-demographic questionnaire. The study participant's medical records were reviewed to note participants CD4 counts and WHO clinical stage of their HIV disease.

Behavioral problems

Behavioral problems were assessed using the Child behavior Checklist (6 - 18), a parent-report questionnaire that has been validated for use among Luganda speaking children and adolescents with severe malaria [10]. One hundred thirteen items inquire the severity of behavioral symptoms categorized into eight syndrome scales (Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints, Social Problems, Thought Problems, Attention Problems, Rule-Breaking Behavior and Aggressive Behavior), using a 3-point Likert scale from 0 (not true) to 3 (very true). The Cronbach's alphas for the scales ranged from 0.64 to 0.83. The eight syndrome scales have been validated in 30 societies and have proven useful in multicultural assessment of children [11]. The CBCL gives cut-offs for boys and girls in the age ranges 6 - 11 and 12 - 18 showing which scores are normal, borderline or of clinical significance. This study utilized cut-offs similar to those used for children in Ethiopia and Algeria [12]. The cut-offs for scores in the clinical range were at the 97% percentile [12] suggesting that 3% of these children had behavioral problems. Scores equal or higher than the lowest score in clinical range were categorized as being of clinical significance. Permission to use the scale was sought from the developers of the scale.

Ethical considerations

The study was approved by the ethical institutional review board for the College of Health Sciences, Makerere University, Mildmay Research committees and Uganda National Council for Science and Technology. Assent was obtained from each participant and written informed consent from the primary care giver. Confidentiality of the information collected was assured to the participants.

Statistical analysis

Data was analyzed using STATA version 12. The goal of the analyses was to estimate and identify, among those seeking mental health services, the patterns of mental health care received and determine which parent or child characteristics were associated with seeking care from complementary alternative medicines (CAM) provided by traditional or faith healers. Initially, a binary variable was created for CAM, with the variable coded 1 for any CAM use and coded 0 for no CAM use. Due to violations of normality in the dependent variable, we opted to use general linear model with the Poisson regression to evaluate bivariate and multivariate associations between CAM use and other study variables. Variables significant at P-value ≤ 0.20 in the unadjusted analysis were included in the final multiple logistic regression analysis. Both forward and backward selection of variables was carried out using this final model.

Results

Characteristics of study participants

The study involved a total of 135 caregivers and their HIV-infected children. The caregivers were predominantly female (94; 69.6%) with 45 (33.3%) having at least a secondary school education. They were mostly employed into petty trading (trade that is conducted on a small scale or sale of small inexpensive items) (117; 86.7%). The mean age of the caregivers of the older children and young ones were comparable.

Majority of the children were female (71; 52.6%), almost all the participants were in school and the mean age for both the children and adolescents as regards CAM use and Non CAM use were comparable. Seventy (51.9%) had HIV clinical stage III and IV disease, Ninety-five (70.4%) had been orphaned, with majority of the patients (119; 88.1%) on ART. The table below summarizes the demographic and clinical profiles of study participants by complementary alternative medicine (CAM) use.

Complementary alternative medicine use

Among the 135 study participants; 97 (71.9%) reported ever seeking care from complementary/alternative service providers for their mental health problems. Of these 97 (71.9%) CAM users; 59 (60.8%) sought help from both CAM providers and also used conventional mental health services, while 38 (39.2%) reported only using CAM. Out of the 59 (60.8%) who were using CAM and conventional mental health services, 28 (47.5%) used conventional medical services and also went to religious healers, 21 (35.6%) used conventional medical services and also went to traditional healers. 10 (16.9%) sought help from all the three categories: traditional healers, religious healers and conventional medical services. Fifty-one out of the 59 concurrent CAM and mental health service users were at the same time using ART. All participants who went to traditional healers received both spiritual counseling and herbs, those who went to religious healers received counselling and prayers and those who went to conventional medical services received counselling and some received psychotropic drugs.

Child behavioral problems among the HIV infected children and adolescents

The most commonly reported behavioral problems of clinical significance among the 52 children (6 - 11 years) were aggressive behavior (34.62%), attention problems (30.77%), social problems (25%), withdrawn/depressed (25%) and those among the 83 adolescents (12 - 18 years) were withdrawn/depressed (53.01%), somatic complaints (32.53%), thought problems (30.12%) and rule breaking behavior (21.09%).

Conventional mental health services

Among the 135 participants, 38 (28.1%) sought care from only conventional mental health services (general physicians, Psychiatrists, Psychologists, general nurses or HIV counselors) for their mental health problems, and therefore did not ever use CAM. Of these 38 (28.1%) No CAM users, 35 (92.1%) were using Anti-retroviral therapy (ART). Health services provided included both psychotropic medications and counseling. Among the psychotropic drugs prescribed to the patients included antidepressants, benzodiazepines, anticonvulsants and antipsychotics.

Factors associated with CAM use among HIV infected children and adolescents at bivariate analysis are shown in table 1. Factors independently associated with CAM Use are shown in table 2 and 3.

Variables	Children (6-11years)				Adolescents (12 - 18 years)			
	CAM users N = 34 n (%)	CAM non-users N = 18 n (%)	χ^2	P	CAM users N = 63 n (%)	CAM non-users N = 20 n (%)	χ^2	P
Child demographic characteristics								
Sex Female Male	 15 (44.12) 19 (55.88)	 6 (33.33) 12 (66.67)	0.57	0.45	 41 (65.08) 22 (34.92)	 9 (45) 11 (55)	2.56	0.11
Age Mean (SD)	8.8 (1.94)	8.7 (1.44)	-0.19	0.42	15.3 (2.05)	14.3 (2.03)	-1.78	0.03
Child status Orphan Not orphan	 19 (55.88) 15 (44.12)	 9 (50) 9 (50)	0.16	0.68	 53 (84.13) 10 (15.87)	 14 (70) 6 (30)	1.94	0.16
Education status No Yes	 0 (0.0) 34 (100)	 1 (5.56) 17 (94.44)	6.63	0.08	 0 (0.0) 63 (100)	 0 (0.0) 20 (100)	0.002	1.0
Religion Christians Non-Christians	 28 (82.69) 6 (17.65)	 15 (83.33) 3 (16.67)	0.01	1.0	 53 (84.13) 10 (15.87)	 18 (90) 2 (10)	0.42	0.72

Child clinical characteristics								
HIV disease stage (III and IV)	18 (52.9)	1 (6.25)	13.18	0.01	41 (65.08)	10 (50)	3.07	0.54
CD4 counts Mean (SD)	896 (525)	855 (358)	-0.29	0.38	655 (402)	635.8 (354)	-19	0.42
ART use	28 (82.35)	16 (88.89)	0.38	0.69	56 (88.89)	19 (95)	0.65	0.67
Parental demographic characteristics								
Parental Age (mean) (SD)	42.5 (11.2)	37.4 (7.9)	-1.70	0.04	45.5 (13.8)	43.7 (13.9)	-0.49	0.31
Gender Female Male	 24 (70.59) 10 (29.41)	 14 (77.78) 4 (22.22)	0.31	0.57	 42 (66.67) 21 (33.33)	 14 (70) 6 (30)	0.07	0.78
Education status Primary education or less Secondary education or more	 28 (82.35) 6 (17.65)	 6 (33.33) 12 (66.67)	1.63	0.20	 44 (69.84) 19 (30.16)	 12 (60) 8 (40)	8.95	0.06
Marital status Single Married	 18 (52.94.) 16 (47.06)	 3 (16.67) 15 (83.33)	4.54	0.2	 12 (19.05) 51 (80.95)	 3 (15.00) 17 (85.00)	3.18	0.37
Employment status Employed Unemployed	 29 (85.29) 5 (14.71)	 16 (88.89) 2 (11.11)	0.13	1.0	 58 (92.06) 5 (7.94)	 14 (70) 6 (30)	7.83	0.012
Mean care giver depression scores (Mean) (SD)	6.2 (4.72)	3.5 (3.72)	-1.67	0.05	5.52 (4.28)	4.3 (4.22)	-1.22	0.13
Clinically significant behavioral problems								
Anxious/Depressed,	1 (2.94)	0 (0)	0.22	0.63	8 (12.7)	2 (10)	0.10	1.00
Withdrawn/Depressed	10 (29.41)	3 (16.67)	1.01	0.502	34 (53.9)	10 (50)	0.09	0.80
Somatic Complaints	7 (20.59)	3 (16.67)	0.12	1.0	19 (30.16)	8 (40)	0.66	0.41
Social Problems	8 (23.53)	5 (27.78)	0.11	0.75	7 (11.11)	4 (20)	1.04	0.45
Thought Problems	7 (2.059)	1 (5.56)	2.04	0.24	24 (38.18)	1 (5)	7.89	0.005
Attention Problems	9 (26.47)	7 (38.89)	0.85	0.35	8 (12.7)	0 (00)	2.81	0.18
Rule-Breaking Behavior	6 (17.65)	3 (16.67)	0.01	1.0	13 (20.63)	3 (15)	0.17	0.75
Aggressive Behavior	11 (32.35)	7 (38.89)	0.22	0.63	8 (12.7)	4 (20)	0.65	0.47

Table 1: *The demographic and clinical profiles of study participants by complementary alternative medicine (CAM) use.*

Characteristics	Adjusted Prevalence rate ratio (PRR)	95%CI	p-value
Child age	1.00	0.99 - 1.01	0.94
Child Sex	0.85	0.66 - 1.10	0.23
Attention problems	1.01	0.98 - 1.03	0.63
Thought problems	1.26	0.81 - 1.72	0.04*
Being orphaned	1.18	0.56 - 1.07	0.39
Care giver depression	1.01	0.98 - 1.04	0.44
High parental education	0.78	0.56 - 1.07	0.12
Parental employment	1.55	0.76 - 3.16	0.23

Table 2: *Multivariate logistic model. Factors associated with CAM use among HIV infected adolescent children (N = 83).*

Characteristics	Adjusted Prevalence rate ratio (PRR)	95%CI	P-value
Child education	0.73	0.38 - 1.40	0.34
HIV disease late stage	2.09	1.36 - 3.20	0.001*
Parental age	1.02	0.99 - 1.05	0.13
High Parental education	0.99	0.64 - 1.53	0.96
Parent marital status	0.633	0.28 - 1.32	0.34
Care giver depression	1.02	0.97 - 1.06	0.46

Table 3: *Multivariate logistic model. Factors associated with CAM use among HIV infected young Children (N = 52).*

Discussion

Our study shows substantial prevalence rates of significant behavioral problems among children and adolescents living with HIV which are more or less similar to rates that have been reported in previous studies [3,13,14]. Further, findings indicate that majority of their caregivers sought mental health services outside the conventional mental health system despite receiving care in an HIV treatment center with mental health services. This means that they use both complementary and conventional medical services concurrently. This finding emphasizes what is already known in many African countries. Mental health problems are perceived as due to ancestors, evil spirits or by bewitchment and traditional and religious healers are viewed as having expertise in these areas [9,15,16]. Further African studies recognized that traditional healing practices exist side-by-side with modern medical practice and a significant proportion of people seek care from traditional and spiritual healers whom they consult for a range of medical problems [9,15-17]. It is therefore pertinent that any effort aimed at improving mental health care of HIV infected children/adolescents in Uganda, and other low income countries, should find ways of collaborating with religious and other spiritual healers.

Several previous studies have reported CAM use in both children and adult HIV populations [18-20]. However, the extent to which mental health symptoms may be associated with CAM use in HIV positive populations has not been investigated or previously reported. Thus, this makes our study the first to report that thought problems are independently associated with CAM use among adolescents living with HIV. Therefore, it is important for HIV care providers to evaluate persons living with HIV for both mental health symptoms and CAM use. Interactions between herbs and drugs may increase or decrease the pharmacological or toxicological effects of either component as well as leading to toxic outcome effects on the body.

Interestingly, our study also shows that children with progressive HIV disease were twice more likely to use CAM providers for their mental health problems. We know that as HIV infection becomes more advanced, notably with those who may not be on ART, children start to develop opportunistic infections. Simultaneously [21] found an association between a past Centers for Disease Control and Prevention (CDC) AIDS-defining illness (class C [CDC-C]) and an increased risk of psychiatric impairment in a sample of 81 HIV+ adolescents. This combination of the two chronic conditions which both have no cure and have been attributed to being supernatural in some African belief system [20] may have influenced the attitude of caregivers of our patients to resort to seeking for divine interventions, in the form of traditional healing practices and prayers, either serially or simultaneously with conventional medical services, hoping that one of the them would provide a cure or relief for their mental and physical health problems. This is critical for health care workers to always be vigilant to screen out these children in late stage by monitoring of the child's mental health over time and do early interventions in case they developed mental health challenges.

Study Limitations

Some limitations of this study must be acknowledged. First, reports of past illnesses, are limited by the potentially distorting influence of retrospective recall bias. Only those children who had stayed with a care taker for at least one year were included in this study. Consequently, a substantial number of HIV infected children/adolescents were eliminated from the study which could have resulted in selection bias.

Clinical Implications

This study emphasizes the substantial burden of emotional and behavioral problems among children and adolescents living with HIV in Uganda which may increase the likelihood of using complementary and alternative medicines. This implies that clinicians should holistically assess these children who come for HIV care, so that appropriate interventions including early referral for mental health care are made to prevent serious mental health problems.

Conclusion

Children and adolescents with HIV have high rates of clinically significant mental health problems. Caregivers of those children and adolescents with progressive HIV disease and thought problems are more likely to seek mental health services from complementary and alternative medicine providers.

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Competing Interests

The authors declare that they have no competing interests.

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