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Published in:
Journal of Health Care for the Poor and Underserved

DOI:
10.1353/hpu.2014.0135

2014

Link to publication

Citation for published version (APA):
Kyagaba, E., Asamoah, B. O., Emmelin, M., & Agardh, A. (2014). Unmet medical care and sexual health counseling needs-a cross-sectional study among university students in Uganda. *Journal of Health Care for the Poor and Underserved*, *25*(3), 1034-1051. https://doi.org/10.1353/hpu.2014.0135

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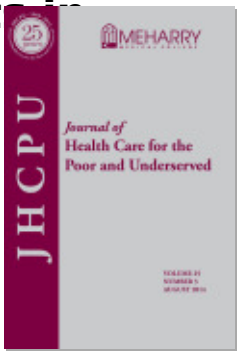

Journal of Health Care for the Poor and Underserved, Volume 25, Number 3, August 2014, pp. 1034-1051 (Article)

Published by The Johns Hopkins University Press
DOI: 10.1353/hpu.2014.0135

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Unmet medical care and sexual health counseling needs—a cross-sectional study among university students in Uganda

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Abstract: In 2010, unmet medical care and sexual health counseling needs were assessed among students at a Ugandan University. Unmet medical care need was associated with poor mental health, experience of sexual coercion, and poor self-rated health. Unmet sexual health counseling need was significantly associated with being female, coming from an urban area, low social participation, poor mental health status, experience of sexual coercion, poor self-rated health, inconsistent condom use, and having multiple sexual partners. Gender differences, poor mental health, sexual coercion, poor self-rated health, and risky sexual behavior must be considered when designing intervention models to reduce unmet health care needs among young people in this setting.

Key words: Health care, sexual behavior, university students, youth, counseling, Uganda.

Unmet health care needs remain a public health challenge throughout the world, although their specifics differ from nation to nation and within populations. Previous studies have assessed unmet health care needs by measuring how many people with a particular diagnosis do not use health services. However, there is no linear relationship between diagnosis and the need for treatment, nor is there a clear definition of what constitutes need for service.[1] As a previous study has found, the utilization of a service is not an accurate indicator of whether people feel that their needs are being met.[2] Therefore, in order for interventions targeting unmet health counseling needs to be effective, the diversity of possible consumers must be considered. The traditional model of service delivery requires young people to approach health services to seek care, and this may present an impediment. Meanwhile, in recent years, the social context of health care has changed greatly. An explosion in the availability of information and in modes of communication has affected the way young people access medical care and sexual health counseling.[3] The primary need of this population is access to information,

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psychosocial support, and preventive services, all of which necessitate outreach with specific youth-friendly health services.[4] Recent reports indicate rising levels of stress, mental ill health, low contraceptive use, and an upward trend in sexually transmitted infections (STIs), including HIV and AIDS among young people ages 15 to 24 years in Uganda.[5,6] Against this background, we sought to determine the unmet medical and sexual health care needs of young people, specifically those of undergraduate students at a university in Uganda.

Several studies and interventions have been directed toward unmet health care needs.[1,7,8] Very few, however, have focused on the specific needs of youth. One such study, conducted in Australia, found the following as the principal reasons for young people not seeking needed help: lack of confidentiality, lack of knowledge of service availability, discomfort in disclosing personal information, inaccessibility, and perceptions of health services.[3] There appears to be a strong correlation between the youth-friendliness of health services and their use by young people. A study evaluating a youth-friendly health care intervention in Australia concluded that its success was due to its non-clinical environment, the cultivation of non-judgmental and trusting relationships, the sense of user control over service experiences, low fees or no cost for service, and appointment reminders.[9] Although little information is available on the effect of the youth-friendly service delivery model on health outcomes,[10] it seems likely that such a facility would help meet the medical care and sexual health counseling needs of young people. The U.S. has also seen some studies on unmet health care needs for youth.[11–15] Major barriers to the utilization of those services that have been identified have been fear of disclosure, embarrassment, and cost—especially for the uninsured.[11,13–16] Risk factors that have been associated with unmet health care needs in the U.S. include living in a rural setting, increasing age, male gender, being uninsured, and belonging to an ethnic minority.[12–14,17] Findings from studies done in the United Kingdom similarly have found that issues related to confidentiality and embarrassment influence the health care-seeking behavior of youth more than cost.[18,19] Many young people in the U.K. report that they do not turn to others for help with sexual health problems.[20]

In sub-Saharan Africa, sexual and reproductive health services generally target older married women, although there are a few service centers that also serve single young men and women.[21] In a study that measured health service utilization in the general population of South Africa, it was found that young people between the ages of 18 and 24 had the poorest record of attendance at outpatient care.[22] According to another study conducted in Nigeria, young women and girls face multiple barriers to seeking health services, including the cost of services, lack of anonymity, poor marketing and publicity of services, socio-cultural beliefs, and obstacles related to infrastructure.[23]

In Uganda, unmet health care needs, including medical and sexual health counseling for young people, have become more critical than ever, especially since the percentage of young people living with HIV has increased following the introduction of antiretroviral treatment that allows them to live longer and healthier lives.[24] A study conducted among young people in the Adjumani district of Uganda found that the conservative behavior of health care workers with regard to young people's sexuality as a major barrier.[25] Young people seeking health care in Uganda also face physical, social, psychological,

and economic barriers in trying to access services.[25] The manifestations of some of these challenges are stigmatization, prejudice, lack of confidentiality, and unwarranted criticism.[26] Therefore, some young people seek the services of informal or traditional health care providers who are perceived to offer greater confidentiality and privacy.[25]

Previous studies among university students in Uganda have focused on the associations between risky sexual behavior, sexual coercion, social capital, and mental health.[5,27–30] Sexual coercion was found to be prevalent among Ugandan students and was linked to subsequent risky sexual behavior.[28] An association between poor mental health and risky sexual behavior was also observed.[6] In addition, social capital was associated with risky sexual behavior, but modified by gender and the role of religion.[29] The present study, therefore, aims to investigate unmet medical care and sexual health counseling needs among the study population chosen (Ugandan university students) in order to see how these needs are associated with mental health, social capital, religion, and sexual behavior.

Methods

Population and setting. The study was conducted at the Mbarara University of Science and Technology (MUST), a public university in Mbarara Town in southwestern Uganda. The target population consisted of the entire undergraduate class of the year 2010 (N = 2,706 students), encompassing the faculties of Medicine, Science, Development Studies, and Computer Science.

Data collection. Data were collected by means of a self-administered questionnaire containing 132 items. The research team informed all students about the objectives of the study and the content of the questionnaire. Furthermore, the team stressed that it was voluntary to fill in the questionnaire and that students were also free to skip some of the questions or discontinue their participation at any time. The forms were distributed to students and filled out in the lecture halls. The purpose of the survey was orally explained to the participants, anonymity was assured, and written consent was obtained before each participant began the questionnaire. Contact details for the principal investigator and a research assistant were also provided in case questions or personal concerns arose during the study. The research staff maintained silence and privacy in the lecture halls while the questionnaires were being filled out. The completed forms were deposited in a sealed box at the front of the room by students themselves. The survey assessed unmet medical care needs, unmet sexual health counseling needs, self-rated health, mental health, socio-demographic factors, lifestyle factors, sexual behavior, and social capital. The research project was approved by the Institutional Ethics Review Committee at MUST.

Description of variables. *Background variables*. *Sex* was classified as male or female. *Age* was dichotomized into two groups: below age 24 or age 24 and above. *Religious affiliation* was categorized into three groups: Catholic, Protestant, or other. *Area of origin* referred to where students spent most of their childhood and was categorized into rural, urban, or peri-urban/small town. This was further dichotomized into rural or "other," where "other" represented urban, peri-urban, or small town.

Educational level of head of household during childhood originally consisted of five categories: did not finish primary school, completed primary school, completed secondary school, post-secondary school, college or "other." This variable was further dichotomized into two educational levels: low (primary school) and high (secondary school or above).

Social capital variables. The indicators used to measure social capital in this study were trust in others, bridging trust, and social participation. *Trust in others* was measured on the basis of answers to four statements commonly used in epidemiological studies.[31] These were 1) most people would take advantage of you if they had an opportunity; 2) most people try to be fair; 3) you can trust most people; and 4) you cannot be careful enough when dealing with other people. The response alternatives were 1) I do not agree at all; 2) I do not agree; 3) I agree; and 4) I agree completely. They were accordingly assigned values from 1 to 4, yielding a total maximum score of 16. Based on the median score, the variable was dichotomized into high trust (above the median) or low trust (below the median).

Bridging trust was measured by five response alternatives: 1) I only trust people with the same background as my own; 2) I trust people with the same background as my own rather more than others; 3) I trust people with the same background as my own a bit more than others; 4) I trust people with the same background as myself equally as much as others; and 5) I trust people with the same background as myself less than others. The variable was then dichotomized with the first three alternatives being coded as 'low bridging trust' and the last two alternatives as 'high bridging trust.' The phrase "the same background as my own" mentioned in this context was explained in the questionnaire to mean people with common social characteristics such as sex, educational level or attainment, and country of origin.

Social participation was classified on the basis of participation in a range of 12 social activities in recent months, a measure introduced by Statistics Sweden in the 1970s and scientifically validated since then.[32] The total scores of all those who answered 'yes' (maximum total score 12) were dichotomized, based on the median, into high (above the median) and low (below the median).

Mental health. The Hopkins Symptom Checklist (HSCL-25) was used to assess mental health. It consists of 15 items assessing symptoms of depression and 10 assessing symptoms of anxiety during the previous week.[33] In addition, we included the 10-item psychoticism sub-scale from the Symptom Checklist-90 (SCL-90) in order to assess the extent to which symptoms may have been present during the previous week.[34] Participants rated each HSCL-25 item on a scale of one to four in order to indicate responses from 'not at all' to 'extremely'. Although the SCL-90 uses a self-reporting five-point scale, we used a reduced scale in order to assure homogeneity with the responses for anxiety and depression. Both the HSCL-25 and the SCL-90 have been previously employed and validated in a variety of cultural contexts in Africa.[35] Mean total mental health scores were calculated based on a student's total score for each of the measures, divided by the number of items which the student responded. We then dichotomized the scores into high and low (standing for poor and good mental health, respectively) by calculating the median-split between the total scores for each measure.

Sexual behavior variables. The sexual behavior variables used in this analysis were age at first sexual intercourse, number of lifetime sexual partners, number of sexual partners in last 12 months and condom use with a new partner.

Age at first sexual intercourse was dichotomized into 18 years and younger, or older than 18 years.

Number of lifetime sexual partners was dichotomized as low (one to two partners) or high (three or more partners). *Number of sexual partners in the last 12 months* was dichotomized as low (one partner) or high (two or more partners). *Condom use with a new partner* was determined by asking 'How often do you use a condom with a new sexual partner?' The response alternatives were always, often, sometimes, or never. These responses were dichotomized as consistent ('always') or inconsistent ('often', 'sometimes', or 'never').

Experience of sexual coercion. We assessed this variable by the following questions (an answer of 'yes' to any was counted as a positive value): You have been forced to show your sexual organ; Someone has forced you to let them touch your sexual organ; Someone forced you to let them suck or lick your sexual organ; Someone has forced you to let them show you their own sexual organ; You have been forced to watch someone masturbate; You have been forced to masturbate; You have been forced to take part in oral sex or to lick someone's sexual organ; You have been forced to take part in penetrative sexual intercourse; and You have been forced to pose for a sex photo or sex film. In the absence of any affirmative answer to the above questions and an affirmative answer to the question 'You have not been forced into any of these,' the individual was classified as 'unexposed to sexual coercion'. Forms of sexual coercion were limited to those mentioned above. However, the mentioned forms of sexual coercion were broadly defined so that most of those coerced could be captured in our study.

Self-rated health. In general this variable was ascertained by the response to the question: How would you classify your current health in general? The response alternatives were very good, good, fair, bad, or very bad. The first two alternatives were then dichotomized into 'good self-rated health,' and the last three into 'poor self-rated health'.

Feeling lonely. The question used to assess this variable asked to what extent feeling lonely had bothered or distressed the participant in the last week, including the present day. The response alternatives were not at all, a little, quite a bit, or extremely. These were dichotomized by categorizing 'not at all' as 'unexposed' and the rest as 'exposed.'

Dependent variables. *Unmet medical care needs*. The assessment of this variable was limited to the three months preceding the survey. It was identified by a response to the question: "Have you at any time during the last three months experienced a health problem and thought that you needed to visit a doctor, but abstained from seeking health care?" The response alternatives to this question were yes, several times, yes, or no. We dichotomized by coding 'yes, several times' and 'yes' as 'exposed to unmet medical care needs,' and 'no' as `not having had unmet medical care needs'.

Unmet sexual health counseling needs. The assessment of this variable was also limited to the three months preceding the survey. It was identified by responses to the question: 'Have you experienced any sexual health problem in the last three months that made you think you needed to see a counselor, but you refrained from doing so?' The response alternatives to this question were 'yes, several times,' 'yes,' or 'no.' We

dichotomized 'yes, several times' and 'yes' as having had unmet sexual health counseling needs, and 'no' as not having had unmet sexual health counseling needs.

Analysis. The data were manually entered into a computer and analyzed using SPSS statistical software, Version 18.0.[36] Sample characteristics were described using frequency tables with percentages. Cross-tabulations were performed to analyze the distribution of unmet medical and sexual health counseling needs within different sub-groups. Multivariate logistic regression analysis and Pearson's chi-square test with a significance level of 0.05 were further performed to investigate the association (p-value, OR with 95% CI) between unmet medical care needs and sexual health counseling needs, on the one hand, and socio-demographic characteristics, social capital variables, sexual behavior variables, experience of sexual coercion, mental health, and self-rated health, on the other. A bivariate logistic regression analysis yielding crude OR was performed and later adjusted for the different variables in a multivariate logistic regression model.

Results

Of the 2,706 undergraduates enrolled at MUST, a total of 1,954 students responded to the questionnaire. The male to female ratio of the respondents (56% to 44%) was close to the 60:40 gender distribution of the student population at the time of the study. Table 1 gives a detailed description of the participants, their socio-demographic characteristics, sexual behavior, self-rated health, and unmet medical and sexual health counseling needs. Among those who participated, 1,346 (72%) were younger than 24 (708 males and 638 females). In all, 60% of the respondents reported having previously had sex. Among those who had already sexually debuted, 37% reported having had two or more sexual partners within the preceding 12 months. About one-third of the students (29%) reported having experienced sexual coercion. The majority of the students (81%) reported having good self-rated health, but 51% said they had unmet medical needs, and 26% reported unmet sexual health counseling needs. The latter was more prevalent among females (30%) than males (20%).

Table 2 shows a cross-tabulation of unmet medical care and sexual health counseling needs. It includes socio-demographic characteristics, sexual behavior, and self-rated health. Students with high mental health scores (i.e., poor mental health, p-value < .001) who practiced inconsistent condom use (p-value $_{(UMCN)}$.059, p-value $_{(USCN)}$.006), who had experienced sexual coercion (p-value < .001), and who had poor self-rated health (p-value < .001) had a higher prevalence of both unmet medical care and sexual health counseling needs. Unmet medical care needs were slightly more prevalent (p-value .003) among students younger than 24 (53.6%) than among others. Students who had had more than one sexual partner within the 12 months preceding this study had a higher prevalence of unmet sexual health counseling needs (p-value < .001).

Table 3 shows the adjusted associations between unmet medical care and sexual health counseling needs, on the one hand, and socio-demographic characteristics, sexual behavior, and self-rated health, on the other. Overall unmet medical care needs were significantly associated with poor mental health (OR_{crude} 3.4, CI = 2.8–4.1; $OR_{adjusted}$ 4.2, CI = 2.7–6.8), previous experience of sexual coercion (OR_{crude} 1.8, CI = 1.4–2.3; $OR_{adjusted}$ 2.1, CI = 1.3–3.3), poor self-rated health (OR_{crude} 2.8, CI = 2.2–3.7; $OR_{adjusted}$

Table 1.

PREVALENCE OF SOCIO-DEMOGRAPHIC CHARACTERISTICS, SOCIAL CAPITAL, SEXUAL BEHAVIOR, SELF-RATED HEALTH AND MEDICAL CARE AND SEXUAL HEALTH COUNSELING NEED AMONG UNIVERSITY STUDENTS IN UGANDA

	All		Male		Female	
	n	%	n	%	n	%
Sex						
Male	1087	55.6	—	—	—	
Female	867	44.4	—	—	—	
Age (years)						
Younger < 24	1346	71.7	708	67.4	638	77.2
Older ≥ 24	531	28.3	343	32.6	188	22.8
Missing	(77)		(36)		(41)	
Area of origin						
Rural	869	44.9	526	48.8	343	39.9
Other	1067	55.1	551	51.2	516	60.1
Missing	(18)		(10)		(8)	
Trust in others						
High	1074	61.1	588	60.3	486	62.0
Low	685	38.9	534	58.8	298	38.0
Missing	(195)		(112)		(83)	
Social participation						
High	778	39.8	454	41.8	324	37.4
Low	1176	60.2	633	58.2	543	62.6
Bridging trust						
High	787	44.5	438	44.2	349	44.9
Low	982	55.5	553	55.8	429	55.1
Missing	(185)		(96)		(89)	
Mental health						
High	904	49.6	459	45.5	445	54.5
Low	920	50.4	549	54.5	371	45.5
Missing	(130)		(79)		(51)	
Number of sexual partners in last 12 months[a]						
1 = low	591	63.2	292	53.9	299	76.1
≥ 2 = high	344	36.8	250	46.1	94	23.9
Missing	(244)		(151)		(474)	(93)
Condom use with a new partner[a]						
Consistent	603	57.8	387	62.6	216	50.8
Inconsistent	440	42.2	231	37.4	209	49.2
Missing	(911)		(469)		(442)	

(Continued on p. 1041)

Table 1. (*continued*)

	All		Male		Female	
	n	%	n	%	n	%
Experience of sexual coercion						
Yes	467	29.0	208	23.7	259	35.4
No	1143	71.0	671	76.3	472	64.6
Missing	(344)		(208)		(136)	
Self rated health in general						
Good	1402	80.8	794	83.0	608	78.1
Less good	333	19.2	163	17.0	170	21.9
Missing	(219)		(130)		(89)	
Unmet medical care need						
Yes	886	50.8	460	47.9	426	54.3
No	859	49.2	501	52.1	358	45.7
Missing	(209)		(126)		(83)	
Unmet sexual health counseling need						
Yes	441	25.6	215	19.8	226	29.9
No	1272	74.3	741	77.5	531	70.1
Missing	(241)		(131)		(110)	

[a]only analysed among those who have had sexual intercourse.

2.5, CI =1.4–4.5), and feelings of loneliness (OR_{crude} 2.4, CI = 2.0–3.0; $OR_{adjusted}$ 1.6, CI = 1.00–2.5). Unmet sexual health counseling needs were also significantly associated with poor mental health (OR_{crude} 3.8, CI = 3.4–4.8; $OR_{adjusted}$ 2.4, CI: 1.5–3.9), previous experience of sexual coercion (OR_{crude} 2.9, CI = 2.2–3.6; $OR_{adjusted}$ 1.8, CI = 1.1–2.7), poor self-rated health (OR_{crude} 2.4, CI = 1.8–3.1; $OR_{adjusted}$ 1.7, CI =1.001–2.8), and feelings of loneliness (OR_{crude} 2.5, CI = 1.9–3.3; $OR_{adjusted}$ 1.7, CI = 1.01–2.7), but the associations were generally not as strong. In addition, higher number of partners significantly increased the likelihood of having unmet sexual health counseling needs (OR_{crude} 1.7, CI = 1.3–2.3; $OR_{adjusted}$ 2.0, CI = 1.1–3.6). The results of the bivariate analysis (crude ORs) have only been reported in the text.

Stratifying the analysis for males and females showed that poor mental health (OR_{crude} 3.4, CI = 2.5–4.5; $OR_{adjusted}$ 5.1, CI = 2.5–10.4) and previous experience of sexual coercion (OR_{crude} 1.8, CI = 1.3–2.5; $OR_{adjusted}$ 2.6, CI = 1.3–5.3) significantly increased the likelihood of reporting unmet medical care needs for females, while these factors did not influence males to the same extent (OR_{crude} 3.3, CI = 2.5–4.3; $OR_{adjusted}$ 3.4, CI = 1.8–2.6) and OR_{crude} 1.7, CI = 1.2–2.3; $OR_{adjusted}$ 2.0, CI = 1.03–3, respectively). Self-rated poor health, on the other hand, increased the likelihood of unmet medical care needs more for males ($OR_{adjusted}$ 3.3, CI = 1.3–8.6) than for females ($OR_{adjusted}$ 2.2, CI = 0.98–4.9) (Table 3).

Table 2.

CROSS-TABULATION OF SOCIO-DEMOGRAPHIC CHARACTERISTICS, SEXUAL BEHAVIOR, SOCIAL CAPITAL AND SELF-RATED HEALTH WITH UNMET MEDICAL CARE AND SEXUAL HEALTH COUNSELING NEED AMONG STUDENTS IN UGANDA

	Unmet Medical Care Need				Unmet Sexual Health Counseling Need			
	(All) n (%)	(Female) n (%)	(Male) n (%)	p-value	(All) n (%)	(Female) n (%)	(Male) n (%)	p-value
Sex								
Male	460 (47.9)			.007	215 (22.5)			.001
Female	426 (54.3)		—		226 (29.9)			
Age (years)								
Younger < 24	643 (53.6)	325 (56.1)	318 (51.3)	.003	302 (25.6)	164 (29.2)	138 (22.3)	ns
Older ≥ 24	218 (45.6)	88 (52.4)	130 (41.9)		130 (27.7)	57 (34.8)	73 (23.9)	
Area of origin								
Rural	373 (48.1)	162 (51.9)	211 (45.6)	.03	199 (26.0)	85 (28.5)	114 (24.4)	ns
Other	509 (53.2)	262 (56.0)	247 (50.5)		239 (25.6)	140 (30.8)	99 (20.6)	
Trust in others								
High	497 (50.7)	244 (54.1)	253 (47.8)	ns	238 (24.6)	128 (29.4)	110 (20.7)	.036
Low	320 (52.6)	152 (57.4)	168 (49.0)		174 (29.4)	82 (32.4)	92 (27.2)	
Trust in Institutions								
High	326 (48.9)	175 (52.7)	151 (45.2)	ns	160 (24.7)	92 (29.2)	68 (20.5)	ns
Low	415 (51.7)	179 (55.6)	236 (49.2)		211 (26.6)	95 (30.4)	116 (24.1)	

(Continued on p. 1043)

Table 2. (*continued*)

	Unmet Medical Care Need				Unmet Sexual Health Counseling Need			
	(All) n (%)	(Female) n (%)	(Male) n (%)	p-value	(All) n (%)	(Female) n (%)	(Male) n (%)	p-value
Social participation								
High	370 (52.4)	171 (56.4)	199 (49.4)	ns	165 (23.7)	85 (28.9)	80 (20.0)	ns
Low	516 (49.7)	255 (53.0)	261 (46.8)		276 (27.1)	141 (30.5)	135 (24.3)	
Bridging trust								
High	352 (48.6)	162 (49.8)	190 (47.6)	.082	172 (24.2)	88 (28.5)	84 (20.9)	.088
Low	472 (53.0)	229 (58.1)	243 (48.9)		244 (28.0)	125 (32.6)	119 (24.4)	
Mental health								
High scores	553 (66.1)	283 (67.9)	270 (64.3)	<.001	316 (38.0)	168 (41.5)	148 (34.7)	<.001
Low scores	324 (36.6)	139 (38.5)	185 (35.2)		120 (14.0)	57 (16.6)	63 (12.3)	
Number of sexual partners in last 12 months[a]								
1 = low	269 (50.0)	150 (54.5)	119 (45.2)	.053	142 (26.8)	92 (33.7)	50 (19.5)	<.001
≥ 2 = high	172 (57.0)	51 (61.4)	121 (55.3)		116 (38.8)	42 (50.6)	74 (34.3)	
Missing								
Condom use with a new partner[a]								
Consistent	270 (49.8)	109 (54.8)	161 (46.9)	.059	144 (26.9)	65 (33.0)	79 (23.4)	.006
Inconsistent	222 (56.1)	104 (55.3)	118 (56.7)		137 (35.4)	73 (40.8)	64 (30.8)	
Experience of sexual coercion								
Yes	269 (61.7)	159 (64.6)	110 (57.9)	<.001	182 (42.7)	107 (45.3)	75 (39.5)	<.001
No	504 (47.2)	218 (49.9)	286 (45.4)		219 (20.7)	102 (23.9)	117 (18.6)	
Self rated health								
Good	603 (46.5)	277 (48.9)	326 (44.7)	<.001	288 (22.5)	145 (26.4)	143 (19.6)	<.001
Less good	222 (71.2)	123 (76.9)	99 (65.1)		123 (41.0)	70 (46.4)	53 (35.6)	

[a]only analysed among those who have had sexual intercourse.

Table 3.

ASSOCIATION (ADJUSTED ODDS RATIOS, 95% CONFIDENCE INTERVAL) BETWEEN SOCIO-DEMOGRAPHIC CHARACTERISTICS, SEXUAL BEHAVIOR, SOCIAL CAPITAL, SELF-RATED HEALTH AND UNMET MEDICAL CARE AND SEXUAL HEALTH COUNSELING NEED AMONG STUDENTS IN UGANDA

	Unmet Medical Care Need			Unmet Sexual Health Counseling Need		
	All OR (95%CI)	**Female OR (95%CI)**	**Male OR (95%CI)**	**All OR (95%CI)**	**Female OR (95%CI)**	**Male OR (95%CI)**
Sex						
Male	Ref			Ref		
Female	0.8 (0.5–1.2)			1.8 (1.1–2.8)		
Age (years)						
Older ≥ 24	Ref	Ref	Ref	Ref	Ref	Ref
Younger < 24	1.3 (0.9–2.1)	1.4 (0.7–3.0)	1.3 (0.7–2.4)	1.0 (0.6–1.6)	0.7 (0.3–1.4)	1.5 (0.8–3.3)
Area of origin						
Rural	Ref	Ref	Ref	Ref	Ref	Ref
Other	1.1 (0.7–1.7)	1.1 (0.5–2.2)	1.2 (0.7–2.2)	1.2 (0.8–1.8)	2.4 (1.2–4.7)	0.4 (0.2–0.9)
Trust in others						
High	Ref	Ref	Ref	Ref	Ref	Ref
Low	0.7 (0.4–1.0)	0.7 (0.4–1.4)	0.5 (0.3–0.99)	1.3 (0.8–1.9)	1.2 (0.6–2.2)	1.2 (0.7–2.3)
Social participation						
High	Ref	Ref	Ref	Ref	Ref	Ref
Low	1.0 (0.7–1.6)	1.1 (0.6–2.1)	1.1 (0.6–2.0)	1.3 (0.9–2.0)	1.0 (0.6–1.8)	2.0 (1.04–3.8)
Bridging trust						
High	Ref	Ref	Ref	Ref	Ref	Ref
Low	1.1 (0.7–1.6)	1.4 (0.7–2.7)	0.8 (0.5–1.5)	1.1 (0.7–1.7)	1.2 (0.6–2.3)	1.1 (0.5–2.0)

(Continued on p. 1045)

Table 3. (*continued*)

	Unmet Medical Care Need			Unmet Sexual Health Counseling Need		
	All OR (95%CI)	**Female OR (95%CI)**	**Male OR (95%CI)**	**All OR (95%CI)**	**Female OR (95%CI)**	**Male OR (95%CI)**
Mental health						
Low	Ref	Ref	Ref	Ref	Ref	Ref
High	4.2 (2.7–6.8)	5.1 (2.5–10.4)	3.4 (1.8–6.6)	2.4 (1.5–3.9)	3.1(1.5–6.4)	2.1(1.03–4.1)
Number of sexual partners in last 12 months						
1 = low	Ref	Ref	Ref	Ref	Ref	Ref
≥ 2 = high	1.0 (0.6–1.8)	0.6 (0.2–1.4)	1.8 (0.8–4.0)	2.0 (1.1–3.6)	1.2 (0.5–2.8)	3.8 (1.5–9.5)
Condom use with a new partner[a]						
Consistent	Ref	Ref	Ref	Ref	Ref	Ref
Inconsistent	1.5 (0.95–2.3)	1.4 (0.7–2.8)	1.4 (0.8–2.6)	1.5 (0.97–2.3)	2.0 (1.1–3.8)	1.0 (0.5–1.9)
Experience of sexual coercion						
No	Ref	Ref	Ref	Ref	Ref	Ref
Yes	2.1 (1.3–3.3	2.6 (1.3–5.3)	2.0 (1.03–3.7)	1.8 (1.1–2.7)	2.3 (1.2–4.4)	1.7 (0.8–3.3)
Self rated health						
Good	Ref	Ref	Ref	Ref	Ref	Ref
Less good	2.5 (1.4–4.5)	2.2 (0.98–4.9)	3.3 (1.3–8.6)	1.7 (1.001–2.8)	1.4 (0.7–2.9)	2.3 (1.1–5.3)
Feeling lonely						
No	Ref	Ref	Ref	Ref	Ref	Ref
Yes	1.6 (1.00–2.5)	1.7 (0.8–3.5)	1.8 (0.9–3.5)	1.7 (1.01–2.7)	0.8 (0.4–1.7)	4.3 (1.9–9.6)

[a]Each variable adjusted for the rest in one model
OR=Odds Ratio
CI=Confidence Interval

Females had a greater overall likelihood of reporting unmet sexual health counseling needs than males ($OR_{adjusted}$ 1.8, CI = 1.1–2.8). In the stratified analysis, inconsistent condom use ($OR_{adjusted}$ 2.0, CI = 1.1–3.8), experience of sexual coercion ($OR_{adjusted}$ 2.3, CI = 1.2–4.4), urban and peri-urban background ($OR_{adjusted}$ 2.4, CI = 1.2–4.7), and high (poor) mental health scores ($OR_{adjusted}$ 3.1, CI = 1.5–6.4) were significant risk factors for females with poor mental health and had the strongest influence on their counseling needs. For male students, low social participation ($OR_{adjusted}$ 2.0, CI = 1.04–3.82), feelings of loneliness ($OR_{adjusted}$ 4.3, CI = 1.9–9.6), high (poor) mental health scores ($OR_{adjusted}$ 2.1, CI = 1.03–4.1), poor self-rated health ($OR_{adjusted}$ 2.3, CI = 1.1–5.3), and having had two or more sexual partners in the last 12 months ($OR_{adjusted}$ 3.8, CI =1.5–9.5) emerged as significant risk factors for unmet sexual health counseling needs, with number of sexual partners having the greatest impact (Table 3).

Discussion

Our findings suggest that unmet medical care needs were prevalent among students younger than 24 years. Poor mental health and experience of sexual coercion were significantly associated with unmet medical care and unmet sexual health counseling needs, especially among female students. Poor self-rated health was also associated with unmet medical care needs, a correlation that was stronger among males than females. In addition, female students from urban or peri-urban areas were at greater risk of having unmet sexual health counseling needs than urban female students, while the opposite was true for male students. Among males, low social participation, poor self-rated health, and feelings of loneliness significantly increased the risk of unmet sexual health counseling needs. For both males and females risky sexual behaviors, such as inconsistent condom use and having multiple partners in the last 12 months, significantly increased the risk of having unmet sexual health counseling needs compared to their peers.

The association between risky sexual behaviors among men and unmet sexual and reproductive health service needs that we found corresponds with results from a study conducted in the U.S.[37] Similar to our findings, it was reported that feeling of loneliness were significantly associated with unmet sexual health counseling needs among male students.[37] Those associations may be explained by the fear of being stigmatized or punished for sexual activity when seeking care.[38] In Uganda, the socio-cultural context whereby sexuality has been seen as the prerogative of older, married individuals makes it extremely difficult for young people to access sexual health counseling in times of need.[25] Additionally, the stigma surrounding people with risky sexual behaviors and STIs, including HIV and AIDS, further restricts access to sexual health services by those stigmatized.[39,40] Families, communities, and the health system may act as agents of stigmatization through such behaviors as abusing, insulting, desertion of others.[39,26] As a result, young people, considered "the stigmatized"[41] engage in withdrawal as a coping strategy in the face of the perceived or experienced stigma.[39] This could also explain the strong association we found between young men who reported feelings of loneliness and not seeking sexual health care when needed.

Among female students, the experience of sexual coercion was significantly associated

with unmet needs for medical care and sexual health counseling. The psychological effects of stigma and trauma may reduce a victim's motivation to seek sexual health counseling. A previous study among students in Uganda reported that 31% of them had experienced sexual coercion.[28] Studies conducted in South Africa on gender-based violence have shown that initial sexual encounters at a young age are often forced,[42,43] and that many girls who were victims of childhood sexual abuse were more likely to have participated in earlier consensual sex than those of their peers who had not been abused.[44,45]

The influence of poor mental health on the risk of unmet needs for medical care and sexual health counseling, especially for females, implies that individuals with good mental health are likely to be able to care for their physical health as well. Poor mental health is highly stigmatized and individuals who are perceived as having a low mental health status seem to be less willing to seek health care. A recent study from Canada also found self-rated health to be the strongest predictor of unmet health care needs.[46] Youth with poor mental health or poor self-rated physical health may possibly have a greater burden of unmet medical care and sexual health counseling needs, and may therefore require assistance in turning to seek care for medical and sexual health problems. Mental health services targeting youth in Uganda are very limited, especially outside the capital of Kampala. However, child and adolescent mental health is a focus of the new mental health policy in Uganda.[47]

The association observed between low social participation and unmet needs for sexual health counseling among male students may perhaps be explained by the support gained through participating in social activities. Young males can easily share information about sexual health with their peers during such social gatherings. They are, therefore, able to receive support with sexual health problems from their peers. If their peers are not available to offer help, there is the likelihood of their being redirected to a place where they can obtain sexual health counseling. That social participation had no association with unmet sexual health counseling needs among females suggests that females may not require social platforms in order to discuss their sexual health problems.

Study limitations. A major strength of this study is that it assesses unmet needs for medical and sexual health care from a user perspective that is lacking in several studies on unmet health care needs. The limitation of this approach is that respondents may tend to present themselves in a more favorable light in order to appear in what they perceive to be a socially desirable light. This may cause them to overstate or understate their behavioral tendencies, especially with regard to risky sexual behaviors. If such a bias occurred, it is more likely to have resulted from underreporting, rather than over-reporting the frequency of risky sexual behavior.

The survey had a high response and completion rate for the survey. However, concentrating on one university in Uganda may have limited the generalizability of these findings. Meanwhile, the geographical distribution of student home districts covers most of Uganda, making it likely that similar findings would occur at other universities in Uganda. Since this was a cross-sectional study, we cannot come to a definitive conclusion on causality; we are unable to determine whether unmet medical care and sexual health counseling needs were influenced by the key variables at the time of the study.

A possible limitation is that an evaluation of the psychometric properties of the

measures of social capital, social participation, and the HSCL-25 were lacking in this particular Ugandan context. However, the HSCL-25 has shown good reliability and validity across a variety of populations,[48] and is regarded as a useful screening instrument.[33]

Conclusion. Many young people report unmet medical and sexual health counseling needs. The findings of this study show age as an important determinant of such unmet needs. Poor mental health and experience of sexual coercion were also significantly associated with unmet medical and sexual health counseling needs. This suggests that young people should be empowered at an earlier age, since some will have already developed habits and lifestyles that predispose them to health challenges long before they attend the university. The challenge of addressing these health care needs in Uganda will depend on the development of an enabling environment that provides well- planned health service delivery systems, as well as establishing mental health and sexual and reproductive health services that are relevant and welcoming to young people.

Notes

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