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Knowledge, Attitude and Practice of HIV/AIDS *Voluntary Counseling and Testing* and Quality of VCT Services among the Students of Kassala and Kordofan Universities, Sudan (2014 -2016)

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Abstract:

Many countries have been trying to take many different approaches in an attempt to slow the spread of HIV infection and minimize its impact on the individual, family and society.These strategies include voluntary counseling and testing (VCT).A cross sectional study was conducted to study the Knowledge, Attitude and Practice of voluntary HIV/AIDS counseling and testing services (VCT) among students of Kassala and KordofanUniversities and Quality of VCT Services in Kassala and Elobied cities, Sudan. Building on foundations (universities). A total of (384) students of Kassala and Kordofan Universities,who were selected through a stratified sampling method, filled a self-administered questionnaire. Data was analyzed using the Statistical Package of Social Sciences (SPSS) version (11.5) software and chi-square test was used to determine an association between a number of independent and dependent variables. Self-administered questionnaires having closed questions were also distributed to counselors, lab technicians and nurses to assess quality of VCT services delivery from them.The findings showed that most of the participants (95.9%) had known HIV/AIDS. (96.2%) who knew HIV/AIDS transmission method. most of the students (89.5%) knew VCT services. A few of students (21.6%) dealing with people living with HIV/AIDS. Majority of participants (92.4%) had dealt with people living with HIV/AIDS.Most of students (76.5%) have not had VCT. Fears of (a positive test result, stigma and discrimination) were the main barriers for VCT utilization from (94.3%) of universities students. Most of students (90%) of VCT centers have had counseling rooms. More tertian of VCT providers (72.4%) were obtained on verbal consent. (87.8%) of VCT providers had received training in VCT.There was a significant association between utilization of VCT and social stigma (PV= 0.003, df = 1, $\chi 2$ = 8.878).Therewas a significant association between knowledge regarding VCT center services and utilization of VCT cervices (PV= 0.014, df = 1, $\chi 2$ = 6.068).

The study recommended to activate the role of VCT centers awareness should be raised among students in order to promote the utilization of VCT services. Reduce the social stigma towards utilization of VCT centers.

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دراسة معرفة، مواقف و ممارسات الطلاب تجاه خدمات الإرشاد و الفحص الطوعي لمرض و فيروس الإيدز (HIV/AIDS)و جودة خدمات الإرشاد و الفحص الطوعي،جامعتي كسلا و كردفان، السودان (2014م –2015م).

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ملخص الدراسة:تحاول العديد من الدول اتخاذ طرق مختلفة للحد من انتشار مرض و فيروس الإيدز و التقليل من تأثيره على الأفراد و الأسرة و المجتمع ، تشمل هذه الإستراتيجيات توفير خدمات الإرشاد والفحص الطوعي، أجريت هذه الدراسة بمدينتي كسلا و الأبيض – السودان في الفترة من 2014م – 2016م بهدف دراسة معرفة، مواقف و ممارسات طلاب جامعتي كسلا و كردفان تجاه خدمات الإرشاد و الفحص و الطوعي لمرض/فيروس الايدز وهي دراسة وصفية مقطعية عرضية قائمة على المؤسسات (الجامعات). و اشتملت الدراسة على عدد (384) طالب/طالبة باستخدام العينة العشوائية الطبقية. تم استخدام الاستبيان ذو الأسئلة المغلقة لجمع البيانات من مجتمع الدراسة، بالإضافة إلى ذلك تم توجيه استبيان آخر لمقدمي الإرشاد و الفحص الطوعي بالمراكز و شملت المرشدين النفسيين و فني المعامل و الممرضين التابعين لمراكز الإرشاد و الفحص الطوعي كما استخدم أسلوب المقابلة و الملاحظة القائمة على (Check List) الإحصائية للعلوم برنامج الحزم باستخدام تحليل تم ثم من و . استخدم اختبار (11.6)، النسخة (SPSS)الاجتماعية ( ) لتحديد العلاقات بين المتغيرات المستقلة chi-square و التابعة.. أظهرت الدراسة أن معظم الطلاب (95,9%) سمعوابمرض الايدز. معظم الطلاب (96,2%) يعرفون طرق الوقاية من مرض و فيروس الإيدز. معظم الطلاب (89.5%) يعرفون خدمات الإرشاد و الفحص الطوعي. أكثر من ثلثي الطلاب (73,5%) سمعوا بفحص الايدز. (21,6%) من الطلاب فقط يعرفون أشخاص متعايشين مع مرض/فيروس الايدز.معظم الطلاب (92,4%) يتعاملون مع الأشخاص المتعايشين مع مرض/فيروس الايدز. (76,5%) من الطلاب لم يستخدموا مراكز تقديم خدمات الإرشاد والفحص الطوعي. (7,8%) من الطلاب فقط هم الذين قاموا بإجراء فحص الايدز. معظم الطلاب (94,3%) تمنعهم بعض العوامل (النتيجة الموجبة ، الوصمة ، التمييز و العزلة) من استخدام مراكز تقديم خدمات الإرشاد والفحص الطوعي.أكثر من ثلثي مقدمي خدمات الإرشاد و الفحص الطوعي (72,4%) يحصلون على موافقة العميل لإجراء الفحص شفاهة. معظم مقدمي خدمات الإرشاد و الفحص الطوعي (93,1%) يقومون بإجراء الإرشاد بعد الفحص لكل الذين أجري لهم الفحص بنسبة (100%). غالب مقدمي خدمات الإرشاد و الفحص الطوعي (87,8%) تلقوا تدريب في مجال تقديم خدمة الإرشاد و الفحص الطوعي.هناك علاقة معنوية ذات دلالة إحصائية بينمعرفةالطلاب بخدماتالإرشادوالفحصالطوعيو استخدامالطلابلخدمات مراكزالإرشادوالفحصالطوعي (PV= 0.014 , df = 1 , $\chi 2 = 6.068$) هناك علاقة. معنوية ذات دلالة إحصائيةبين استخدامالطلابلمراكزالإرشادوالفحصالطوعيوقيامالطلابباجراءعمليةفحصالايدز، (PV= 0.000 , df = 1 , $\chi 2 = 54.257$).

Introduction:

HIV/AIDS is a major challenge to health and development. It is putting a tremendous burden on health care facilities and is decreasing economic productivity. Many governments in east, central and southern Africa have officially declared HIV/AIDS a disaster requiring emergency action. The various approaches being used to combat the epidemic must be intensified, refined and expanded to slow down the spread of the virus and mitigate its impact, [(2)].In Sudan, it is estimated that 53 000 people are living with HIV but, unfortunately, two thirds of these people do not know that they are carrying the virus in their bodies. So they lead their daily lives totally unaware that not only do they need treatment to block the virus but they also need to take action to avoid transmitting the disease. Moreover, many of those who do know their HIV

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status are unable to access the care and treatment services they need. At present, fewer than 4000 people, that is, only 7% of people living with HIV in Sudan are receiving HIV medications; A HIV-positive person who takes their medication regularly can lead a healthy, positive and productive life. They can work, study and have a family. Moreover, blocking the virus in the blood can reduce the chances of transmitting the infection to other people, [3].Voluntary counseling and testing (VCT) for HIV allows individuals to know their HIV status and serves as the gateway for both HIV prevention and for early access to treatment, care and support. Knowing ones status provides for the choice to - for those who are negative, remain negative; and for those who are positive, seek access to treatment, care and support, and to reduce the risk of HIV transmission to future children and partners,[4].

Methodology:

Facility based descriptive cross-sectional study was done to identify the Knowledge, Attitude and Practice regarding voluntary HIV/AIDS counseling and testing services (VCT),among students of Kassala and Kordofan Universities and quality of VCT services in Kassala and Kordofan state, Sudan. All the students who volunteered to participate in the survey were included.

Sample techniques:

The sampling technique employed was stratified sampling technique. They were stratified into two stratifies (University of Kassala (n_1) and University of Kordofan (n_2).The number of all students were obtained from the registrar office and considering students in the same university as a homogenous group.The study group were divided into two stratifies, determined the total of sample size (n = 384) sample size was the first stratify (n_1= 129) and the size of the second stratify (n_2= 255), where (n1): University of Kassala and (n2): University of Kordofan,both were considered a random sample as a homogeneous therefore been withdrawn from then_1 of N_1 and n_2 of N_2, so $n = n_1 + n_2$, the sample size has been taking through the numbering of the study group and comprised both males and females from (1 to N) and used random numbers tables. The study surveyed VCT centers in study area to assess the quality of HIV/AIDS counseling and testing service delivery, it is comprised HIV/AIDS VCT providers (counselors, lab technicians and nurses).And determined the total of sample size of VCT providers (n = 41) were selected total coverage of all VCT centers and VCT providers. Surveyed all VCT centers were delivered HIV/AIDS counseling and testing service in these cities. Among the total participants (17.1%) were male students whereas (82.9%) were females.

Data collection:

The researcher prepared an Arabic questionnaire version (pre coded and close-ended) and translated to the English and checked for consistency. The questionnaire was used to collect data on basic information, Knowledge, Attitude and Practice of voluntary HIV/AIDS counseling and testing services (VCT) and utilization. Our final questionnaire included questions relating to VCT knowledge, Attitudes and Practices, in addition to socio-demographic information. The questionnaire was divided into

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four parts. Part I focused on the socio-demographic characteristics of the respondents, including age, sex, residence, and religion, nationality, faculty and social status. Part II contained the knowledge about HIV/AIDS: (cause, transmission method, prevention measures), STIs, VCT centers, services of VCT centers, HIV testing, MARPs and disclosure conception. Part III comprised questions on Attitudes towards HIV/AIDS VCT services. Finally, Part IV comprised questions about Practices related to HIV/AIDS VCT services, including VCT utilization, tested HIV, dealing with PLWHIV and feeling of stigma. Other self-administered questionnaires having closed questions were also distributed to counselors, lab technicians and nurses was used to collect data from (10) VCT center under study.

Data processing and analysis:

After taking sample and filling the questionnaire and cleaning, the data was analyzed using the statistical package of social sciences (SPSS) version (11.5) software and chi-square test was used to determine an association between a number of independent factors and dependent variables, (P value <0.05 was considered significant).

Results:

A total number of 384 respondents participated (96.4% response rate) in the study. Among the total participants 193 (52.2%) were male students whereas 177 (47.8%) were females. The obtained result below:

Table (3-1): Knowledge about VCT services among study group, Kassala and Kordofan Universities -Sudan, 2016 (N=370)

University	Knowledge about VCT services	Median	N	Std. Deviation
Kordofan	Know	1.0000	217	.49122
	Don't know	1.0000	31	.50161
	Total	1.0000	248	.49154
Kassala	Know	2.0000	114	.47651
	Don't know	1.0000	8	.46291
	Total	2.0000	122	.48448
Total	Know	1.0000	331	.50065
	Don't know	1.0000	39	.49286
	Total	1.0000	370	.50021

Table (3-2): Study group preference sites for the VCT service offered,Kassala and Kordofan Universities- Sudan, 2016 (N= 360)

NO	Preferred the VCT service offered	Frequency	Percent
1	Public Hospital	134	39.9%
2	Private Hospital	30	8.9%

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3	Offices of NGOs	23	6.8%
4	Youth Clubs	24	6.7%
5	University	54	16.07%
14	Youth Clubs, University	27	8.04%
17	Public Hospital, Youth Clubs, University	46	13.7%
22	I prefer all sites	22	5.9%
Total		360	100%

Table (3-3): Utilization of VCT centers, among study group,Kassala and Kordofan Universities– Sudan, 2016 (N= 370)

Gender	University	Utilization of VCT	N	Std. Deviation	Median
Male	Kordofan	Yes	35	.49705	2.0000
		No	113	.53067	2.0000
		Total	148	.52177	2.0000
	Kassala	Yes	10	.47140	2.0000
		No	35	.56061	2.0000
		Total	45	.57031	2.0000
	Total	Yes	45	.51444	2.0000
		No	148	.53808	2.0000
		Total	193	.53196	2.0000
Female	Kordofan	Yes	26	.50990	1.5000
		No	74	.46019	2.0000
		Total	100	.47937	2.0000
	Kassala	Yes	16	.47871	2.0000
		No	61	.40082	2.0000
		Total	77	.41749	2.0000
	Total	Yes	42	.50087	2.0000
		No	135	.43569	2.0000
		Total	177	.45679	2.0000
Total	Kordofan	Yes	61	.50082	2.0000
		No	187	.50322	2.0000
		Total	248	.50413	2.0000
	Kassala	Yes	26	.49147	2.0000
		No	96	.47940	2.0000
		Total	122	.48168	2.0000
	Total	Yes	87	.50842	2.0000
		No	283	.49469	2.0000
		Total	370	.49777	2.0000

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Table (3-4): The association between knowledge of study group regard VCT services and their Utilization VCT centers, Kassala and Kordofan Universities - Sudan, 2016 (N=370)

Knowledge about VCT services		Utilization of VCT centers		Total
		Yes	No	
Know	Observed value	84	247	331
	Expected value	77.8	253	
Don't know	Observed value	3	36	39
	Expected value	9.2	29.8	
Total		87	283	370

P.V= 0.014 df = 1 $\chi 2 = 6.07$

Table (3-5): The association between the utilization of study group VCT centers and their feeling social stigma, Kassala and Kordofan Universities - Sudan, 2016 (N=370)

Utilization of VCT centers		Feel social stigma		Total
		Yes	No	
Utilization	Observed value	16	71	87
	Expected value	27.3	59.7	
Un utilization	Observed value	100	183	283
	Expected value	88.7	194.3	
Total		116	254	370

P.V = 0.003 df= 1 $\chi 2 = 8.878$

Table (3-6): The association between the dealing of study group with PLWH and their university**, Kassala and Kordofan Universities-Sudan, 2016 (N=370)**

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Dealing with PLWHIV		University		Total
		Kassala university	Kordofan university	
Dealing	Observed value	122	220	342
	Expected value	112.8	229.2	
Don't Dealing	Observed value	0	28	28
	Expected value	9.2	18.8	
Total		122	248	370

P.V=0.000 df=1 $\chi 2$= 14.902

Discussion:

The majority of study group (95%) correctly identified HIV as the cause of AIDS, most of those (94.3%) mentioned that the virus is the cause of AIDS. This study corresponds with similar study conducted among medical students in Jos, Nigeria, the majority of respondents (93.1%) correctly identified HIV as the cause of AIDS. Also the present study corresponds with a study conducted in Kassala State among the university of kassala students that their knowledge about the infective agent is identified (91.6%), [(5)].

The majority of study group (86.8%) are intending to utilize VCT centers in the future, this result is very good as compared with similar study conducted in Sudan in 4 universities that (33.9%) of students expressed intent to use the VCT services. Another study conducted in south-east Nigeria among undergraduates in a polytechnic, that (74.2%) of the respondents were willing to go for VCT,[6].Also a conducted similar study in Nigeria among medical students in Jos, showed that (83.1%) would want to have VCT,[7].A similar study conducted in Samara, Ethiopia among Bahirdar University Students, that (71.8%) of respondents want to have VCT in the future, [(8)]

The majority of study group (92.4%) would be dealing with PLWHIV, the present study corresponds with a similar study conducted in Nigeria among medical students in Jos which reported that over 90% of respondents would be willing to look after an infected family member living in the same house [(7)] .It also corresponds with a similar study conducted in West Shoa Zone and Oromia Region, Ethiopia among Ambo University Students, that (70.3%) of the participants believed that living with HIV positive persons is safe.[(9)].Another similar study conducted in Turkey among Turkish Students, that (63%) of the students would be compassionate to an infected person,[(10)]. In conflict with this study (present study) a similar study conducted by [(11)]in Ghana among university students showed that: (35%) of them felt there would be a neglect from family members.

The majority of the study group (63.2%) felt social stigma when utilizing of VCT centers; this result is a strong reason make efforts to reduce social stigma among

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students and should be promote misconceptions.The present study is higher than similar study conducted in Samara, Ethiopia among Bahirdar University Students, in that (44.2%) of students had a stigmatized/discriminated attitude, [8]. Comparable with similar study conducted in North West Ethiopia among university students, where the majority of respondents (58.7%) had fear of stigma and discrimination as some of the reasons mentioned for not attending VCT services, [1]. The majority of VCT centers (90%) have counseling rooms, this study corresponds with a similar study conducted in Kampala district, Uganda among HCT service providers, that counseling rooms were available in up to (90%) of the facilities, [12]

The same study conducted in Kampala district, Uganda among HCT service providers by [12] , indicated that (85%) of the health workers obtained only verbal consent, which is high as compared with the present study that (72.4%) of the VCT service providers obtained only verbal consent.

Most of VCT service providers (72.4%) referred people positive tested for (VCT/ART) after gave post-test counseling and (96.6%) of VCT service providers had used referral forms. The National Guidelines and Standard Operational Procedures for HIV/AIDS VCT [13] recommend that "One of main reasons for VCT carry out is facilitation of treatment and support services to people positive test. All sites should be client referral and their follow-up"

Conclusions:

The study findings indicated that most of the students had very well knowledge about HIV/AIDS and services of VCT centers. There was a significant association between knowledge regarding HIV/AIDS transmission methods and dealing with people living with HIV/AIDS.Majority of students had relationships with people living with HIV/AIDS.Most of students have not utilized VCT and majority of them agreed on utilization of VCT centers in future. The study revealed that there was a significant association between utilization of VCT and social stigma.The quality of VCT services delivery in VCT centers and health facilities is very good, most of VCT providers had received training in VCT. The study findings showed that majority of VCT centers have had counseling rooms.

Recommendations:

Activate the role of VCT centers to clear misconception about HIV/AIDS through availability of VCT services among students of universities. Educate/inform the universities students about VCT centers services, through awareness should be created among students in order to promote the utilization of VCT services. Reduce the social stigma toward utilization of VCT centers and PLWHIV and promote positive attitudes toward them, through educating students about HIV-related stigma and to design interventions to reduce social stigma.Capacity building of VCT providers through supplying refreshes trainings for the VCT service providers inHIV Counseling and Testing.

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