Predictors of Willingness to be Circumcised among Male Students of the Colleges of Gambella: Using Health Belief Model, Gambella Town, South West Ethiopia.

By

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Research Thesis Submitted to Department of Health Education and Behavioral Sciences, College of Public Health and Medical Sciences, Jimma University in Partial Fulfillment for the Requirements of Degree of Masters of Public Health in Health Education and Health Promotion

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Abstract

Background: Male circumcision has been shown to reduce the risk of female to male transmission of HIV. As there was low level of circumcision in Gambella and high prevalence of HIV, this study intends to identify predictors of willingness to be circumcised among male students of colleges of Gambella town.

Methods: A quantitative cross-sectional study was conducted among 314 respondents. Only indigenous male respondents from four colleges were selected. Using simple random sampling method samples were selected by spss generated random numbers. Data was collected on March 27, 2006 E.C using self administered questionnaire. The study instrument was adapted mainly considering health belief model (HBM). Data were analyzed using SPSS version 16.0. For prediction analysis, the study used logistic regression and odds ratio (OR) with 95% confidence interval (CI).

Results: The study findings showed adjusted more likely effect on willingness to be circumcised for family monthly income of 500-1000 Ethiopia birr AOR (95% CI) =2.804(1.032, 7.615) and for more than one thousand AOR (95% CI)=4.974(1.453,17.022), knowledge AOR (95% CI)= 1.63(1.301, 2.043), perceived susceptibility AOR (95% CI) = 1.304(1.151, 1.477), perceived benefit AOR (95% CI)=1.151(1.07, 1.239), perceived barriers AOR (95% CI)=1.096(1.022, 1.175), exposure to cues AOR (95% CI) = 1.574(1.03, 2.405).

Conclusion: The study revealed that 63.7% respondents were willing to be circumcised, 29.3% were not willing to be circumcised. Respondents perceived susceptibility, perceived benefit, knowledge, exposure to cues and family monthly income would enhance willingness to be circumcised. However, perceived barriers would negatively affect willingness to be circumcised.

Recommendation: As the study showed 63.7% respondents were willing to be circumcised, Gambella Regional Health Bureau should develop male circumcision campaigns and for 29.3% which were not willing to be circumcised, Regional Health Bureau and HAPCO should develop IEC materials in local languages.

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Acronyms

AOR	Adjusted Odds Ratio
AIDS	Acquired Immune Deficiency Syndrome
AMC	Adult Male Circumcision
ANOVA	Analysis of Variance
CI	Confidence Interval
HBM	Health Belief Model
HIV	Human Immune Virus
IEC	Information Education and Communication
Jhpiego	Johns Hopkins Program for International Education in Gynecology and Obstetrics
MC	Male Circumcision
MMC	Medical Male Circumcision
PEPFAR	President's Emergency Plan For AIDS Relief
SPSS	Statistical Package for Social Science
SNNP	Southern Nation Nationalities and People
STI	Sexually Transmitted Infection
TVET	Technical and Vocational *Education* Training
UNAIDS	United Nations Program on HIV/AIDS
VMMC	Voluntary Medical Male Circumcision
WHO	World Health Organization

1. Introduction

1.1Background

Male circumcision is one of the oldest and common surgical procedures. It has been performed for cultural, religious, social and medical reasons. Male circumcision is a surgical procedure during which all or part of the foreskin, the fold of skin covering the head of the penis is removed by making a surgical cut around the head of the penis (1).

Approximately 30% of the world's males aged 15 years or older are circumcised, of these, around two thirds are Muslim living mainly in Asia, the Middle East and North Africa, 0.8% are Jewish, and 13% are non-Muslim and non Jewish men living in the United States of America. In Southern Africa, the prevalence of adult male circumcision is rather low and is estimated to be around 15% in countries like Swaziland, Zambia and Zimbabwe (1). In Ethiopia, 92 % men age 15-49 are circumcised. The percentage of men who are circumcised increases with age, ranging from 88 percent of men age 15-19 to 95 percent of men age 40-49. Circumcision is close to universal in most regions, except in Gambella and SNNP regions 76 and 79 percent respectively(2).

Randomized clinical trials, conducted in sub-Saharan Africa Uganda (3), Kenya (4) and South Africa (5) showed that male circumcision protects against HIV as well as reduces the incidence of other sexually transmitted infections, including genital ulcers, human Papilloma virus, and Chlamydia in female partners of men. These studies showed that circumcision reduced the risk of heterosexual HIV transmission from an infected woman to a circumcised man by more than 60%.

1.2 Statement of the problem

In 2007, WHO/UNAIDS recommended the adoption of male circumcision as part of the comprehensive strategy to reduce heterosexually-acquired HIV infection in countries with high HIV prevalence and low levels of male circumcision (6). Impact and costing estimates suggest that, by scaling up medical male circumcision to reach 80% of males 15 - 49 years in fourteen African countries by 2015 and maintaining such coverage until 2025, about 4 million HIV infections could potentially be averted by 2025 with total cost savings of about US$ 20 billion(7).

Researchers have noted significant variation in HIV prevalence in certain African and Asian countries that seemed to be associated with levels of male circumcision in the community. In areas where circumcision is common, HIV prevalence tends to be lower, and conversely areas of higher HIV prevalence overlapped with region where male circumcision is not commonly practiced (8).

Ethiopia has one of the highest circumcised male populations in Africa, 92%, according to a 2011 survey by the Ethiopia Demographic and Health Survey. But the indigenous ethnic groups in Gambella have until recently regarded the procedure with suspicion and as an instrument of imperious foreigners, disliked because of their historic attempts to change the Nuer culture, they also feared that it could cause impotency, the people in doubt and believe that others want to change our culture (9) .In Gambella region in the Western part of the country circumcision prevalence was 76% compared to national prevalence of 92% (2) but prevalence for three ethnic groups Agnuac, Mejenger and Nuer in this region were 12.3%,1.7%, 6.8% respectively, but in other ethnic groups 97.7%, reflecting very low status of circumcision in these traditionally non circumcising ethnic groups (10).

Though there is sufficient strong epidemiological data suggesting that male cir circumcision can play a significant role in reducing HIV from females to males, the prevalence of male circumcision is very low in these ethnic groups.

Due to this the Voluntary Medical Male Circumcision (VMMC) program supported by Jhpiego and funded with PEPFAR grants through the Center for Disease Control and Prevention (CDC) Ethiopia started male Circumcision services in three facilities in late 2009

and have grown to 26 sites including the Gambella Referral Hospital, and selected health centers (11). Despite increasing circumcision sites, prevalence of circumcision was very low in these ethnic groups.

No study has been done in Gambella region of these ethnic groups, to assess their knowledge of male circumcision, socio-cultural factors associated with it, their perception towards it and predictors of their willingness to be circumcised in these traditionally non circumcising society that is the reason why this study was conducted.

1.3 Significance of the study

Considering the high prevalence of HIV in Gambella region, identifying factors deterring the willingness of adult male circumcision is of paramount importance in the fight against HIV infection among males and their spouses.

This study assesses their willingness to be circumcised and underlying predictors, so it results the level of their willingness, perception towards male circumcision and their knowledge about it and these results will help to target appropriate interventions on reducing prevalence of HIV and most important in program improvement and contribute to new program designs also provide a basis for further research that will be done in the study area concerning circumcision.

1.4. Literature review

1.4.1 Culture and religion

Because circumcision carries great cultural import in most societies, WHO/UNAIDS recommended that the socio-cultural context of traditional male circumcision should inform how medical male circumcision programming is promoted. The meanings and associations people attach to circumcision should be considered when designing circumcision programs, as these will act as the filter through which MMC promotion will be received. For instance, how will communities respond to MMC promotion when circumcision, or the lack of it, is a mark of citizenship, religious or cultural affiliation or a sign of otherness that signals exclusion, marginalization or oppression (12, 13, 14).

1.4.2 Biological Plausibility of Male Circumcision towards HIV prevention

Compared with the dry external skin surface of the glans penis and penile shaft, the inner mucosa of the foreskin has less keratinization, deposition of fibrous protein and a higher density of target cells for HIV infection. Some laboratory studies have shown the foreskin is more susceptible to HIV infection than other penile tissue, although others have failed to show any difference in the ability of HIV to penetrate inner compared with outer foreskin surface (15,16).

1.4.3 Knowledge towards male circumcision

In general, circumcision was well known among men who participated in the study, 72% of the respondent's correctly defined circumcision as 'removal of the entire foreskin'. While all Muslims participating in the study (n = 31) defined MC correctly, 52% of them defined it as partial removal of the foreskin. Among non Muslims, 31% (n = 535) of Catholics were not able to define MC. Thirty seven percent of adolescents (≤ 19 years) could not define correctly MC (17).

Concerning on knowledge of protective effect of male circumcision for HIV, Only 1.6% of the participants of Ugandan men's had never heard about male circumcision, 82% having general knowledge about it. In contrast, only one third 38.2% mentioned male circumcision as a protective measure against HIV. One third, 33.9% associated male circumcision with

religious or cultural practice, reflecting 62.8% didn't know male circumcision as a protective measure for HIV (18, 19).

Another study in Zimbabwe showed that most (87.6%) knew that VMMC can protect against sexually transmitted infections, 86.1% knew that VMMC improves penile hygiene and 67.6% knew about its protective effect on cervical cancer in the female partner. The majority (89.1%) understood that VMMC is only partially protective for HIV acquisition and that circumcised men still need to use other HIV prevention methods post circumcision (20). Regarding condom use of circumcised men's ten percent of men (n=34) indicated that circumcised men no longer needed to use a condom for HIV prevention. Perception that MMC was culturally acceptable was associated with 2.08 greater odds of increased readiness to undergo MMC (95 % CI=[1.32, 3.28](21).Most respondents agreed that circumcised men could become HIV infected (92.6%; 95% CI: 91.0% to 94.0%)and needed to use condoms (90.0%; 95% CI: 88.2% to91.6%), although 19.3% (95% CI: 17.1% to 21.6%) asserted that AMC protected fully against HIV (22).

1.4.4 Motivating Factors for Voluntary male circumcision Uptake

Among men in the survey who reported that they were willing to be circumcised, 93.8% reported they were motivated to undergo VMMC to prevent HIV/STIs, 56% for hygiene purposes, 13.4% to enhance sexual performance, 13.1% to prevent cervical cancer in their partner, to set a good example for their community (11.1%) or children (7.5%), as well as to please their female partner (8%). Significantly more men from the older age group cited ''improved hygiene'' as a motivating factor (62.3% vs. 49.2%, p = 0.01). Older men were also more likely to be motivated by ''improved sexual performance'' than younger men (18.1% vs. 8.1%, p = 0.004) and setting a good example for the community (14.2% vs. 7.6%, p = 0.037) (20).

1.4.5 Barriers to Voluntary medical male circumcision Uptake

Among men who reported that they were not willing to be circumcised. The most frequently cited barrier to circumcision was fear of pain during the procedure (56.3% among men aged .25 and 47% among men aged, 25 years). Other barriers to VMMC included low risk perception (''I am not at risk of HIV infection,'' ''I am not promiscuous'') among both age

groups; 14.6%(<25 years) and 13% (>25 years) respectively did not think they were at risk of HIV acquisition and 10.7% and 20.5% respectively did not think of themselves as being promiscuous. Lack of partner support for VMMC was cited by 14% of the interviewees from the older age group and only by 2.9% of the younger age group (p = 0.003). Perceived high costs were cited as a potential barrier by only 3.9% and 3.3% of the younger and older age group respectively (20).

1.4.6 Willingness to be circumcised

A review of 13 acceptability studies conducted in nine Sub-Saharan African countries that do not traditionally circumcise, including Zimbabwe and amongst ethnic groups in South Africa that do not traditionally practice circumcision, found that the median proportion of uncircumcised men willing to be circumcised was 65%, among the 861 self-reported and clinically uncircumcised men, 81.2% stated that they would want to undergo male circumcision if it was free and performed by a doctor. Among these men, the most frequently stated reasons for not being circumcised were pain 21.5%, male circumcision not being part of one's culture 12.6%, and the risks 10.0% and costs 6.2% associated with the procedure(18, 19).

1.4.7 Predictors of Uptake of Voluntary medical male circumcision

Social support, perceived pain and self-efficacy as predictors of uptake of male circumcision. Males reporting high perceived availability of VMMC services were more likely to be circumcised (OR = 2.32; p = 0.001). In addition, males reporting social support for VMMC from friends were also more likely to have been circumcised (OR = 3.01; p = 0.001). Males reporting perceived pain were least likely to be circumcised (OR = 0.71; p = 0.006). The strongest predictor of VMMC uptake was self-efficacy. Men with high levels of self-efficacy (one's belief that one can make the decision to go for VMMC) were eight times more likely of having been circumcised than men with low levels of self-efficacy (OR = 8.20; p = 0.042). Religion was a significant covariate. Male Christians were more likely to be circumcised compared to non-Christians (OR = 2.04; p = 0.014) (20).

1.4.8 Factors associated with the willingness to circumcise amongst uncircumcised males

As a study on Rwandan men shows, in the univariate analysis it was found that younger men (30-39, 20-29, 19 years or less) were more likely to get circumcised compared to the older ones (AOR = 2.89, 4.36, 4.76), as well as education, marital status, MC knowledge, and preventive role of MC also are significantly associated with the willingness to circumcise. Controlling for other factors, except education, all variables mentioned above found to be significantly associated with willingness to circumcise (17).

1.4.9 Conceptual frame work

The Health Belief Model constructs

The HBM represents one of the most widely used conceptual frameworks in health behavior (23). As such, this model served as the framework for this study and augmented with additional variables, including cues to action and self-efficacy. Developed by a group of social psychologists in the 1950s, HBM was originally used to explain the wide-spread failure of people to participate in programs to prevent disease. Two health representations, threat perception and behavioral evaluation, emerged as the central aspects of the model (24).Threat perception depends upon beliefs regarding the perceived susceptibility to illness and the anticipated severity of the illness.

Behavioral evaluation encompasses two beliefs as well, those regarding the benefits of a recommended health behavior and those regarding the barriers or costs to enacting the behavior. Therefore, individuals are expected to take action to prevent illness if they perceive themselves as susceptible to the condition, believe that the condition has potentially serious consequences, believe that an available course of action would be beneficial and anticipate that the barriers to taking action would be outweighed by the benefits (23).

Perceived susceptibility, perceived severity, benefits and barriers comprise the four main components of the HBM. While the definition of these constructs has varied across research (25) offers general descriptions of the model components. Specifically, perceived susceptibility refers to an individual's subjective assessment of his or her risk for contracting an illness.

Perceived severity, on the other hand, refers to an individual's feelings about the seriousness of contracting an illness.

Benefits refer to an individual's beliefs regarding the effectiveness of a particular health action in reducing the disease threat. Finally, barriers refer to the potential negative aspects of a particular health action.

Aside from the four main components of the model, other constructs have been used to augment the model in order to further explain a person's health behavior. Cues to action were included in various early formulations of the HBM, but have not been systematically studied or included in the majority of health belief research(25).These cues can represent internal triggers, such as perceptions of symptoms, as well as external triggers like social influence and health education campaigns.

When combined with the appropriate beliefs, cues to action can promote health behavior. If the perceived threat of disease is high and the perceived benefits outweigh perceived barriers, and then a cue to action can prompt behavior to avoid the illness. However, cues to action can also discourage health behavior if an individual is reminded of potential costs or barriers associated with the action (25).

In the 1970s, Bandura introduced the concept of self-efficacy, or the belief in one's ability to successfully perform the behavior required to produce certain outcomes, research suggests that self-efficacy accounts for a significant amount of initiation and maintenance of behavioral change, especially for more complex and long-term changes (25).

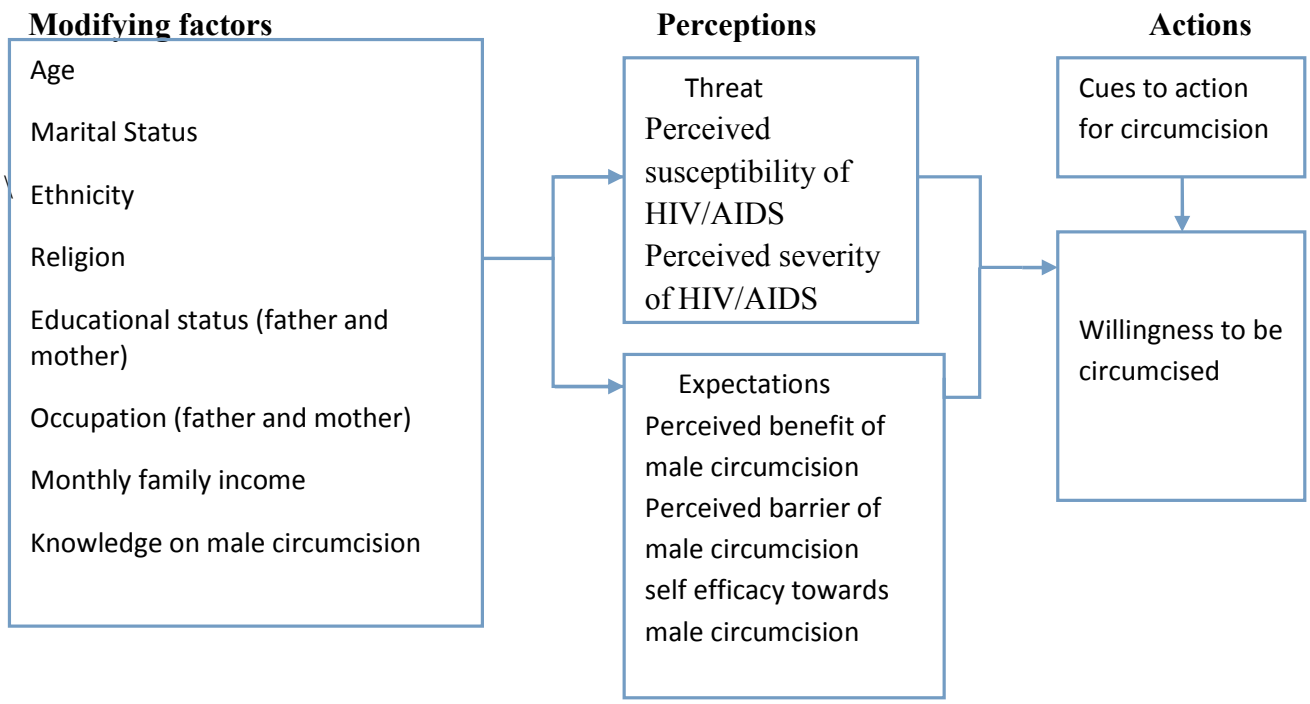


Figure 1conceptual frame work for willingness to be circumcised adopted from Health Belief Model

2. Objectives

2.1. General objective

To assess predictors of willingness to be circumcised among male students of the colleges of Gambella.

2.2. Specific objectives

1. To determine their knowledge levels of circumcision among male students of the Colleges of Gambella.
2. To determine perceived threat of HIV infection among male students of the Colleges of Gambella.
3. To determine perception towards circumcision among male students of the Colleges of Gambella.
4. To determine self-efficacy towards circumcision among male students of the Colleges of Gambella.
5. To assess cues to action for circumcision among male students of the Colleges of Gambella.
6. To assess willingness to be circumcised among male students of the Colleges of Gambella.

3. Method and Materials

3.1 Study area and period

The study was carried out in Gambella Town, which is located 777 km in the south west of Addis Ababa. Gambella Town is the capital city of the regional state characterized by hot and humid climate. The main ethnicities of the region are the Nuer (46.65%), the Agnuak (21.17%), Amhara (8.42%), Kafficho (5%), Oromo (4.83%), Kambata (1.44%), Mezhenger (4%), Shakicho (2.27%), Tigre (1.32%) and other ethnic groups predominantly from southern Ethiopia. Based on the 2007 Ethiopian National Population and Housing Census, the population of the town is projected to be about 39,022, with male 20,790 and female 18,232 (26). One hospital and one health center were providing free of charge VMMC routinely and in campaign. There were four Colleges, Gambella Teachers education and Health Science College, Agarfa agricultural college, Openo TVET College, and Tesfa Dergit TVET College where the first two colleges provide residence and meal service for the students and others have not. There were two high school, and four elementary schools. The study was conducted in these colleges.

There were total of 1184 students, enrolled in Gambella Teachers Education and Health Science College in 2006 academic year in 12 departments, and the second college found in the town and providing mid level training in diploma level in the field of agriculture is Gambella College of Agriculture, consists of 3 departments. Currently, the college enrolled a total of 1156 students in the academic year in those 3 departments. The third College in the town is Openo TVET College currently enrolling 560 students and the fourth College is Tesfadergit TVET College enrolling 490 students. The total students enrolled in the academic year of 2006 E.C in these Colleges in various departments and program accounts 3390.The study was carried out among male students from indigenous ethnic groups in these Colleges on March 27, 2006 E.C.

3.2 Study design

A quantitative cross-sectional study was conducted.

3.3 Source population

The source populations were males from indigenous ethnic groups residing in Gambella Colleges.

3.4 Study population

The study populations were sampled males from these ethnic groups in the Colleges.

Inclusion criteria:

Only day time regular students, present during the data collection time within the colleges and not critically ill during the data collection period were included in the study.

Exclusion criteria

Those critically sick and unable to communicate and answer to questions were excluded from the study.

3.5 Sample size determination

Sample size was determined by using single population proportion formula. Since there was no previous study done about willingness to be circumcised, sample size was calculated by assuming their prevalence of willingness towards male circumcision was approximately 50% with 95% confidence level and 5% margin of error to get an optimum sample size.

d= Acceptable margin of error (precision of measurement) = 5%

z= Standard variant (1.96) which correspond to 95% confidence level

P = 0.5%

$$n = \frac{z^2 p(1-p)}{d^2}$$

Using this formula, sample size was 384.16≈385. Finite population correction formula was used since the total population is less than 10,000, which is 1181.

$$n_f = \frac{n_i}{(1+\frac{n_i}{N})}$$

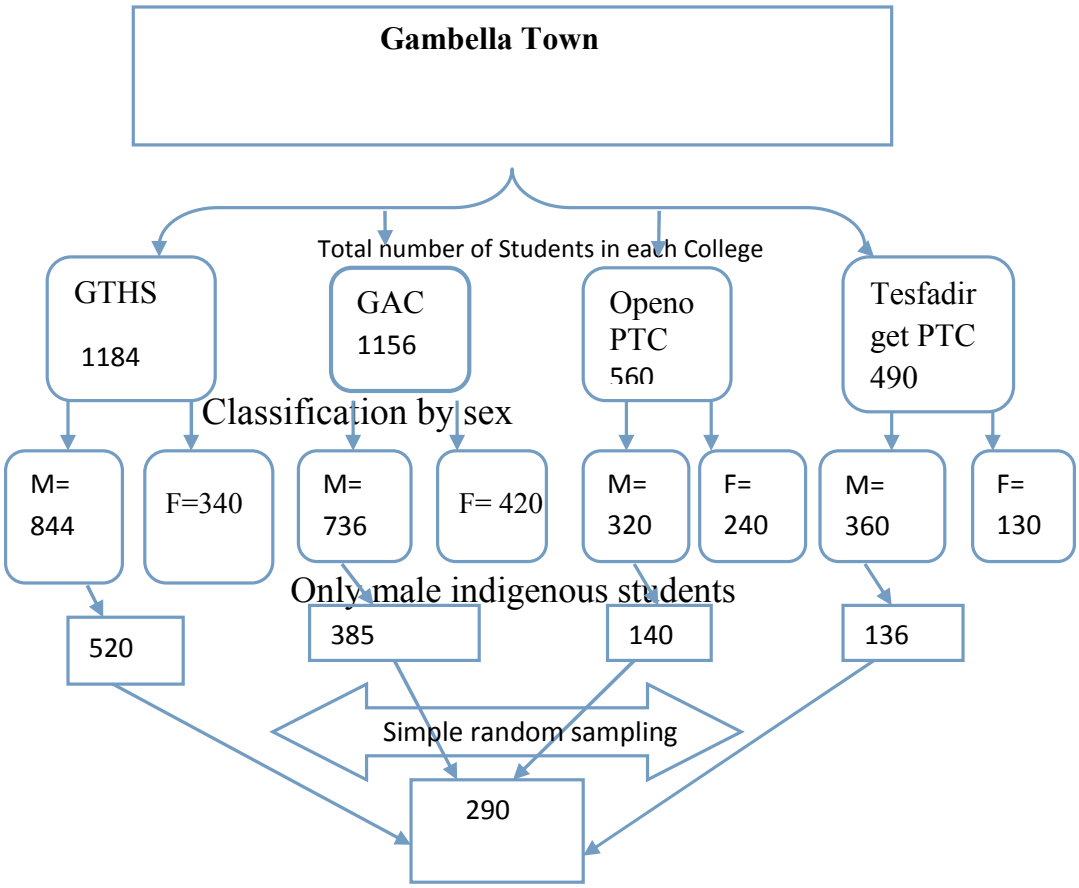
$$n_f = \frac{385}{1+\frac{385}{1181}} = 290$$

15% was added to compensate for non response rate and the final sample size was 333.5≈334.

3.6 Sampling procedure

Initially, profile of all students was taken from each college registrar, students were categorized by sex and ethnic group to get the study population for which the study is intended.

There were 1184, 1156, 560, 490 students respectively in Gambella teachers and health science college, Gambella agricultural college, Openo poly technic college, and Tesfadirgit poly technic college. Identification number with their names was used to select only indigenous male respondents from the total students. 520, 385, 140, 136 students were selected respectively from each college giving 1181. Their identification number with their names were listed together for sampling frame and finally using simple random sampling method samples were selected by spss version 16 generated random numbers.



GTHS= Gambella Teachers and Health Science College

GAC= Gambella Agricultural College
PTC = Poly Technic College

Figure 2 schematic presentation of sampling procedure

3.7 Variables

A. Outcome variable

- ✓ Willingness to be circumcised

B. Intermediate variables

- ✓ Perceived susceptibility
- ✓ Perceived severity
- ✓ Perceived benefits
- ✓ Perceived barriers
- ✓ self efficacy

C. Explanatory variables

- ✓ Age
- ✓ Marital Status
- ✓ Ethnicity
- ✓ Religion
- ✓ Father educational status
- ✓ Mother educational status
- ✓ Occupation of father
- ✓ Occupation of mother
- ✓ Monthly family income
- ✓ Knowledge on male circumcision
- ✓ Cues to action

3.8 Operational definition

Perceived susceptibility: was measured as the magnitude of score a respondent gives to four questions, the maximum score is 23 and the minimum is 4 and higher score reflecting higher perceived risk for having HIV infection.

Perceived severity: was measured as the magnitude of score a respondent gives to seven questions, the maximum score is 35 and the minimum is 7 and higher score representing greater perceived seriousness of HIV/AIDS.

Perceived benefits: was measured as the magnitude of score a respondent gives to nine questions, the maximum score is 45 and the minimum is 9 and higher score reflecting more perceived advantages of getting circumcised.

Perceived barriers: was measured as the magnitude of score a respondent gives to ten questions, the maximum score is 50 and the minimum is 10 and higher score indicating low perceived barriers to be circumcised.

Perceived self-efficacy: was measured as the magnitude of score a respondent gives to two questions, the maximum score is 10 and the minimum is 2 and higher score representing greater confidence in one's ability to be circumcised.

Cues to action: each was measured individually, some on five-point likert scales and some as yes/no questions. The magnitude of score a respondent gives to four questions and the number of yes responses for four questions. Higher total score of likert scales and responding

yes reflects more exposure to internal and external factors that triggers to be circumcised.

Knowledge of male circumcision**:** was measured by number of correct answers a respondent gives to five questions.

Willingness to be circumcised: was measured by a single item of yes/no response.

3.9 Instrument and Data collection procedure

A) Data collection Tool

All variables was measured by self-report. HBM constructs was measured using five-point Likert scales (strongly agree = 5 through strongly disagree = 1). The Questions were prepared using constructs of health belief model; the study was used a structured questionnaire from literatures (27,28,29,30,31,32,33,34,35,36,37). The instrument was comprised of dimensions indicated in a previous conceptual framework: questions on modifying factors: socio demographic factors, knowledge of male circumcision (five items).

Questions related to health belief model constructs perceived susceptibility (four items), perceived severity (seven items), perceived benefit (nine items), perceived barriers (ten items), perceived self efficacy (two items), cues to action (eight items) and willingness to be circumcised (one item).

The questionnaire was self administered type, which was first prepared in English and then translated to Amharic. The questionnaire was back translated into English and checked for consistency.

B) Data collection method

Data was collected using self administered questionnaire. Initially, respondents were asked first their consent to respond to the questionnaire, after their willing to participate assured, first asked questions on modifying factors, followed by health belief model constructs and finally their willingness to be circumcised. Respondents who were not present during data collection was considered as non respondent.

The facilitators were teachers. Two facilitators for each College and one immediate supervisor for all Colleges. Supervisor was health professional from town health office and training was given about the purpose and method of administering the questionnaire together with facilitators.

3.10 Pretest

Pretest of the questionnaire was carried out on respondents having similar socio demographic characteristics with the study population. During pre test facilitators and supervisors assessed clarity; understandability and completeness of questions. Pre test was done on preparatory students in schools of Abobo woreda which is 42 Km far from Gambella town.

Cronbanch's alpha reliability test was done and for each scale Cronbanch's alpha (α) score of 70% was taken as an acceptable measure of internal consistency of items on the scale.

3.11 Data processing, analysis and presentation

The data were analyzed using SPSS software, version 16. Data cleaning was performed before proceeding to analysis. Negatively worded questions were reverse coded and likert scale responses were summed up for analysis for each construct. Multivariate logistic regression analysis was used for prediction of willingness to be circumcised. In the first regression model, the effect of variables related to HBM was assessed. While in the second model, the effect of modifying factors was examined. To claim statistically significant effect, crude and adjusted odds ratio with 95% confidence interval (CI) was employed. Finally, all significant variables were put into regression to fit parsimonious prediction model for willingness to be circumcised.

3.12 Data quality management

Data quality was ensured during instrument development, collection, coding, entry and analysis. The questionnaire first translated to Amharic language and retranslated to English before data collection and different translator was used to keep the consistence of the questionnaire.

Facilitators were trained about the purpose of the study and how to administer the questionnaire. The Instrument was pre tested on 5% of the respondents. Cronbanch's alpha reliability test was done to check reliability of the questionnaire.

3.13 Ethical consideration

Ethical clearance and formal letter was obtained from Research Ethics Committee of Jimma University. The necessary permission was obtained from Regional Health Bureau and four Colleges. Informed consent was obtained from the study participants after explaining the purpose of the study. Participants were assured that their name will not be stated, data will be kept confidential and anonymous and it will be used only for research purpose. They also informed that they will not be forced to answer the entire question and they can withdraw at any time if they don't want to participate.

4. Result

4.1Socio-demographic characteristics of the respondents

Out of 334 study participants, 314(94%) completely filled and return the questionnaire, 7(2.09%) were not completely filled and 13(3.89%) were not returned by the respondent. The minimum age is 18 and the maximum is 36, median age of 22. From 314 respondents 55(17.5%), 31(9.9%), 185(58.9%), 43(13.7%) were married, divorced, single and cohabiting respectively. Concerning respondents ethnicity, 102(32.5%), 149(47.5%), 33(10.5%), 16(5.1%), 14(4.5%) were Agnuak, Neur, Majang, Como, Opo respectively.

From 314 respondents 25(8%), 156(49.7%), 105(33.4%), 11(3.5%), 17(5.4%) were Orthodox, Protestant, Catholic, Muslim, Adventist respectively.

Two hundred and six (65.6%) respondents their fathers could not read and write, followed by 44(14%), 26(8.3%), 38(12.1%) elementary, secondary, college and above respectively. About mother's education status 230(73.2%) respondents their mother's could not read write, followed by 41(13.1%), 22(7%), 21(6.7%) elementary, secondary, college and above respectively.

The median estimated monthly family income in Ethiopian birr of 314 respondents was 600.00.

Table 1: Sociodemographic status of students in Gambella Colleges, 2014

Variables	Number (%)
Marital status	
divorced	31(9.9%)
cohabiting	43(13.7%)
married	55(17.5%)
single	185(58.9%)
Ethnicity	
Como	14(4.5%))
Opo	16(5.1%)
Majang	33(10.5%)
Agnuak	102(32.5%)
Neur	149(47.5%)
Religion	
Muslim	11(3.5%)
Adventist	17(5.4%)
Orthodox	25(8%)
Catholic	105(33.4%)
Protestant	156(49.7%)
Father educational status	
secondary	26(8.3%)
college and above	38(12.1%)
elementary	44(14%)
could not read and write	206(65.6%)
Mother educational status	
college and above	21(6.7%)
secondary	22(7%)
elementary	41(13.1%)
could not read and write	230(73.2%)

4.2 Knowledge of male circumcision

254(80.9%) reported that male circumcision is removal of the entire foreskin (the skin that can be rolled forward or back over the head of the penis).

Regarding importance of male circumcision 239(76.1%), 211(67.2%), 139(44.3%) respectively mentioned protect from HIV/AIDS, improving genital hygiene, increase sexual pleasure.

219(69.7%) respondents reported that male circumcision is not highly risky operation when performed in a hospital facility with proper equipment and competent personnel, 95(30.3%) reporting having highly risky operation.

Regarding any complications of male circumcision procedures 167(53.2%), 163(51.9%), 152(48.4%), 128(40.8%), 131(41.7%) respectively mentioned bleeding, infection, incomplete circumcision, urinary retention, tissue loss.

224(71.3%) reported that it is advisable for circumcised men to use condoms to protect themselves against HIV.

Table 2: knowledge of students on male circumcision in Gambella Colleges, 2014

Variables	Number (%)
What is male circumcision(n=314)	
Removal of the foreskin but not necessarily the entire foreskin	60(19.1%)
Removal of the entire foreskin	254(80.9%)
Importance of Male Circumcision	
increases sexual pleasure	139(44.3%)
improving genital hygiene	211(67.2%)
protect from HIV/AIDS	239(76.1%)
highly risky operation when performed in a hospital facility (n=314)	
Yes	95 (30.3%)
No	219(69.7%)
Complications of male circumcision procedures (n=314)	
urinary retention	128(40.8%)
Tissue loss	131(41.7%)
incomplete circumcision	152(48.4%)
infection	163 (51.9%)
bleeding	167(53.2%)
Circumcised men to use condom to protect themselves against HIV	
No	90(28.7%)
Yes	224(71.3%)

For multiple response questions, one score given for respondents responding only one correct answer and two and above for those responding two and above correct answers.

Table 3: Summary statistics of knowledge score of respondents in Gambella Colleges, 2014

Knowledge	Expected			Observed (n=314)				
	Min	Max	Range	Min	Max	Range	Mean	SD
	0	11	0-11	2	11	2-11	6.46	2.50

4.3 Health Belief Model Constructs

4.3.1Perceived Susceptibility to HIV/AIDS

Table 4 Percentage for perceived susceptibility in Gambella Colleges, 2014

Perceived susceptibility	N (%)						
	almost zero	very small	small	moderate	large	very large	almost certain
If I don't get circumcised, i think my chances of getting HIV/AIDS next year would be	21 (6.7%)	46 (14.6%)	42 (13.4%)	46 (14.6%)	61 (19.4%)	57 (18.2%)	41 (13.1%)
	extremely likely	very likely	some what likely	some what unlikely	unlikely	very unlikely	
Without circumcision, do you think you are likely to get HIV/AIDS next year	34 (10.8)	50 (15.9%)	34 (10.8%)	61 (19.4%)	91 (29%)	44 (14%)	
	strongly disagree	disagree	undecided	agree	strongly agree		
Without circumcision, i am sure I would get HIV/AIDS next year.	27 (8.6%)	83 (26.4%)	79 (25.2%)	85 (27.1)	40 (12.7%)		
Without circumcision, i would expect to get HIV/AIDS next year	36 (11.5%)	81 (25.8%)	32 (10.2%)	100 (31.8%)	65 (20.7%)		

Out of 314 respondents, the minimum score for summed four items is 4 and the maximum is 23(Table 5).

Table 5: Summary statistics of respondents score on perceived susceptibility to HIV/AIDS in Gambella Colleges, 2014.

Perceived susceptibility	Expected			Observed(n=314)					
	Min	Max	Range	Min	Max	Range	Mean	SD	Cronbach's Alpha
	4	23	4-23	4	23	4-23	14.47	4.69	0.786

4.3.2 Perceived Severity to HIV/AIDS

Table 6: Percentage of perceived severity in Gambella Colleges, 2014

Perceived severity	strongly disagree	disagree	undecided	agree	strongly agree
Having HIV/AIDS is a very serious condition	27 (8.6%)	72 (22.9%)	21 (6.7%)	91 (29%)	103 (32.8%)
HIV/AIDS could result in death	29 (9.2%)	60 (9.1%)	40 (12.7%)	101 (32.2%)	84 (26.8%)
If I get HIV/AIDS I will get sick	23 (7.3%)	61 (19.4%)	45 (14.3%)	103 (32.8%)	82 (26.1%)
Having HIV/AIDS would negatively affect my ability to work	36 (11.5%)	81 (25.8%)	49 (15.6%)	76 (24.2%)	72 (22.9%)
I would be embarrassed to let others know that I have HIV/AIDS if I found out that I contracted the disease	37 (11.8%)	66 (21%)	76 (24.2%)	90 (28.7%)	45 (15.3%)
Problems I would experience from HIV/AIDS would last a long time	27 (8.6%)	74 (23.6%)	51 (16.2%)	109 (34.7%)	53 (16.9%)
I am afraid to even think about getting HIV/AIDS	31 (9.9%)	73 (23.2%)	49 (15.6%)	95 (30.3%)	66 (21%)

Out of 314 respondents, the minimum score for summed seven items is 10 and the maximum is 34 (Table 7).

Table 7: Summary statistics of perceived severity of HIV/AIDS IN Gambella Colleges, 2014

	Expected			Observed					
	Min	Max	Range	Min	Max	Range	Mean	SD	Cronbach's Alpha
Perceived severity	7	35	7 - 35	10	34	10-34	23.45	5.89	0.769

4.3.3 Perceived Benefit of Male Circumcision

Table 8: Percentage of perceived benefit in Gambella Colleges, 2014

Perceived benefit					
Getting circumcised will be beneficial to my health	27 (8.6%)	61 (19.4%)	26 (8.3%)	105 (33.4%)	95 (30.3%)
I will feel better and happy if i get circumcised	36 (11.5%)	53 (16.9%)	60 (19.1%)	85 (27.1%)	80 (25.5%)
I believe that male circumcision reduces the risks of getting HIV/AIDS	38 (12.1%)	60 (19.1%)	35 (11.1%)	86 (27.4%)	95 (30.3%)
I believe that male circumcision reduces chances of transmitting HIV/AIDS to other people	38 (12.1%)	72 (22.9%)	36 (11.5%)	101 (32.2%)	67 (21.3%)
I believe that male circumcision reduces chances of getting other sexually transmitted infections	34 (10.8%)	63 (20.1%)	49 (15.6%)	106 (33.8%)	62 (19.7%)
I believe that male circumcision would be effective in hygienic purpose	33 (10.5%)	57 (18.2%)	39 (12.4%)	108 (34.4%)	77 (24.5%)
I believe that male circumcision would make easier for men to use condom	35 (11.1%)	84 (26.8%)	47 (15%)	91 (29%)	57 (18.2%)
I believe that Male circumcision increases sexual pleasure for men	45 (14.3%)	98 (31.2%)	58 (18.5%)	74 (23.6%)	39 (12.4%)
I believe that Male circumcision increases sexual pleasure for women	49 (15.6%)	64 (20.4%)	108 (34.4%)	55 (17.5%)	38 (12.1%)

Out of 314 respondents, the minimum score for summed nine items is 11 and the maximum is 43 (Table 9).

Table 9: Summary statistics of perceived benefit in Colleges of Gambella, 2014

	Expected			Observed					
	Min	Max	Range	Min	Max	Range	Mean	SD	Cronbach's Alpha
Perceived benefit	9	45	9- 45	11	43	11-43	29.39	7.03	0.771

4.3.4 Perceived barriers

Table 10: Percentage of perceived barriers in Gambella Colleges, 2014

Perceived barriers					
I think male circumcision will lose a part of the body	98 (31.2%)	106 (33.8%)	19 (6.1%)	66 (21%)	25 (8%)
I will die from male circumcision procedure	82 (26.1%)	97 (30.9%)	62 (19.7%)	37 (11.8%)	36 (11.5%)
My friends and family would not like to be circumcised	77 (24.5%)	99 (31.5%)	36 (11.5%)	77 (24.5%)	25 (8%)
I don't like to be circumcised due to complications and adverse effects heard from friends, families and others	64 (20.4%)	101 (32.2%)	51 (16.2%)	60 (19.1%)	38 (12.1%)
I think male circumcision is against tradition	61 (19.4%)	89 (28.3%)	51 (16.2%)	83 (26.4%)	30 (9.6%)
I think male circumcision is against religion	77 (24.5%)	90 (28.7%)	45 (14.3%)	72 (22.9%)	30 (9.6%)
I don't like to get circumcised due to high cost	73 (23.2%)	111 (35.4%)	52 (16.6%)	50 (15.9%)	28 (8.9%)
I will anticipate the pain during circumcision	53 (16.9%)	97 (30.9%)	53 (16.9%)	74 (23.6%)	37 (11.8%)
I could not get circumcised due to lack of male circumcision custom	60 (19.1%)	93 (29.6%)	40 (12.7%)	79 (25.2%)	42 (13.4%)
I could not get circumcised due to lack of access to health care	72 (22.9%)	86 (27.4%)	40 (12.7%)	64 (20.4%)	52 (16.6%)

Out of 314 respondents, the minimum score for summed ten items is 11 and the maximum is 48 (Table 11).

Table 11: Summary statistics of respondents perceived barriers in Gambella Colleges, 2014

	Expected			Observed					
	Min	Max	Range	Min	Max	Range	Mean	SD	Cronbach's
Perceived barriers	10	50	10-50	11	48	11-48	33.36	8.12	0.817

4.3.5 Self efficacy

Table 12: Percentage of self efficacy in Gambella Colleges, 2014

Perceived self efficacy					
I am confident that i could get circumcised if i tried	52 (16.6%)	52 (16.6%)	23 (7.3%)	115 (36.6%)	72 (22.9%)
I feel that i would be able to get circumcised if i wanted to	43 (13.7%)	56 (17.8%)	51 (16.2%)	76 (24.2%)	88 (28%)

Similarly, out of 314 respondents, the minimum score for summed two items is 2 and the maximum is 10 (Table 13).

Table 13: Summary statistics of self efficacy in Gambella Colleges, 2014

Self efficacy	Expected			Observed					
	Min	Max	Range	Min	Max	Range	Mean	SD	Cronbach's
	2	10	2-10	2	10	2-10	6.68	2.52	0.747

4.4 Cues to Action

Table 14: Percentage of cues to action in Gambella Colleges, 2014

Cues to action					
Seeing something on television about male circumcision would help remind me to get circumcised	35 (11.1)	64 (20.4%)	36 (11.5%)	103 (32.8%)	76 (24.2%)
If a friend or someone I know told me about the benefit of male circumcision that would help me to get circumcised	29 (9.2%)	60 (19.1)	37 (11.8%)	123 (39.2%)	65 (20.7%)
Reading pamphlets or seeing posters about male circumcision would help me remember to get circumcised	25 (8%)	63 (20.1%)	48 (15.3%)	114 (36.3%)	64 (20.4%)
Do you agree with findings that male circumcision reduces chances of HIV transmission	27 (8.6%)	72 (22.9%)	25 (8%)	104 (33.1%)	86 (27.4%)

Out of 314 respondents, the minimum score of four summed items is 4 and the maximum is 20.

Table 15: Summary statistics of cues to male circumcision in Colleges of Gambella, 2014

Cues to action	Expected			Observed					
	Min	Max	Range	Min	Max	Range	Mean	SD	Cronbach's
	4	20	4-20	4	20	4-20	13.70	4.00	0.776

About 234(74.5%) respondents ever talked about male circumcision with someone else like doctor, nurse, friend or family member, 218(69.4%) knew a place where circumcision is done free of charge, 212(67.5%) knew someone who has been circumcised, 228(72.6%) knew that regional health bureau encourages male circumcision.

Table 16: Cues to male circumcision in Gambella Colleges, 2014

Variables	Number (%)
Ever talked about male circumcision with someone else like Doctor, nurse, friend or family member (n=314)	
Yes	234(74.5%)
No	80(25.5%)
Know a place where circumcision is done free of charge	
Yes	218(69.4%)
No	96(30.6%)
Know someone who has been circumcised	
Yes	212(67.5%)
No	102(32.5%)
Know that regional health bureau encourages male circumcision	
Yes	228(72.6%)
No	86(27.4%)

4.5Willingness to be circumcised

About 200(63.7%) respondents were willing to be circumcised, 92(29.3%) were not willing to be circumcised and 22(7%) were already circumcised. Already circumcised respondents were not included in analysis. Out of 200, 24(12%) had reason of don't know any circumcision center, 83(41.5%) it is against to our culture, 30(15%) fear of pain, 63(31.5%) lack knowledge of male circumcision for not yet undergoing the operation. Among not willing to be circumcised, 48(52.2%) against our culture, 24(26.1%) decreases sexual pleasure, 8(2.5%) required time away from class, 12(3.8%) circumcised men still use condom were their reasons for not willing to be circumcised.

Two hundred nine (66.6%) respondents would recommend a male relative or friend to undergo circumcision and 105(33.4%) would not recommend. Having hygienic purpose 74(35.4%), preventing sexually transmitted infections 98(46.9%), religious purpose 19 (9.1%), and to use condom easily 18(8.6%) were their reasons to recommend. Among respondents who would not recommend, embarrassing in our culture 46(43.8%), decreasing sexual pleasure 46(43.8%), i don't understand its benefit 13(12.4%) were their main reasons not to recommend.

Table 17: Willingness to be circumcised in Gambella Colleges, 2014

Variables	Number(%)
Would you be willing to be circumcised (n= 292)	
Yes	200(63.7%)
No	92(29.3%)
Why have you not yet undergone the operation (n= 200)	
Don't know any circumcision center	24(12%)
Fear of pain	30(15%)
Lack knowledge of male circumcision	63(31.5%)
It is against to our culture	83(41.5%)
If you are not willing to be circumcised, what are your main reasons (n= 92)	
Required time away from class	8(2.5%)
Circumcised men still use condom	12(3.8%)
Decreases sexual pleasure	24(26.1%)
Against our culture	48(52.2%)
Would you recommend a male relative or friend to undergo circumcision (n=314)	
Yes	209(66.6%)
No	105(33.4%)
What is your main reason to recommend (n= 209)	
To use condom easily	18(8.6%)
Religious purpose	19(9.1%)
Hygienic purpose	74(35.4%)
Preventing sexually transmitted infections	98(46.9%)
What is your main reason not to recommend (n=105)	
I don't understand its benefit	13(12.4%)
Embarrassing in our culture	46(43.8%)
Decreases sexual pleasure	46(43.8%)

4.6 Factors affecting Willingness to be circumcised

Family monthly income, knowledge, socio cultural beliefs, perceived susceptibility, perceived benefit, perceived barriers, cues to action measured using yes or no questions were significantly associated at p-value < 0.05, as shown in the table below.

Table 18: Factors affecting willingness to be circumcised in Colleges of Gambella, 2014

Variables	Willingness to be circumcised		COR(95%CI)	AOR(95%CI)
	No (%)	Yes (%)		
Age				
18-24	64(26.9%	174(73.1)	1.00	1.00
25-36	28(51.9%)	26(48.1)	0.342(0.186, 0.626)*	0.463(0.169,1.267)
Marital status				
Single	47(27.2%)	126(72.8%)	1.00	1.00
Divorced	11(36.7%)	19(63.3)	0.644(0.285,1.455)	0.477(0.115,1.978)
Married	23(44.2%)	29(55.8%)	0.470(0.248, 0.893)*	0.727(0.257,2.052)
Cohabiting	11(29.7%)	26(70.3%)	0.882(0.404,1.924)	0.417(0.056,3.095)
Monthly income				
0-500	57(43.5%)	74(56.5)	1.00	1.00
501-1000	19(17%)	93(83%)	2.14(1.205, 3.799)*	2.804(1.032, 7.615)*
>1000	16(32.7)	33(67.3%)	1.565(0.794, 3.083)	4.974(1.453,17.022)*
Knowledge			1.785(1.537, 2.072)*	1.63(1.301, 2.043)*
Perceived susceptibility			1.401(1.290, 1.52)*	1.304(1.151, 1.477)*
Perceived benefit			1.255(1.187, 1.327)*	1.151(1.07, 1.239)*
Perceived barriers			1.154(1.109, 1.20)*	1.096(1.022, 1.175)*
Cues to action(2)			2.205(1.666, 2.918)*	1.574(1.03, 2.405)*

*significant at p value <0.05
2 cues to action measured by yes/no questions

Respondents with monthly family income 501-1000 Ethiopian birr showed 2.804 times more likely willing to be circumcised than those having 0-500 (AOR = 2.804, CI= 1.032,7.615) and those having monthly income of more than 1000 showed 4.974 times more likely willing to be circumcised than those having 0-500 (AOR=4.974, CI= 1.453,17.022). Regarding continuous independents, knowledge showed positive effect on willingness to be circumcised, as score of respondent's increases by one unit, 1.63 greater odds of willingness to be circumcised. Similarly, perceived susceptibility showed positive effect on willingness to be circumcised, as score of respondent's increases by one unit, 1.304 greater odds of willingness to be circumcised. Perceived benefit showed positive effect on willingness to be circumcised, as score of respondent's increases by one unit, 1.151 greater odds of willingness

to be circumcised. Reverse coded perceived barriers showed positive effect on willingness to be circumcised, as score of respondent's increases by one unit, 1.096 greater odds of willingness to be circumcised. Cues to action also showed positive effect on willingness to be circumcised, as score of respondent's increases by one unit, 1.574 greater odds of willingness to be circumcised.

5 Discussion

The cross-sectional nature of the study might have masked the relationship between some variables and outcome variable. With this limitation tried to discuss the finding of this study.

About 254(80.9%) of respondents correctly defined male circumcision as removal of the entire foreskin and the finding is similar with the study done in Rwanda(22) and the reason might be the contribution of regional health bureau in the study area. About 239(76.1%) knew that male circumcision protect from HIV/AIDS, and 224(71.3%) knew that circumcised men should use condom to protect themselves against HIV, 211(67.2%) knew that male circumcision improves genital hygiene. The result was consistent with the research done in Zimbabwe (20).

Regarding circumcised men to use condom to protect themselves against HIV, about 90(28.7%) respond not to use condom revealed that there is misconception of total prevention of circumcision for HIV, there was a study in South Africa with similar finding of this misconception (22,21).

Similar to a research done in Zimbabwe, this study found that high risk perception of HIV infection positively affects willingness to be circumcised (AOR= 1.304, CI=1.151, 1.477) (20).

The majority of respondents 57.7% agree with the benefit of male circumcision for reducing risk of getting HIV, 58.9% respondents agree with benefit of male circumcision for improving genital hygiene and 36% agree with benefit of male circumcision for increasing sexual pleasure for men and the result was consistent with study done in Rwanda (22) Regarding perceived barriers to undergo circumcision, in this study, 52.6% don't like to be circumcised due to Complications and adverse effects heard from friends, families and others, 47.6% perceived that they will anticipate the pain during circumcision, 50.3% perceived that they could not get circumcised due to lack of access to health care and this result was consistent with study done in Zimbabwe (20)

About 200(63.7%) respondents were willing to be circumcised, 92(29.3%) were not willing to be circumcised. Among those willing to get circumcised, 83(41.5%) and 30(15%) had reason of it is against to our culture, fear of pain respectively for not yet undergoing the

operation. Among not willing to be circumcised, 48(52.2%) it is against to our culture and 24(26.1%) decreases sexual pleasure was their reason for not willing to get circumcised. Studies in other African countries also showed that pain, it decreases sexual pleasure, and cultural reasons were barriers to undergo circumcision (12, 22).

5.1 Limitation of the study

1. Data were collected using self report, without clinical examination or other confirmation.
2. To have a wider picture from the whole region, another study involving more communities and a larger sample size is necessary.

6 Conclusion

The study revealed that more than half of respondents were willing to be circumcised. In this study, respondents perceived susceptibility, perceived benefit, knowledge, exposure to cues and family monthly income would enhance willingness to be circumcised. However, perceived barriers would negatively affect willingness to be circumcised.

Don't know any circumcision center, it is against to our culture, fear of pain and lack knowledge of male circumcision were reasons for not yet undergoing the operation. Against our culture, decreases sexual pleasure, required time away from class, circumcised men still use condom respectively were reasons for not willing to be circumcised.

7 Recommendation

Gambella region is high in HIV prevalence compared to other regions while there is low level of male circumcision but clinical trials conducted showed that male circumcision reduces the risk of heterosexual HIV transmission from an infected woman to a circumcised man by more than 60% so Gambella Regional Health bureau should adopt male circumcision as part of the comprehensive strategy to reduce heterosexually acquired HIV infection.

As the study showed 63.7% respondents were willing to be circumcised, so Gambella Regional Health Bureau should develop male circumcision campaigns and for 29.3% which were not willing to be circumcised, Regional Health Bureau and HAPCO should develop information, education and communication (IEC) materials in local languages to include messages that comprehensively address perceived barriers like complications, pain, including benefit of male circumcision. But even if male circumcision is effective in reducing HIV transmissibility, poorly implemented male circumcision programmes are not likely to have an impact on the HIV epidemic. Messages provided during interventions must be tested and warning messages explaining that male circumcision protects only partly (if at all), and that condom use is still needed.

Regional Health Bureau and HAPCO should develop radio spot cues like place where circumcision is done free of charge.

The Regional Health Bureau should conduct further exploratory research on sociocultural beliefs towards male circumcision.

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9Annex

9.1 Instrument

Jimma University: College of Public Health and Medical Science Department of Health Education and Behavioral Sciences

Principal Investigator: Destaw Tadesse (B.Pharm)

Title: Predictors of Willingness to be Circumcised among Male Students of the Colleges of Gambella: Using Health Belief Model, Gambella Town, South West Ethiopia.

Purpose

The purpose of this study to assess your level of willingness to be circumcised and to investigate your belief towards male circumcision. Participation will require approximately 20-30 minutes of your time.

Procedures

If you decide to participate, you will be asked to fill a questionnaire consists of four sections.

Risks

In this study, you will not have any more risks than you would in a normal day of life.

Benefits

Participation in this study may not benefit you personally.

Voluntary participation and Withdrawal

Participation in research is voluntary. You don't have to be in this study. If decide to be in the study and change your mind, you have the right to drop out at any time. You may skip questions or stop participating at any time.

Confidentiality

We will keep your records private to the extent allowed by law. Information may also be shared with those who make sure the study is done correctly (Jimma University College of Public Health and Medical Sciences Ethical Review committee and department of Health

Education and Behavioral Sciences). Please do not write your name on the questionnaire. All information on the questionnaire will be kept confidential.

Contact person: Contact Destaw Tadesse at 0912795821.

If you agree to participate in this research, please continue with the study.

Thank you in advance

Name of college_____ Date _____

Department_____ Year _____

1. Modifying factors questions. Please select your choice for the following questions from the listed alternatives.

001. Age at last birthday _____

002. Marital status

1. Married
2. Divorced
3. Single
4. Others specify

003. Ethnicity

1. Agnuak
2. Neur
3. Mejang
4. Como
5. Opo

004. Religion

1. Orthodox
2. Protestant
3. Catholic
4. Muslim
4. Others (specify) _____

005. What is your father's educational status?

1. Could not read and Write
2. Elementary (1-8)
3. Secondary (9-12)
4. College and above

006. Your mother's educational status?

1. Could not read and Write
2. Elementary (1-8)
3. Secondary (9-12)

4. College and above

007. What is your father's occupation?

1. No occupation
2. Farmer
3. Civil servant
4. Merchant
5. Day laborer
6. Private organization
7. Other, specify_____

008. What is your mother occupation?

1. No occupation
2. House wife
3. House worker
4. Civil servant
5. Merchant
6. Day laborer
7. Private organization
8. Other, specify_____

009. What is the estimated monthly family income in Ethiopian birr? _____

1. No income
99. I don't know

KNOWLEDGE ON MALE CIRCUM CISION

100. What is male circumcision?

1. Removal of the entire foreskin (the skin that can be rolled forward or back over the head of the penis).
2. Removal of the foreskin (the skin that can be rolled forward or back over the head of the penis), but not necessarily the entire foreskin.
3. Removal of the penis.
4. Don't know.

101. Tell me the importance of Male Circumcision?

1. Protection from HIV infection

2. Improves genital hygiene

3. Increase sexual pleasure

4. Don't know

102. Is male circumcision a highly risk operation when performed in a hospital facility with proper equipment and competent personnel?

1. Yes

2. No

98. Not sure

103. Can you mention any complications of male circumcision procedures?

1. Bleeding

2. Infection

3. Incomplete circumcision

4. Urinary retention

5. Tissue loss

104. Do you think it is advisable for circumcised men to use condoms to protect themselves against HIV?

1. Yes

2. No

Perception questions

Please answer the following questions regarding your thoughts about male circumcision. If you have already circumcised, please think back to when you were contemplating getting circumcised and answer the questions according to your thoughts and perceptions at that time. If you have not circumcised, please answer the questions according to your current thoughts and perceptions. Please answer these questions regardless of whether or not you are currently sexually active. Please select one response for one question.

s.no	questions	Responses						
Perceived susceptibility								
301	Without circumcision, do you think you are likely to get HIV/AIDS next year	1=extremely likely	2=very likely	3=some what likely	4=some what unlikely	5=unlikel	6=very unlikely	
302	If I don't get circumcised, I think my chances of getting HIV/AIDS next year would be	1=almost zero	2=very small	3= small	4= moderate	5= large	6= very large	7= almost certain
303	Without circumcision, I am sure I would get HIV/AIDS next year.	1= strongly disagree	2=disagree	3= undecided	4= agree	5= strongly agree		
304	Without circumcision, I would expect to get HIV/AIDS next year.	1= strongly disagree	2=disagree	3= undecided	4= agree	5= strongly agree		

	Responses				
Perceived Severity	1= strongly disagree	2= disagree	3= undecided	4= agree	5= strongly agree

305	Having HIV/AIDS is a very serious condition					
306	HIV/AIDS could result in death					
307	If I get HIV/AIDS I will get sick					
308	Having HIV/AIDS would negatively affect my ability to work					
309	I would be embarrassed to let others know that I have HIV/AIDS if I found out that I contracted the disease					
310	Problems I would experience from HIV/AIDS would last a long time					
311	I am afraid to even think about getting HIV/AIDS					
Perceived benefit						
312	Getting circumcised will be beneficial to my health					
313	I will feel better and happy if I get circumcised					
314	I believe that Male circumcision reduces the risks of getting HIV/AIDS					
315	I believe that Male circumcision reduces chances of transmitting HIV/AIDS to other people					
316	I believe that male circumcision reduces chances of getting other sexually transmitted infections					
317	I believe that male circumcision would be effective in hygienic purpose					

318	I believe that male circumcision would make easier for men to use condom					
319	I believe that Male circumcision increases sexual pleasure for men					
320	I believe that Male circumcision increases sexual pleasure for women					
Perceived barriers						
321	I think male circumcision will lose a part of the body					
322	I will die from male circumcision procedure					
323	My friends and family would not like to be circumcised					
324	I don't like to be circumcised due to Complications and Adverse Effects heard from friends, families and others					
325	I think male circumcision is against tradition					
326	I think male circumcision is against religion					
327	I don't like to get circumcised due to high cost					
328	I will anticipate the pain during circumcision					

329	I could not get circumcised due to lack of male circumcision custom					
330	I could not get circumcised due to lack of access to health care					
Perceived self efficacy						
331	I am confident that I could get circumcised if I tried					
332	I feel that I would be able to get circumcised if I wanted to					
2. Cues to action						
333	Seeing something on television about male circumcision would help remind me to get circumcised					
334	If a friend or someone I know told me about the benefit of male circumcision that would help me to get circumcised					
335	Reading pamphlets or seeing posters about male circumcision would help me remember to get circumcised					
336	Do you agree with findings that male circumcision reduces chances of HIV transmission					

337	Have you ever talked about male circumcision with someone else like doctor, nurse, friend or family member?	1. Yes 2. No
338	Do you know a place where circumcision is done free of charge?	1.Yes 2. No
339	Do you know someone who has been circumcised?	1.Yes 2. No
340	Do you know that Regional health Bureau encourages male circumcision	1.Yes 2. No
3. Willingness to be circumcised		
341	Would you be willing to be circumcised?	1.Yes 2.No 3.Not applicable (already circumcised)
342	If you are willing to be circumcised, why have you not yet undergone the operation? _____ _____	
343	If you are not willing to be circumcised, what are your main reasons? _____ _____	
344	Would you recommend a male relative or friend to undergo circumcision? 1.Yes 2.No	
345	Give reasons for your answer above_____ _____	

Thank You for your cooperation!!

ጅማ ዩኒቨርሲቲ

የህብረተሰብ ጤና እና ህክምና ሳይንስ ኮሌጅ፡የጤና አጠባበቅ እና ስነ ባህሪ ሳይንሶች ትምህርት ክፍል

ዋና ተመራማሪ፡ ደስታው ታደሰ(ፋርማሲስት)

አርእስት፡በጋምቤላ ክልል ጋምቤላ ከተማ ውስጥ በሚገኙ ኮሌጆች፤ ወንድ ተማሪወች ለመገረዝ ያላቸውን ፍቃደኝነት የሚመለከት ጥናት፡፡

አላማ፡ የዚህ ጥናት አላማ ምን ያህል ለመገረዝ ፍቃደኛ እንደሆናችሁ ለመዳሰስ እና እናንተ ስለ ወንድ ግርዛት ያላችሁን እምነት ለመመርመር፡፡ መጠይቁን ለሞሙላት ከ 20- 30 ደቂቃ የሚሆን ጊዜያችሁን ሊፈጅ ይችላል፡፡

ጥቅሞች፡ በዚህ ጥናት በመሳተፋችሁ በግለሰብ ደረጃ ላይጠቅማችሁ ይችላል፡፡

በፈቃደኝነት ላይ የተመሰረተ ተሳትፎ፡ ተሳትፎ በምርምር ጊዜ በፈቃደኝነት ነው፡፡ በጥናቱ ለመሳተፍ ከወሰኑ በኋላ ሀሳብወትን ቢቀይሩ፤በማንኛውም ስዓት መጠይቅ መመሙላቱን ማቋረጥና አለመሳተፍ ይችላሉ፡፡

ሚስጥር ጠባቂነት፡ የሚሰጡን ማናቸውም መልሶችዎ በሚስጥር እንደሚያዙና ስምዎን ወይም የእርስዎን ማንነት የሚገልጽ ማናቸውም ነገር እንደማይጻፍ እንዲረዱልን እንፈልጋለን፡፡መጠይቅ በሚሞሉበት ወቅት መመለስ የማይፈልጉትን ማንኛውንም ዓይነት ጥያቄ መተው ይችላሉ፡፡ነገር ግን ለጥያቄወቹ የሚሰጡን መልሶች ወንዶች ስለ ወንድ ግርዛት ያላቸውን እምነትና ምን ያህል ለመገረዝ ፍቃደኛ እንደሆኑ ለማወቅ ይጠቅመናል፡፡ መጠይቁ ላይ ያለው መረጃ ምርምሩን በትክክል መሰራቱን ለሚያረጋግጠው አካል ማለትም ለጅማ ዩኒቨርሲቲ የህብረተሰብ ጤና እና ህክምና ሳይንስ ኮሌጅ እና የጤና አጠባበቅ እና ስነ ባህሪ ሳይንሶች ትምህርት ክፍል ሊቀርብ ይችላል፡፡

አድራሻ፡ ስለ ምርምሩ የሚጠይቁት ማንኛውም ነገር ካለ ደስታው ታደሰ ብለው በ 0912795821 ይደውሉ፡፡

በዚህ ምርምር ላይ ለመሳተፍ ከተስማሙ፤ መጠይቁን እንዲሞሉልን እንጠይቃለን፡፡

ስለ ትብብርዎ እናመሰግናለን!!

የኮሌጁ ስም---------- ቀን----------

የትምህርት ክፍል---------- የስንተኛ ዓመት ተማሪ ነህ----------

እባክዎን ለሚከተሉት ጥያቄወች ከቀረቡልዎት ምርጫወች ውስጥ የሚመርጡትን በትክክል ያክብቡ

ክፍል አንድ፡ ማህበራዊና ኢኮኖሚያዊ ሁኔታ

ተ.ቁ	ጥያቄዎች	መልስ	እለፍ ወደ
001.	እድሜዎ ስንት ነው?	---------- ዓመት	
002.	በአሁኑ ስዓት የትዳር ሁኔታዎ እንዴት ነው?	1. ያገባ 2. አግብቶ የፈታ 3. ያላገባ 4. ሌሎች ካሉ ይገለጽ	
003.	የየትኛው ብሔረሰብ አባል ነዎት?	1. አኙዋ 2. ኑዌር 3. ማጃንግ 4. ኮሞ 5. አፖ	
004.	ሐይማኖትዎ ምንድን ነው?	1. ኦርቶዶክስ 2.ፕሮቴስታንት 3. ካቶሊክ 4. ሙስሊም 5. ልላ/ይገለጽ	
005.	በአሁኑ ስዓት አባትህ ያጠናቀቁት የትምህርት ደረጃ ?	1. ማንበብና መጻፍ የማይችል 2. ማንበብና መጻፍ የሚችል 3. አንደኛ ደረጃ(1-8) 4. ሁለተኛ ደረጃ(9-12) 98. ኮሌጅ እና ከዚያም በላይ	
006.	በአሁኑ ስዓት እናትህ ያጠናቀቁት የትምህርት ደረጃ?	1. ማንበብና መጻፍ የማይችል 2. ማንበብና መጻፍ የሚችል 3. አንደኛ ደረጃ(1-8) 4. ሁለተኛ ደረጃ(9-12) 98. ኮሌጅ እና ከዚያም በላይ	
007.	በአሁኑ ስዓት የአባትህ ስራ ምንድን ነው?	1. ስራ አጥ 2.ግብርና 3. የመንግስት ሠራተኛ 4. ነጋዴ 5. የቀን ተቀጣሪ 6. የግል ድርጅት ሠራተኛ 7. ልላ/ይገለጽ	

008.	በአሁኑ ስዓት የእናትህ ስራ ምንድን ነው?	1.ስራ አጥ 2.የቤት እመቤት 3. የቤት ሠራተኛ 4.የመንግስት ሠራተኛ 5. ነጋዴ 6. የቀን ተቀጣሪ 7.የግል ድርጅት ሠራተኛ 8.ሌላ/ይገለጽ	
009.	አጠቃላይ የቤተሰብዎ የወር ገቢ ስንት ነው / በግምት/?	----------ኢት. ብር 1. ምንም ገቢ የለንም 99. አላውቅም	

ክፍል ሁለት፡ ስለ ወንድ ግርዛት ያለህ እውቀት

100. የወንድ ግርዛት ምንድን ነው?

1. የብልት ራስ ላይ ያለውን ቆዳ፤ወደ ፊትና ወደ ኃላ መንቀሳቀስ የሚችለውን ሙሉ በ ሙሉ ማስወገድ፡፡

2. የብልት ራስ ላይ ያለውን ቆዳ፤ወደ ፊትና ወደ ኃላ መንቀሳቀስ የሚችለውን ሙሉ በ ሙሉ ባይሆንም የተወሰነ ከተወገደ

3. ብልትን ማስወገድ

4. አላውቅም

101. የወንድ ግርዛት ጥቅሞች ምንድን ናቸው(ከ አንድ በላይ መልስ ይቻላል)?

1. በ ኤች አይ ቪ ከመያዝ ይከላከላል

2. የብልትን ንጽህና ለመጠበቅ

3. የወሲብን እርካታ ይጨምራል

4. አላውቅም

102. የወንድ ግርዛት ጥራት ባለው መሳሪያና የሙያው ባለቤት በሆነ ሰው ሆስፒታል ላይ ሲሰራ በጣም ስጋት አለው

1. አዎ

2. አይደለም

98. እርግጠኛ አይደለሁም

103. አንድ ሰው በሚገረዝበት ጊዜ ምን ምን የህክምና ችግሮች ሊያጋጥሙት ይችላሉ?

1. ደም መፍሰስ

2. ብክለት

3. በትክክል ያለመገረዝ/ሙሉበሙሉ ቆዳው ካልተወገደ

4. የሽንት መቋጠር

5. የአካል መወገድ

104. የተገረዘ ወንድ የግብረ ስጋ ግኑኝነት ሲያደርግ እራሱን ከ ኤች አይ ቪ/ኤድስ ለመከላከል ኮንዶም መጠቀም አለበት?

1. አዎ

2. አይደለም

98. እርግጠኛ አይደለሁም

ክፍል አራት፡ የምልከታ ጥያቄወች

የሚከተሉት ጥያቄወች በአሁን ሰዓት ስለ ወንድ ግርዛት የምታስበውን እና ያለህን ምልከታ ግንዛቤ ውስጥ በማስገባት መልስ እንድሰጥበት እየጠየቅን፤በአሁን ሰዓት የግብረ ስጋ ግንኙነት ብታደርግም ባታደርግም ይሄንን ግንዛቤ ውስጥ ሳታስገባ መልስ እንድትሰጥ እና ለአንድ ጥያቄ አንድ መልስ ብቻ ምረጥ፡፡

4.1. ለ ኤች አይ ቪ/ኤድስ ያለህን ተጋላጭነት በተመለከተ

ተ.ቁ	ጥያቄወች	መልሶች					
300	ካልተገረዝክ ቀጣይ አመት ምን ያህል ለ ኤች አይ ቪ/ኤድስ ተጋላጭ ነኝ ብለህ ታስባለህ ?	1 ከመጠን በላይ ተጋላጭ	2 በጣም ተጋላጭ	3 በመጠኑ ተጋላጭ	4 በትንሹ ተጋላጭ	5 ተጋላጭ አይደለሁም	6 በጣም ተጋላጭ አይደለሁም

301	ካልተገረዝኩኝ በኤችአይ ቪ/ኤድስ የመያዝ እድሌ	1 ዜሮ	2 በጣም ትንሽ	3 ትንሽ	4 በመጠኑ	5 በብዛት	6 በጣም በብዛት	7 ሙሉበ ሙሉ

ለሚከተሉት ጥያቄወች መልስዎ በጣም አልስማማም ከሆነ 1፤ አልስማማም ከሆነ 2፤ መወሰን አልቻልኩም ከሆነ 3፤ እስማማለሁ ከሆነ 4፤በጣም እስማማለሁ ከሆነ 5 ይምረጡ፡፡

302	ካልተገረዝኩኝ በርግጠኝነት በሚቀጥለው አመት ኤች አይ ቪ/ኤድስ ይይዘኛል	1	2	3	4	5
303	ካልተገረዝኩኝ በሚቀጥለው አመት ኤች አይ ቪ/ኤድስ ይይዘኛል ብየ እጠብቃለሁ	1	2	3	4	5

4.2. የኤች አይ ቪ/ኤድስን አስከፊነት በተመለከተ

304	በ ኤች አይ ቪ/ኤድስ መያዝ አስከፊ ነው	1	2	3	4	5
305	ኤች አይ ቪ/ኤድስ ገዳይ በሽታ ነው	1	2	3	4	5
306	ኤች አይ ቪ/ኤድስ ከያዘኝ እታመማለሁ	1	2	3	4	5
307	በ ኤች አይ ቪ/ኤድስ መያዝ ስራየን በአግባቡ እንዳልሰራ ያደርገኛል	1	2	3	4	5
308	ኤች አይ ቪ/ኤድስ ከያዘኝ መያዜን ለሌሎች መናገር ያሳፍረኛል	1	2	3	4	5
309	ኤች አይ ቪ/ኤድስ የሚያስከትላቸው ችግሮች ለረጅም ጊዜ ሊቆዩ ይችላሉ	1	2	3	4	5
310	በ ኤች አይ ቪ/ኤድስ ስለ መያዝ ሳስብ ያስፈራኛል	1	2	3	4	5
4.3. የወንድ ግርዛት ያለውን ጠቀሜታ አስመልክቶ ያለህን አመለካከት በተመለከተ						
311	መገረዜ ወደፊት ለጤናየ ጥቅም አለው	1	2	3	4	5
312	በመገረዜ ደስተኛ እሆናለሁ	1	2	3	4	5
313	የወንድ ግርዛት በ ኤች አይ ቪ/ኤድስ የመያዝን ተጋላጭነት ይቀንሳል	1	2	3	4	5
314	የወንድ ግርዛት ኤች አይ ቪ/ኤድስ ወደ ሌሎች ሰዎች የመተላለፍ እድሉን ይቀንሳል ብየ አምናለሁ	1	2	3	4	5

315	የወንድ ግርዛት ሌሎች የአባላዘር በሽታወች ወደ ሌሎች ሰዎች የመተላለፍ እድል ይቀንሳል ብየ አምናለሁ	1	2	3	4	5
316	የወንድ ግርዛት ንጽህናን ይጠብቃል ብየ አምናለሁ	1	2	3	4	5
317	የወንድ ግርዛት ወንዶች በቀላሉ ኮንዶምን እንዲጠቀሙ ይረዳል ብየ አምናለሁ	1	2	3	4	5
318	የወንድ ግርዛት ለወንዶች የወሲብ እርካታን ይጨምራል ብየ አምናለሁ	1	2	3	4	5
319	የወንድ ግርዛት ለሴቶች የወሲብ እርካታን ይጨምራል ብየ አምናለሁ	1	2	3	4	5
4.4. አንድን ሰው ከመገረዝ የሚያግዱ ነግሮች ላይ ያለህን አመለካከት በተመለከተ						
320	የወንድ ግርዛት የተወሰነ የአካል መወገድን ሊያስከትል ይችላል	1	2	3	4	5
321	በምገረዝበት ወቅት ልሞት እችላለሁ	1	2	3	4	5
322	ጓደኞቸና ቤተሰቦቸ እንድገረዝ አይፈልጉም	1	2	3	4	5
323	ከጓደኞቸ፤ ቤተሰቦቸና ሌሎችም ግርዛት ሊያስከትላቸው የሚችላቸውን ችግሮች ስለሰማሁ መገረዝ አልፈልግም	1	2	3	4	5

324	የወንድ ግርዛት ከእኔ ማህበረሰብ ልምድ ውጭ ነው ብየ አስባለሁ	1	2	3	4	5
325	የወንድ ግርዛት ከእኔ ማህበረሰብ እምነት ውጭ ነው ብየ አስባለሁ	1	2	3	4	5
326	በክፍያው መብዛት የተነሳ መገረዝ አልፈልግም	1	2	3	4	5
327	በምገረዝበት ወቅት ህመም ይኖረዋል ብየ እጠብቃለሁ	1	2	3	4	5
328	የግርዛት ተለምዶ ባለመኖሩ መገረዝ አልቻልኩም	1	2	3	4	5
329	የጤና አገልግሎት አቅርቦት ባለመኖሩ መገረዝ አልቻልኩም	1	2	3	4	5
4.5.ለመገረዝ ያለህን በራስ የመተማመን አመለካከት በተመለከተ						
330	ከሞከርኩኝ መገረዝ እንደምችል በራሴ እተማመናለሁ	1	2	3	4	5
331	እኔ ከፈለኩኝ መገረዝ እንደምችል አስባለሁ	1	2	3	4	5
4.6. ለመገረዝ የሚያነሳሱን በተመለከተ						
332	ቴሌቪዥን ላይ ስለ ወንድ ግርዛ መመልከቴ ለመገረዝ እንድነሳሳ ይረዳኛል	1	2	3	4	5
333	ጓደኛየ ወይም የማውቀው ሰው ስለ ወንድ ግርዛት ጥቅሞች ከነገረኝ እንድገረዝ ይረዳኛል	1	2	3	4	5

334	ስለ ወንድ ግርዛት መጣጥፎችን ወይም ፖስተሮችን ማንበብ ለመገረዝ እንዳስታውስ ይረዳኛል	1	2	3	4	5
335	የወንድ ግርዛት የኤች አይ ቪን የመተላለፍ እድል ይቀንሳል የሚሉትን የጥናት ውጤቶች ትደግፋለህ?	1	2	3	4	5
336	ስለ ወንድ ግርዛት ከሐኪሞች፤ ነርሶች፤ ጓደኞችህ ወይም የቤተሰብ አባላት ጋር አውርተህ ታውቃለህ?	1. አዎ 2. አላውቅም				
337	የወንድ ግርዛት ያለ ክፍያ የሚሰራበት ቦታ ታውቃለህ?	1.አዎ 2.አላውቅም				
338	የተገረዘ የምታውቀው ሰው አለ?	1.አዎ 2.አላውቅም				
339	ክልል ጤና ቢሮ የወንድ ግርዛትን እንደሚያበረታታ ታውቃለህ?	1.አዎ 2.አላውቅም				
ክፍል አምስት፡ ለመገረዝ ፍቃደኝነትን በተመለከተ						
340	ለመገረዝ ፍቃደኛ ነህ?	1.አዎ 2.አይደለሁም 3.ከዚህ በፊት ለተገረዙ አይሆንም				
341	ለ ጥያቄ 340 መልስህ አዎ ከሆነ፤ እስከ አሁን ለምንድን ነው ያልተገረዝከው? _____ _____ _____					
342	ለ ጥያቄ 340 መልስህ አይደለሁም ከሆነ፡ዋና ዋና ምክንያቶችህ ምንድን ናቸው? _____ _____					

343	ወንድ ጓደኛህን ወይም ወንድ ዘመድህን እንዲገረዝ ትመክራለህ? 1.አዎ 2.አልመክርም
344	ለ ጥያቄ 343 መልስህ አዎ ወይም አልመክርም ከሆነ ምክንያቶችህ ምንድን ናቸው? _____ _____

ስለ ትብብርዎ አናመሰግናለን!!