ADDIS ABABA UNIVERSITY
FACULTY OF MEDICINE
SCHOOL OF PUBLIC HEALTH

Assessment of Knowledge, Attitude and Practice on Emergency contraception among secondary, preparatory, and technical & vocational school female students in Maichew town, Southern zone of Tigray, Ethiopia

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Masters of public health Thesis

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Assessment of Knowledge, Attitude and Practice on Emergency contraception among secondary, preparatory, and technical & vocational school female students in Maichew town, Southern zone of Tigray, Ethiopia

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Acronyms

AAU	Addis Ababa University
AOR	Adjusted Odds Ratio
EC	Emergency Contraception
ECPs	Emergency Contraceptive Pills
FDRE	Federal Democratic of Republic of Ethiopia
FGAE	Family Guidance Association of Ethiopia
GBV	Gender based violence
IUCD	Intra uterine contraceptive device
KAP	Knowledge, Attitude,Ppractice
MDGs	Millennium development goals
MMR	Maternal Mortality Rate
MoH	Ministry of Health
OR	Odds Ratio
SNNP	South Nation and Nationalities People
SPSS	Statistical package for social sciences
SRH	Sexual and reproductive health
TVET	Technical and Vocational Education Training
WHO	World Health Organization

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Abstract

Background: Emergency contraception refers to type of contraception that is used as an emergency procedure to prevent unintended pregnancy following an unprotected act of sexual intercourse. Every year, unintended pregnancies lead to at least 20 million unsafe abortions, resulting in the death of some 70,000 women. There is low utilization of emergency contraception, while awareness is relatively high.

Objective: To assess Knowledge, Attitude and Practice on emergency contraception and factors influencing knowledge, attitude and practice.

Methods: A cross-sectional survey was conducted to collect data from February to March 2009. There were a total of 1091 Eligible female students (age 18 & above) in the three schools of Maichew town. Six hundred twenty three of them were sampled for the study. Self administered questionnaire was used to collect data.

Result: About 15.7 % of respondents are sexually active. Forty eight percent of them were faced forced sex and unwanted pregnancy was 38.1% for those who practiced sex. From 623 respondents 285 (45.8%) have knowledge about emergency contraception; Correct timing of emergency contraception was reported only by 85 (13.6%) and 18 (2.8%) of them had ever used emergency contraception. Health professionals were main source of information 228 (80.0%) and About 178 (62.4%) of the respondents had favorable attitude towards the use of emergency contraception.

Conclusion: There is high rate of unintended (forced) sex; low knowledge, attitude and utilization of emergency contraceptives among Secondary, Preparatory and TVET school female students and no favorable access to the service. Hence there is a need for collaborated effort to improve knowledge, Attitude and utilization of contraceptive methods including emergency contraception to prevent female students from life threatening behaviors and strengthening the schools reproductive health clubs by the school & the woreda health office jointly.

1. INTRODUCTION

1.1 Background

Emergency contraception (EC) is contraception administered after unprotected intercourse to prevent pregnancy. It is also known as "post-coital contraception or morning-after pills but confusing since methods are not only pills and can be used within 5 days after un protected intercourse and not merely the morning after. Formerly, emergency contraceptive pills (ECPs) were thought to be effective only within 72 hours, but recent studies have shown that they would be effective for up to 120 hours (2, 4). Situations of unprotected intercourse that demand the use of EC include failure of barrier methods such as slippage, breakage or misuse of condom, sexual assaults, failed coitus interruptus, two or more consecutive missed oral contraceptive pills, and simply because intercourse was unexpected and therefore contraception had not been used (1-4).
Forms of EC include:

- ECPs—sometimes simply referred to as emergency contraceptives (ECs) or the "morning-after pill"—are drugs that act both to prevent ovulation or fertilization and possibly post-fertilization implantation of a blastocyst (embryo).
- Intrauterine contraceptive devices (IUCDs)—usually used as a primary contraception method, but sometimes used as emergency contraception.(5-6)

Although EC has been available in many countries for the last three decades, it remains relatively unknown and underutilized (2, 4). A Study to evaluate the knowledge about emergency contraception (EC) use among public high schools-attending adolescents in the state of Morelos, Mexico with specific questions about EC knowledge and experience as well as questions about perceived ability to negotiate, overall, 61% of students had heard of EC, and 36% of girls had correct knowledge about EC. Correct knowledge was based upon knowing that EC is pills taken up to 3 days after unprotected sex to prevent pregnancy. Sixteen percent reporting lifetime sexual activity, 16% reported they had tried to obtain EC and almost of all them (16%) reported having used EC **(7).**

Despite the availability of highly effective methods of contraception many pregnancies are unplanned and unwanted. The consequences of unplanned pregnancies are multiple including discontinuation of school, unsafe induced abortions and their risk of very serious morbidity and

mortality. The most affected groups are students, single and nulliparous young girls. Widespread use of EC could be a potential strategy to reduce the incidence of unwanted pregnancies and unsafe abortions (2).

Thus, the purpose of this study is to asses the knowledge, attitudes and experiences on ECs by the secondary, preparatory and TVET school female students in Maichew town, Tigray Region, Ethiopia in order to develop and refine a Zonal, Regional as well as national health programme for reducing unwanted pregnancies and their associated morbidity and mortality & improving SRH of adolescents by informing the findings. The finding will serve as a baseline in the study region. The questionnaire covered information about age, places of residence, grade, history pertaining to a relationship, history of pregnancy and the outcomes, general contraceptive ever use, attitudes towards EC and correct timing of taking EC.

1.2 Rationale of the study (Statement of the problem)

Unsafe abortion is a major public health problem in low-and-middle income countries. Young and unmarried women constitute a high risk group for unsafe abortions. . The World Health Organization estimates that 84 million unwanted pregnancies occur annually worldwide (2). On average, 46 million abortions take place every year, out of which 20 million (43.8%) are performed under unsafe conditions. Seventy thousand women die yearly as a consequence of unsafe abortion, while five million suffer permanent or temporary disability. Approximately 13% of pregnancy-related mortality worldwide is due to unsafe abortions and the majority of these deaths (and morbidities) occur in low-and-middle income countries. An important proportion of maternal deaths worldwide is attributable to induced unsafe abortion: Asia (20–25%), Africa (30–50%) and Russia (25–30%). In recent years, many low-and-middle income countries have supported the use of emergency contraception. It has been estimated that widespread use of emergency contraception may significantly reduce the number of abortion-related morbidity and mortality (2).

Throughout the world women are subjected to different types of violence regardless of where they live or their status is. Improving maternal health and reducing maternal mortality rate

(MMR) is one of the MDGs (8, 9). Maternal mortality in Ethiopia is one of the highest in the world which is 673/100,000 live births (10).Unwanted pregnancy is a big problem in Ethiopia; more than 60% of pregnancies in adolescents are unwanted and most of them ends up as unsafe abortion. According to MoH abortion accounts for nearly 60% of Gynecological and almost 30% of all Obstetric & Gynecological admissions. A community based survey in Addis Ababa showed that 54% of maternal deaths resulted from unsafe abortion. In Ethiopia, 20% of abortion occurs in girls between 15-19 years of age (11, 12). Gender based violence like rape, abduction & sexual violence are common SRH problems which need to be great focus (13, 14). A community based study done in kofele district Arsi zone on magnitude and immediate outcomes of physical violence against women showed that 12.9% and 6.8% of women were married through abduction and faced coercion by male partners respectively (15). Knowledge and practice on EC are important because of high rates of unwanted and teenage pregnancy. Some studies, however, has shown that the knowledge and practice in relation to EC are limited among women as method is not presented with other methods. Literature is also scarce in this area (13).

2. LITRATURE REVIEW

KNOWLEDGE, ATTITUDE AND PRACTICE OF EMERGENCY CONTRACEPTION

Women especially the young in rural areas remain largely unaware of EC and don't have the option of using it to prevent pregnancy following unplanned & sporadic sex (11). Unintended pregnancy poses a major challenge to the reproductive Pregnancies obtain abortions—many of which are performed in unsafe conditions—and others carry their pregnancies to term, incurring risks of morbidity and mortality higher than those for adult women. Given increasing adolescent sexual activity and decreasing age at first sex in developing countries, the use of contraceptives to prevent unwanted pregnancy and unsafe abortion is especially important. Studies from western and southern Nigeria have found rates of contraceptive use among sexually active adolescents of about 30%, considerably lower than the rates reported for developed countries (16).

In a community based survey in Tigray, Amhara, Oromiya and SNNP knowledge of family planning appears to be high(86%), however the knowledge about the long term, permanent and other options including EC methods was very low in spite of increased number of health facilities for service delivery(17-18). "In Kenya, only about 10 percent of 282 female clients were aware of emergency contraception when an introduction program began in 1996. Initially, only 18 percent and fewer than 5 percent of surveyed women in Mexico and Indonesia, respectively, were familiar with emergency contraception. In Sri Lanka, prospective user knowledge of the method was also low even though the country's contraceptive prevalence rate of 67 percent is one of the highest in South Asia (19).

In a study of 10 secondary schools in Lothian, south east Scotland to asses Knowledge of the existence of emergency contraception; of its safety, efficacy, and time limits; and of where to obtain it among 1206 pupils result shows 1121 (93.0%) pupils had heard of emergency contraception. 194 girls (32.7%) and 168 boys (27.5%) had experienced sexual intercourse. Of girls who had experienced sexual intercourse, 61 (31.4%) had used emergency contraception. Knowledge of correct time limits was poor, sexually active girls being the most knowledgeable. Pupils attending schools ranked lower than the national average for academic attainment were less likely to have heard of emergency contraception and more likely to have been sexually active. 861 (76.8%) pupils knew they could obtain emergency contraception from their doctor.

925 (82.5%) pupils believed emergency contraception to be effective but 398 (35.5%) thought it more dangerous than the oral contraceptive pill(20).

A Study to evaluate the knowledge about emergency contraception (EC) use among public high schools-attending adolescents in the state of Morelos, Mexico with specific questions about EC knowledge and experience as well as questions about perceived ability to negotiate, overall, 61% of students had heard of EC, and 36% of girls had correct knowledge about EC. Correct knowledge was based upon knowing that EC is pills taken up to 3 days after unprotected sex to prevent pregnancy. 16% reporting lifetime sexual activity, 16% reported they had tried to obtain EC and almost of all those (263) reported having used EC (7).

To investigate factors associated with young people's access to contraceptive services, a study was conducted in 2001 in Changchun city among 1,227 unmarried young people aged 15-24 years. Results showed that 16% of young people had experienced premarital sexual intercourse and, among them, only 48% used contraceptive methods during the first sexual intercourse. Drug stores were the main source of contraceptives. Findings suggest that the hostile and judgmental attitudes of providers, as well as the lack of counseling and privacy, were the key obstacles that unmarried youth encountered in their search for contraceptive services (21**).** In 2001, a study done among Finnish adolescents Toronto, Canada 2008 shows nearly all 14-18 year-olds and a majority of 12-year-olds were aware of EC (22).

A similar survey done among students of Addis Ababa University and Unity University College showed 43.5% of students have heard about EC, but lesser proportion (10%) of those who have heard about EC could tell the correct timing of administration and only 5% of respondents have used EC. in the same study 19.5% were sexually active and 51.7% have ever used regular modern contraceptives. Of those sexually active 35.1% have experienced pregnancy one or more times and 73.5% of these pregnancies were unwanted. More than 71.7% of unwanted pregnancy had induced abortion and 29% were under unsafe condition. About 53% 0f students have positive attitude towards the importance of emergency contraception (13).

During the past 3 decades the level of sexual activity in adolescents in the United States has increased. The majority of US adolescents begin having sexual intercourse by mid- to late adolescence, with an average age of first intercourse between 15 and 17 years. The results of the

National Youth Risk Behavior Study of the Centers for Disease Control and Prevention disclosed that at least half of all high school students have had sexual intercourse, with 36.9% of 9th graders and 66.4% of 12th graders reporting coital experience (23).

Magnitude of Gender Based Sexual Violence in High School Students

Gender based violence physical, mental or social abuse including sexual violence acts, attempted or threatened, done with some type of force, manipulation or coercion and without the informed consent of the affected person/survivor. Forms of gender based violence includes sexual violence, sexual abuse, sexual harasement,sexual exploitation, early marriage, marriage by abduction, female genital cutting but to be free from GBV is one of human right(24-25).

In a school based survey among high school students in Addis Ababa and west Shoa prevalence of completed and attempted rape was 5% and 10% respectively (26).

In a similar study among high school students in Debark, North west Ethiopia, sexual violence was reported by 65.3% of respondents. The prevalence of attempted and performed rape was 11.5% and 8.8% respectively (37).

Findings from field research conducted in Merkan& Mareko district in south central Ethiopia showed 59% of women suffered from sexual violence and 49% from physical violence by a partner at some point in their lives (27). So increasing awareness and widespread use of EC could be a potential strategy to reduce the incidence of unwanted pregnancies and unsafe abortions.

Importance of EC for the Youth

One of the groups that are particularly vulnerable to unsafe abortions is the young people (10–24 years). Young people are particularly at risk because they are in the transition period between childhood and adulthood. This is a period of psychological, social and sexual changes. Young people are in a state of experimentation and discovery. Because of this they are exposed to risks such as unwanted pregnancies (28). In a study conducted among school youth in Jimma town, Oromyia regional state the mean age of menarche for girls was found to be 14.1 years (29).

The consequences of unplanned pregnancies are multiple. They include discontinuation of school, unsafe illegal abortions and their risk of very serious morbidity and mortality. It has been estimated that widespread use of emergency contraception could be a potential strategy to reduce the incidence of unwanted pregnancies and unsafe abortions (21).

It's Importance as a Youth Reproductive Health Issue

- Younger women are more likely than older women to have unplanned and sporadic sex, use contraception ineffectively, and lack information on contraceptive methods, thus increasing their chances of having unplanned pregnancy.
- By preventing such unplanned pregnancies, emergency contraceptive pills help avert abortion and pregnancy-related illness and death, to which young women are more susceptible than older women.

Use of ECPs can give young people an entry point into reproductive health care services, promote their access to effective contraception and other needed services, and ultimately reduce the likelihood that they will need ECPs in the future(30).

Effectiveness of emergency contraception

The effectiveness of emergency contraception is presented differently from the effectiveness of ongoing methods of birth control: it is expressed as a percentage reduction in pregnancy rate for a single use of EC. Different ECP regimens have different effectiveness levels, The Yuzpe method of emergency contraception reduces the risk of pregnancy by 75%... these numbers do not translate into a pregnancy rate of 25 percent. Rather, they mean that if 1,000 women have unprotected intercourse in the middle two weeks of their menstrual cycles, approximately 80 will become pregnant. Use of emergency contraceptive pills would reduce this number by 75 percent, to 20 women. The progestin-only regimen (using levonorgestrel) is reported to have 89% effectiveness. This effectiveness rate is stating, "Seven out of every eight women who would have gotten pregnant will not become pregnant''.

For both the progestin-only and Yuzpe regimens, the effectiveness of emergency contraception is highest when taken within 12 hours of intercourse and declines over time. While most studies of

emergency contraception have only enrolled women within 72 hours of unprotected intercourse, a 2002 study by the World Health Organization (WHO) suggested that reasonable effectiveness may continue for up to 120 hours (5 days) after intercourse. IUDs can reduce the risk of pregnancy by 99%. The sooner the pills are taken within the 72 hour, the more effective they will be (5, 31).

An essential component of programs providing emergency contraception is education, informing women about this important option before they need it. Because, the time frame for intervention is short, Efficacy declines with each day or even hours of delay. Women need to be aware that emergency contraception is an option & should know where they can seek services & should understand that treatment has to be started as soon as possible after unprotected or inadequately protected intercourse (31, 32).

The precise mechanism of action of ECPs in a particular case can't be determined, and probably depends on the time in a woman's menstrual cycle, when intercourse occurred & when ECPs were taken. It works by interfering with ovulation, fertilization and implantation .It is a primary method of pregnancy prevention since pregnancy begins with implantation and EC has no effect on an implanted egg. Even if ECPs have been wrongly confused with medical abortion they are effective only in the first few days following intercourse before a pregnancy is established. ECPs are ineffective once implantation has begun. Data from high dose oral contraception indicate that neither of the two ECPs regimen discussed will interrupt an established pregnancy nor harm a developing embryo (33, 34).

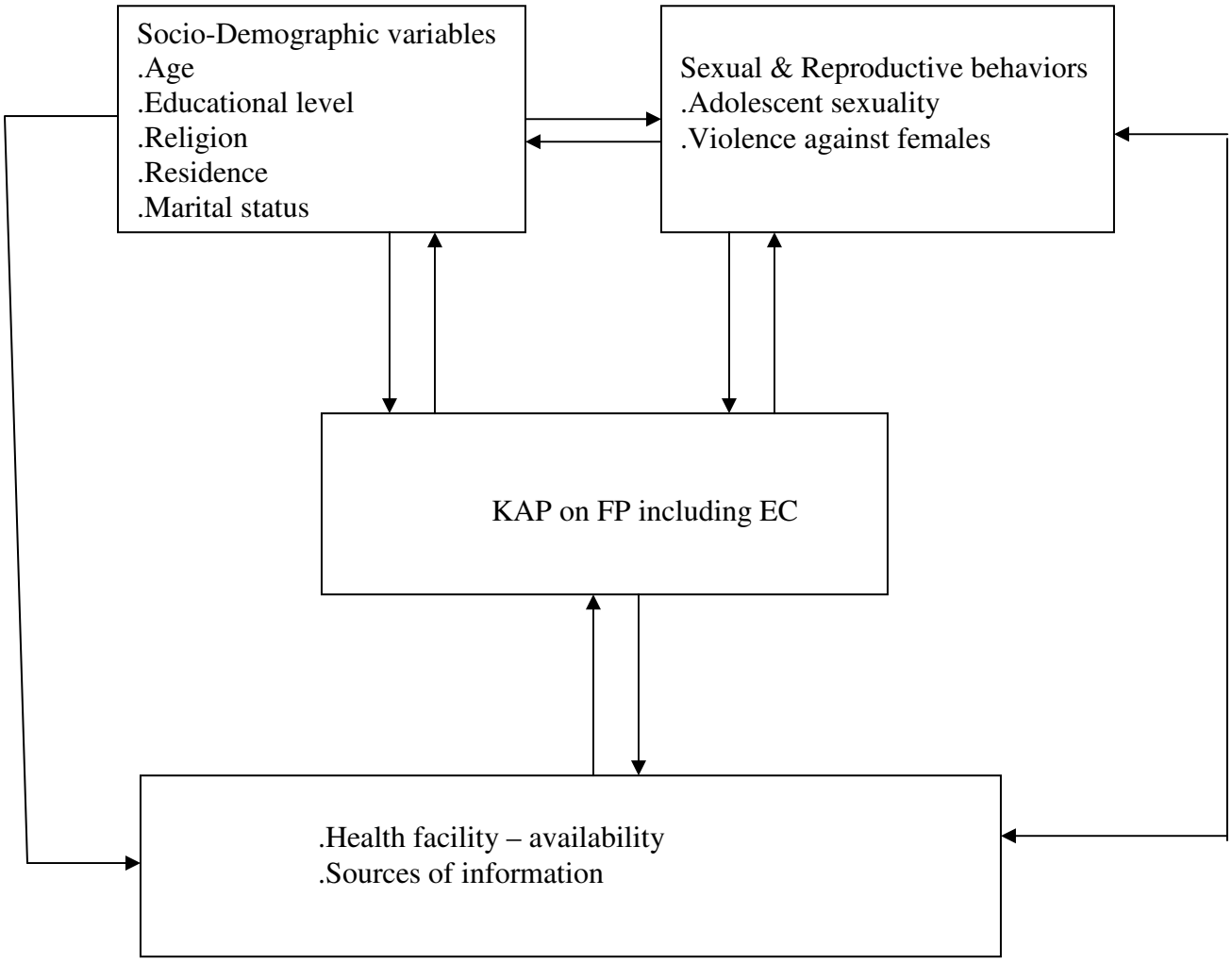
Accessibility of EC methods

To investigate factors associated with young people's access to contraceptive services, a study was conducted in 2001 in Changchun city among 1,227 unmarried young people aged 15-24 years (619 males and 608 females). It assessed risky sexual practices and the obstacles to accessing appropriate contraceptive and other services. Results showed that 16% of young people had experienced premarital sexual intercourse and, among them, only 48% used contraceptive methods during the first sexual intercourse. Drug stores were the main source of contraceptives. Findings suggest that the hostile and judgmental attitudes of providers, as well as

the lack of counseling and privacy, were the key obstacles that unmarried youth encountered in their search for contraceptive services. Findings suggest the need for a reorientation of the contraceptive services to focus on unmarried youth, and generally to make contraceptive services more accessible to young people (35).

The Consortium for Emergency Contraception, a group of more than 20 organizations, has set a goal of making emergency contraceptive pills a standard part of reproductive health care worldwide (21). The International Consortium for Emergency Contraception (ICEC) Steering Committee collaborates with Ethiopian Society of Obstetrician and Gynaecologists making EC available in Ethiopia. In 2004, Concept Foundation awarded a grant of $40,000 to the Ethiopian Society of Obstetricians & Gynaecologists for an operations research study on introducing and scaling up EC services in Ethiopia's public sector. This eighteen month study will demonstrate the feasibility of integrating EC into the broader contraceptive method mix in the country's five most populated regions: Addis Ababa, Amhara, Oromia, Tigray, and the Southern People's Region. At the outset of this project, Postinor-2 was introduced as the first and only dedicated EC pill available in Ethiopia, and 40,000 units have been imported for use in the study. Using a curriculum developed expressly for this purpose, 69 service providers from the 36 participating health care facilities have been trained to provide EC and service delivery has recently begun. Efforts are also underway to incorporate EC into the standard pre-service training curriculum for all health care providers, sponsor guest lectures and student research projects on EC, and document all information required for registering Postinor-2 with the Ethiopian Drug Administration and Control Authority. At the conclusion of this study, the service delivery data and lessons learned will be consolidated so that they may guide efforts to mainstream EC services in both the public and private sectors (36).

Conceptual Framework



3. OBJECTIVES

3.1 General Objective

To asses the Knowledge, Attitude and Practice of EC among female students of secondary, preparatory and TVET schools in Maichew town, Tigray Region.

3.2 Specific Objectives

- -To asses the knowledge of emergency contraception among secondary, preparatory and TVET school female students.
- -To asses the attitude & practice of emergency contraception among secondary, preparatory and TVET school female students.
- -To asses factors influencing knowledge attitude and practice of Emergency contraception among secondary, preparatory and TVET school female students.

4. METHODS AND MATERIALS

4.1 Study Design and Period

The study used quantitative methods which is school based cross-sectional survey conducted for data collection from 623 secondary, preparatory, and TVET school female students during the months of February to March 2009.

4.2 Study area

The study area was in Maichew town which is the capital of southern zone, Tigray National Regional state. It is one of the six woreda's in the southern zone of Tigray located 640 km North of Addis Ababa. The total population of Maichew town is 35,453. It has one government hospital & one health center, one private clinic & five drug venders. The town has eight primary, one secondary, one preparatory and one TVET schools. In addition, there are two government and one private colleges. According to the statistics obtained from the schools a total of 4246 students were present with female students accounting 48.3% with eligible age group 1091 students. There is neither adolescent health center nor school health services in the town.

4.3 Study Population

4.3.1 Source population: all female students of Maichew secondary, preparatory & TVET schools.

4.3.2 Study population: a sample of female students drawn from Maichew secondary, preparatory & TVET schools.

4.4 Sampling Technique and Sample Size

4.4.1 Sampling procedure

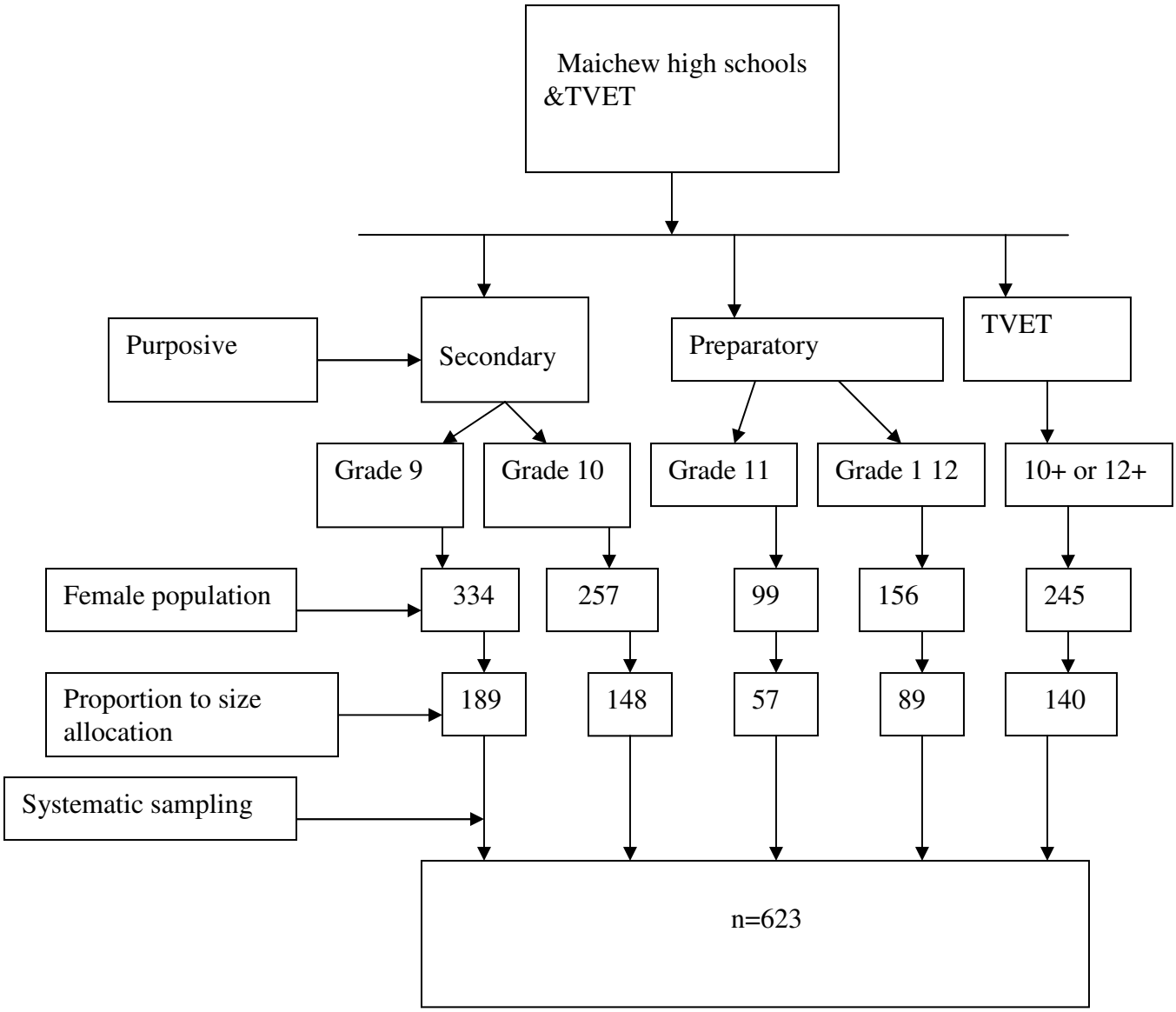
Maichew town was purposefully selected followed by registration of all female students (grade 9-TVET) based on the inclusion criteria.

Required number of total sample size was proportionally allocated among all female students of secondary, preparatory and TVET schools based on the different grades as well as by the number of the students. Finally respondents from each grade were selected by systematic sampling method.

Inclusion criteria:

All female students aged 18 & above attending class, who were present and consented during study period.

Schematic Presentation of sampling procedure



Example how to obtaining number of students from each grade was as follows.

TVET =245/1091 = 0.22456

0.22456*623 = 139.9 which is almost 140 students taken from TVET.

Where 245 are number of TVET female students age 18 and above, 334+257+99+156+245= 1091 are total female students of the three schools age 18 & above and 623 were my sample size.

4.4.2 Sample size

Sample size was calculated using single proportion formula

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

Where

n=minimum sample size needed

d=desired precision (5%)

p=proportion of students having awareness of emergency contraception to be 43.5 % (13). Zα/2=1.96 at confidence level 95 %

Based on the above assumption, the sample size calculated was 378, adding non response rate of 10 % and multiplying by a design effect of 1.5 due to the multistage nature of the sampling method, the required sample was 623.

4.4.3 Measurements and Variables

Independent

-Socio demographic factors

Age, religion, educational status,

Income, residence

Dependent /outcome variables

-knowledge, attitude & practice towards emergency contraception.

4.5 Data Collection

4.5.1 Data collection tools

Structured self-administered questionnaire was developed in English addressing socio-demographic characteristics, sexual and reproductive behavior and awareness & utilization of EC. The questionnaire then translated in to local language Tigrigna by a person who has good ability of both languages for better understanding. The questionnaire was again rechecked by another individual of similar ability in order to see the consistency of contents of the instrument.

4.5.2 Data collection procedure

Nine teachers and three health professionals' were recruited and trained to be data collection facilitators and supervisors respectively. The Tigrigna version questionnaire was introduced to data collection facilitators and supervisors through two days training and pretested in another woreda Korem with the same level of schools. The training included the objectives of the study, introduction of questionnaire format, procedures of giving self administered questionnaire & guiding them and methods of reporting to supervisor. The role and communication of supervisors to data collection facilitators & coordinators was thoroughly explained.

Following a pretest discussion was taken place concerning the filled formats, guiding procedures and communication between data collection facilitators & supervisors. Some corrections were made on questions that were ambiguous. A supervisor was responsible for one high school with three data collection facilitators; to help facilitators if any problem arises and report to the coordinator for further help. The data collection facilitators (teachers) collected the filled self administered questionnaires and submitted to the coordinator through the supervisor.

4.5.3 Data Quality Control

The quality of data was controlled at different levels for completeness and consistency; first by data collectors and by supervisors finally by the coordinator. The coordinator undertook computer data cleaning and checking.

4.5.4 Operational definitions

Knowledge: Knowledge of EC is awareness of the presence of contraception methods after unprotected sex, its sources, ability to identify when EC should be taken after unprotected sex,
Attitude: Attitude is the study subject's opinion, out look, position or ideas toward emergency contraceptive methods. A study subject who have concerns, and responded negatively to attitude variables categorized as negative attitude towards EC and study subjects who are willing to use or recommend EC for friends or relatives in the future categorized as having positive attitude.
Utilization of emergency contraceptives: A study subject who have knowledge about emergency contraception and who have ever used it to prevent unplanned pregnancy after unprotected sex, or method failure

4.5.5 Data Processing and Analysis

After all the data collected, each questionnaire was checked for completeness. Data was coded on pre arranged coding sheet by the principal investigator and entered into a computer using EPI Info version 6.4 statistical software. Frequencies were produced to check for missed variables. Data was cleaned accordingly and then exported to SPSS version 13.0 for analysis. Descriptive statistics, chi-square, tests of significance, odds ratios of associations were employed where appropriate. Multivariate analysis was done to see the relative effects the predictors on the dependent variables.

4.6 Ethical Clearance

Ethical clearance was obtained from the School of Public Health, IRB of Addis Ababa University/Medical Faculty. A written letter from Tigray Regional State and Maichew Woreda was obtained. All the study participants (respondents) were informed about the objective and the purpose of the study and their verbal consent was obtained before conducting data collection. Confidentiality of the information was assured and collected anonymously.

4.7 Dissemination of Study Result

The result of the study will be submitted to the school of public health, also disseminate to study schools, woreda and regional health offices. In addition the findings of the research will be presented on professional association meetings and publication will be attempted on scientific journals.

5. Results

5.1 Socio-demographic Characteristics of respondents

Response was obtained from all 623 female students making the response rate 100%. Three hundred and thirty seven (54.1 %) are from secondary, one hundred and forty six (23.4%) from preparatory and one hundred forty (22.5%) students are from TVET schools.

The age distribution of the respondents showed that 70.3% were 18 years of age. The median age was 18.0±1.9, ranging from 18 to 28 years.

Five hundred ninety one (94.9%) of the respondents were followers of the Orthodox Christianity and Muslim accounts for 32 (5.1%). Five hundred and sixty one (90.0 %) of the respondents were single. Four hundred fifty six (73.2%) of the respondents were living in the town.

Four hundred eighty five (77.8 %) of respondents are currently living with their parents, one hundred (16.0 %) alone & with peers in rental house and 37 (5.9 %) of respondents live with their husband or boy friends. (Table -1)

Table 1. Socio-demographic and academic Characteristics among Secondary, Preparatory and TVET school female students in Maichew town; February 2009

(n=623)

Characteristics	Number	percent
Age (years)	n= 623	
=18	438	70.3
19+	185	29.7
Median 18± 1.9		
Religion		
Orthodox	591	94.9
Muslim	32	5.1
Grade		
High school (9-10)	337	54.1
Preparatory (11-12)	146	23.4
TVET	140	22.5
Residence		
Urban	456	73.2
Rural	167	26.8
Marital status		
Single	561	90.0
Married	50	8.0
Divorced	11	1.8
Widowed	1	0.2
Currently living with		
- Parents (father, mother)	485	77.8
- Peers in rental house	35	5.6
-Alone in rental house	65	10.4
-Husband & boy friend	37	5.9
-other (specify) ----------	1	0.2

5.2 Sexual and reproductive characteristics of respondents

Ninety eight (15.7%) of the respondents have had sexual intercourse in their life time and out of which 89(90.8%) were between 15-19 years of age when they have had first sex. the mean & median age at first sex were 17.8 & 18 respectively. Of those who ever had sexual intercourse, 47(48.0%) were by their consent, while 51 (52.0%) were forced. Of those who had forced sex, student peers/friends 27(52.9%), other persons 12 (23.5%) and teachers 10(19.7%) were involved the forceful act. Forty two (42.9%) of those who have had sex it resulted in unwanted pregnancy, with 41 of them (97.6) became pregnant at age between15-19. Twenty four (57.1%) of them proceeded with the pregnancy to delivery while 16 (38.1%) undergo abortion where 93.8% were induced abortions. Place of abortion reported to be**:** private clinic 7(43.8%), health institution 6 (37.5%) and self infliction 2 (12.5%). (Table -2)

Table 2. Age at first sex and conditions of pregnancy with its outcome among Secondary, Preparatory and TVET school female students in Maichew town; February 2009

Characteristics	Number	Percent
Ever had sex		
Yes	98	15.7
No	480	77.0
No response	45	7.3
Religion of sexually active respondent	(n=98)	
Orthodox Christianity	92	93.8
Muslim	6	6.2
Age at 1st sex (years)	(n=98)	
<15	7	7.1
15-19	89	90.8
20+	2	2.1
Median 17 ± 1.9		
Consent sex	(n=98)	
Yes	47	48.0
No	51	52.0
Forced sex by	(n=51)	
-Student/friends	27	52.9
-Teacher	10	19.7
-Relative in the parents	2	3.9
-Others	12	23.5
Become pregnant after sex	(n=98)	
Yes	42	42.9
No	51	52.0
No response	5	5.1
Continued pregnant	(n=42)	
Yes	24	57.1
No	16	38.1
No response	2	4.8
Ever had induced abortion	(n=16)	
Yes	15	93.8
No	1	6.2
Place of abortion	(n=15)	
Self infliction	2	12.5
H/institution	6	37.5
Private clinic	7	43.8
Others	1	6.2
Age at 1st pregnancy (years)		
<15	1	2.4
15-19	41	97.6
Median 18 ± 2		

5.3 Knowledge, attitude and practice of respondents on contraceptive methods

Four hundred forty nine (72.1%) of students have heard about modern contraceptive methods. Injectables were the most commonly known method by the respondents 330 (73.5%) followed by oral contraceptive pills 298 (66.3%), implants 138 (30.7%) and 156 (34.7%) condoms.

Source of information were health workers in 302 (67.3%), teachers/clubs in schools 178 (39.6%), Mass media 85 (18.9%) and 52(11.6%) of the respondents got from peers/friends. Sixty seven (10.8%) of respondents have ever used modern contraception. commonest contraceptives used were Injectables 47 (70.1%) followed by Oral contraceptive pills 24 (35.8).Major source of modern contraceptives for respondents were health institutions 60 (89.5%) and pharmacy (drug venders) 6(8.9%). (Table 3)

Table 3. Knowledge and Practice (utilization) of modern contraception among Secondary, Preparatory and TVET school female students in Maichew town; February 2009.

Characteristics	Number	Percent
Ever heard of contraception	(n=623)	
Yes	449	72.1
No	148	23.8
No response	26	4.1
Types of contraceptives heard multiple responses	(n=449)	
Pills	298	66.3
Injectables	330	73.5
IUCDs	96	21.4
Condoms	156	34.7
Implants	138	30.7
0thers	5	1.1
Source of information on contraception	(n=449)	
H/workers	302	67.3
Friends/peers	52	11.6
Clubs/Teachers	178	39.6
Mass media	85	18.9
From parents	48	10.7
Religious leaders	14	3.1
Ever used contraceptive methods n= 98		
Yes	67	68.4
No	31	31.6
Types of contraceptive used multiple responses		
Pills	24	35.8
Injectables	47	70.1
IUCDs	2	2.9
Condoms	3	4.5
Implants	7	10.4
Did not use	382	85.1
Sources of contraceptive methods	(n=67)	
H/institution	60	89.5
Pharmacy	6	8.9
P/clinic	2	2.9

5.4 Knowledge, attitude and practice of respondents on Emergency contraceptive

Two hundred eighty five (45.8%) of the respondents have heard about Emergency Contraception. Of those who have heard, Source of information about emergency contraceptives were 228 (80%) health workers; 47 (16.5%) from teachers education & clubs in the schools and 22 (7.7%) from friends/peers. Of those who have heard about EC, 235 (82.4%) reported OCPs (Progestin only pill & combined oral contraceptive) and 88 (30.8%) IUCD were the methods they know used as an emergency contraceptive. Of those respondents who have heard about EC, 229 (80.3%) identified places to get EC as health institution, 68 (23.8%) pharmacy and 45 (15.8 %) private clinic. One hundred and thirty two (46.3%) of them were aware that EC to be taken after unprotected sexual intercourse. Eighty five (29.8%) of those ever heard about EC knows that OCPs could be used with in 72 hours (3days) after unprotected sexual intercourse. (Table 4)

Table 4. Knowledge of EC among Secondary, Preparatory and TVET school female students in Maichew town; February 2009.

Characteristics	Number	Percent
Ever heard (know) EC	(n= 623)	
Yes	285	45.8
No	281	45.1
No response	57	9.1
Source of information to EC multiple response	(n=285)	
H/workers	228	80.0
Friends/peers	22	7.7
Clubs/Teachers	47	16.5
Mass media	8	2.8
Know EC used after unprotected sexual intercourse		
Yes	132	46.3
No	97	34.0
No response	56	19.6
Methods reported as EC multiple responses n= 285		
OCP	235	82.4
IUCD	88	30.8
Others incorrect (injection, implant)	41	14.4
Source of EC supply multiple responses		
H/institution	229	80.3
Pharmacy	68	23.8
P/clinic	45	15.8
Others	12	4.2
EC pill taken within72 hours		
Yes	85	29.8
No	53	18.5
No response	1	0.3
Do not know	146	51.2

One hundred eighty five (64.9%) supported the idea of making easy access/availing of EC for all female students. One hundred and seventy eight (62.4%) have willingness to use EC in the future when need arises. Two hundred (70.1%) of the respondents have responded willingness to advice their peers to use EC whenever they faced a problem.

Forty three (15.1%) respondents were not support availability of EC. reasons mentioned for not supporting EC availability were**:** religious prohibition 17(39.5%), fear of HIV\AIDS 10(23.3%), fear of providers & encouraging prostitution each 9(20.9%) were among others. Four hundred ten (65.8%) & 553 (88.8%) believe that unintended sexual intercourse and unwanted pregnancy were problems to all young females respectively.

Problems of unwanted pregnancy described by respondents were school interruption 423(67.9%), diseases/death 300(48.2%) and 256(41.1%) facing separation from family.

Eighteen (2.8 %) of the respondents having sex were used EC (OCPs) to intention of preventing unwanted pregnancy. Reasons mentioned for opposing (unwillingness) to use EC were drug unavailability 25 (48.1%), time inconvenient 15 (28.8%), health workers unwillingness 12(23.1%) are among others. (Table 5)

Table 5. Attitude and practice towards EC among Secondary, Preparatory and TVET school female students in Maichew town; February 2009

Characteristics	Number	Percent
Support idea of availing EC for all females	(n=285)	
Yes	185	64.9
No	43	15.1
Do not know	14	4.9
No response	43	15.9
Reasons for not support EC avail (multiple response),	(n=43)	
-Religious prohibition	17	39.5
-Fear of providers	9	20.9
-Unavailability of Methods	8	18.6
-Encourage prostitution	9	20.9
-Fear of HIV/AIDS	10	23.3
Willingness to use EC	(n=285)	
Yes	178	62.4
No	43	15.1
Do not know	13	4.5
No response	51	17.8
Recommend EC for other females or friends	(n=285)	
Yes	200	70.1
No	46	16.1
Do not know	10	3.5
No response	29	10.1
Unplanned/unprotected sex is a problem for young females	(n=623)	
Yes	410	65.8
No	65	10.4
Do not know	22	3.5
No response	126	20.2
Unwanted pregnancy is a problem for young females		
Yes	553	88.8
No	23	3.7
Do not know	13	2.1
No response	34	5.5
Problems of unwanted pregnancy (multiple responses)		
School interruption	423	67.9
Separation from family	256	41.1
Diseases/death	300	48.2
Others (psychological, stress,…)	3	0.5
Ever used EC (n=623)		
Yes	18	2.8
No	52	8.3
No response	215	34.5
Do not know	338	54.2
Reasons for not using EC (multiple responses),	(n=52)	
Health workers unwilling	12	23.1
Drugs unavailable	25	48.1
Time inconvenient	15	28.8
Privacy not kept	7	13.5
Others	3	5.7

5.5 Factors associated with Knowledge, attitude and practice of EC among Secondary, Preparatory and TVET school female students

Cross tabulation and logistic regression analysis was carried out to determine the association between socio-demographic factors with knowledge, attitude and practice of EC among study participants. As shown on Table 7, students' age difference doesn't show any association on knowledge of EC OR=0.8 (95%CI 0.5-1.6), even when adjusted, AOR 0.7(95%CI 0.4-1.5). There is no difference between followers of Orthodox Christian & Muslims towards knowledge of EC. Even though there is no statistical significance as years of study (educational status) increased there was a relative decrease on the knowledge of EC, OR=0.9 (95%CI 0.6-1.4) for preparatory students, and there is association that TVET students have lower knowledge on EC with OR=0.6 (95%CI 0.4-0.9) but no association when adjusted AOR 0.5(95%CI 0.3-1.1). There is association that currently rural residents had more knowledge of EC than urban when adjusted, AOR 1.6(95%CI 1.2-1.7).

There is statistical significance that single respondents had more knowledge than married & other respondents OR= 3.2(95%CI 1.6-6.1) and with AOR 2.4(95%CI 1.8-6.8). There is statistical significance that respondents living with parents had more knowledge than those living with husband OR=4.3(95%CI 1.7-11.1) and shows the same association when adjusted with AOR 2.6(95%CI 2.1-6.5) and there is statistical significance respondents living with peers & alone in rental house had more knowledge than those living with husband OR=3.2(95%CI 1.2-9.1) & AOR 2.8(95%CI 1.6-4.3).

Neither Age difference nor religion has any association towards positive attitude of EC. There is lower positive attitude towards EC by the preparatory students OR=0.3 (95%CI 0.1 -0.8) when compared but not when adjusted, AOR=2.1 (95%CI 0.9 -4.9) while TVET students have more positive attitude towards EC with AOR=2.9 (95%CI 1.2 -7.7) when compared to the preparatory & high school students. There is no statistical association between currently rural & urban residents on Positive attitude towards EC. There is statistical association that single/never married had more positive attitude towards EC than the married & others with OR=3.1(95%CI 1.7-5.5) and shows similar association when adjusted with AOR 4.5(95%CI 1.1-9.9).

There is statistical significance difference that respondents living with parents had more positive attitude towards EC than those living with husband & others OR=2.6(95%CI 1.2-5.4) & AOR 2.3(95%CI 1.2-4.5) and respondents living with peers & alone in rental house had more positive attitude towards EC than those living with husband & others when adjusted AOR=1.4(95%CI 1.2-3.7).

Emergency contraceptive use was lower in the19 & above age group when compared to the younger age group OR= 0.3(95%CI 0.1-0.7) and with AOR 0.39(0.1-0.8). There is no statistical difference between Orthodox and Muslim religion followers on EC utilization pattern. There is statistical significance that preparatory students had more association towards use of EC with AOR=8.5(95%CI 2.3-32-6) when compared with other school students.

There is no association between currently rural & urban residents towards practice of EC. There is statistical significant that single respondents practiced EC more than Married respondents OR=6.9 (95%CI 2.4-20.2) and showed similar association when adjusted, AOR 15.7(95%CI 13.6-24.2). Students living with parents were more likely used EC than students living with husband & others AOR=3.5 (95%CI 1.6-9.6) but Students living with peers & alone in rental house have no any association towards practice of EC when compared with those living with husband & others.

Table 6. Socio-demographic Factors association with knowledge, attitude and practice of EC, among Secondary, Preparatory and TVET school female students in Maichew town; February 2009

Characteristics	Knowledge of EC		Attitude		Practice	
	COR (95% CI)	AOR (95% CI)	COR (95% CI)	AOR (95% CI)	COR (95% CI)	AOR (95% CI)
Age						
≤ 18 ®	1	1	1	1	1	1
19+	0.8(0.45-1.57)	0.7(0.40-1.47)	0.7(0.36-1.59)	0.9(0.43-1.96)	**0.3(0.11-0.74)***	**0.3(0.12-0.82)***
Religion						
Orthodox ®	1	1	1	1	1	1
Muslim	1.4(0.46-4.61)	1.5(0.47-4.75)	1.2(0.25-6.19)	1.2(0.24-6.31)	1.4(0.32-6.81)	1.2(0.23-6.52)
Educational level						
High School (9- 10) ®	1	1	1	1	1	1
Preparatory (**11-12**)	0.90(0.59-1.38)	1.01(0.48-2.22)	**0.25(0.07-0.83)***	2.1(0.89-4.98)	0.18(0.02-1.05)	**8.5(2.26-32.56)***
TVET	**0.60(0.38-0.94)***	0.5(0.30-1.09)	0.66(0.28-1.53)	**2.9(1.16-7.69)***	**0.08(0.01-0.39)***	4.2(0.98-18.67)
Residence						
Urban ®	1	1	1	1	1	1
Rural	1.77(0.89-3.2)	**1.6(1.23-1.76)***	2.0(0.95-4.24)	2.1(0.99-4.32)	2.3(0.47-10.88)	2.1(0.47-9.55)
Marital status						
Married &others ®	1	1	1	1	1	1
Single	**3.15(1.65-6.10)***	**2.4(1.81-6.84)***	**3.08(1.71-5.56)***	**4.5(1.03-9.93)***	**6.96(2.39-20.26)***	**15.7(13.6-24.2)***
Currently living with						
- Husband & boy friend ®	1	1	1	1	1	1
-Parents	**4.3(1.74-11.10)***	**2.6(2.07-6.5)***	**2.59(1.24-5.41)***	**2.3(1.16-4.48)***	3.75(0.94-13.91)	**3.5(1.64-9.65)***
-Peers& alone in rental house	**3.2(1.19-9.14)***	**2.8(1.63-4.26)***	1.8(0.79-4.39)	**1.4(1.15-3.69)***	2.85(0.49-17.43)	2.4(0.86-6.43)

® Referent

* Remained significance when adjusted for other variables in the table.

6. Discussion

This study has tried to assess knowledge, attitude and utilization of contraception with special emphasis to EC and perception of unintended sexual intercourse and unwanted pregnancy among Secondary, Preparatory and TVET school female students' in Maichew town, Tigray regional state, North Ethiopia. The knowledge, attitude and practice of emergency contraceptives among health professional in promoting service delivery for the youth or high school students was not assessed which could be equally important to identify the problem.

One sixth of the participants have practiced sexual intercourse in their life time. The result was lower than result of study conducted on Nigerian female undergraduates (16), similarly this result is lower than study conducted on higher education students in Addis Ababa (13). This variation could be due to the lower educational status of females in this study. Similarly result of study of 10 secondary schools in Lothian, south east Scotland shows 32.7% of respondents had experienced sexual intercourse (20) and another Study conducted among public high schools-attending adolescents in the state of Morelos, Mexico showed result of 16% respondents reporting lifetime sexual activity (7) which are higher than result of this study may be they are from well developed nation.

Among respondents who practiced sexual intercourse 52% of them have had sex with-out the informed consent of the females (forced sex). Of the forced sex 42.9% resulted in unwanted pregnancy & 57.1% of the pregnancies continued to delivery, while 38.1% have gone to induced abortion. More than 62.5 % of the abortions were under unsafe condition. Similar Study in Addis Ababa showed higher rate of unwanted pregnancy (73.5%), high rate of induced abortion (71.7%) and lower rate of unsafe abortion (29%) (13). The possible explanation for low rate of safe abortion, high rate of unsafe abortion and delivery in this study could be due to lack of health facilities with skilled human power, lack of awareness where to get safe preventive methods & access for abortion services and economic problems that made the respondents to take measures that threaten their life immediately or suffering from permanent disability. The lower rate of unwanted pregnancy and higher rate of delivery in this study is may be due higher rate of marriage 10 % in this study while 4.5 % in a study conducted in Addis Ababa.

In this study 72.1% of the respondents reported that they have heard about regular modern contraceptive methods, similarly community based study in South Africa and Ethiopia showed high proportion of the study groups had some knowledge (17, 18). Source of information was mainly from health workers, teachers/ SRH clubs, and mass media in order this may be due the initiation of new program health extension workers in rural to provide health education which is different from sources in a study conducted among higher education that is mass media comes first as may be more access & from wealthy family.

Injectable was the most widely known method (73.5%), followed by Oral contraceptive pill (66.3%) and implants (30.7%) which is opposite to study conducted in A.Ababa OCP primarily known. The contraceptive ever use rate in this study was 10.8%. The finding was slightly higher than similar study conducted in Addis Ababa higher education students (10%) but lower than Ethiopian DHS (17.4%) ever use of modern methods (9 &13). The variation could be due to higher marriage rate in this study than study conducted in Addis Ababa higher education students and to Ethiopian DHS may be methodological variations. Even though there is methodological difference this result was lower than Tigray regional state health bureau report 54.9% & national CPR for Ethiopia 33.6% (10). Injectable was the most commonly used (70.1%), followed by Oral contraceptive pill (35.8%) and implants (10.4%) which is higher than study in A.A Pills & injectables as choice (44%,21%) respectively may be due to low condom use rate & high marriage in this study. The prevalence of unwanted pregnancy was 38.1% among those who practiced sexual intercourse; lower than similar study conducted in Addis Ababa 73.5% (13) this may be because more contraceptive user & married rate in current study.

More than forty five percent of the respondents have heard about emergency contraception in this study which is much lower than result of similar study conducted in 10 secondary schools in Lothian, south east Scotland showing 93.0% of them had heard of emergency contraception (20). Similarly this result is lower than results among public high schools-attending adolescents in the state of Morelos, Mexico where 61% of students had heard of EC (7), This may be due to they are from well developed nations. Main Source of information about EC was from health workers (80.3%), and from teachers/clubs (16.5%). In this study the main source of information was different from findings of a study in Addis Ababa in which the main source of information about

EC was mass media and friends. This could be because of the respondents in this study were from rural areas (27%) & may be from poor family not have access to mass media.

Of those who had heard 29.8% know the correct timing for the first dose of oral emergency contraceptive pills administration with in 72hours (3 days) after unprotected sex. This result was lower than similar studies conducted in Mexico and Scotland (7, 20) but similar with study conducted in AAU & UUC. Knowledge of emergency contraceptive was higher among the younger students than 19 & above years of age. Knowledge of EC was also significantly high among students who are single than those of married & others; this result is similar as in Mexico and Scotland even has variation. In this study Knowledge of EC was higher among respondents' of currently rural residents because may be due to health extension workers with in rural areas. Oral Emergency contraceptive pill was the most widely known and used emergency contraception 37.7% and 2.8% respectively. This finding corresponds to survey conducted in Addis Ababa and four regions in Ethiopia (9) but lower than study done among public high schools-attending adolescents in the state of Morelos, Mexico that 61% of students had heard of EC, and 36% of them had correct knowledge about EC and 16% reported they had tried to obtain EC (7) may be due to their openly traditions toward sex & its protection.

While 14.4% of those who have heard reported incorrect methods not used as EC, this could be due to inadequate information they have got. The respondents believe that unintended sexual intercourse and unwanted pregnancy is a problem for all youth 65.8% and 88.8% respectively. Of the students who responded unwanted pregnancy is a problem for all youth in addition they responded school interruption 67.9%, separation from family 41.1 %, diseases/death 48.2% and psychological stresses 1.4% can be the possible complications that put the life of females at risk. This shows that the youth are aware of the possible out comes of unintended sex & unwanted pregnancy and ready to take measures if sufficient information given and services related to their need are available.

In this study 62.4% of the respondents had positive attitude towards the use of EC. This result was slightly higher than the finding in Addis Ababa higher education 52.6 %(13) may be time variation of study conducted & presence of health extension workers (programmatic implication). Since 54.2% of the respondents in this study have not heard about EC; they did not

understand clearly the benefits of EC. More than 64.9% of respondents support the idea of availing EC for all females, so that any female facing problem of unprotected sexual intercourse can obtain EC easily and use it with out delay & waiting for prescription and special dispensers; and about 70.1% of them have reported willing to advice friends to use EC whenever they faced problem of unprotected sex.

Very small proportion of respondents had ever used emergency contraception (2.8%). This result was lower than similar findings among students of public high schools-attending adolescents in the state of Morelos, Mexico(7) , in 10 secondary schools in Lothian, south east Scotland (20) & in A.A higher education students this may be due to low access of services. Some respondents do not support avail & recommend EC to youths and to use it themselves for reasons fear of providers, unavailability of drug are among others so training of health workers to make youth friendly service & improving method mix at facility level as EC serves as an introduction to family planning service.

7. Strengths and Limitations of the study

7.1 Strengths

- To obtain reliable data and ensure confidentiality experienced health professionals and Secondary school teachers were employed and trained to instruct & facilitate data collection processes.
- Full response rate (100%).
- Different strategies of quality control considered.
- Addressing of target groups of female students at school level.

7.2 Limitations

- The data was collected only from youth in schools, where only small portion of youth got chance of joining & staying in school, the result has limited power to be generalized to all youth in the study area and may overestimate the result.
- Self-reported information is subjected to reporting errors, missed values & biases, since the study touches sensitive issues the possibility of underestimation can not be excluded, even though the study was anonymous.
- Not supplemented by qualitative methods

8. Conclusions and Recommendations

8.1 Conclusions

_ In this study awareness of regular modern contraceptive was 72.1%, but since there is inadequate attitude and provision; utilization remained low. Awareness as well as knowledge and utilization of emergency contraceptive was low.

_ Main source of information was from health professionals and SRH clubs in schools indicating IEC/BCC activities in the schools. Positive attitude of the respondents could be an indication of good environment for possible interventions around the youth in the future.

-Forced sexual intercourses were found high, which resulted in to high number of unwanted pregnancy. This could have been prevented, if the respondents have adequate knowledge of modern contraceptives including EC. In the same way unsafe abortion was high which could have been prevented.

Generally being rural residence, currently living with parents or living with peers and alone in rental house and being a TVET student are predictors of knowledge on emergency contraception. Being preparatory students, single, currently living with parents or living with peers and alone in rental house are predictors of attitude on emergency contraception. Those of 18 years, single who are currently living with parents are predictors of practice on emergency contraception.

8.2 Recommendations

Since the students go to different universities & colleges in the country that they face new environment and till then in the community; preparing and equipping them with necessary knowledge of sexual and reproductive health would help to disseminate information widely in the community in a sustainable way in addition to protecting themselves.

Hence the following recommendation have been made

_ Strengthening IEC in secondary, preparatory and TVET schools on sexual & reproductive health, with special emphasis to different modern family planning methods including emergency contraceptive will be a life saving procedure for youth females and providing continuous education to the community.

_ As the rate of unintended sexual intercourse and unwanted pregnancy were high the Regional health bureau should be given a considerable attention to EC in family planning counseling as a backup service to solve short coming problems of young females and as an introduction to modern family planning methods in the youth.

_ Making modern contraceptive methods especially ECPs to be available at all points of drug dispensing institutes including private, NGO, Government…etc pharmacies, clinics and community based distribution agents and Facilitating conditions to distribute or sell with-out prescription by providing sufficient training and information concerning EC for both dispensers and clients should be helpful.

_ SRH clubs in schools should be further strengthened as they are considered a major contributor on raising KAP towards modern contraception including EC by the coordination of woreda health office and the schools.

_ To raise client's skills on SRH issues IEC materials like pamphlet, news papers, posters…etc should be available in all libraries of secondary, preparatory and TVET schools and other accessible areas.

_ Further research on knowledge & attitude of providers and male partner and follow-up study on KAP of all females on emergency contraception provision and utilization could be important to strengthen the service.

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10. ANNEX

10.1 Questionnaire English version

Data collection tools

I, Information sheet

Good morning, Good afternoon, Good evening (according to its convenience).

My name is_____I came from faculty of medicine, Addis Ababa University. I am here to gather information on level of awareness and utilization of emergency contraception. It takes 20 minutes, though it seems long time the study helps to improve health of females, understanding of existing health problems and related behaviors by generating information about knowledge, attitude and utilization of emergency contraception and factors influencing utilization of emergency contraception to improve future reproductive health interventions.

So no need to write your names on the survey papers. If you need clarification you can communicate with the facilitators available. It is your right to participate or refuse the study but I kindly request your willingness to participate in the survey and filling the questionnaire genuinely in order to met its goal and benefit for future generation. So are you willing to stay with us for few minutes to answer the questions?

Yes ------ No---------

Put ''x''mark in the box you chosen. If yes go to the next page, if not stay on your seat until others finish.

Thank you!

II, Consent form:

I have been briefly informed about the study and I clearly understood the objectives. Since it doesn't affect my personal life, I don't need any remedy. Consequently, I here approve my consent with my signature to take part in the study by filling the self administered questionnaire.

Signature_____

Date_____

III, Investigators name and address

Name Abebe Kebede

Address Addis Ababa University, School of Public Health Tel: 0914719600

E-mail: abebek133@yahoo.com

Part-I Questions on Socio-Demographic Characteristics of respondents

Circle the appropriate code you select

Ser.No	Questions	Responses and codes	Skip to
101	How old are you? yrs completed	--------years(write no)	
102	What is your religion?	-Orthodox 1 -Muslim 2 -Others(specify)---	
103	Marital status	-Single/never married 1 -married 2 -divorced 3 -Widowed 4 -other(specify)---	
104	residence	Urban 1 Rural 2	
105	With whom do you live?	-with parents (father, mother) 1 -with peers in rental house 2 -alone in rental house 3 -with husband 4 -with boy friend 5 -other(specify)----------	
106	What is your grade	-9th 1 -10th 2 -11th 3 -12th 4 -TVET 5	

Part-II Questions on Reproductive history of respondents

S.No	Questions	Responses and codes	Skip to
201	Do you have any sexual experience?	-Yes 1 -No 2 - No response 88	 Part III-Q301 Part III-Q301
202	If yes to Q 201, at what age is your 1st sex?	------years completed	
203	Was your first sexual intercourse by your consent?	Yes 1 No 2 No response 88	Q205 Q301
204	If No to Q 203, who forced you to have sexual intercourse?	-student/friends 1 -teacher 2 -relative in the parents 3 -other(specify)----------	

205	Do you become pregnant after forced intercourse?	Yes 1 No 2 No response 88	 Q301 Q301
206	If yes to Q 205 was your pregnancy continued?	Yes 1 No 2 No response 88	Q 209 Q 209
207	If No to Q 206 was your pregnancy aborted?	Yes 1 No 2 No response 88	
208	Where was place of abortion?	Self infliction 1 Health institution 2 Private clinics 3 Other(specify)--------	
209	Age at your 1st pregnancy	---------years completed	

Part-III. Questions addressing Respondents' knowledge, attitude and practice of contraceptives including emergency contraception

S.No	Questions	Responses and codes	Skip to
301	Do you know (heard) about contraceptives?	Yes 1 No 2 No response 88	 Q 307 Q 307
302	What contraceptives you know? (multiple answers possible)	Pills 1 Injectable 2 IUCDs 3 Norplant 4 Condoms 5 Others(specify) ---------	
303	From where you got the information about contraceptives? (multiple answers possible)	-From health Workers 1 -from friends/Peers discussion 2 -from clubs in Schools 3 -from religious Leader 4 -from parents 5 -from mass media(TV, Radio) 6 -others(specify) --------	
304	Have you ever used contraceptives?	Yes 1 No 2 No response 88	 Q 307 Q 307
305	If yes to Q 304 What contraceptives you used? (Multiple responses possible)	Pills 1 Injectable 2 IUCDs 3 Norplant 4 Condoms 5 Others(specify) ---------	
306	From where you get the contraceptives? Multiple	-from health institution 1 -from pharmacy 2	

	responses possible	-from private clinic 3 -other(specify) ---------	
307	Do you know how to prevent unwanted pregnancy?	Yes 1 No 2	Q 309
308	If yes to Q 307 what methods you know? Multiple responses possible	-pills 1 -injectables 2 -IUCDs 3 -Norplant 4 -condoms 5 -abstinence 6 -Withdrawal 7 -Calendar method 8 -others(specify)-----	
309	Have you ever heard emergency contraception?	Yes 1 No 2 No response 88	Q 321 Q 321
310	If yes for Q 309, From where you got the information about EC ? (multiple answers possible)	-From health Workers 1 -from friends/Peers discussion 2 -from clubs in Schools 3 -from religious Leader 4 -from parents 5 -from mass media(TV, Radio) 6 -others(specify) --------	
3111	Do you know from where emergency contraception obtained? Multiple responses possible	- health institution 1 -pharmacy 2 - private clinic 3 -other(specify) ---------	
312	As your information when is emergency contraceptive used?	-after unprotected sexual intercourse 1 -when unwanted pregnancy Occurred 2 -as regular contraceptive 3 -do not know 99 -other(specify)--------	
313	Which method you know as emergency contraceptive? (multiple responses possible)	-Pills 1 -IUCDs 2 No response 88	
314	Do emergency contraceptive pills will be effective Within 72 hours?	Yes 1 No 2 I do not know 99	
315	Have you ever used emergency contraception?	Yes 1 No 2 No response 88	Q316 Q316

316	If No to Q 314 why? (Multiple answers)	-Health workers Unwilling 1 -drugs unavailable 2 -time inconvenient 3 -privacy not kept 4 -others(specify) -------	
317	Do you suggest emergency contraception avail for all females?(positive attitude)	Yes 1 No 2 I do not know 99 No response 88	Q318 Q318 Q318
318	If No to Q 316 why? (Multiple answers)	-religious prohibition 1 -fear of providers 2 -unavailability of Methods 3 -encourage prostitution 4 -fear of HIV/AIDS 5 -others(specify) ------	
319	Are you willing to use emergency contraception if you face a problem? (positive attitude)	Yes 1 No 2 I do not know 99 No response 88	
320	Do you recommend EC for other females or friends?	Yes 1 No 2 I do not know 99 No response 88	Q321 Q321 Q321
321	If No to Q 319 why? (Multiple answers)	-religious prohibition 1 -fear of providers 2 -unavailability of Methods 3 -encourage prostitution 4 -fear of HIV/AIDS 5 -others(specify) ------	
322	Do you think unprotected/unplanned sexual intercourse is a problem of young females?	Yes 1 No 2 Do not know 99 No response 88	
323	Do think unwanted pregnancy is a problem for young females?	Yes 1 No 2 Do not know 99 No response 88	 Finished Finished Finished
324	If yes to Q 322 what problems can occur? (Multiple answers)	-School interruption 1 -Separation from family 2 -Diseases/death 3 -I do not know 99 Other(specify) ---- ----	

10.3 Questionnaire Tigrigna version

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103	Ÿ<’□ƒ PÇ`Ÿ=	- U”U ›Ã}S`¯¤<” 1 - u¯M+ PÇ` 2 - ´}ðƒNƒ 3 - cw›Á ´V□ 4 - ”K=□(ÃÑKî) ----------	
104	ƒ’w\K< x□	Ÿ}T 1 ÑÖ` 2	
105	Ue S” ƒ’w];	- Ue eÉ^(›x” ›Å”) 1 - Ue SP²<}Ã ›w Ÿ=^Ã Ñ³ 2 - uÃ’Ã ›w Ÿ=^Ã Ñ³ 3 - Ue u¯M Ñ³Ã 4 - Ue “Ã ¨Ç= ¯`ŸÃ 5 - ”K=□(ÃÑKî) ----------	
106	Å[Í ƒUl`+¤= ¡”ÅÃ □¿;	-9Ã 1 -10Ã 2 -11 3 -12 4 -}¡’>¡” S<Á” 5	

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202	□”ÉQ` ”Q„ 201 □¨ ¢Ã’< SMe¤= œw ¡”ÅÃ ¯SƒŸ=;	---------- ¯Sƒ	
203	“Ã SËS`□ ï□© [¦wŸ= weUU°(wõƒ¾ƒ) É¿ ’Ã\;	□¨ 1 ¾K” 2 SMc= ¾wKÃ” 88	l 205 l 301
204	□”ÉQ` ”Q„ 203 ¾K” ¢Ã’<	- }UH^Ã/“Ã ¨Ç= ¯`ŸÃ 1	

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205	ÉQ] UõíU ï□© [¦u= Ö'>eŸ=Ê'Ã]¤=;	□¨ 1 ¾K" 2 SMc= ¾wKÃ" 88	Ií] 301 Ií] 301
206	□"ÉQ` "Q„ 205 □¨ ¢Ã'<SMe¤= Ø"e¤= kîK<Ê;	□¨ 1 ¾K" 2 SMc= ¾wKÃ" 88	Ií] 209 Ií] 209
207	□"ÉQ` "Q„ 206 ¾K" ¢Ã'<SMe¤= □+ Ø"e¤=}'îKAÊ/¤ÃÆŸ= Ê;	□¨ 1 ¾K" 2 SMc= ¾wKÃ" 88	
208	□"ÉQ` "Q„ 207 □¨ ¢Ã'<SMe¤= œuÃ □¿ }'îK<;	- v°KÃ '¥¦›Ä 1 - œw Ø°" ƒŸM 2 - œw "Ã ÓK= Ÿ=K='>¡ 3 - "K=□(ÃÑKî) ---------	
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303	eK SŸL¤K= T@L□ƒ Pu_□ ŸuÃ□¤= [¦w¡Ä;Ÿw PÅ "L°K= UULe ÃŸœM	- "w Ø°" u¯M VÁ 1 - "w SP²<ƒ 2 - "w ¡Kvƒ œw u?/ƒ/+ 3 - "w S^Q+ HÃT•ƒ 4 - "w eÉ^ 5 - "wS^¤w+u<´Pƒ(_ÉÄ&}Ky=»"..) 6 - "M*ƒ (ÃÑKì<) ----------	

304	T@L□ƒ SŸLaK= }ÖmUŸ=Ê ƒðMÖ=;	□¨ 1 ¾K" 2 SMc= ¾wKÃ" 88	 Q„ 307 Q„ 307
305	□"ÉQ` Q„ 304 SMe¤= □¨ §Ã'< □"□Ã T@L }ÖmSUŸ=; Ÿw PÅ "L°K= UULe ÃŸœM	- úK=e(Ÿ='>") 1 - wS`õ□ ´¬Ò□ 2 - œÃ¿c=Ç=(œw Tlì" ´pu`) 3 - œw ¤<`"° ´pu` 4 - ¢"ÅU 5 - "M*ƒ (ÃÑKì<) ----------	
306	"uÃ □¤= □+ SŸLaK= [¦w¡Ä; Ÿw PÅ "L°K= UULe ÃŸœM	- "w Ø°" ƒŸM 1 - "w ó`Tc= 2 - "w "Ã ÓK= Ÿ=K='>¡ 3 - "K=□(ÃÑKî) ---------	
307	Ÿw ²Ã}ÅK¾ Ø"c= ŸSÃ ŸUƒŸLaK= ƒðMØÊ;	□¨ 1 ¾K" 2	 Q„ 309
308	□"ÉQ` Q„ 307 SMe¤= □¨ §Ã'< □"□QÃ ¯Ã'ƒ T@L□ƒ ƒðMÖ=; Ÿw PÅ "L°K= UULe ÃŸœM	-úK=e(Ÿ='>") 1 - wS`õ□ ´¬Ò□ 2 - œÃ¿c=Ç=(œw Tlì" ´pu`) 3 - œw ¤<`"° ´pu` 4 - ¢"ÅU 5 - U°nw 6 -"Ã }v°□Ã ²`›= œw ÅÑ Uõde 7 -"Ã PÅÒ S¯M+ wUlí` 8 - "M*ƒ (ÃÑKì<) ----------	
309	eK "Ã É"Ñƒ SŸLaK= Ø"c= cT>°¤=Ê }ðMÖ=;	□¨ 1 ¾K" 2 SMc= ¾wKÃ" 88	 Q„ 321 Q„ 321
310	□"ÉQ` Q„ 309 SMe¤= □¨ §Ã'< □+ Pu_□ ŸuÃ □¤= [¦w¡Ä; Ÿw PÅ "L°K= UULe ÃŸœM	- "w Ø°" u¯M VÁ 1 - "w SP²<ƒ 2 - "w ¡Kvƒ œw u?/ƒ/+ 3 - "w S^Q+ HÃT•ƒ 4 - "w eÉ^ 5 - "wS^¤w+u<´Pƒ (_ÉÄ&}Ky=»"..) 6 - "M*ƒ (ÃÑKì<) ----------	
311	"Ã É"Ñƒ SŸLaK= Ø"c= œuÃ ŸU´`Ÿw ƒðMØÊ; Ÿw PÅ "L°K= UULe ÃŸœM	- "w Ø°" ƒŸM 1 - "w ó`Tc= 2 - "w "Ã ÓK= Ÿ=K='>¡ 3	

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313	œ¾"Ã T@L "Ã É"Ñƒ SŸL¤K= Ø"c= ƒðMÖ=;	- úK=e(Ÿ='>") 1 - œÃ¿c=Ç=(œw Tlì" ´pu`) 2 - SMc= ¾wKÃ" 88	
314	"Ã É"Ñƒ SŸL¤K= Ÿ='>" œw ¨<iÖ= 72 c¯ƒ ÉQ] Ø"nk ´ÔÅKA [¦u= ²ÒØU Ø"c= "Ã U¡M¥M wp¯ƒ œK-Ê;	- □¨ 1 - ¾K" 2 - □"É¯> œÃðK=Ø" 99	
315	"Ã É"Ñƒ SŸL¤K= Ø"c= }ÖmUŸ=Ê ƒðMÖ=;	- □¨ 1 - ¾K" 2 - SMc= ¾wKÃ" 88	l 316 l 316
316	□"ÉQ` Q„ lî] 314 ¾K" §Ã'< SMe¤= "U"□Ã; Ÿw PÅ "L°K= UULe ÃŸœM	-"Ã Ø°" u¯MVÁ ÉM¾ƒ ²ÃUIL¨ 1 - □+ SŸL¤K= eK²Ã`Ÿw 2 -Ó²? ²ÃUU‰¨<(²ÃUØ¯U) 3 - UeØ` eK²ÃQKA 4 - "K=□(ÃÑKî) ----------	
317	"Ã É"Ñƒ SŸL¤K= Ø"c= "¤<K" Åm œ"eƒÄ œw ´ÅKÄ* Ó²? ¡[¦v ƒÉÓõÊ;	- □¨ 1 - ¾K" 2 - □"É¯> œÃðK=Ø" 99 - SMc= ¾wKÃ" 88	Q„ 318 Q„ 318 Q„ 318
318	□"ÉQ` Q„ lî] 316 ¾K" §Ã'< SMe¤= "U"□Ã; Ÿw PÅ "L°K= UULe ÃŸœM	-HÃT•ƒ eK²ÃðpÉ 1 -"¨Hw+ ÓMÒKAƒ eK´ð`Q 2 - □+ SŸL¤K= eK²Ã`Ÿw 3 -i`S<Ø" eK²u^ƒ° 4 -"›?‹œÃy=/›?Ée eK´ð`Q 5 - "M*ƒ (ÃÑKì<) ----------	
319	□"ÉQ` Ø"nk ´ÔÅKA ï□© [¦u= œÒØS<Ÿ= "Ã É"Ñƒ SŸL¤K= Ø"c= "¡ƒØkT> õnÅ— É¤=;	- □¨ 1 - ¾K" 2 - □"É¯> œÃðK=Ø" 99 - SMc= ¾wKÃ" 88	

320	□²= ‘‘Ã É’’Ñƒ SŸL¤K= Ø’’c= ’’M*ƒ Åm œ’’eƒÄ ’’¡ØkT ƒÉÓò Ê;	- □¨ 1 - ¾K’’ 2 - □’’É¯> œÃðK=Ø’’ 99 - SMc= ¾wKÃ’’ 88	Q„ 321 Q„ 321 Q„ 321
321	□’’ÉQ` Q„ lî] 319 ¾K’’ §Ã’< SMe¤= ’’U’’□Ã; Ÿw PÅ ’’L°K= UULe ÃŸœM	-HÃT•ƒ eK²ÃðpÉ 1 -’’¨Hw+ ÓMÒKAƒ eK´ð`Q 2 - □+ SŸL¤K= eK²Ã`Ÿw 3 -i`S<Ø‘ eK²u^ƒ° 4 -’’›?‹œeÃy=/›?Ée eK´ð`Q 5 - ’’M*ƒ (ÃÑKì<) ----------	
322	²Ã}œekÅ/ Ø’’nk ´ÔÅKA ï□© [¦u= iÓ` □¿Ê ƒwK=;	- □¨ 1 - ¾K’’ 2 - □’’É¯> œÃðK=Ø’’ 99 - SMc= ¾wKÃ’’ 88	
323	²Ã}ÅK¾ Ø’’c= ’’Åm œ’’eƒÄ iÓ` □¿Ê ƒwK=;	- □¨ 1 - ¾K’’ 2 - □’’É¯> œÃðK=Ø’’ 99 - SMc= ¾wKÃ’’ 88	¨É□¤= ¨É□¤= ¨É□¤=
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