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Research Article

Attitudes of Patients Attending Omdurman Teaching Hospital VCT Center, Sudan toward HIV/AIDS Voluntary Counseling and Testing Services

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Abstract

Background: Despite the availability of HIV/AIDS voluntary counselling and testing services in Omdurman Teaching Hospital, the level of uptake remains low, and the prevalence of HIV/AIDS in Sudan is still high. This situation suggests that there may be some underlying factors, such as patients' attitudes toward the services provided, that are affecting their willingness to access them. Therefore, this study aimed to assess the attitude of patients attending HIV/AIDS voluntary counselling and testing services in Omdurman Teaching Hospital, Sudan.

Methods: A descriptive hospital-based study was conducted at Omdurman Teaching Hospital, Sudan. All patients attending HIV/AIDs counseling and voluntary services center were invited to participate in this study, and of the 200 invited, 150 patients participated with a response rate of 75%. Data were collected using a structured interview questionnaire and then analyzed by SPSS (version 23).

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Abstract

Results: The findings revealed that many patients (92%) have a positive attitude toward HIV voluntary counselling and testing and believed that the shared information is informative and influential. It was also observed that 80% of the patients who received counselling had lower levels of social and psychological stress and stigma.

Conclusion: The study highlighted the positive attitude of patients to utilize HIV/AIDS voluntary counselling and testing services which reduces the social and psychological stresses and stigma among HIV patients. Females and Muslim patients had a positive attitude.

Keywords: HIV, voluntary counselling and testing, stigma, psychological stresses, Sudan

1. Introduction

HIV/AIDS is considered one of the major health problems globally, mainly affecting the population of poor developing countries such as African societies. The Global HIV/AIDS Epidemic report, HIV/AIDS is one of the world's most serious public health problems. The 2020 data shows that about 37.6 million people were infected with HIV worldwide. Among them, 35.9 million were adults and 1.7 million children [1].

The highest endemic regions with HIV were reported in low- and middle-income countries; there were 20.6 million (55%) in eastern and southern Africa, 4.7 million (13%) in western and central Africa, 5.7 million (15%) in Asia and the Pacific, and 2.2 million (6%) in Western and Central Europe and North America in 2020 [1].

According to the literature, voluntary counselling and testing as a process of enabling individuals to make informed decisions, voluntary HIV testing, in combination with pre- and posttest counselling, has become increasingly important in regional and international preventive efforts [2]. The VCT counselling process consists of pretest, posttest, and follow-up counselling. It is suitable for individuals, couples, families, and children and can be adapted to the needs and capacities of the settings in which it is to be delivered [3, 4].

Voluntary counseling and testing (VCT) services is one of the most effective strategies for the prevention and control of HIV/AIDS, which was first established in Sudan in 2004 by SNAP [5]. Previous studies on patients' knowledge and attitude toward VCT in Sudan reported that the studies conducted on women at reproductive age which showed that they were knowledgeable on the transmission and willing to uptake the test [6, 7].

The content and approach of the VCT counselling process may vary considerably for and with various groups, such as counselling for young people, drug users, or sex

workers or even the education level of targeted groups [8]. While it usually involves at least two sessions (pretest and posttest counselling), more sessions can be offered before or after the test, or during the time the client is waiting for test results [9, 10].

Pretest HIV counselling should be offered before taking an HIV test; and the counsellor should prepare the client for the test by explaining what an HIV test is, as well as by correcting misinformation about HIV/AIDS. Some of the information about HIV and VCT can be provided to groups [11, 12]. It is important that everyone requesting VCT has access to individual counselling before being tested. Informed consent from the person being tested is usually a minimum ethical requirement before an HIV test [13].

Posttest VCT counselling should be offered to all patients with the main goal of the session being to help clients understand their test results and initiate adaptation to their seropositive or negative status [14, 15].

The determinants reported among Sudanese communities were varied toward the obstacle to uptake VCT services; among university students, however, they were willing to uptake the test, the influencing factors were not considering themselves a vulnerable group or not knowing the VCT or having no knowledge about the test or being afraid of being positive [16].

Despite the availability of VCT services in Omdurman Teaching Hospital, the level of its uptake is still low, and the prevalence of HIV/AIDS in Sudan is high. This situation suggests that there may be some underlying factors, such as patients' attitudes toward the services provided that are affecting their willingness to access them. To identify these factors, there is a need to assess the attitudes of patients attending HIV/AIDS voluntary counselling and testing services in Omdurman Teaching Hospital. This information could be used to improve the quality and accessibility of the services, increase patient uptake, and reduce the burden of HIV/AIDS in Sudan.

2. Materials and Methods

A descriptive hospital-based study was conducted at Omdurman Teaching Hospital and included patients attending HIV/AIDs counseling and voluntary services center at the Omdurman Teaching Hospital. A non-probability convenient sample was used to collect data from the patients.

All patients attending HIV/AIDs counseling and voluntary services center during the data collection period (January to April 2022) were invited to participate in the study. A total of 150 patients responded and agreed to participate, with a response rate of

75%. All included patients were adult, males and females, resided in Khartoum, and had agreed to participate.

The dependent variable was the attitude of patients toward HIV/AIDS VCT services at the center, while the independent variables include patients' demographic characteristics such as age, sex, education, marital status, and occupation.

Data were collected from patients using an interview questionnaire including a series of questions prepared by the researchers. VCT for HIV involved two counselling sessions: one prior to taking the test known as "pretest counselling" among 88% of the patients and one following the HIV test when the results were given, often referred to as "posttest counselling" among 96% of the patients.

The questionnaire was well designed to include all needed variables, and it was pretested on a small scale of targets before being implemented on a larger scale; such techniques were adopted to ensure that the questionnaire is valid and reliable. Validity is the degree to which an instrument measures what it is intended to measure, and reliability refers to the degree of consistency or accuracy with which an instrument measures the attribute it is designed to measure [17, 18]. For this questionnaire, 15 patients from another VCT center were included and its findings showed that an adequate internal consistency of reliability was obtained; the Cronbach's Alpha was at the acceptable level of 0.84. The patients received questionnaire and explanation about the aim and process of the study, and were assured that their data will be kept confidential.

Data was analyzed using the SPSS program version 23. The tables were used to represent the findings as frequency and percentage and then an association between patients' characteristics and the attitudes toward VCT services for HIV. *P*-value less than or equal to 0.05 was taken as a cut-off value for significance. Odds ratio and 95% confidence interval was also constructed along with the corresponding *P*-value.

3. Results

The demographic information obtained from the HIV-infected patients showed that 46% of them were male while 54% were female, and that they were aged between 15 and 34 years (56%). Moreover, 16% of them were illiterate, 62% were in school, and 22% were studying in universities. Additionally, 56% of them were married and only 14% were employed (Table 1).

Table 2 shows that the counseling sessions were attended by all patients, with 36% attending before the tests and 64% attending after the tests. Additionally, 70% of patients

received their results directly from physicians, while 76% were tested at the VCT center and 24% were tested at hospitals and then referred for counseling.

Table 3 reflects the attitude of HIV-infected patients toward VCT's services: 92% of the patients considered VCTs services as secure and confidential, 70% got the required information from the VCT center, 82% reported that counselors were supportive, and 88% felt stigma free post counseling. However, 74% of the patients reported that they felt troubled after being informed of the results. The majority of patients (72.67%) decided to attend subsequent VCT sessions. Table 3 also shows that the overall positive attitude of HIV patients was 73.7%.

Table 4 presents the relationship between patients' characteristics and the attitudes toward VCT for HIV. It shows the significant associations between education (literate patients), marital status (married), occupation (employed), and religion (Muslim) and patients' attitude.

Table 1: Demographic variables of patients attending pre- and post-VCT services at Omdurman Teaching Hospital, Sudan.

Variables		Frequency	Percentage
Sex	Males	69	46%
	Females	81	54%
Age (yr)	15–24	24	16%
	25–34	60	40%
	35–44	36	24%
	>45	30	20%
Education	Illiterate	24	16%
	Primary	51	34%
	Secondary	42	28%
	University	33	22%
Marital status	Married	84	56%
	Single	33	22%
	Widowed	18	12%
	Divorced	15	10%
Occupation	Housewife	57	38%
	Free business	42	28%
	Student	24	16%
	Skilled labor	6	4%
	Employee	21	14%
Religion	Muslim	112	74.67%
	Non-Muslim	38	25.33%

Table 2: Diagnosis site distribution by healthcare in Khartoum, Sudan.

Diagnosis site Health cadre	VCT center		Hospital*		Total	
	Freq.	%	Freq.	%	Freq.	%
Physician	90	60	15	30	105	70.0
Councilor	24	16	21	42	45	30.0
Total	**114**	**76.0**	**36**	**24.0**	**150**	**100.0**

*In the Omdurman Teaching Hospital and not in the VCT center

Table 3: Patients' response toward VCT Services at Omdurman Teaching Hospital, Sudan.

Response items	Positive response	
	Freq	%
Confidentiality and privacy were secured	**138**	**92%**
Counselling sessions were informative and sufficient	**105**	**70%**
Counselors were supportive	**123**	**82%**
Counselling sessions help families to support and accept the patient	**132**	**88%**
Patient attended the post testing counselling sessions	**96**	**64%**
Patient was worried, scared, and in doubt when informed of having HIV	**111**	**74%**
Keen to continue attending the counselling sessions	**109**	**72.67%**
Overall positive attitude of infected patients toward VCTs	**Mean = 73.7% ± 3.4**	

Table 4: Patients' characteristics associated with the attitude toward VCT center at Omdurman Teaching Hospital, Sudan.

Variables		Univariate			Multivariate		
		OR	95%CI	P-value	OR	95%CI	P-value
Gender	**Females**	1.1	0.8–1.4	0.53	0.4	0.2–1.1	0.07
Age (yr)	**15–24**	0.9	0.7–1.5	0.32	0.7	0.5–1.2	0.08
Education	**Literate**	2.3	1.3–3.6	0.03	1.4	1.1–1.8	0.01
Marital status	**Married**	1.6	0.9–2.2	0.06	1.3	0.9–1.9	0.02
Occupation	**Employee**	1.9	1.5–2.6	0.02	2.5	1.9–2.9	0.01
Religion	**Muslim**	2.5	1.8–3.7	0.01	3.1	2.7–4.2	0.01

*Significant; OR, odds ratio; CI, confidence interval

4. Discussion

The study showed that patients infected with HIV were aged between 15 and 44 years, more than half were females of child-bearing age, and most of them were literate. Similar findings were reported from Malawi in 2000 where the age of 76% participants were between 15 and 29 years and females were infected more than males [19].

In this study, 36% of the patients attending VCT centers received pre-counseling services, higher than the rate from Malawian study [19] where only 9.4% of patients

coming before the test for counseling, this wide contrast could be attributed to variations of reasons described in the literature for getting tested for HIV as response to signs of illness, when individuals feel at risk or vulnerable to HIV infection [20]. These reasons are of course to a large extent governed by the seroprevalence that entirely differ in the two countries, where the seroprevalence in Sudan was estimated as 1.6% in 2003, compared to 14–16% in the same years in Malawi, that fear and stigma from the test increases with increased risk of contracting the virus [21, 22]. The VCT for HIV usually involves two counselling sessions: one prior to taking the test known as ”pretest counselling” and one following the HIV test when the results are given, often referred to as ”posttest counselling” [23].

In our study, the results showed that 88% of patients feel stigma-free post-counseling and enhanced the social relations with their families and community members. Several reports and published articles about VCT in neighbor countries (Kenya, Tanzania, Uganda, and Zambia) showed wide variations in responses of patients toward these services [23–25]; similar findings were reported in a study carried out in Zambia [26].

Patients infected with HIV/AIDs are socially neglected as they suffer from stigma and psychological stresses, as shown in one study conducted in China since about 90% had negative attitude toward HIV-infected patients [27]. According to the study, 73.7% of HIV patients displayed a positive attitude, which suggests a possible decrease in the prevalence of HIV/AIDS in Sudan in the near future. These results are consistent with a previous study conducted in Sudan in 2007, where 72.8% of pregnant women believed that VCT was important [7], and also similar to another study conducted at one urban neighborhood of Lusaka, where counselling and the test results and exhibited positive attitudes toward the role of the post-counseling received in reducing the negative expected responses beside encourage them to take medical care [28]. Similar findings were also reported by a study in Nigeria which showed the acceptance of VCT services among pregnant women [29]. Despite the positive attitude toward VCT services for HIV, the utilization rate for those services in Africa is still low as reported form Zambia since 37% are ready to utilize such services and only 3.6% actually utilized such services [30, 31].

The univariate and multivariate associations between the patients’ characteristics and attitude level were statistically significant between education (literate patients); marital status (married patients); occupation (employed patients); and the religion (Muslim patients) and the patients’ attitude toward VCT services. These findings are similar to the finding of one study conducted in Sudan by Mahmoud *et al.* [7], which showed

that there were significant associations between age, religion, and patients' knowledge and attitude toward HIV/AIDS and their willingness to uptake VCT services [7].

Although, the study is unique for Sudanese people to express their attitude toward testing for culturally sensitive topic, it has several limitations: (1) the study was conducted in Omdurman Teaching Hospital VCT center, which may not be an appropriate representative of the entire population of patients in Sudan. This could limit the generalizability of the study findings to other settings or populations. (2) It was conducted in a country where secondary data are incomplete or may not always be available. (3) The questionnaire used in the study may not have captured all relevant factors that influence attitudes toward VCT services, such as cultural beliefs, religious practices, or social norms. This could limit the ability to fully understand the complexity of attitudes toward VCT services in Sudan. (4) Finally, a social desirability bias is suspected as participants may have provided socially desirable responses to the questionnaire rather than their true attitudes toward HIV/AIDS VCT services. This could be due to fear of being stigmatized or judged by others, or a desire to please the researchers.

5. Conclusion

The study concludes that the positive attitude of HIV patients to utilize HIV voluntary counselling and testing services reduces the social and psychological stresses and stigma among HIV patients. Females and Muslims significantly reflected more positive attitudes. The provision of VCT services using innovative approaches to enhance utilization is essential in order to overcome the HIV/AIDs stigma and psychological stresses in Sudan.

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Ethical Considerations

A verbal consent and agreement was obtained from participants prior to the beginning of the study, which was obtained before collecting the data by explaining the purpose of the study and confidentiality of collected data to the participants. Then they were given

the right to decide whether to participate or not and asked to provide verbal agreement, this is because some participants are illiterate and could not provide written consent. The participation and answering the interview questionnaire was considered a verbal agreement to participate in the study. So, all participants provided verbal agreement before completing the interview questionnaire.

The study was approved from the ethical committee of the Nursing College, International University of Africa, Sudan. The committee approved the using of verbal process as described in the submitted proposal.

Competing Interests

The authors declare that the manuscript is the product of a dissertation for an academic degree program. The authors also declare that there are no any conflict of interest related to this manuscript.

Availability of Data and Materials

The data are available upon request, please contact the corresponding author for data.

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