

VALUE OF VIRGINITY RELATED WITH SEXUAL BEHAVIOUR AND ASSOCIATED FACTORS AMONG YOUTH IN MEKELLE CITY, NORTHERN ETHIOPIAMeles Yohannes^{1*}, Desalegn Tegabu², Measho G/Slassie², Berihu Gidey³, Gebrehiwot Gebremariam⁴¹Aksum Health Sciences College, Department of Public Health, Aksum, Tigray-Ethiopia.²Gondar University, College of Medicine and Health Sciences, Institution of Public Health, Gondar, Amhara-Ethiopia.³Aksum University, College of Health Sciences, Department of Public Health, Aksum, Tigray-Ethiopia.⁴Adigrat University, College of Medicine and Health Sciences, Department of Public Health, Adigrat, Tigray-Ethiopia.**Corresponding Author: Meles Yohannes**

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ABSTRACT

Background: Value of virginity helps for delaying subsequent sexual and reproductive health risk behaviors. It is also norm of most society of Ethiopia especially Northern part even if; currently decrease in urban areas due to western world culture influence. So, this study aimed to assess value of virginity relates with sexual behavior and associated factors among youths in Ethiopia. A community based cross sectional study was conducted among youths age 15-24 years in Mekelle city from July 15-August 3, 2013. A total of 780 participants were included in the study using a multi-stage sampling technique. Descriptive, binary and multiple logistic regression analysis were performing using EPI INFO 5.7 and SPSS version 20. A total of 780 youths were participated in the study and making a response rate of 97%. The proportion of study participants who believe in value of virginity was 59.5%. The significant factors were visiting religious institution everyday [AOR: 3.19, 95%CI: 1.74,5.86], female [AOR: 1.75, 95%CI: 1.18, 2.58], mothers educational status grade 7-12 [AOR: 0.483, 95%CI: 0.27,0.85], have prior information [AOR: 1.91, 95%CI: 1.25,2.92], agree value to virginity [AOR, 1.85, 95%CI: 1.15,2.97], not ever had intercourse [AOR, 1.68, 95%CI: 1.16,2.43], and grow up by parents [AOR: 1.65, 95%CI: 1.06,2.57] were significantly associated with value of virginity. There exists poor value of virginity and high risky behaviors (early sexual practice). So, strengthening in youth sexual education programs and further revising strategies at earlier life to prevent sexual risky behaviors in youth's age 15-24 years should be considered.

KEYWORDS: Youths, Value of virginity, Risky behavior, Ethiopia.**INTRODUCTION**

More than 1 billion people in the world are between the ages of 15 – 24 years, which is characterized by advancement of physiological, anatomical and psychological changes to which young people need to change within a changing socio-cultural atmosphere. It is often characterized by a direct of thinking in immediate needs to take priority over long-term implications.^[1] Nowadays youth sexual behavior proposes mixed messages. It is good progress that youths' pregnancy and childbearing are decreasing. However, the proportion of young people who have had sex at an early age has increased.^[2]

Universally, youths suffer from different reproductive health problems due to the huge sexual intercourse during this period is unprotected; consequence of this unintended pregnancies, unsafe abortions, sexually transmitted infections (STIs) including HIV/AIDS and other serious reproductive health problems are high. Each year about 15 million youths gives birth, as many as 4 million get an abortion, and up to 100 million

become infected with a curable sexually transmitted disease (STD). Half of all new HIV infections in the world occur in people aged 15–24 years which is with the highest rate of new cases of HIV transmission; recent estimates that 7,000 are infected each day. About 12 million young people are living with HIV/AIDS; and only 17 percent of sexually active young people use a contraceptive method.^[2-4]

Ethiopia is a nation of young people 19.2% of its population is 15-24 years of age and whose youth have weighty reproductive health abortion, sexually transmitted infections (STIs), and HIV/AIDS. Youth represents the "window of hope," and one of six target groups for preventing and controlling HIV/AIDS in Ethiopia. In 2006, the government developed the national RH 10-year strategic plan, and declared its goal of ensuring "RH for all by the year 2015." Some of the priority needs reduction of unintended pregnancy, elimination of unsafe abortion, increase the median age of first intercourse for women 20-49 years, from 16.4 to

18 by 2015. And decrease by 20 percent, HIV prevalence among women in the age group 15-24,^[5]

At present, the reproductive and sexual health of youths in Ethiopia is generally affected by the major social changes that affect this segment of population by Internal migration and lack of parental support place young people at substantial risks of unwanted pregnancy, unsafe abortion, and STDs including HIV/AIDS.^[6]

This change related with the values of virginity brought by expansion of slim urbanization, exposure to western cultures, rural to urban migration, illegal video centers this all is due to lack of access to accurate knowledge about reproduction and sexuality. And these exposes to unsafe sexual practice and it is more serious in the youth age group,^[5]

It is true that sexual testing is a normal part of youths' development, which could also expose them to health risks. It is not easy to practice safe sex; even we know the risks of unsafe sex, due to some barriers that come from the wider environment.^[4]

Meeting the needs of youth today is vital for a wide range of policies and programs, because the actions of young people will shape the size, health, and success of the world's future population.^[7] This research is therefore; wished-for assessing value of virginity relate with sexual behavior to decide the risk behaviors for reproductive and sexual health. Realizing these factors will be useful in developing strategies to maintain sexual and reproductive health of youths.

METHODS AND MATERIALS

Multistage sampling procedure was employed. The study was conducted among youths in Mekelle city, Tigray region state, North Ethiopia. Mekelle is the capital city of Tigray Regional State and it is administrated as special zone which is one of the seven zones. It is located 783 kilometers to the north from Addis Ababa. Administratively it has 7 sub-cities administrations. The total population of the town according to the city administrative population profile of 2013 it was 280,000 populations estimated with 49.2% male and the rest females. From the total population 69,743 were estimated youths.

Sample size was determined by using the following assumptions; -a 95% confidence interval, margin of error 4% and 17% prevalence was taken to obtain the sample size. Based on single population proportion formula design effect = $2 \times 350 = 700$ by adding 15% of none response rate of, which was equals to $700 + 15\% = 105$, so $N = 805$

Primarily, ethical clearance was obtained from Institutionalized Research Review Board, Institute of Public Health, and University of Gondar. Which requests cooperation was written to the Tigray Regional Health

Bureau and from the health bureau to respected sub cities health offices then written permission was obtained from Hadinet and A. haqie sub city health offices.

The purpose, aim and rules of the research was explained to the participants and verbal consent obtained. Those who wish to terminate their participation at any stage were informed to do so without any restriction.

Measurements

The outcome variable for the study is value of virginity among youths aged 15-24 years. Structured interviewed questionnaire was used to collect the information. It was first prepared in English and then translated to Tigrigna and then translated back for consistency. Information collected included socio-demographic characteristics of youths 9, 10, 12. The questionnaire was adapted by reviewing different literatures and considering the local situation of the study subjects 10, 12. Five diploma clinical nurses who speak local languages were employed in the data collection process. Two BSc nurses were selected as a supervisor. Training was given to the data collector and supervisor for two consecutive days on the objectives of the study, the contents of the questionnaire and particularly on issues related to the confidentiality of the responses and the rights of respondents. Five days prior to the data collection, a pre-test was conducted at Wukro town in 42 (5%) of the sample size. After data collection, data was stored in a secured place to maintain confidentiality and backup of the data was stored in different areas not to lose the data. Each questionnaire was coded separately before analysis.

Statistical analysis

The collected data was coded, entered and cleaned using EPI INFO 5.7 version and analyzed using SPSS version 20.0. Descriptive statistics were used to describe the value of virginity. Frequencies and percentages were used to present categorical data. Mean (\pm standard deviation) was used for normally distributed continuous data. The scores were summed up to generate an overall score for each participant's value of virginity. Then, the mean score was calculated and it was 1.377 from a total score of seven value of virginity questions.^[10] To determine the value of virginity of the participants for each virginity questions, one point was given for correct response and zero point was given for incorrect response. So, levels of virginity related questions were then re-categorized depending on their mean. Regarding on this issue, participants who scored less than the mean score were categorized as having "POOR- VALUE TO VIRGINITY" and those who scored points equal to and more than the mean score were categorized as having "GOOD VALUE TO VIRGINITY". Odds ratios (ORs) and 95% confidence intervals (CIs) were calculated using a logistic regression model to determine association levels of predictors to the outcome variables. Crude ORs of predictors with value to virginity among youths aged 15-24 years were estimated using bivariate logistic regression analysis.

A multivariate logistic regression analysis was used to estimate the adjusted OR of predictors and to control confounding factors. A variable having $p < 0.05$ was considered as statistically significant variable in all model. Before inclusion of predictors to the final logistic regression model, the multi collinearity was checked using VIF/Tolerance tests. The goodness of fit of the final logistic model was tested using Hosmer and Lemeshow test. Finally the results of the findings were presented using text, graphs and tables.

Ethical consideration

Primarily, ethical clearance was obtained from Institutionalized Research Review Board of University of Gondar, College of Medicine and Health Sciences.

Letter of cooperation was obtained from Tigray Regional Health Bureau to the respected health offices then written permission was obtained from each sub city health offices. After explained the purpose of the study, verbal consent was obtained from study participants and those who was under the age of 18 years consent was asked from their parents.

RESULTS

Socio-demographic characteristics

A total of 780 youths were participated in the study and making a response rate of (97%), 490 (62.8%) were males and the mean age of participants was 19.7 years with ($SD \pm 2.5$) (Table1).

Table: 1 Socio-economic and demographic factors of value of virginity related with sexual behaviour among youths in Mekelle city, Tigray, Northern Ethiopia, August, 2013(n=780).

Variable	Response	Frequency(n)	Percent (%)
Sex of respondent	Male	490	62.8
	Female	290	37.2
Age in year	15-19	430	55.1
	20-24	350	44.9
Ethnic group	Tigraway	748	95.9
	Other	32	4.1
Religion	Orthodox	702	90.0
	Muslim	46	5.9
	Other	32	4.1
Marital status	Never married	700	89.7
	Ever married	80	10.3
Residence	Rural	68	8.7
	Urban	712	91.3
School attended	Primary school	75	9.6
	High school	373	47.8
	College /University	332	42.4
Occupational status	Student	554	71.0
	Private employee	92	11.8
	Civil servant	60	7.7
	Other	74	9.5
Father's educational status	Can't read and write	68	8.7
	Can read and write	231	29.6
	Grade 1-6	58	7.4
	Grade 7-12	157	20.1
	Diploma and above	266	34.1
Father's Occupation	Daily labourer	71	9.1
	Civil servant	268	34.4
	Trader	109	14.0
	Employed in private sector	239	30.6
	Other	93	11.9
Mother's educational status	Can't read and write	152	19.5
	Can read and write	255	32.7
	Grade 1-6	88	11.3
	Grade 7-12	130	16.7
	Diploma and above	155	19.9
Mother's Occupation	Civil servant	154	19.7
	Housewife	450	57.7
	Employed in private sector	105	13.5

	Other	71	9.1
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Value of virginity related with sexual behavior

In this finding, 59.5% of participants have value of virginity. Four hundred seventy six of the participants (61%) were believes in girls virginity, but 428 (54.9%) didn't believe in boys virginity. Majority of the

participants, 498 (63.8%) didn't believe marrying a virgin and the perception benefit of boys' and girls' virginity 609 (78.1%) and 580 (74.4%) were believes to protect partners from HIV/STIs respectively (table2).

Table: 2 Result of Value of virginity related with sexual behavior factors among youths in Mekelle city, Tigray, Northern Ethiopia, August, 2013,(n=780).

Variable	Response	Frequency	(%)
Perception of value to virginity	Do not approved	187	24
	Approved	593	76
Perception of virginity is norm	Virginity is not norm	255	32.7
	Virginity is norm	525	67.3
Perception of girls' virginity	Do not believe in virginity	304	39
	Believe in virginity	476	61
Perception of boys' virginity	Do not believe in virginity	352	45.1
	Believe in virginity	428	54.9
Perception of marrying a virgin	No	498	63.8
	Yes	282	36.2
Benefit of boy's virginity	Pre condition for marriage	171	21.9
	Protects partners from HIV/STIs	609	78.1
Benefit of girl's virginity	Pre condition for marriage	200	25.6
	Protects partners from HIV/STIs	580	74.4

Factors affecting the value of virginity

In the bivariate logistic regression analysis, sex of respondents, grow up by parents, ever had intercourse, currently living with, mothers occupation, fathers occupation, exposure of pornographic view, ever chewed, ever drunk, ever smoked, prior information, mother education, father education, agree value of virginity, and attachment to religious were found significant. Crude ORs of predictors with the value of virginity among youths were estimated using bivariate logistic regression analysis.

Accordingly, attachment to religious institutions participants visiting daily were 3.19 times more likely value of virginity than visiting once and less than once per year [AOR: 3.19, 95%CI: 1.74,5.86], visiting once per week were 4.89 times more value of virginity than visiting once and less than once per year [AOR: 4.89, 95%CI: 2.618,9.166] and visiting once per month were 2.32 times more value of virginity than visiting once and less than once per year [AOR: 2.32, 95%CI: 1.105,4.89]. Female participants were 1.75 times more likely value of virginity as compared with male participants [AOR:

1.75, 95%CI: 1.18, 2.58]. participants whose mothers educational status from grade 7-12 were 51.7% times less likely value of virginity as compared with those their mothers educational status can't write and read [AOR: 0.483, 95%CI: 0.27,0.85].

Regarding to those who have prior information were found 1.9 times more likely value of virginity as compared with those haven't prior information [AOR: 1.91, 95%CI: 1.25,2.92]. Participants not ever had intercourse was 1.68 times more likely value of virginity as compared with not ever had intercourse [AOR, 1.68, 95%CI: 1.16,2.43]. Participants agree value of virginity was 1.85 times more likely value of virginity as compared with don't know value of virginity [AOR, 1.85, 95%CI: 1.15,2.97]. Participants grow up by parents were found 1.65 times more likely value of virginity than not grow up by parents [AOR: 1.65, 95%CI: 1.06, 2.57]. However, view pornographic, ever chewed khat, ever drank alcohol, ever smoked cigarette, currently living, fathers occupation, mother occupation, and fathers education were not statistical significant (table3).

Table3. Factors affecting of value of virginity related with sexual behaviour among youths in Mekelle town, Tigray, Northern Ethiopia, August, 2013(n=780).

Variable	Response	Good value	Poor value	COR(95%CI)	AOR(95%CI)
Sex	Female	238(82.1%)	52(17.9%)	1.813(1.266,2.594)	1.751(1.188,2.582) *
	Male	351(71.6%)	139(28.4%)	1.0	1.0
Attachment to Religious	Every day	256(76.0%)	81(24.0%)	3.582(2.065,6.214)	3.199(1.746,5.862)*
	Once per week	256(83.4%)	51(16.6%)	5.689(3.199,10.116)	4.899(2.618,9.166)*
	One per month	47(65.3%)	25(34.7%)	2.131(1.068, 4.249)	2.326(1.105,4.894)*

	Once per year	30(46.9%)	34(53.1%)	1.0	1.0
Mothers education	Can't read and write	116(76.3%)	36(23.7%)	1.0	1.0
	Can read and write	202(79.2%)	53(20.8%)	1.183(.731,1.913)	.852(.500,1.453)
	Grade 6-12	63(71.6%)	25(28.4%)	.782(.431,1.418)	.708(.367,1.366)
	Grade 7-12	82(63.1%)	48(36.9%)	.530(.316,.889)	0.483(0.272,0.857)*
	Diploma and above	126(81.3%)	29(18.7%)	1.348(.778,2.338)	1.172(.645,2.123)
Ever had intercourse	Yes	228(68.5%)	105(31.5)	1.0	1.0
	No	361(80.8%)	86(19.2%)	1.933(1.39,2.688)	1.687(1.167,2.438)*
Currently Living	parents/relatives	449(78.2%)	125(21.8%)	1.0	
	Alone	61(70.9%)	25(29.1%)	0.679(0.41,1.127)	
	Other	79(65.88%)	41(34.2%)	0.536(0.35,0.821)	
Prior information	Yes	483(79.7%)	123(20.3%)	2.519(1.752,3.622)	1.911(1.25,2.923)*
	No	106(60.9%)	68(39.1%)	1.0	1.0
Agree value of virginity	Yes	433(80.5%)	105(19.5%)	2.474(1.646,3.719)	1.855(1.156,2.977)*
	No	71(67.0%)	35(33.0%)	1.217(0.714,2.075)	1.303(.723,2.347)
	I don't know	85(62.5%)	51(37.5%)	1.0	1.0
Grow up by parents	Yes	504(77.9%)	143(22.1%)	1.99(1.335,2.968)	1.651(1.06,2.57)*
	No	85(63.9%)	48(36.1%)	1.0	1.0
* =P<05	CI=Confidence Interval COR=Crude Odds Ratio AOR=Adjusted Odds Ratio				

DISCUSSION

Dramatic shift in sexual behavior among youths concedes with the rapid disseminations of HIV/AIDS and STIs. Some people argue that involving in sexual behavior pre marriage as normal but the outcome gives different, which exposes youngsters to different diseases. This study focuses the value of virginity related with sexual behavior and associated factors among youths in Mekelle town.

In this finding 59.5% of the participants gave value of virginity. The respondents perception of value of virginity 593 (76%) were approved value of virginity and 525 (67.3%) were considered virginity as norm. The 247(50.4%) males and 159(54.8%) females believes parental continuous supervision were important for value of virginity.

Three hundred sixty three (74.1%) males and 243 (83.8%) females were had prior information in value to virginity. Three hundred sixty one (32.9%) of the respondents have got information on value of virginity from parental-youth communication as well as peers and followed by Radio 137 (12.5%).

The attachment to religious institutions had direct relation with value of virginity related with sexual behavior which was reported by the respondent youths. It showed that the odds of visiting religious institutions daily were 3.19 times more likely value of virginity than visiting once and less than once per year. It was similar with the study conducted in Jimm University, Wolaita Sodo University, Nigerian, Côte d'Ivoire, Bangkok - Thailand and South Africa.^[9,11,12,14,18,19]

Another characteristic feature which makes youths perceive value of virginity was gender on which the odds of female participants were 1.75 times more likely value of virginity as compared with male participants. It was in line with the study conducted eastern Ethiopia, western Nigerian city, South Africa, Nekemte town, Malaysia and USA.^[8,14,16,17,19,24] Different from the study conducted in Jimma University.^[9] This difference might be due to the environment and study design.

This study identified that value of virginity related with sexual behavior of youths was related with family educational status on which the odds of whose mother's educational status from grade 7-12 were 51.7 % times less likely value of virginity as compared with those their mother's educational status can't write and read. It was different from the study done in USA.^[23] It might be due to cultural and environmental difference. From the in depth interview parental education has tremendous uses some of them are recognition of their children to educating, advising, leading and youth-parental open communication. Thus, these activities of their parents will be indispensable to value virginity, which in turn assist them to avoid the emergence of unintended pregnancy, abortion, HIV/AIDS and other STDs in youths.

Value of virginity related with sexual behavior of youths were related to prior information on which the odds of having prior information were found 1.91 times more likely value of virginity as compared with those haven't prior information. It was in line with the study conducted in Gamo Gofa, South West Ethiopia.^[28] From the in depth interview all participants agreed that education on sexuality and value of virginity should mainly target

youths. It should be approached through social institutions, religious leaders and community conversation works. And the government should prepare recreation centers increase in number and quality, illegal video centers and substance centers should be control.

The study indicated that value of virginity related with sexual behavior of youths have had intercourse on which the odds of those not ever had intercourse was 1.68 times more likely value of virginity as compared with ever had intercourse. It was Similar with the study conducted in Nekemte Town.^[16] And different with the study conducted in Cameroon.^[19] The difference might be due to cultural acceptance in the society. In-depth interview participants again described that peer pressure might also show as facilitator of poor value of virginity.

Related to the value of virginity was agree to the value of virginity, on which the odds of those Participants agree value of virginity was 1.85 times more likely value of virginity as compared with I don't know value of virginity. And from the in depth interview *the* participants majorly underlined that unlike the previous times value of virginity is now becoming uncommon among urban youths as well as rural youths as technology advances.

Farther more related to the value of virginity was grown up by parents, on which the odds of those participants grow up by parents were found 1.65 times more likely value of virginity than not grow up by parents. This was similar with the study conducted among youths of South Africa and Malaysia.^[14,24] And from the in depth interview most described that way of parenting nowadays becomes smooth almost no parental control and supervision, poor parent-youth communication, changing of the parental values, the way of parenting and the environment by itself is not comfortable for youths for value of virginity.

CONCLUSIONS

There exists poor value of virginity and high risky behaviors (early sexual practice). The major determinant factors for value of virginity were maternal educational status, sex, attachment to religious, have prior information, grow up by parents, agree value of virginity and not ever have sex were pillar in determining value of virginity related with sexual behavior of youths. So these data will be useful in designing and improving youth sexual education programs at earlier life to prevent sexual risky behaviors in the country.

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AUTHORS CONTRIBUTION

All authors read and approved the final manuscript.

COMPETING INTERESTS

The authors declared that they have no competing interests exist.

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