

IMPROVING ADOLESCENT REPRODUCTIVE HEALTH
AND NUTRITION THROUGH STRUCTURAL SOLUTIONS
IN WEST HARARGE, ETHIOPIA
(Abdiboru Project)



Baseline Quantitative Survey Report



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Contents

List of tables.....	vi
List of figures.....	viii
Executive summary.....	ix
Key results	x
1. Background.....	1
The Abdiboru Project.....	3
2. Methods.....	4
2.1. Study Area	4
2.2. Study Design.....	5
2.3. Study population.....	6
2.4. Sample size determination	6
2.5. Sampling technique.....	6
2.6. Data collection tools and procedure.....	7
2.7. Survey field team recruitment and Training	9
2.8. Data management and analysis.....	10
2.9. Ethical issues.....	10
3. Result	11
3.1. Adolescent girls- Socio-demographic characteristics	11
3.2.2. Education and school attendance indicators of Adolescent girls	11
3.2.2.1. Adolescent girl’s education and school attendance	11
3.2.3. Attitude, empirical expectation, normative expectation and behavior of adolescent girls on education and school attendance	17
3.2.3.1. Attitude on education and school attendance.....	17
3.2.3.2. Empirical expectation on education and school attendance.....	17
3.2.3.3. Normative expectation on education and school attendance	18
3.2.3.4. Behavior on education and school attendance	18
3.3.2. Early Marriage indicators of Adolescent girls	20
3.3.2.1. Adolescent girls on early marriage	20
3.3.1. Attitude, Behavior, Empirical and Normative Expectation of adolescent girls on early marriage ...	21
3.3.1.1. Attitude on early marriage	21
3.3.1.2. Empirical Expectation on early marriage.....	22
3.3.1.3. Normative Expectation on early marriage	22

3.3.1.4. Behavior on early marriage.....	23
3.3.3. Empowerment and Decision making indicators of Adolescent girls	26
3.3.3.1. Adolescent girls on empowerment and decision making.....	26
3.3.3.2. Attitude, Behavior, Empirical, and Normative Expectation of adolescent girls on empowerment and decision making	29
3.3.3.2.1. Attitude on empowerment and decision making.....	29
3.3.3.2.2. Empirical Expectation on empowerment and decision making	30
3.3.3.2.3. Normative Expectation on empowerment and decision making.....	30
3.3.3.2.4. Behavior on empowerment and decision making	30
3.3.4. Sexual and Reproductive Health indicators of Adolescent girls.....	34
3.3.4.1. Sexual and Reproductive Health knowledge of Adolescent girls	34
3.3.4.2. Attitude, Behavior, Empirical, and Normative Expectation of adolescent girls on Sexual and Reproductive Health	41
3.3.4.2.1. Attitude on sexual and reproductive health.....	41
3.3.4.2.2. Empirical expectation on sexual and reproductive	42
3.3.4.2.3. Normative expectation on sexual & reproductive.....	42
3.3.4.2.4. Behavior on sexual and reproductive.....	43
3.3.5. Household Food Allocation of Adolescent girls.....	46
3.3.5.1. Attitude, Behavior, Empirical, and Normative Expectation of adolescent girl Nutrition and food allocation indicators of Adolescent girls.....	46
3.3.5.1.1. Attitude on Nutrition and food allocation indicators	46
3.3.5.1.2. Empirical Expectation on Nutrition and food allocation indicators.....	47
3.3.5.1.3. Normative Expectation on Nutrition and food allocation indicators	47
3.3.5.1.4. Behavior on Nutrition and food allocation indicators.....	48
3.3.6. Female Reference groups.....	52
3.3.6.1. Socio-demographic characteristics.....	52
3.3.6.2. Education and school attendance	53
3.3.6.3. Attitude, empirical expectation, normative expectation and behavior of female reference groups on education and school attendance.....	54
3.3.6.3.2. Empirical expectation on adolescent girls' education and school attendance.....	54
3.3.6.3.3. Normative expectation on adolescent girls' education and school attendance	55
3.3.6.3.4. Behavior on adolescent girls' education and school attendance.....	55
3.3.6.4. Attitude, empirical expectation, normative expectation and behavior of female reference groups on early marriage	58
3.3.6.4.1. Attitude on adolescent girls' early marriage	58

3.3.6.4.2.	Empirical expectation on adolescent girls’ early marriage	58
3.3.6.4.3.	Normative expectation on adolescent girls’ early marriage.....	58
3.3.6.4.4.	Behavior on adolescent girls’ early marriage.....	59
3.3.6.5.	Attitude, empirical expectation, normative expectation and behavior of female reference groups on empowerment and decision making.....	63
3.3.6.5.1.	Attitude on adolescent girls’ empowerment and decision making	63
3.3.6.5.2.	Empirical expectation on adolescent girls’ empowerment and decision making	63
3.3.7.	Male Reference groups	78
3.3.7.1.	Socio-demographic characteristics.....	78
3.3.7.3.	Male reference groups’ Attitude, Empirical Expectation, Behavior and Normative Expectation on Education	80
3.3.7.3.1.	Attitude on Adolescent girls’ Education.....	80
3.3.7.3.2.	Empirical Expectation on Adolescent girls’ Education	81
3.3.7.3.3.	Normative Expectation on Adolescent girls’ Education.....	81
3.3.7.3.4.	Behavior on Adolescent girls’ Education	81
3.3.7.4.	Attitude, Empirical Expectation, Behavior and Normative Expectation on Marriage.....	84
3.3.7.4.1.	Attitude on Adolescent girls’ Marriage.....	84
3.3.7.4.2.	Empirical Expectation on Adolescent girls’ Marriage.....	84
3.3.7.4.3.	Normative Expectation on Adolescent girls’ Marriage	85
3.3.7.4.4.	Behavior on Adolescent girls’ Marriage	85
3.3.7.5.	Attitude, Empirical Expectation, Behavior and Normative Expectation on girls’ Empowerment and decision making	89
3.3.7.5.1.	Attitude on Adolescent girls’ Empowerment and decision making.....	89
3.3.7.5.2.	Empirical Expectation on Adolescent girls’ Empowerment and decision making.....	89
3.3.7.5.3.	Normative Expectation on Adolescent girls Empowerment and decision making.....	90
3.3.7.5.4.	Behavior of on Adolescent girls Empowerment and decision making	90
3.3.7.6.	Attitude, Empirical Expectation, Behavior and Normative Expectation on girls Sexual and Reproductive health	93
3.3.7.6.1.	Attitude on Adolescent girls’ Sexual and Reproductive health	93
3.3.7.6.2.	Empirical Expectation on Adolescent girls’ Sexual and Reproductive health.....	93
3.3.7.6.3.	Normative Expectation on Adolescent girls’ Sexual and Reproductive health	94
3.3.7.6.4.	Behavior on Adolescent girls’ Sexual and Reproductive health.....	94
3.3.7.7.	Attitude, Empirical Expectation, Behavior and Normative Expectation on girls Nutrition.....	97
3.3.7.7.1.	Attitude on Adolescent girls’ Nutrition	97

3.3.7.7.2. Empirical Expectation on Adolescent girls' Nutrition.....	97
3.3.7.7.3. Normative Expectation on Adolescent girls' Nutrition	98
3.3.7.7.4. Behavior on Adolescent girls' Nutrition.....	98
4. Lessons learnt during data gathering	102
5. References.....	103

List of tables

TABLE 1: STUDY ARMS	ERROR! BOOKMARK NOT DEFINED.
TABLE 2: HOUSEHOLD CHARACTERISTICS DESCRIPTION OF ABDI-BORU QUANTITATIVE SURVEY, AUGUST 2016	ERROR! BOOKMARK NOT DEFINED.
TABLE 3: BACKGROUND CHARACTERISTICS DESCRIPTION OF ADOLESCENT GIRLS (13-17 YEARS OLD), AUGUST 2016	ERROR! BOOKMARK NOT DEFINED.
TABLE 4: EDUCATION AND SCHOOL ATTENDANCE CHARACTERISTICS DESCRIPTION OF ADOLESCENT GIRLS, AUGUST 2016.....	ERROR! BOOKMARK NOT DEFINED.
TABLE 5: EDUCATION AND SCHOOL ATTAINMENT CHARACTERISTICS DESCRIPTION OF ADOLESCENT GIRLS, AUGUST 2016	ERROR! BOOKMARK NOT DEFINED.
TABLE 6: TIME SPENT BY THE ADOLESCENT GIRLS FOR DEFERENT ACTIVITIES, AUGUST 2016	ERROR! BOOKMARK NOT DEFINED.
TABLE 7: EDUCATION AND SCHOOL ATTENDANCE SOCIAL NORM MATRIX DESCRIPTION OF ADOLESCENT GIRLS, AUGUST 2016.	ERROR! BOOKMARK NOT DEFINED.
TABLE 8: ADOLESCENT GIRL DECISION MAKING ON THEIR MARRIAGE, AUGUST 2016	ERROR! BOOKMARK NOT DEFINED.
TABLE 9: MARRIAGE CHARACTERISTICS DESCRIPTION OF ADOLESCENT GIRLS, AUGUST 2016.....	ERROR! BOOKMARK NOT DEFINED.
TABLE 10: MARRIAGE SOCIAL NORM DESCRIPTION OF ADOLESCENT GIRLS, AUGUST 2016.....	ERROR! BOOKMARK NOT DEFINED.
TABLE 11: MARRIAGE AND DECISION MAKING SOCIAL NORM DESCRIPTION OF ADOLESCENT GIRLS, AUGUST 2016	ERROR! BOOKMARK NOT DEFINED.
TABLE 12: EMPOWERMENT AND DECISION MAKING INDICATORS DESCRIPTION OF ADOLESCENT GIRLS, AUGUST 2016	ERROR! BOOKMARK NOT DEFINED.
TABLE 13: NEGOTIATION SKILL AND PERCEIVED CONNECTEDNESS WITH PEOPLE CLOSE TO THEM, AUGUST 2016	ERROR! BOOKMARK NOT DEFINED.
TABLE 14: EMPOWERMENT AND DECISION MAKING SOCIAL NORM MATRIX DESCRIPTION OF ADOLESCENT GIRLS, AUGUST 2016	ERROR! BOOKMARK NOT DEFINED.
TABLE 15: AGENCY, EMPOWERMENT AND DECISION MAKING SOCIAL NORM CHARACTERISTICS DESCRIPTION OF ADOLESCENT GIRLS, AUGUST 2016.....	ERROR! BOOKMARK NOT DEFINED.
TABLE 16: SHOWS STI, SYMPTOM AND PREVENTION ADOLESCENT GIRLS RECALLED, AUGUST 2016	ERROR! BOOKMARK NOT DEFINED.
TABLE 17: SEXUAL AND REPRODUCTIVE HEALTH CHARACTERISTICS DESCRIPTION OF ADOLESCENT GIRLS, AUGUST 2016.....	ERROR! BOOKMARK NOT DEFINED.
TABLE 18: SEXUAL AND REPRODUCTIVE HEALTH SOCIAL NORM CHARACTERISTICS DESCRIPTION OF ADOLESCENT GIRLS, AUGUST 2016	ERROR! BOOKMARK NOT DEFINED.
TABLE 19: FAMILY PLANNING SOCIAL NORM CHARACTERISTICS DESCRIPTION OF ADOLESCENT GIRLS, AUGUST 2016.....	ERROR! BOOKMARK NOT DEFINED.
TABLE 20: HAZ SCORE AND BAZ SCORE OF ADOLESCENT GIRLS AGED 13 – 17 YEARS, AUGUST 2016	ERROR! BOOKMARK NOT DEFINED.
TABLE 21: NUTRITION AND FOOD ALLOCATION SOCIAL NORM CHARACTERISTICS DESCRIPTION OF ADOLESCENT GIRLS, AUGUST 2016	ERROR! BOOKMARK NOT DEFINED.
TABLE 22: FOOD ALLOCATION PREFERENCE SOCIAL NORM CHARACTERISTICS DESCRIPTION OF ADOLESCENT GIRLS, AUGUST 2016	ERROR! BOOKMARK NOT DEFINED.
TABLE 23: BACKGROUND INFORMATION OF FEMALE REFERENCES, AUGUST 2016.....	66
TABLE 24: BACKGROUND INFORMATION ON EDUCATION OF FEMALE REFERENCES, AUGUST 2016.....	67
TABLE 25: EDUCATION AND SCHOOL ATTENDANCE SOCIAL NORM MATRIX DESCRIPTION OF FEMALE REFERENCES, AUGUST 2016.....	70
TABLE 26: SCHOOL ATTENDANCE AND HOUSEHOLD WORK SOCIAL NORM MATRIX DESCRIPTION OF FEMALE REFERENCES, AUGUST 2016..	71
TABLE 27: AGE AT MARRIAGE AND REFERENCE CONSULTATION SOCIAL NORM MATRIX, AUGUST 2016.....	74
TABLE 28: MARRIAGE AND DECISION MAKING SOCIAL NORM MATRIX OF FEMALE REFERENCES, AUGUST 2016.....	75
TABLE 29: MARRIAGE AND FINAL DECISION MAKING SOCIAL NORM MATRIX OF FEMALE REFERENCES, AUGUST 2016.....	76
TABLE 30: AGENCY AND FREEDOM OF MOVEMENT SOCIAL NORM MATRIX OF FEMALE REFERENCES, AUGUST 2016.....	79
TABLE 31: AGENCY ON INCOME AND EDUCATIONAL ATTAINMENT SOCIAL NORM MATRIX OF FEMALE REFERENCES, AUGUST 2016.....	80
TABLE 32: PREMARITAL PREGNANCY, AGE AT PREGNANCY AND BIRTH SOCIAL NORM MATRIX OF FEMALE REFERENCES, AUGUST 2016.....	83
TABLE 33: CONTRACEPTIVE USE AND CONSULTATION SOCIAL NORM MATRIX OF FEMALE REFERENCES, AUGUST 2016.....	84
TABLE 34: FOOD ALLOCATION AND CONSUMPTION SOCIAL NORM MATRIX OF FEMALE REFERENCES, AUGUST 2016.....	85
TABLE 35: FOOD ALLOCATION ON QUALITY/TYPE SOCIAL NORM MATRIX OF FEMALE REFERENCES, AUGUST 2016.....	88
TABLE 36: FOOD ALLOCATION AND EATING ORDER SOCIAL NORM MATRIX OF FEMALE REFERENCES, AUGUST 2016.....	89

TABLE 37: ATTITUDE, BEHAVIOR, EMPIRICAL AND NORMATIVE EXPECTATION OF FEMALE REFERENCES ON ADOLESCENTS GIRL FOOD ALLOCATION AND EATING ORDER SOCIAL NORM MATRIX 2 OF, AUGUST 2016.....	90
TABLE 38: BACKGROUND INFORMATION OF MALE REFERENCE GROUP DISTRIBUTED BY PROGRAM AREA.....	92
TABLE 39: EDUCATION AND SCHOOL ATTENDANCE INDICATORS OF MALE REFERENCES, AUGUST 2016.....	93
TABLE 40: ATTITUDE, BEHAVIOR, EMPIRICAL AND NORMATIVE EXPECTATION OF MALE REFERENCES ON ADOLESCENTS EDUCATION AND SCHOOL ATTENDANCE, AUGUST 2016.....	96
TABLE 41: ATTITUDE, BEHAVIOR, EMPIRICAL AND NORMATIVE EXPECTATION OF MALE REFERENCES ON ADOLESCENT GIRL MARRIAGE, AUGUST 2016.....	100
TABLE 42: ATTITUDE, BEHAVIOR, EMPIRICAL AND NORMATIVE EXPECTATION OF MALE REFERENCES ON ADOLESCENT GIRL MARRIAGE (2), AUGUST 2016.....	101
TABLE 43: ATTITUDE, BEHAVIOR, EMPIRICAL AND NORMATIVE EXPECTATION OF MALE REFERENCES ON ADOLESCENT GIRL MARRIAGE(3), AUGUST 2016.....	102
TABLE 44: ATTITUDE, BEHAVIOR, EMPIRICAL AND NORMATIVE EXPECTATION OF MALE REFERENCES ON GIRLS EMPOWERMENT AND DECISION MAKING, AUGUST 2016.....	105
TABLE 45: ATTITUDE, BEHAVIOR, EMPIRICAL AND NORMATIVE EXPECTATION OF MALE REFERENCES ON GIRLS EMPOWERMENT AND DECISION MAKING (2), AUGUST 2016.....	106
TABLE 46: ATTITUDE, BEHAVIOR, EMPIRICAL AND NORMATIVE EXPECTATION OF MALE REFERENCES ON ADOLESCENT GIRL SEXUAL AND REPRODUCTIVE HEALTH, AUGUST 2016.....	109
TABLE 47: ATTITUDE, BEHAVIOR, EMPIRICAL AND NORMATIVE EXPECTATION OF MALE REFERENCES ON ADOLESCENT GIRL NUTRITION, AUGUST 2016.....	113
TABLE 48: ATTITUDE, BEHAVIOR, EMPIRICAL AND NORMATIVE EXPECTATION OF MALE REFERENCES ON ADOLESCENT GIRL NUTRITION (2), AUGUST 2016.....	114
TABLE 49: ATTITUDE, BEHAVIOR, EMPIRICAL AND NORMATIVE EXPECTATION OF MALE REFERENCES ON ADOLESCENT GIRL NUTRITION (3), AUGUST 2016.....	115

List of figures

FIGURE 1: MAP OF WEST HARARGHE ZONE AND STUDY WOREDAS.....	5
FIGURE 2: DESCRIPTION OF THE EVALUATION STUDY ARMS.....	6
FIGURE 3: SAMPLING SCHEME FOR EVALUATION SURVEY, WEST HARARGHE, ETHIOPIA.....	7
FIGURE 4. AVAILABILITY OF SELECTED SCHOOL FACILITIES AND PERSONNEL AS REPORTED BY IN-SCHOOL ADOLESCENT GIRLS, AUGUST 2016..	9
FIGURE 5: ACTIVITIES CARRIED OUT AT HOME BY ADOLESCENT GIRLS ON A DAILY BASIS, AUGUST, 2016.....	24
FIGURE 6: EDUCATIONAL STATUS OF ADOLESCENT GIRLS (13-17), AUGUST 2016.....	29
FIGURE 7. THE CONTENT OF ADOLESCENT INTERACTION WITH HEALTH EXTENSION WORKERS, AUGUST 2016.....	46
FIGURE 8. ADOLESCENT GIRLS WHO APPROACHED FOR NON-CONSENSUAL SEX AND ABLE TO SAY NO FOR NON-CONSENSUAL, AUGUST 2016.....	47
FIGURE 9. PLACE WHERE ADOLESCENTS GET CONTRACEPTIVE METHODS, AUGUST 2016	48
FIGURE 10: CONTRACEPTIVE METHODS RECALLED BY THE RESPONDENT, AUGUST 2016.....	49
FIGURE 11. KNOWLEDGE ON SEXUAL TRANSMITTED INFECTION, AUGUST 2016.....	50
FIGURE 12. KNOWLEDGE ON MEANS OF TRANSMISSION OF SEXUAL TRANSMITTED INFECTION, AUGUST 2016.....	51
FIG 13A. SHOWS NORM OF ADOLESCENT GIRLS AND BOYS OF THE SAME AGE LIVING WITH THEIR PARENTS SHOULD EAT AT THE SAME TIME.....	62
FIG 13B. SHOWS BEHAVIOR OF ADOLESCENT GIRLS ON HOW OFTEN DO THEY HAVE MEALS AT THE SAME TIME AS THEIR BROTHERS/OTHERS ADOLESCENT BOYS OF THE SAME AGE.....	62

Executive summary

Improving Adolescent Reproductive Health and Nutrition through Structural Solutions project (Abdiboru Project) is implemented in West Hararghe Zone, Oromia, Ethiopia. The project is funded by the Bill and Melinda Gates Foundation. The project interventions are developed and implemented by CARE Ethiopia. Addis Continental Institute of Public Health is the research partner responsible for the research and evaluation components of the project.

The project interventions will be evaluated using a quasi-experimental design. The project woredas are divided into three arms. Arm 1(Double-combination) – is a combination of interventions that improve girl’s agency(individual level intervention) and gender equality by strengthening service provider and local government effectiveness, responsiveness, and accountability to adolescent girls’ issues and needs (government level intervention). Arm 2 (Triple-combination) is a combination of three interventions; individual, government level, and community level (SAA that is designed to challenge and change the social norms at households and in communities to support empowerment of adolescent girls). Arm 3(delayed intervention/control arm) is a delayed intervention/control arm group and receives the usual services.

The process and outcome of the project are assessed using a mix of quantitative and qualitative data collection methods at baseline, midterm and endline. This report presents the baseline quantitative survey findings.

This baseline quantitative survey was conducted from May 2016 to August 2016. Respondents were adolescent girls (n=3186); female reference groups which includes mothers, mothers-in-law, sisters and sisters-in-law of the index adolescent girl (n=3203), and male reference group, which includes fathers, husbands, brothers, fathers-in-law and brothers-in-law of the index adolescent girl (n=3196). Index adolescent girls for the survey were identified through a complete house-to-house counting.

Key Results

The following are key findings of the baseline survey that are in line with the results tracker/evaluation framework of the project:

- Adolescent girls on average spent double time for doing household chores compared to the time they spent for either leisure or study.
- The majority (60.82%) of adolescent girl's reported that they are the ones to choose whom to marry. About 78.85% of the adolescent respondents perceived that other girls have a say whom to marry. This view was shared by both female and male reference groups in all arms.
- About 11.99% of adolescent girl age 13-17 reported to have been married at least once in their lifetime. Of those, 40.86% had given birth to child at least once.
- The majority of adolescent girls reported having moderate to high level of confidence to negotiate for their rights; 77.73% in double-combination arm; 74.73% in triple-combination arm, and 74.73% in the delayed intervention/control arm.
- The majority of adolescent girls reported having moderate to high level of confidence about their communication skills; 78.32% in double-combination arm; 75.62% in triple-combination arm, and 75.36% in the delayed intervention/control arm.
- About half of adolescent girls perceived having mutual aid, trust, connectedness and social support from people who matters most to them. Perception of mutual aid was 51.12% in double-combination arm; 48.57% in triple-combination arm, and 47.39% in the delayed intervention/control arm. Perception of trust was 50.18% in double-combination arm; 50.06% in triple-combination arm, and 45.93% in the delayed intervention/control arm. Perception of connectedness was 49.63% in double-combination arm; 47.78% in triple-combination arm, and 45.45% in the delayed intervention/control arm. Perception of social support was 50.24% in double-combination arm; 46.70% in triple-combination arm, and 47.31% in the delayed intervention/control arm.
- About two-third of the study adolescent girls commonly mentioned menarche, growth in breast and growth of pubic and underarm hair as characteristics of puberty. About two-third of the adolescents mentioned the age of menarche to be between 12 and 15years. About half of the adolescents mentioned the duration of menstrual blood flow is 3-5 days.

- Less than half of the adolescents heard methods to avoid pregnancy; 41.92% in double-combination arm; 44.94% in triple-combination arm, and 37.25% in the delayed intervention/control arm. Injectable, male condoms and pills were the most commonly recognized methods.
- Most adolescents have inadequate awareness about STIs; HIV/AIDS was identified by two third of adolescents, gonorrhea and syphilis were identified by about a third, and other STIs were identified by less than 2% of adolescents. A little more than half of the adolescent respondents recognized that STIs are transmitted through Sexual contact. Knowledge about prevention methods is generally very low; abstinence (46.8%), using condoms (23.5%) and being faithful to one partner (21.4%).
- More than half (range from 54.87% to 77.59%) of married adolescent girls reported decision on household finance is made jointly with their husband.
- Among adolescent girls who have their own income, about 60% revealed that they have autonomy over their own income.
- More than 90% of adolescents reported that they can negotiate financial support for their school needs. However, only 38% of the adolescents reported ability to negotiate financial support for their hygiene needs.
- The majority of adolescent girls (76.05%) reported that other people do not think it is normal for girls to be able to move freely outside the home if they want to.
- The majority (78.98%) of the adolescent girls agreed that most other adolescent girls would be served food after their male siblings or husbands in the household. About half (54.95%) of the adolescent girls agreed that most other adolescent girls would have the same amount of food as their male siblings or husbands in the household. The majority (87.09%) of the adolescent girls agreed that most other adolescent girls would have the same quality of food as their male siblings or husbands in the household.
- Only 8% of adolescent girls reported to have had contact with health extension workers. Of those who had contact, 93.3% reported their contact was satisfactory.

- 82.13% of adolescents attending school at the time of the survey reported that their school had separate toilets for girls with doors and walls. 22.18% reported that their school provides sanitary supplies. Two-third of adolescents attending school reported their school had counselor for girls.
- The majority (87.74%) of the adolescent girls had normal BMI adjusted for age (BAZ).
- 59.32% of 13-17 girls were registered in school for the current academic year. However, among those who registered for the current academic year, 86.64% were actually attending school at the time of the study.

1. Background

Adolescents grow through complex web of peer, family, community, and societal influences that affect their present and future health and wellbeing. Some of these influences are deep-rooted in traditional and cultural practices making the influences uneasy for interventions. Social norms are among the many social forces and systems that highly influence adolescent behavior (1, 2). Social norms are often unspoken rules or expectations of behavior within a specific cultural or social group (3, 4). Social norms persist either due to individuals' preference to conform, given the expectation that others will also conform, or due to sanctions which are related to not conforming (5). A variety of external and internal pressures are thought to maintain social norms (4). Individuals conform to social norms in fear of social disapproval or penalty and feelings of guilt and shame that result from the internalization of norms. Social norms do not necessarily correspond with an individual's attitudes (positive or negative feelings towards an idea or behavior) and beliefs (perceptions that certain premises are true), on the other hand social norms may influence these attitudes and beliefs if they become internalized (3).

Adolescents' health is strongly influenced by social factors at personal, family, community, and national levels depending on the prevailing social structures and norms. Efforts to address social determinants of health need to understand the social contexts and also the pathways by which social conditions translate into health effects (1, 2).

Among the social structures in which adolescents are highly influenced these days is the school/education system. Education has significant contributions on adolescent's health in different ways including the delivery of skills and knowledge that is necessary to help adolescents' make healthy choices about their reproductive health and sexual behaviors. However, adolescent girls in many developing country, including Ethiopia, have been given lesser opportunities of attending formal education compared to boys and those attended school had less chances of continuing to their education to a higher level (6, 7).

In recent years, school enrollment for adolescent girls have shown remarkable improvements in Ethiopia. According to the Ministry of Education of Ethiopia, 8.7 million adolescents between 11 and 14 years of age were enrolled in 2013/2014 academic year, of whom females accounted for 49% of the students (6). While previous reports have depicted that boys have higher chance of being enrolled (7), these days girls have a better chance of survival in primary school (6).

However girls' survival beyond primary education dramatically declines as compared to boys (6, 7). Thus, it is imperative to understand the barriers to attaining higher educational level for girl whilst opportunities are apparently wide open.

Child marriage is widely acknowledged as a harmful sociocultural practice that is both a cause and an outcome of human rights violations and adolescents' reproductive health. Child marriage often curtails chances for a better education and economic independence (8). In Ethiopia child marriage is still practiced (9) despite the law strictly forbids child marriage. According to the 2011 Ethiopian Demographic and Health Survey (EDHS), the median age at first marriage was 16.5 years, and 40% of all women in their early 20s were married before they turned 18 years of age (9). Men were unlikely to marry as children; women were more likely to be married by the age of 18 than men are by the age of 25 years (9).

Report from a study conducted among women aged 20-24 years in nine major regions of Ethiopia in 2009 to 2010 have shown that 16.5 % the women were married before the age of 15 years. Majority, 89%, of these marriages were arranged and about 71% of the brides met their husbands for the first time on the day of their wedding (11). Further analysis of EDHS 2011 data has shown that 59% of women in the age group of 20 to 29 years reported being married before the age of 17 years while 19% were married before the age of 14 years (12).

Nutritional status is another key factor that affects the health and welling of adolescents. Chronic malnutrition among women in Ethiopia is high, 27% of women was either thin or undernourished (9). Among this, adolescents are the most affected group. Household gender dynamics often mean that girls are more food-insecure than their male counterparts. In Oromia, 58% of adolescent girls experience food allocation discrimination (13). Female adolescents living in a household with food insecurity and high dependency ratio are more likely to suffer from food discrimination (14, 15). Food insecure adolescents, especially those living in rural area were found to have higher rate of school absenteeism as compared to food secure adolescents (16).

In Ethiopia cultural practices that put men as a primary decision makers are dominant. Men decide on matters that involve household financial management, and on children's marriage and schooling (17). Lack of agency/autonomy even on matters that seriously affect their health and wellbeing has left adolescent girls in Ethiopia in a much compromised situations. The extent of these effects is believed to vary from region to region but what is common in all is that it has not been

studied/documentated well in any of the regions, which makes planning appropriate and context relevant interventions an extremely difficult task. This quantitative study was conducted to have a baseline estimate of key indicators of social norms among adolescent girls and their reference groups prior to implementing an intervention package aimed at empowering adolescent girls through improved reproductive health, education and nutrition in West Hararghe zone of Oromia regional state, Ethiopia. The intervention project is referred to as “*Abdiboru Project*”, which means hope for the future.

The Abdiboru Project

Improving Adolescent Reproductive Health and Nutrition through Structural Solutions (Abdiboru Project) is a five-year (2016 – 2020) project funded by the Bill and Melinda Gates Foundation and implemented by CARE/ Ethiopia in West Hararghe Zone, Oromia, Ethiopia. The project targets girls 10-14 year of age. The project aims at empowering adolescent girls through applying improved individual level and structural level social interventions that are likely to improve the reproductive health, nutrition and education attainment of adolescent girls. The ultimate aim is to establish a cost effective model that can be applied at scale. The project tests two sets of intervention packages against a delayed intervention/control arm group as described in the table below:

Table 1: Study arms

	Usual services	Supporting girls’ group (Individual level)	Community Score Card Interventions (Government-level)	Social Analysis and Action (SAA) Intervention (Community-level)
Arm 1 (Double-intervention)	✓	✓	✓	
Arm 2 (Triple -intervention)	✓	✓	✓	✓
Arm 3 (Delayed Intervention/ Delayed intervention/control arm group)	✓			

- Usual services are those provided by government and other agencies without the influence of Abdiboru project.
- The individual level intervention implemented through in-school and out-of- school girls clubs, with married and unmarried adolescent girls aged 10 to 14 years. The individual level intervention is believed to significantly increase gender equality by ensuring that

adolescent girls have the skills, capacity, and self-efficacy to negotiate for themselves and make decisions that affect their own lives.

- The government level intervention (Community Score Card Interventions) focuses on enhancing the support and accountability of service providing institutions. The intervention is believed to significantly increase adolescent girls' empowerment and gender equality by strengthening service provider and local government effectiveness, responsiveness, and accountability to adolescent girls' issues and needs.
- Social Analysis and Action (SAA) Intervention (Community-level) help to develop and implement changes in social norms at the household and communities to enhance adolescent girls' empowerment.

This initiative is informed by CARE's previous and ongoing direct experience in Ethiopia and elsewhere, as well as by compelling evidence from other organizations and institutions. The interventions will be conducted by CARE Ethiopia and the assessment of the impact of the interventions and the overall monitoring and evaluation of the project will be undertaken by Addis Continental Institute of Public Health (ACIPH). The evaluation of this program has several components: qualitative and quantitative studies at baseline and end line, assessment of the quality of intervention, routine monitoring and process evaluation which includes quarterly documentation of routine activities, costing effectiveness, intensity assessment and quality perception.

This quantitative study establishes baseline for key social norms indicators affecting adolescent girls' education, marriage and food allocation in the project implementation area.

2. Methods

2.1. Study Area

West Hararghe zone is composed of 13 Woredas (administrative areas) and one town. Based on the 2007 Census, the estimated population is 1,871,706. Women and girls account for 48.8% of the population. Majority of the population resides in the rural areas (91.4%) and is Oromo Ethnic group (90.12%). Affan Oromo is spoken as a first language by 89.47%. Islam is the dominant religion (88.05% of the population). Around 85% of the population depends on agriculture related activities for living(1). The baseline survey was conducted in four selected Woredas (three program and one delayed intervention/control arm woredas) of West Hararghe Zone, Oromia Region, Ethiopia. The study woredas have been selected in consultation with CARE/Ethiopia based on programmatic needs.

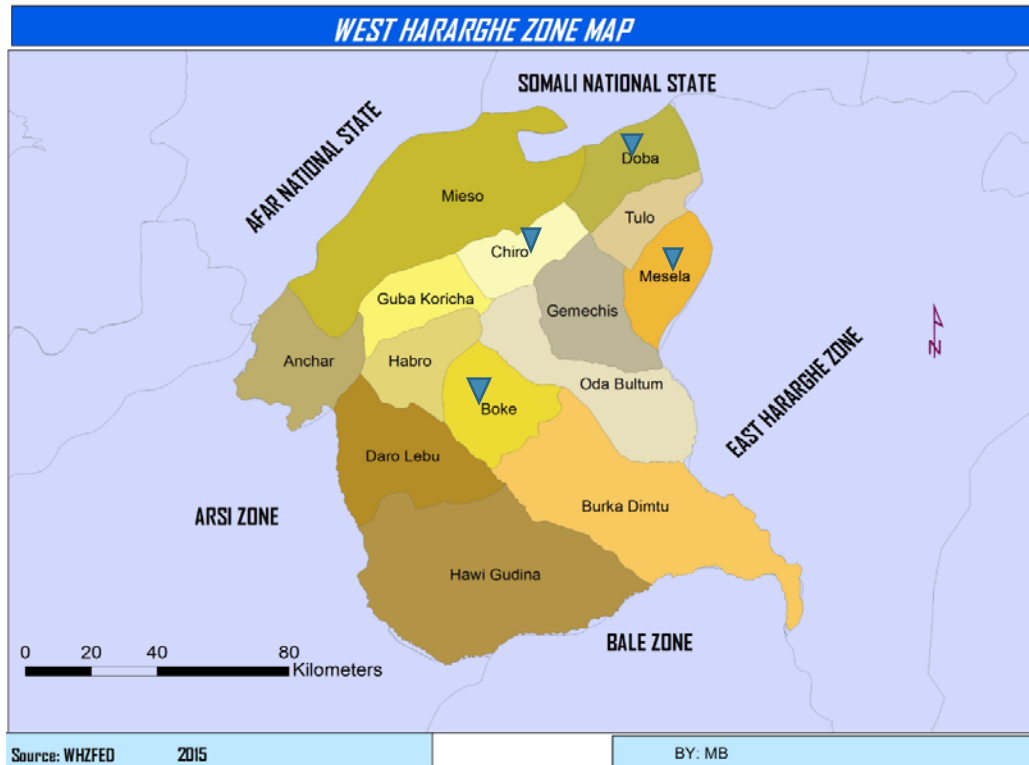


Figure 1: Map of West Hararghe zone and Study woredas.

2.2. Study Design

The evaluation utilized a quasi-experimental mixed method design with three arms to evaluate the impact of CARE intervention in West Hararghe, Oromia, Ethiopia (Fig. 1). The project design constitutes baseline, process and End line assessments. The baseline and end line assessments employ quantitative surveys while the process evaluation employs qualitative studies. This report presents the bassline survey conducted from May 2016 to August 2016.

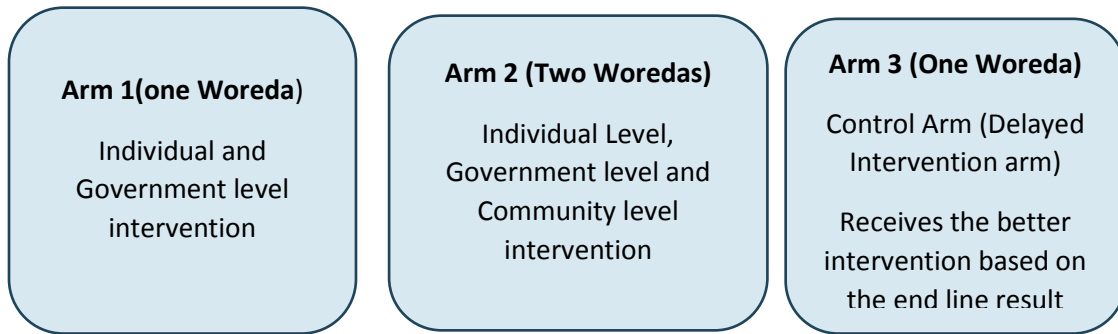


Figure 2: Description of the evaluation study arms

2.3. Study population

The study population for the baseline survey was consist of three individuals per household: girls between 13 and 17 year of age; female and male reference group of the household from adolescent girl’s house.

2.4. Sample size determination

The sample size for the baseline survey was calculated assuming a reduction of early marriage from 22% to 15%, a 5 percent level of significance, 90 percent power, average cluster size of 30, a design effect of 1.5 and 10% non-response rate. Accordingly, a total of 1140 households were needed for each arm. Thirty households with eligible adolescent girl and reference groups in 38 clusters were selected in each arm, which means a total of 3420 (1140*3) households in each of the three arms.

2.5. Sampling technique

A two stage cluster sampling method was employed. Development zones (a sub division of kebele) in each kebele (the smallest formal administrative unit) were considered as clusters. In the first stage, 38 clusters were selected using simple random sampling technique after obtaining a complete list of clusters in the selected woredas from the respective woreda health office. In the second stage, a complete census of households and populations in the selected clusters was done to identify households with eligible adolescent girl’s aged 13-17 year and reference groups (both female and male). Based on the census, 30 households were selected randomly using a computer generated random number. If there were more than one eligible adolescent in the household, the elder was selected. Likewise, if more than two influential adult family members were identified,

two of the most influential was selected based on the findings of the formative qualitative assessment. (Fig 4).

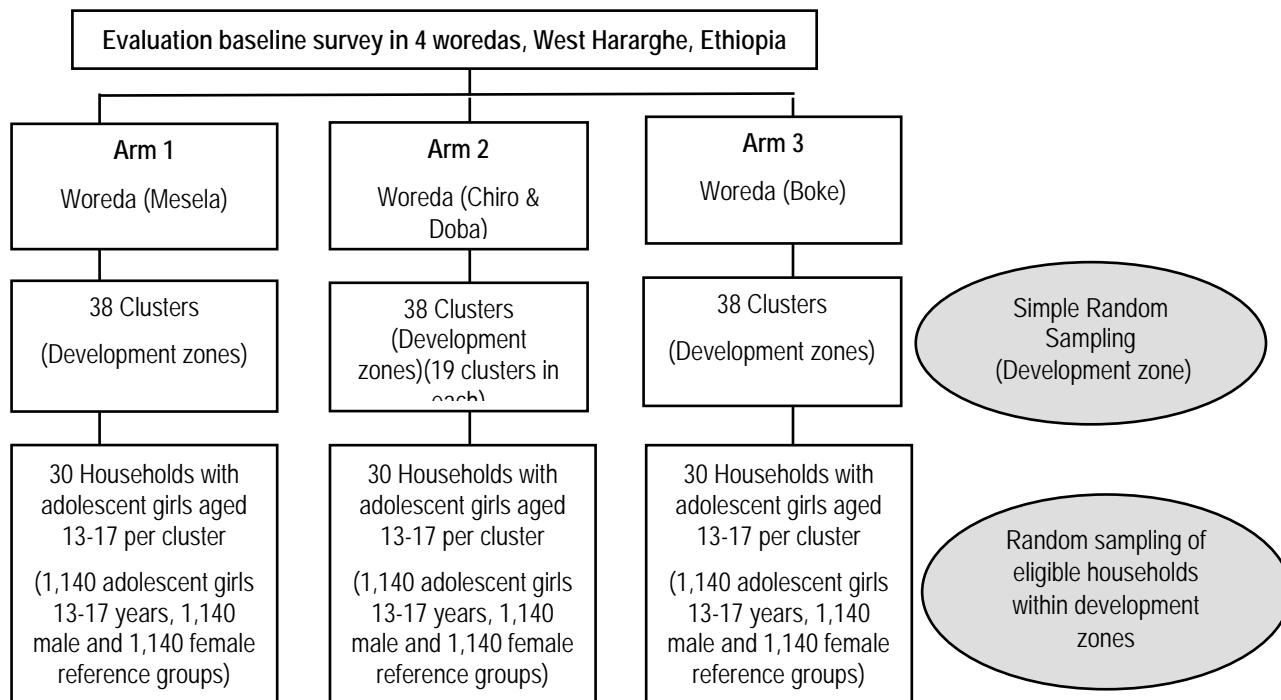


Figure 3: Sampling Scheme for evaluation survey, West Hararghe, Ethiopia

2.6. Data collection tools and procedure

Data were collected using a structured and pre-tested questionnaire. The questionnaire considers the major outputs and outcomes of the project as well as the independent factors. The baseline survey used five modules:

1. **Census** - captured all household member list, head of the household, adolescent girl age 13-17, and the relationship of the index adolescent girl with the rest of the household members.
2. **Household questionnaire** - captured the socio-economic and food security profile of the households. The head of the household responded to the questionnaire.
3. **Adolescent girl questionnaire** and Anthropometric Measurements – interviewed adolescent girls age 13-17 year to capture information on socio demographic, education and school attendance, early marriage, girls empowerment and decision making power,

adolescent reproductive and sexual matters, food allocation. Anthropometry measurements were taken for all index adolescents enrolled in the study following the WHO guidelines. Weight measurements were taken to the nearest 0.1 kg using the UNICEF electronic scale (capacity 150 kilograms). Weighing scales were calibrated each morning using a standard weight before the survey team start interview. Height measurements were taken using wooden height boards/stands.

4. **Female Reference questionnaire** (Mother, sister, mother in law and sister in-law) - administered to female references (influential person for the adolescent girl) in the household. If the selected adolescent girl was unmarried, the female reference group were her mother or female siblings aged 18 years or older. If the adolescent girl was married the reference group were mother in-law or sister in-law who reside in the same household. This module captured information on socio demographic, education and school attendance, early marriage, girls' empowerment and decision making power, adolescent reproductive and sexual matters, food allocation.
5. **Male Reference questionnaire** (Father, Brother, Husband, father in law and brother in-law) - administered to male reference (influential person for the adolescent girl) in the household. If the selected adolescent girl was unmarried, the male reference group were her father or male siblings aged 18 years or older. If the adolescent girl was married the reference group were husband or father in-law or brother in-law who resides in the same household. This module captured information on socio demographic, education and school attendance, early marriage, girls' empowerment and decision making power, adolescent reproductive and sexual matters, food allocation.

All study tools were first developed in English and then translated into the local language, *Affaan Oromo*. The ODK (Open data Kit), an electronic data collection program, was used to record data. Open data kit program used secure centrally managed server. Each data collector submitted completed data to their supervisors on daily basis. The supervisors then did a quick review of the data and submitted to the server at ACIPH. The data management team at the ACIPH reviewed and provided feedback to the supervisors in the field regularly.

2.7. Survey field team recruitment and Training

Data collectors and supervisors were recruited and trained for three weeks. Data collectors had at least college Diploma and fluent in written and spoken Oromifaa language. The supervisors had at least first degree, fluent in written and spoken Oromifaa language and a good command of English language. A field operation manual was prepared to ensure that all survey team members have similar understanding of the procedures and the tools. Validation was done to assess whether the data collectors and supervisors were competent to undertake the expected duties by doing samples of pre-determined responses. Data collectors that did not correctly register at least 95% of the responses were eliminated from the team before they were deployed to the field.

Two round training was given on the survey methodology, electronic data collection interview techniques as well as on anthropometry measurements. Both the trainings were consist of presentations, role plays and mock interviews. The first training was done for ten days that includes objective of the survey, methodology, basic ethical issues relevant for the study as well as expected behaviours and code of conduct during the study period.

The second training was given for six days based on revised tools following pre-test. A second standardization procedure was done for the interview and anthropometric measurements. Trainees who fail to record at least 95% of the responses correctly in the final standardization interview were excluded.

A pre-test was done in a similar setting but in areas not included in the main study. The purpose of the pretest was to see the appropriateness of the questions, the language flow and understandability of the questions both by the respondents as well as the data collectors. The pre-test was also used as an opportunity to familiarize the data collectors with the tools in actual contexts. The finding from the pre-test was used to improve the language, flow and appropriateness of the tools.

Data collectors conducted a complete census in each cluster to select eligible households and conduct interviews with the index adolescent girl (age 13-17 year) and her male and female references (one male age \geq 18 and one female \geq 18). Each respondent was interviewed separately.

2.8. Data management and analysis

Data cleaning: each day excel (CSV) forms were downloaded from the server and checked for certain key variables. When data collection was completed, the data were transferred to SPSS version 20 for further cleaning to identify and correct logical errors and inconsistencies. Datasets were linked using unique codes assigned to clusters, households and individuals. Then, the cleaned data were transferred on to STATA/SE version 13 statistical software for data analysis. Weights were produced and applied to ensure the sample represents the population from which it was drawn.

Data Analysis: Weighted data were used to produce the necessary information required in the results tracker/evaluation framework. For this baseline survey, descriptive analysis of socio demographic data and social norm was done. Weighted average and standard error, parentage and confidence interval of social norm variables were done and presented in table and graph form.

2.9. Ethical issues

The research protocol was reviewed by the Addis Continental Ethical Review Board. All the necessary permissions were obtained from the Oromia Regional Health Bureau and West Hararghe zone. Informed consent was obtained from all participants. For participants below the age of 15 year additional parental/ guardian consent was sought. All interviews among the study participants was take place in a private setting.

3. Result

3.1. Adolescent girls- Socio-demographic characteristics

A total of 3238 adolescent girls aged 13 – 17 years participated in the survey with very high response rate; 99.2% in the Double-combination arm, 95.2% in triple-combination arm, and 90% in the delayed intervention/control arms. The mean age of adolescent girls participated in the study were comparable. The overwhelming majority were followers of Islam religion and Oromo by ethnicity. Students constituted the majority in all arms but more in the double-combination arm (Table 2).

Table 2: Background characteristics of Adolescent girls (13-17 years old)

Characteristics	Double-combination arm	Triple-combination arm	Delayed intervention/control arm
	N (%)	N (%)	N (%)
No of Adolescents visited	1140	1140	1140
No of adolescents responded	1126(98.77)	1071 (93.95)	989 (86.75)
Mean age of adolescents (Mean±SD)	14.88±0.039	14.85±0.043	14.87±0.043
Occupation			
Farmer or Family farm work	150(13.32)	163(15.22)	172(17.39)
Wage work (Occasional)	1(0.09)	6(0.56)	27(2.73)
Daily laborer	4(0.36)	5(0.47)	7(0.71)
Business/Trader	13(1.15)	40(3.73)	39(3.94)
Household work/housewife	226(20.07)	282(26.33)	270(27.30)
Student	687(61.01)	503(46.97)	418(42.26)
Don't work	26(2.31)	44(4.11)	41(4.15)
Religion			
Muslim	969(86.06)	895(83.57)	937(94.74)
Christian	155(13.76)	141(13.17)	52(5.26)
Ethnicity			
Oromo	1089(96.71)	1018(95.05)	970(98.08)
Others	37(3.29)	52(4.86)	19(1.92)

3.2.2. Education and school attendance indicators of Adolescent girls

3.2.2.1. Adolescent girl's education and school attendance

Overall majority of the adolescent girls reported ever attending school; 88.11% in double combination arm, 70.75% in triple-combination and 76.67% in the delayed intervention/control arm. However, only 45.99%-60.72% of those ever attend were functionally literate (able to read a

complete sentence) at the time of the survey. The average age for school dropout across all arms is 10-12 years and the average grade for school dropout is grade four. The majority of girls who dropped from school did so just to earn an income. (Table 3)

Table 3: Adolescent girls Education and school attendance status

Characteristics	Double-combination arm	Triple-combination arm	Delayed intervention/control arm
	% (95% CI)	% (95% CI)	% (95% CI)
Can read and write (n=3181)			
Yes	65.58 (60.27,70.52)	49.48 (41.78,57.22)	45.17 (39.71,50.76)
No	34.42 (29.48,39.73)	50.52 (42.78,58.22)	54.83 (49.24,60.29)
Ability to read sentence (n=1704, among those who can read)			
Can't read at all	6.148 (3.97,9.404)	5.808 (4.134,8.102)	10.9 (6.93,16.73)
Able to read only parts of sentence	35.35 (30.17,40.88)	33.47 (28.04,39.37)	43.11 (37.32,49.08)
Able to read the whole sentence	58.51 (51.79,64.92)	60.72 (53.99,67.08)	45.99 (39.92,52.19)
Ever attended school (n=3181)			
Yes	88.11 (85.14,90.54)	79.75 (74.23,84.34)	76.67 (71.58,81.1)
Never	11.89 (9.456,14.86)	20.25 (15.66,25.77)	23.33 (18.9,28.42)
Highest grade level achieved (n=2598, among ever attended) Mean \pm SE	4.68 \pm 0.186 (4.31,5.05)	4.27 \pm 0.198 (3.87,4.66)	3.35 \pm 0.16 (3.04,3.66)
Average age at school dropout (n=175, among those who dropped out) Mean \pm SE	10.91 \pm 0.34 (10.23,11.59)	12.15 \pm 0.331 (11.49,12.81)	11.85 \pm 0.32 (11.22,12.48)
Average grade at school dropout (n=175, among those who dropped out) Mean \pm SE	3.59 \pm 0.31 (2.99,4.20)	4.15 \pm 0.37 (3.42,4.89)	3.33 \pm 0.25 (2.83,3.82)
Dropped out of school to earn an income (n=175, among those who dropped out)			
Yes	38.58 (22.68,57.35)	14.34 (7.522,25.63)	23.85 (14.26,37.11)
No	61.42 (42.65,77.32)	85.66 (74.37,92.48)	76.15 (62.89,85.74)

Regarding adolescent responsive school environment, the majority of the schools had counselors for girls and separate toilets for girls. However, availability of water and sanitary supplies for girls was limited to a very small proportion of schools. (Figure 4)

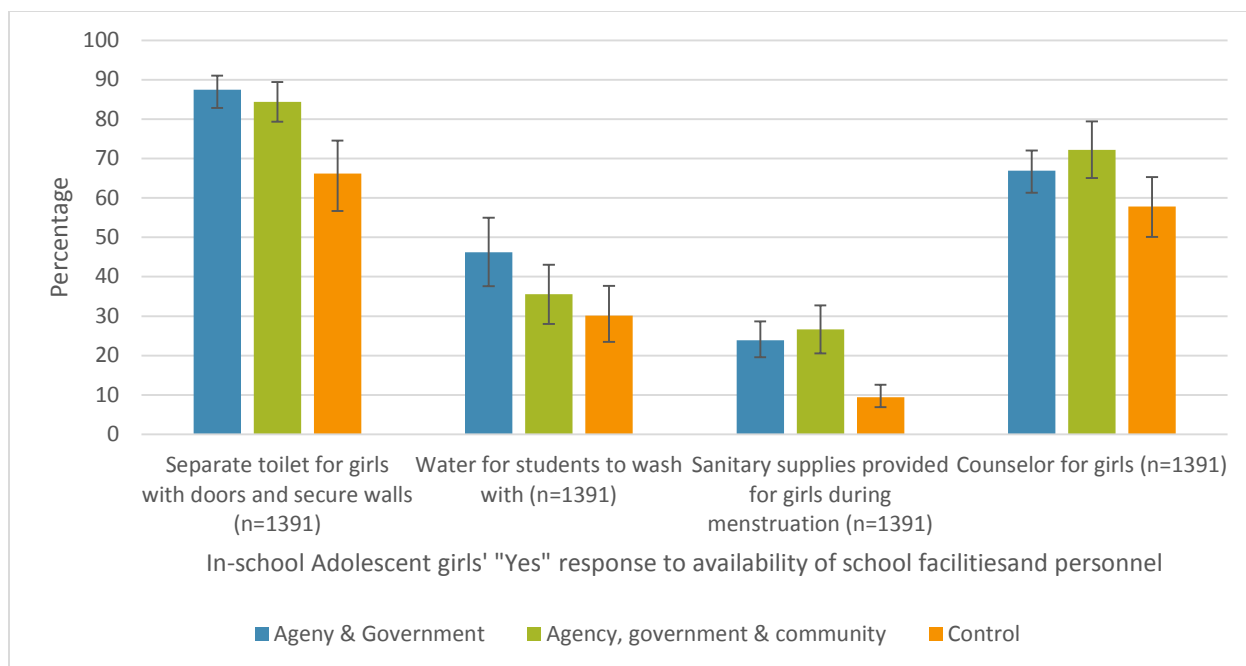


Figure 4. Availability of selected school facilities and personnel as reported by in-school adolescent girls

Nearly one third of adolescent girls in double-combination arm and one fourth of adolescent girls in triple-combination arm and delayed intervention/control arms reported “Family couldn’t afford to pay fees” as a major reason for school dropout, followed by “Had to care for family” reported by 17.54 (9.69, 29.67) and 17.44 (10.13, 28.35) of adolescent girls in the triple-combination arm and delayed intervention/control arms, respectively. Cleaning the house, cooking for the family and fetching water were almost universal activities carried out by the adolescent girls across all wordas. (Figure 5)

Adolescent girls on average reported missing 2-3 school days in the last month. The dominant reasons for missing school days were to help in household chores and sickness (self). Only 1-5% of adolescents reported menstrual period as reason for missing school days. About 65% of adolescent girls reported receiving financial support for their school needs. The grade level aspired to be completed by adolescent girls was 10-11 grade. The majority of adolescents who never attend school aspired to go to school; 53.2-61.62%. (Table 4)

Table 4: Education and school attainment of Adolescent girl

Characteristics	Double-combination arm	Triple-combination arm	Delayed intervention/control arm
	% (95% CI)	% (95% CI)	% (95% CI)
Average number of days missed from school in the past month (n=1135, among those who are in school) Mean±SE	2.12±0.153 (1.82, 2.42)	2.75±0.35 (2.05, 3.44)	2.99±0.31 (2.38, 3.61)
Reasons for missing school (n=902, among those who missed school)			
To do household chores	45.47 (39.41,51.66)	59.8 (51.79,67.33)	55.01 (47.73,62.09)
There was nothing to eat	6.212 (3.761,10.09)	5.464 (2.876,10.14)	7.359 (4.606,11.56)
Sickness	41.03 (33.01,49.55)	29.08 (21.93,37.45)	34.95 (28.2,42.37)
Menstrual period	4.909 (2.849,8.331)	2.599 (1.008,6.537)	1.496 (0.5432,4.049)
Others (Late to school, fasting, death of family member, marriage)	8.275 (4.912,13.61)	25.85 (18.52,34.84)	10.81 (6.976,16.38)
Don't know	18.23 (11.78,27.13)	8.752 (6.223,12.17)	10.3 (6.881,15.15)
Receive financial support for school needs? (n=1366, among those who are enrolled in school)	64.15 (58.87,69.11)	65.48 (59.47,71.04)	66.08 (60.12,71.57)
Person who mostly provides financial support for school needs (n=889, among those who get financial support)			
Father	50.88 (44.83,56.91)	52.55 (44.65,60.32)	68.14 (60.41,74.98)
Mother	43.06 (36.48,49.9)	42.37 (34.58,50.55)	28.33 (21.66,36.11)
Husband	1.119 (0.4224,2.928)	0.8634 (0.2568,2.861)	1.166 (0.378,3.535)
Mother-in-law	1.217 (0.3847,3.78)	0	0
Other family members	2.953 (1.537,5.599)	3.945 (2.1,7.291)	2.086 (0.7433,5.714)
Other (Teacher, Self)	0.7643 (.2428,2.379)	0.2771 (0.0397,1.909)	0.28 (.00395,1.955)
Desire ever to go to school (n=583, among those who never went to school)			
Yes	60.38 (50.82,69.21)	53.2 (40.78,65.23)	61.62 (51.48,70.85)
No	37.73 (28.86,47.49)	44.91 (32.83,57.62)	34.74 (26.68,43.79)
Not sure	1.891 (0.5518,6.273)	1.892 (0.7565,4.653)	3.634 (0.861,6.976)
Do you have aspiration for the future? (n=3181)			
Yes	95.11 (93.12,96.55)	87.13 (80.7,91.65)	88.35 (85.37,90.79)
No	4.89 (3.45,6.89)	12.87 (8.35,19.3)	11.65 (9.21,14.63)
Girls' aspiration of school grade to complete (Mean ± SE)	11.43±0.36(10.71,12.15)	11.18 ± 0.21 (10.77, 11.59)	10.42 ± 0.33 (9.76, 11.08)

The data shows that adolescent girls had more time for doing Household chores or for care of children than time for study and leisure with weighed average time (\pm SE) 4.25 ± 0.12 double-combination arm, 4.72 ± 0.11 triple-combination arm and 4.41 ± 0.19 delayed intervention/control arm (Table 4). Adolescent girls in the triple-combination arm allotted average 4.72 ± 0.11 Hrs/day, while adolescent girls in the first and delayed intervention/control arms spent 4.25 ± 0.12 and 4.41 ± 0.19 Hrs/day, respectively. (Table 5)

Table 5: Time spent by the adolescent girls for deferent activities

Characteristics	Double-combination arm	Triple-combination arm	Delayed intervention/control arm
	% (95% CI)	% (95% CI)	% (95% CI)
Leisure time spent (n=1379)			
Hrs/day	2.09 ± 0.07 (1.94,2.23)	2.17 ± 0.95 (1.98, 2.36)	2.07 ± 0.09 (1.87,2.25)
Days/week	3.71 ± 0.15 (3.41 ,4.01)	3.99 ± 0.16 (3.69, 4.31)	3.84 ± 0.16 (3.52,4.16)
Study time spent (n=3181)			
Hrs/day	2.75 ± 0.11 (2.54,2.96)	2.84 ± 0.10 (2.64,3.04)	2.45 ± 0.11 (2.24,2.66)
Days/week	4.52 ± 0.14 (4.24,4.79)	4.63 ± 0.15 (4.33,4.92)	4.32 ± 0.149 (4.06 ,4.67)
HH chores/care of children time spent (n=3181)			
Hrs/day	4.25 ± 0.123 (4.01,4.49)	4.72 ± 0.11 (4.49,4.95)	4.41 ± 0.19 (4.02,4.80)
Days/week	5.76 ± 0.18 (5.41,6.11)	5.77 ± 0.12 (5.53,6.01)	5.78 ± 0.16 (5.46,6.09)

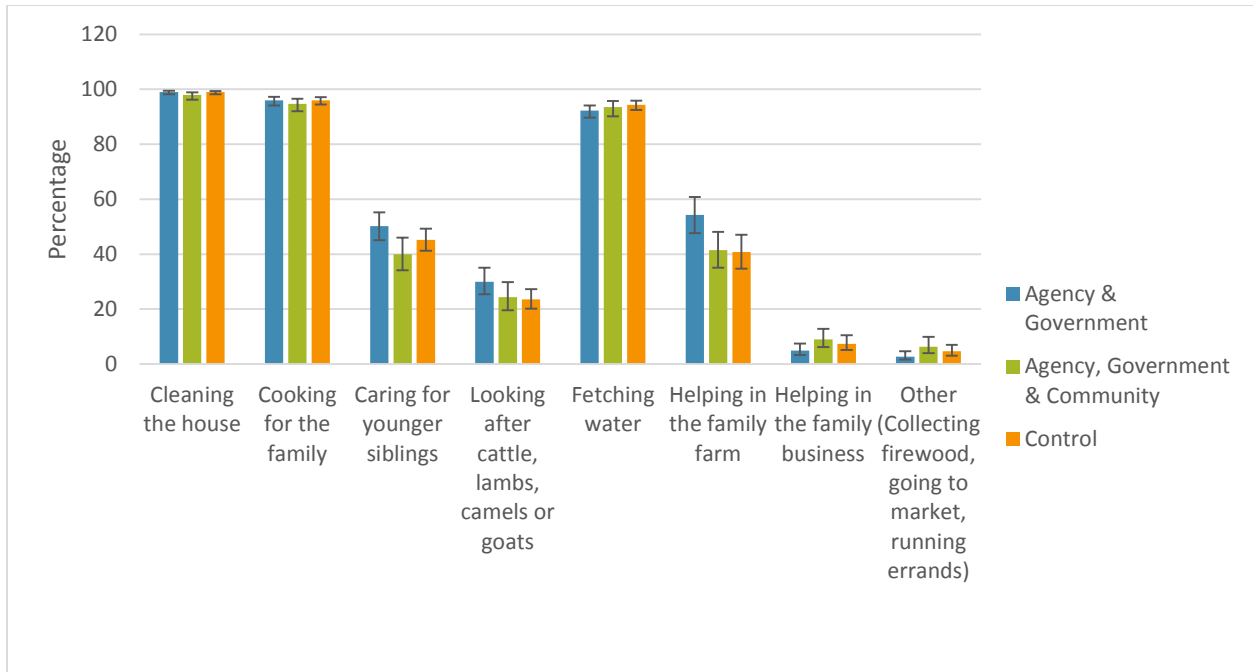


Figure 5: Activities carried out at home by adolescent girls on a daily basis

Among girls that responded to the survey, 9 in 10 of adolescent girls in the double-combination arm and 8 out of 10 girls in the triple-combination arm and delayed intervention/control arms reported to having ever attended school. Currently, school enrollment stood at 58%, 44% and 41% in the first, triple-combination arm and delayed intervention/control arm woredas, respectively. School attendance in the first, triple-combination arm and delayed intervention/control arm woredas stood at 55%, 38% and 34%, respectively. (Figure 6)

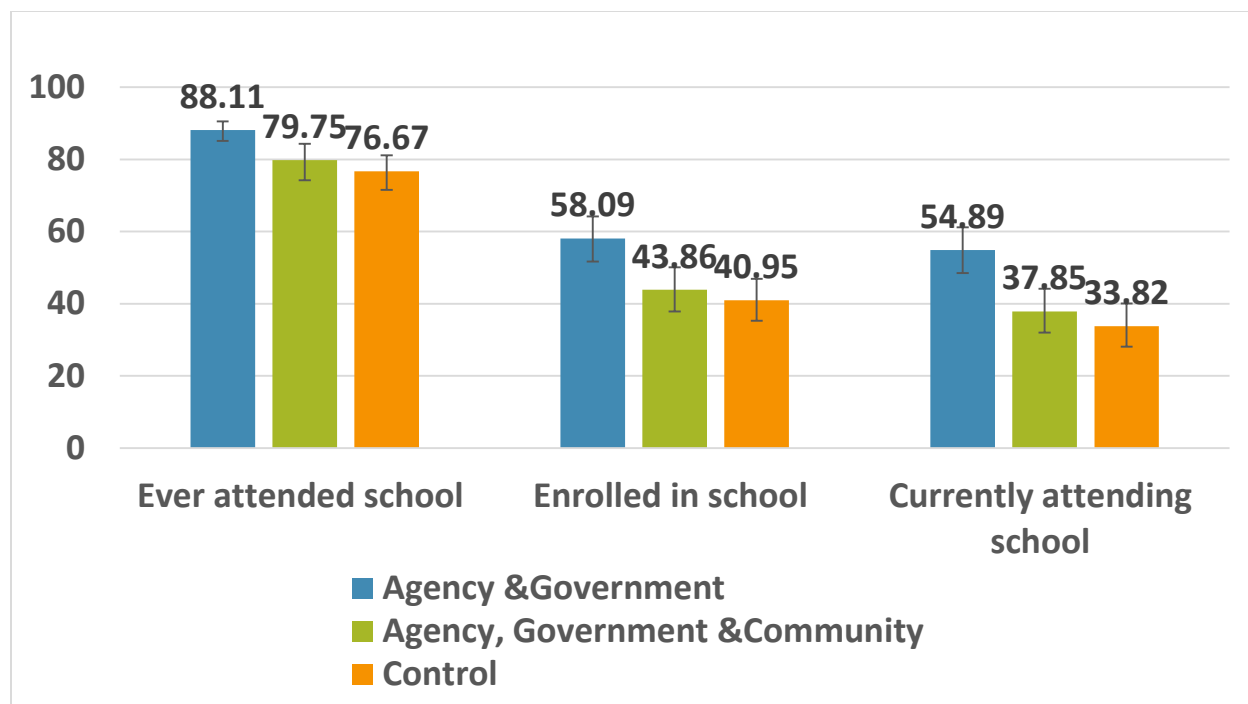


Figure 6: Educational status of adolescent girls (13-17)

3.2.3. Attitude, empirical expectation, normative expectation and behavior of adolescent girls on education and school attendance

3.2.3.1. Attitude on education and school attendance

Nine out of ten girls in all arms agreed that adolescent girls should have the same opportunity in education as boys. The mean level of school grade girls should achieve was reported as 11.04 ± 0.14 (95% CI. 10.77, 11.32) and 10.22 ± 0.27 (95% CI. 9.68, 10.76) in the first and triple-combination arms, respectively. Eight out of ten girls in the double-combination arm disagreed the notion that adolescent girls are more helpful in the household instead of going to work while seven out of ten girls in the triple-combination arm and delayed intervention/control arms said the same thing. (Table 6)

3.2.3.2. Empirical expectation on education and school attendance

Three quarter of girls in the first, triple-combination arm and delayed intervention/control arms said that most girls in the community have the same opportunity in education as boys, while other girls' realistic grade achievement as reported by the respondents was 9.79 ± 0.15 (95% CI. 9.49, 10.08), 9.12 ± 0.28 (95% CI. 8.57, 9.68) and 9.4 ± 0.15 (95% CI. 8.75, 9.33) in the first, triple-combination arm and delayed intervention/control arms, respectively.

Six out of ten girls in the triple-combination arm and delayed intervention/control arms have recalled that most adolescent girls in the community often get absent from school to do household chores. (Table 6)

3.2.3.3. Normative expectation on education and school attendance

Concerning education opportunity, almost 7 out of 10 adolescent girls in the first, triple-combination arm and delayed intervention/control arms reported that most people expect adolescent girls to have the same opportunity in education as boys.

Adolescent girls reported that the mean school grade level people in the community expect them to attend was 10.04 ± 0.18 (95% CI. 9.69, 10.39), 9.41 ± 0.28 (95% CI. 8.85, 9.98) and 9.35 ± 0.12 (95% CI. 9.10, 9.59) in the first, triple-combination arm and delayed intervention/control arms, respectively.

Almost seven out of ten and six out of ten adolescents in the first and triple-combination arms, respectively disagreed that most people expect them to do household chores instead of going to school. (Table 6)

3.2.3.4. Behavior on education and school attendance

Approximately, nine out of ten girls in the double-combination arm and triple-combination arm and eight out of ten girls in the delayed intervention/control arm reported to having the same opportunity in education as boys in their household.

Majority of adolescent girls in the first, triple-combination arm and delayed intervention/control arms reported a mean grade level of 11.43 ± 0.36 (95% CI. 10.71, 12.15), 11.18 ± 0.21 (95% CI. 10.77, 11.59) and 10.42 ± 0.33 (95% CI. 9.76, 11.08), respectively to achieve in the future.

Four out of ten adolescent girls in the first, triple-combination arm and delayed intervention/control arms reported to getting absent from school to do household chores. (Table 6)

Table 7: Education and school attendance attitude, Empirical, Normative and Behavior of Adolescent girls

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		Adolescent girls should have the same opportunities as boys in education	Most girls in the community have the same opportunity in education as boys.	Most people expect girls in the community to have the same opportunity in education as boys.	Response	Do you have the same opportunity in education as boys in your household?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	68.59 (63.96,72.88)	32.34 (28.89,35.99)	30.97 (27.04,35.19)	No, never	10.15(8.06-12.7)
	Agree a little	20.09 (16.76,23.89)	34.5 (31.1,38.07)	39.48 (35.92,43.15)	Yes, always	52.99 (48.12-57.8)
	Disagree a little	6.864 (5.077,9.219)	20.4 (17.06,24.2)	18.87 (15.48,22.81)	Yes, sometimes	36.87(31.51-42.57)
	Disagree a lot	4.311 (2.781,6.625)	12.5 (9.491,16.28)	10.26 (7.721,13.52)		
Triple-combination arm	Agree a lot	67.11 (61.3,72.43)	31.91 (26.3,38.11)	34.45 (29.03,40.31)	No, never	12.47 (9.782,15.77)
	Agree a little	19.8 (16.44,23.64)	31.1 (27.24,35.24)	35.96 (31.48,40.7)	Yes, always	52.86 (47.44,58.21)
	Disagree a little	6.735(3.201,13.62)	19.25 (15.11,24.21)	16.99 (12.63,22.46)	Yes, sometimes	34.67 (30.16,39.47)
	Disagree a lot	5.632 (3.737,8.405)	16.6 (12.76,21.32)	11.45 (8.685,14.96)		
Delayed intervention/control arm	Agree a lot	61.82 (58.06,65.44)	28.38 (24.04,33.16)	32.76 (27.95,37.96)	No, never	16.16 (13.58,19.13)
	Agree a little	21.52 (18.6,24.76)	32.28 (29.04,35.7)	36.69 (32.85,40.72)	Yes, always	49.07 (44.72,53.44)
	Disagree a little	9.89 97.446,13.02)	21.85 (18.74,25.31)	17.36 (14.73,20.35)	Yes, sometimes	34.76 (31.08,38.64)
	Disagree a lot	6.041 (4.611,7.877)	16.51 (13.75,19.69)	11.76 (9.133,15.02)		
		Until what grade should an adolescent girl ideally get education?	Until what grade do you think most girls attend school?	Until what grade do most people expect adolescent girls to attend school?		Up to what grade would you like to go in school?
Double-combination arm	Mean±SE	11.04±0.14 (10.77, 11.32)	9.79±0.15 (9.49,10.08)	10.04±0.18 (9.69, 10.39)	Mean±SE	11.43±0.36 (10.71, 12.15)
Triple-combination arm	Mean±SE	10.22±0.27 (9.68, 10.76)	9.12±0.28 (8.57,9.68)	9.41±0.28 (8.85, 9.98)	Mean±SE	11.18±0.21 (10.77, 11.59)
Delayed intervention/control arm	Mean±SE	10.15±0.14 (9.88, 10.42)	9.04±0.15 (8.75, 9.33)	9.35±0.12 (9.10, 9.59)	Mean±SE	10.42±0.33 (9.76, 11.08)
		Compared to boys, adolescent girls are more useful/helpful in the household chores than going to school	Most girls are often absent from school to do household chores	Most people expect you to do household chores instead of going to school?		How often do you get absent from school and do household chores when compared to your brothers/other adolescent boys?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	5.74 (4.19, 7.83)	18.06 (14.08, 22.86)	8.85 (6.11, 12.67)	Often	6.54 (4.67, 9.09)
	Agree a little	13.75 (11.26, 16.68)	37.07 (32.73, 41.63)	22.01 (17.81, 26.86)	Sometimes	32.9 (28.43, 37.7)
	Disagree a little	20.11 (16.58, 24.18)	20.58 (17.13, 24.51)	29.36 (25.93, 33.05)	Rarely	20.22 (15.14, 26.48)
	Disagree a lot	60.34 (53.97, 66.37)	23.65 (19.38, 28.51)	39.2 (33.68, 45.02)	Never	40.2 (32.76, 48.12)
Triple-combination arm	Agree a lot	10.89 (8.75, 13.48)	26.92 (22.71, 31.59)	15.47 (11.6, 20.35)	Often	6.29 (3.62, 10.72)
	Agree a little	16.58 (12.76, 21.25)	34.54 (31.43, 37.79)	26.81 (22.53, 31.57)	Sometimes	32.69 (28.45, 37.22)
	Disagree a little	15.13 (11.98, 18.94)	17.99 (14.74, 21.79)	20.86 (17.14, 25.14)	Rarely	20.19 (16.35, 24.68)
	Disagree a lot	56.77 (49.58, 63.69)	19.7 (15.13, 25.24)	35.74 (28.72, 43.44)	Never	40.72 (32.29, 46.39)
Delayed intervention/control arm	Agree a lot	13.83 (11.22, 16.94)	26.91 (23.9, 30.16)	18.61 (15.63, 22.35)	Often	3.81 (2.26, 6.35)
	Agree a little	16.74 (14.3, 19.49)	36.75 (34.31, 39.27)	28.75 (24.93, 32.91)	Sometimes	40.38 (33.2, 47.99)
	Disagree a little	15.75 (12.84, 19.19)	17.75 (14.87, 21.05)	19.48 (16.93, 22.31)	Rarely	22.02 (17.23, 27.68)
	Disagree a lot	53 (48.11, 57.83)	17.18 (14.48, 20.27)	31.84 (27.45, 36.59)	Never	33.56 (26.07, 41.99)

3.3.2. Early Marriage indicators of Adolescent girls

3.3.2.1. Adolescent girls on early marriage

Majority (73%, 58% and 60%) of girls in the double-combination, triple-combination arm and delayed intervention/control arms actually chose the man that they married, while regarding adolescent girl’s ability to influence when they marry, for the majority (69.92%, 60.57% and 65.58%) of married adolescents, it was their plan to get married at the time of their marriage. (Table 7)

Table 7: Adolescent girl decision making on their marriage

Characteristics		Double-combination arm	Triple-combination arm	Delayed intervention/control arm
		% (95% CI)	% (95% CI)	% (95% CI)
Who chose the man that you married? (n=370, those who married)	Myself (Girls)	73.09 (60.32,82.91)	58.19(46.18,69.3)	60.14 (48.26,70.93)
	Peers	20.07 (11.81,32.01)	13.51 (8.63,20.55)	8.75 (3.79,18.91)
	Father	3.65(1.28,9.96)	16.85(8.757,29.96)	18.44(12.2,26.89)
	Mother	1.31 (0.18,8.79)	2.19(0.80,5.88)	5.79(2.65,12.2)
	Others family Members	1.88 (0.26,12.25)	2.748 (1.08,6.84)	2.75 (0.86,8.49)
Did you plan to get married at that time(n=370, those who married)	Yes, It was my intention	69.92(54.56,81.82)	60.57(51.64,68.85)	65.58(54.71,75.03)
	I was pressured by peers	20.19(9.69,37.34)	11.83(7.02,19.26)	10.67(6.53,16.95)
	I was pressured by family	4.57 (1.18,16.13)	16.31 (9.878,25.75)	17.56 (10.97,26.92)

Among adolescent girls aged 13 – 17 years old who aren’t married, almost 1/10 (8.343 (6.352, 10.89), 7.394 (5.508, 9.858) and 9.778 (7.537, 12.6)) of them in the double-combination arm, triple-combination arm and delayed intervention/control arms had a plan to marry with a majority of them (51.65%, 38.47%, 36.1%) hoping to marry after 4 or more years from now, respectively.

Approximately, 14 years is the average age of adolescent girls when they got married among the wordas. Majority of adolescent girls (77.98%, 76.37% and 73.82%) in the double-combination arm, triple-combination arm and delayed intervention/control arms, respectively didn’t consult their parents when they planned to marry. Majority of adolescent girls (69.94%, 57.75% and 56.16%) in the double-combination arm, triple-combination arm and delayed intervention/control arms married husbands who are at least few to 10 years old than them.

In the arms, 43%, 29.7% and 21.2% of adolescent girls were attending school a month before the marriage, while only 22.27%, 22.11% and 17.11% were attending school after marriage in the

double-combination arm, triple-combination arm and delayed intervention/control arms, respectively. (Table 8)

Table 8: Adolescent girls' marriage characteristics

Characteristics		Double-combination arm	Triple-combination arm	Delayed intervention/control arm
		% (95% CI)	% (95% CI)	% (95% CI)
Plan to marry (n=2786, among not married)	Yes	8.343 (6.352,10.89)	7.394 (5.508,9.858)	9.778 (7.537,12.6)
	No	84.67 (80.37,88.17)	82.88 (78.75,86.35)	79.58 (75.58,83.08)
	Don't know	6.987 (4.817,10.03)	9.725 (6.996,13.36)	10.64 (8.215,13.67)
How soon do you want to marry? (n=231, among those who planned to marry)	< 12 months	4.805 (1.745,12.54)	10.8 (4.382,24.23)	19.88 (10.08,35.45)
	12 – 23 months	22.28 (12.73,36.04)	24.77 (13.66,40.66)	19.87 (12.69,29.74)
	24- 35 months	11.27 (4.892,23.88)	11.42 (4.887,24.46)	14.34 (8.248,23.77)
	36 – 47 months	9.994 (3.827,23.65)	14.54 (6.086,30.86)	9.806 (4.723,19.25)
	≥ 48 months	51.65 (34.67,68.26)	38.47 (22.46,57.42)	36.1 926.41,47.08)
Average age at first marriage (n=396, among married)	Mean±SE	14.59±0.16 (14.26, 14.91)	14.45±0.11 (14.23, 14.67)	14.89±0.14 (14.62, 15.18)
Did you talk to your parents before making the decision to marry? (n=396)	Yes	22.02 (12.32,36.18)	23.63 (16.03,33.4)	26.18 (17.45,37.3)
	No	77.98 (63.82,87.68)	76.37 (66.6,83.97)	73.82 (62.7,82.55)
Was the man you were married younger, about the same age or older than you? (n=396, among married)	Younger	1.977 (0.2558,13.69)	7.69 (4.37,13.18)	5.427 (2.35,12.04)
	About the same age	7.477 (3.583,14.95)	8.293 (4.322,15.33)	8.449 (4.847,14.33)
	Older: less than 10 years older	69.94 (58.15,79.58)	57.75 (49.44,65.65)	56.16 (46.73,65.17)
	Older: 10 or more years older	17.41 (10.02,28.52)	12.88 (8.002,20.08)	14.67 (9.744,21.49)
	Older: don't know difference	3.196 (0.6565,14.16)	7.22(4.184,12.18)	13.28 (7.993,21.26)
	Don't know	0	6.163 (2.998,12.25)	2.012 (0.6333,6.206)
Were you attending school during the month before your wedding took place? (n=396)	Yes	43.04 (30.82,56.17)	29.7 (20.7,40.61)	21.2 (14.08,30.64)
	No	56.96 (43.83,69.18)	65.48 (54.95,74.68)	78.8 (69.36,85.92)
	Don't know	0	4.822 (1.868,11.880)	0
Were you attending school during the year before your wedding took place? (n=396)	Yes	47.01 (33.36,61.12)	37.52 (26.53,49.97)	26.58 (18.77,36.18)
	No	52.99 (38.88,66.64)	57.15 (46.32,67.33)	72.4 (62.84,80.28)
	Don't know	0	5.326 (2.353,11.61)	1.022 (0.1346,7.339)
Did your husband or parents' allow you to continue school after marriage? (n=396)	Yes	22.27 (15.64, 30.69)	22.11 (15.31, 30.82)	17.11 (10.53, 26.57)
	No	76.4 (68.11, 83.08)	71.61 (61.61, 79.86)	78.01 (68.15, 85.47)
	Don't know	1.32 (0.17, 9.29)	4.88 6.28 (2.97, 12.8)	4.89 (2.26, 10.22)

3.3.1. Attitude, Behavior, Empirical and Normative Expectation of adolescent girls on early marriage

3.3.1.1. Attitude on early marriage

The average ideal age for adolescent girls to get married was reported as 17.36±0.12 (95% CI. 17.12, 17.59), 16.74±0.13 (95% CI. 16.48, 17.01) and 16.86±0.85 (95% CI. 16.69, 17.03) in the

first, triple-combination arm and delayed intervention/control arms, respectively. Similarly, 8 out of 10 adolescent girls in all arms agreed that adolescent girls should have a say over the decision to marry. 84% of adolescent girls in the three arms believed that adolescent girls should decide who to marry (Table 9)

Sixty seven percent in the double-combination arm and 79% of adolescent girls in the triple-combination arm believed that adolescent girls should have the final decision over the decision to marry, while 57% and 68% of adolescent girls in the first and triple-combination arms, respectively said that adolescent girls should talk to their parents before deciding to marry. (Table 10)

3.3.1.2. Empirical Expectation on early marriage

Adolescent girls in the first, triple-combination arm and delayed intervention/control arms reported that most adolescent girls in the community commonly marry at age of 16. 7 in 10 girls in arms reported that most adolescent girls have a say whether they want to marry or not while, 8 out of 10 adolescent girls in the first and delayed intervention/control arms reported that other girls in the community decide who they marry. (Table 9)

At least 7 in 10 adolescent girls in all arms believed that adolescent girls should have the final decision over their decision to marry, while 3 in 10 adolescent girls in the double-combination arm and 4 in 10 girls in the triple-combination arm and delayed intervention/control arms said most adolescent girls talk to their parents before making decision to marry. (Table 10)

3.3.1.3. Normative Expectation on early marriage

Adolescent girls believed that Most parents expect adolescent girls to get married by 17.35 ± 0.15 (95% CI. 17.06, 17.64), 16.78 ± 0.13 (95% CI. 16.51, 17.04) and 16.84 ± 0.08 (95% CI. 16.68, 17.00) in the first, triple-combination arm and delayed intervention/control arms, respectively. 7 in 10 adolescent girls in the three arms believed that most parents expect adolescent girls to have a say whether they want to marry or not, while similarly, 7 in 10 adolescent girls in the three arms asserted that most parents expect adolescent girls to choose who to marry. (Table 9)

Three fourth (68% and 67%) of adolescent girls in the triple-combination arm and delayed intervention/control arms reported that parents expect them to make the final decision regarding marriage. (Table 10)

3.3.1.4. Behavior on early marriage

The average age at marriage for married girls was 14.59 ± 0.16 (95% CI. 14.26, 14.91), 14.45 ± 0.11 (95% CI. 14.23, 146.67) and 14.89 ± 0.14 (95% CI. 14.62, 15.18) in the first, triple-combination arm and delayed intervention/control arms, respectively. One fourth of married adolescent girls in the first and delayed intervention/control arms said they didn't have a say over the decision to marry, while 7 out of 10 married adolescent girls in the double-combination arm 6 out of 10 married adolescent girls in the delayed intervention/control arm actually decided who they wanted to marry. (Table 9)

5 in 10 married adolescent girls actually made the final decision regarding their marriage while only 2 in 10 girls in all arms talked to their parents before making the decision to marry. (Table 10)

Table 9: Attitude, empirical and normative expectation and behavior of adolescent girls on age at marriage and decision making

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		What is the ideal age for a girl to get married?	At what age do most adolescent girls commonly marry?	At what age do parents expect girls to marry?	Response	At what age did you first marry?
Double-combination arm	Mean±SE	17.36±0.12 (17.12, 17.59)	16.38±0.11(16.16, 16.61)	17.35±0.15 (17.06, 17.64)	Mean±SE	14.59±0.16 (14.23, 14.91)
Triple-combination arm	Mean±SE	16.74±0.13 (16.48, 17.01)	15.89±0.12 (16.65, 16.13)	16.78±0.13 (16.51, 17.04)	Mean±SE	14.45±0.11 (14.23, 146.67)
Delayed intervention/control arm	Mean±SE	16.86±0.85 (16.69, 17.03)	16.19±0.73 (16.05, 16.34)	16.84±0.08 (16.68, 17.00)	Mean±SE	14.89±0.14 (14.62, 15.18)
		Adolescent girls should have a say whether they want to marry or not	Most adolescent girls have a say whether they want to marry or not	Parents expect girls to have a say whether they want to marry or not		Did you have a say over if you wanted to marry or not?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	54.05 (50.03,58.01)	40.94 (35.71,46.38)	36.55 (31.78,41.6)	Yes, supported the marriage	61.87 (47.04, 74.78)
	Agree a little	28.55 (25.41,31.91)	31.95 (27.76,36.46)	34.93 (30.95,39.14)	Yes, Protested the marriage	12.05 (5.55, 24.23)
	Disagree a little	8.674 (6.629,11.27)	15.43 (12.27,19.22)	16.19 (12.57,20.6)	No	26.08 (15.53, 40.37)
	Disagree a lot	8.385 (5.98,11.64)	11.48 (8.853,14.76)	11.88 (9.411,14.9)	Don't know	0
Triple-combination arm	Agree a lot	60.4 (55.32,65.26)	38.79 (34.3,43.48)	33.62 (28.67,38.95)	Yes, supported the marriage	46.53 (35.95, 57.43)
	Agree a little	22.41 (18.87,26.38)	32.18 (27.74,36.97)	36.61 (31.86,41.64)	Yes, Protested the marriage	13.4 (9.45, 18.65)
	Disagree a little	7.526 (5.574,10.09)	13.67 (10.61,17.43)	15.57 (12.53,19.18)	No	38.19 (29.38, 47.86)
	Disagree a lot	7.967 (6.054,10.42)	13.46 (10.23,17.51)	12.49(9.385,16.44)	Don't know	1.88 (0.59, 5.86)
Delayed intervention/control arm	Agree a lot	57.7 (53.15,62.13)	39.95 (35.55,44.51)	35.37 (31.28,39.69)	Yes, supported the marriage	55.79 (46, 65.14)
	Agree a little	27.11 (22.81,31.89)	34.35 (29.61,39.43)	36.08 (31.75,40.64)	Yes, Protested the marriage	16.06 (9.69, 25.45)
	Disagree a little	5.492 (4.354,6.907)	12.2 (10.36,14.32)	14.18 (11.97,16.72)	No	27.18 (19.93, 35.88)
	Disagree a lot	8.876 (6.236,12.49)	11.8 (9.36,14.78)	13.35 (10.8,16.39)	Don't know	0.98 (0.14, 6.4)
		Adolescent girls should decide who to marry	Most girls in the community choose who they marry	Most parents expect girls to choose who to marry		Who chose the man that you married?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	55.95 (51.72,60.09)	50.09 (45.87,54.32)	41.03 (36.62,45.59)	Myself	73.09 (60.32,82.91)
	Agree a little	28.39 (24.83,32.25)	31.32 (27.27,35.67)	32.56 (28.71,36.65)	Father	3.645 (1.277,9.96)
	Disagree a little	8.113 (6.164,10.61)	10.63 (8.157,13.75)	16.04 (12.31,20.63)	Mother	1.312 (0.1831,8.788)
	Disagree a lot	7.361(5.328,10.09)	7.664 (5.482,10.62)	9.826 (8.048,11.95)	Other family members	1.884 (0.2634,12.25)
	Don't know	0.109 (0.025,0.4791)	0.29 (0.0931,0.9039)	0.5415 (0.2442,1.196)	Peers (Friends)	20.07 (11.81,32.01)
Triple-combination arm	Agree a lot	60.93 (56.12,65.54)	43.82 (37.94,49.88)	35.03 (29.53,40.96)	Myself	58.19 (46.18,69.3)
	Agree a little	23.42 (19.93,27.31)	32.2 (27.53,37.25)	32.92 (27.57,38.76)	Father	16.85 (8.757,29.96)
	Disagree a little	7.088 (5.361,9.318)	11.84 (8.404,16.43)	15.5 (12.12,19.6)	Mother	2.198 (0.8016,5.88)
	Disagree a lot	7.474 (5.475,10.12)	10.7 (7.533,14.99)	15.21 (11.6,19.68)	Other family members	2.748 (1.075,6.842)
	Don't know	1.009 (0.3079,3.2530)	1.298 (0.7185,2.334)	1.128 (0.3077,4.047)	Peers (Friends)	13.51 (8.626,20.55)
Delayed intervention/control arm	Agree a lot	58.03 (52.83,63.06)	49.04 (43.71,54.39)	38.79 (34.11,43.7)	Myself	60.14 (48.26,70.93)
	Agree a little	27.04 (21.65,33.2)	31.81 (26.12,38.09)	32.34 (28.05,36.96)	Father	18.44 (12.2,26.89)
	Disagree a little	7.108 (5.385,9.328)	9.208 (7.345,11.48)	15.4 (13.04,18.09)	Mother	5.792 (2.649,12.2)
	Disagree a lot	6.772 (4.832,9.414)	8.546 (6.625,10.96)	12.07 (9.84,14.73)	Other family members	2.753 (0.8556,8.496)
	Don't know	0.9616 (0.3861,2.374)	1.398 (0.6268,3.088)	1.389 (0.64,2.989)	Peers (Friends)	8.746 (3.789,18.91)

Table 10: Attitude, empirical and normative expectation and behavior of adolescent girls on marriage consultation and final decision making

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		Adolescent girls should have the final decision over their decision to marry	Most adolescent girls have the final decision over their decision to marry	Parents expect adolescent girls to make the final decision regarding their marriage		Who made the final decision regarding your marriage?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	41.65 (38.1,45.28)	46.56 (41.89,51.28)	37.8 (32.32,43.62)	Myself	70.3 (56.82, 80.98)
	Agree a little	25.62 (21.74,29.93)	32.41 (28.29,36.83)	34.39 (30.4,38.62)	Husband	22.97 (12.56, 38.22)
	Disagree a little	11.97 (9.755,14.6)	12.37 (9.924,15.31)	15.88 (12.43,20.07)	Father	82.51 (66.09, 91.94)
	Disagree a lot	20.19 (16.49,24.48)	8.371 (6.113,11.36)	11.57 (8.996,14.76)	Mother	12.68 (4.56, 30.6)
	Don't know	0.5694 (0.2047,1.574)	.2907 (0.0931, .9039)	0.2245 (0.0713, .7052)	Other family member	5 (1.665, 14.06)
					Peers (Friends)	10.74 (4.987,21.61)
Triple-combination arm	Agree a lot	53.48 (48.77,58.13)	38.86 (34.28,43.65)	31.59 (26.26,37.45)	Myself	60.6 (51.69, 68.87)
	Agree a little	25.49 (22.25,29.03)	34.47 (29.98,39.25)	36.91(31.76,42.37)	Husband	14.5 (10.18, 20.22)
	Disagree a little	8.731 (6.523,11.59)	12.25 (9.567,15.56)	17.71(14.39,21.59)	Father	29.64 (21.32, 39.57)
	Disagree a lot	10.97 (8.542,13.99)	12.94 (10.13,16.39)	11.92 (9.309,15.15)	Mother	14.61 (9.168, 22.49)
	Don't know	1.322 (0.5577,3.101)	1.41 (0.6946,2.843)	1.745 (0.7027,4.269)	Other family member	4.791 (2.242,9.946)
					Peers (Friends)	8.907 (4.983,15.42)
Delayed intervention/control arm	Agree a lot	50.57 (46.7,54.45)	39.45 (33.93,45.25)	34.41(30.33,38.73)	Myself	59.83 (47.34, 71.16)
	Agree a little	27.53 (23.38,32.09)	36.42 (30.79,42.45)	33.73 (29.33,38.43)	Husband	15.14 (9.02, 24.29)
	Disagree a little	8.932 (7.369,10.79)	12.43 (10.11,15.18)	16.84(13.97,20.15)	Father	33.61 (25.07, 43.36)
	Disagree a lot	11.83 (9.615,14.48)	10.25 (7.993,13.05)	13.52 (11.01,16.49)	Mother	9.925 (5.712, 16.69)
	Don't know	1.134 (0.6378,2.01)	1.452 (0.7959,2.635)	1.507 (0.7674,2.939)	Other family member	2.639 (0.824,8.124)
					Peers (Friends)	3.006 (0.9368,9.221)
		Adolescent girls should take to their parents before making the decision to marry	Adolescent girls are most likely to talk to their parents before making decision to marry the person they fall in love with	Parents expect adolescent girls to talk to them before making the decision to marry		Did you talk to your parents before making the decision to marry?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	33.99(29.78,38.48)	12.53 (9.919,15.7)	26.67 (22.99,30.7)	Yes	22.02 (12.32,36.18)
	Agree a little	23.41(20.41,26.7)	21.84 (18.51,25.58)	34.17 (29.88,38.73)	No	77.98 (63.82,87.68)
	Disagree a little	16.14 (13.45,19.25)	27.04 (23.54,30.85)	18.22 (15.08,21.84)		
	Disagree a lot	25.91(21.75,30.54)	38.25 (34.6,42.03)	20.22(16.78,24.15)		
Triple-combination arm	Agree a lot	47.12 (42.38,51.92)	18.55 (15.44,22.13)	28.1 (24.02,32.56)	Yes	23.63 (16.03,33.4)
	Agree a little	21.41(18,25.27)	22.31 (18.45,26.71)	34.36 (30.03,38.96)	No	76.37 (66.6,83.97)
	Disagree a little	11.64(9.512,14.17)	22.18 (17.83,27.24)	17.74 (14.35,21.72)		
	Disagree a lot	18.6 (14.75,23.19)	35.71 (30.55,41.23)	17.33 (14.14,21.07)		
Delayed intervention/control arm	Agree a lot	41.42(36.91,46.07)	16.38 (14.16,18.87)	29.53 (26.3,32.98)	Yes	26.18 (17.45,37.3)
	Agree a little	23.24 (19.48,27.48)	23.85 (19.93,28.27)	31.33 (26.91,36.12)	No	73.82 (62.7,82.55)
	Disagree a little	14.52 (12.3,17.06)	22.08 (19.17,25.28)	18.77 (16.57,21.2)		
	Disagree a lot	20.02(15.81,25.01)	36.72 (32.39,41.26)	18.48 (15.43,21.97)		

3.3.3. Empowerment and Decision making indicators of Adolescent girls

3.3.3.1. Adolescent girls on empowerment and decision making

Among adolescents who were married, majority (78%, 55% and 62%) of girls in the first, triple-combination arm and delayed intervention/control arms reported that they jointly make household financial decision with their husbands. Six in ten of adolescent girls who earned an income reported sole decision making over their own income. (Table 11)

According to the study, 59.61%, 69.18% and 68.92% of adolescent girls in the double-combination arm, triple-combination arm and delayed intervention/control arms reported to having obtained financial support their hygiene needs, respectively. Parents provided almost all (89%, 82%, 85%) of the financial support for the hygiene needs of adolescent girls in the double-combination arm, triple-combination arm and delayed intervention/control arms, respectively. (Table 11)

Table 11: Empowerment and Decision making indicators of Adolescent girls

Characteristics		Double-combination arm	Triple-combination arm	Delayed intervention/control arm
		% (95% CI)	% (95% CI)	% (95% CI)
Decision maker over adolescent girl's income (n=347 those who had source of income)	Adolescent Girl	58.81(46.06,70.48)	63.83(50.87,75.05)	59.53(49.14,69.14)
	Husband	5.647(1.77,16.62)	3.189(1.20,8.18)	6.44(3.647,11.13)
	Joint	20.04(9.87,36.47)	18.56(11.85,27.86)	20.52(14.58,28.08)
	Mother	13.79(4.70,34.14)	6.61(3.65,11.67)	8.87(4.59,16.44)
	Father	1.71 (0.39,7.14)	6.86(2.721,16.26)	4.64 (1.611,12.65)
	Father in law	0	0.94(13,6.72)	0
Do you get financial support for your hygiene needs? (n=3181)	Yes	59.61 (54.89,64.16)	69.18 (63,74.73)	68.92 (62.61,74.59)
	No	40.39 (35.84,45.11)	30.82 (25.27,37)	31.08 (25.41,37.39)
Who mostly provides you with the financial support for your hygiene related needs? (n=2103, among those who attained menarche)	Father	35.24 (29.75,41.15)	36.33 (30.21,42.92)	47.45 (41.65,53.32)
	Mother	54.31 (47.9,60.59)	45.47 (39.73,51.34)	37.14 (31.46,43.19)
	Husband	5.798 (4.005,8.324)	10.82 (8.712,13.36)	9.001 (6.99,11.52)
	Mother-in-law	.34 (.0828,1.385)	.8892 (.3578,2.193)	.5084 (.163,1.574)
	Other family members	1.499 (.8212,2.722)	.8477 (.385,1.856)	2.217 (1.321,3.698)
	Other (Both parents, Self)	2.809 (1.636,4.784)	5.643 (3.965,7.972)	3.69 (2.024,6.634)
Degree of ability of negotiating financial support for school needs (n=916 among those who get school financial support)	Very likely	42.23(35.75,48.98)	57.56(50.6,64.24)	50.05(41.58,58.52)
	Likely	48.99(43.58,54.43)	37.35(31.59,43.5)	43.72 (34.89,52.97)
	Less likely	7.49 (4.57, 12.05)	3.77 (1.89, 7.39)	4.78 (2.34, 9.53)
	Unlikely	1.12 (.038, 3.29)	1.32 (0.45, 3.78)	0.72 (0.17, 2.96)
	Don't know	0.16 (0.02, 1.16)	0	0.73 (0.17, 3.05)
Degree of ability of negotiating financial support for hygiene needs (n=3181)	Very likely	16.03(12.94,19.69)	22.15(17.06,28.24)	23.54(19.79,27.74)
	Likely	41.02(36.5,45.68)	37.24(32.79,41.92)	36.77(32.93,40.8)
	Less likely	30.24 (25.73,35.17)	25.39 (20.59,30.88)	24.61 (20.82,28.83)
	Unlikely	10.44 (7.602,14.18)	10.54 (7.84,14.03)	9.751 (7.771,12.17)
	Don't know	2.027 (1.185,3.445)	4.438 (2.821,6.915)	4.532 (3.321,6.16)
Most people think it is normal for girls to move freely outside of home (n=3181)	Agree a lot	5.23 (3.475,7.81)	4.96(3.77,6.512)	5.947 (4.28,8.21)
	Agree a little	17.36(14.56,20.58)	17.3(14.8,20.13)	16.44(13.04,20.52)
	Disagree a little	25.93(22.32,29.89)	23.86 (19.52,28.8)	20.38 (16.78,24.54)
	Disagree a lot	50.55 (45.99,55.11)	52.01(46.04,57.93)	55.44(49.55,61.18)
	Don't know	0.92(.4408,1.925)	1.87(1.058,3.28)	1.48 (.69,3.16)

Majority (76.48%, 75.87% and 75.82%) of girls disagree on that, other people think it is normal for girls to be able to move freely outside the home if she wants to. (Table 11)

When asked how confident they were in negotiating their needs and rights adolescents were in negotiating for their needs and rights; 28%, 35% and 32% of adolescent girls in the first, triple-combination arm and delayed intervention/control arms reported as having high confidence in their negotiation skills, while the majority (49%, 40% and 45%) reported moderate confidence in their negotiation skills. Majority (51%, 41% and 43%) of adolescent girls reported moderate confidence in their communication skills of their opinion/stands.

In terms of assessing Adolescents girls' perception of mutual aid, trust, connectedness and social support with people close to them, Majority of them reported moderate level connection with people close to them. (Table 12)

Table 12: Negotiation skill and perceived connectedness with people close to adolescent girls

Characteristics		Double-combination arm	Triple-combination arm	Delayed intervention/control arm
		% (95% CI)	% (95% CI)	% (95% CI)
Confidence level of girls negotiating their needs and rights (n=3186)	Highly confident	28.28(23.86,33.16)	34.63(29.45,40.21)	32.31(28.13,36.79)
	Moderately confident	49.45(45.86,53.05)	40.1(35.18,45.24)	44.61(40.76,48.52)
	A little confident	18.84(15.38,22.86)	18.05(14.14,22.76)	17.68(14.41,21.51)
	No confident	3.302(2.251,4.82)	6.093(4.239,8.685)	4.669(3.412,6.358)
	Not sure/don't know	.1279(.018,.9035)	1.116(.3839,3.2)	.7393 (.3628,1.501)
Confidence level of girls communicating their opinions/stands (n=3186)	Highly confident	27.26(23.11,31.84)	34.96 (29.31,41.07)	32.45(28.36,36.83)
	Moderately confident	51.06(47.49,54.62)	40.66(36.36,45.11)	42.91(39.08,46.82)
	A little confident	18.99(16.19,22.15)	18.26(13.92,23.59)	19.8(16.55,23.52)
	No confident	2.562(1.739,3.759)	5.371(3.726,7.684)	4.113(2.903,5.798)
	Not sure/don't know	.1279(.018,.9035)	.743 (.2222,2.455)	.7252(.3538,1.481)
Girl's perception of Mutual aid with people close to them (n=3186)	Very strong	28.39(24.69,32.4)	30.48(25.51,35.95)	34.45(30.15,39.03)
	Moderately strong	51.12(45.61,56.6)	48.57(43.92,53.25)	47.39(43.61,51.2)
	Weak	11.51(9.362,14.07)	11.91(9.187,15.3)	9.608(7.496,12.24)
	No mutual aid	8.623(5.698,12.84)	6.962(4.895,9.812)	7.319(5.604,9.507)
	Not sure	.2525 (.0818,.7766)	1.953(.7626,4.907)	.8377(.4383,1.595)
Girl's perception of Trust with people close to them (n=3186)	Very strong	29.64(26.22,33.3)	32.47(27.46,37.91)	36.87 (32.41,41.57)
	Moderately strong	50.18(44.46,55.9)	50.06(45.5,54.62)	45.93(41.91,50)
	Weak	14.46(11.27,18.35)	12.65(9.634,16.44)	12.39(9.82,15.53)
	No trust	5.362(3.528,8.07)	2.73(1.713,4.326)	3.483(2.433,4.963)
	Not sure	.2437(.0786,.7527)	1.963(.8824,4.311)	.8484(.414,1.731)
Girl's perception of Connectedness with people close to them (n=3186)	Very strong	31.12(27.32,35.18)	34.77(29.8,40.08)	37.81(33.86,41.93)
	Moderately strong	49.63(44.26,55.02)	47.78(44.04,51.54)	45.45(41.99,48.95)
	Weak	13.63(10.93,16.86)	12.66(9.965,15.96)	12.15(9.79,14.97)
	No connectedness	5.42 (3.524,8.248)	2.852(1.783,4.533)	3.386(2.216,5.14)
	Not sure	.0913(.0126,.6606)	1.813 (.7658,4.231)	.8124(.3893,1.687)
Girl's perception of Social support with people close to them (n=3186)	Very strong	28.61(24.58,33.02)	33.01(28.03,38.4)	34.19(30.1,38.53)
	Moderately strong	50.24(44.83,55.64)	46.7(41.95,51.52)	47.31(43.75,50.9)
	Weak	13.95(11.43,16.91)	13.92(10.81,17.75)	12.33(9.689,15.57)
	No social support	6.867(4.451,10.45)	4.517(3.132,6.474)	5.129 (3.536,7.386)
	Not sure	.2237(.0554,.8982)	1.73(.8953,3.316)	.6427(.2667,1.541)

3.3.3.2. Attitude, Behavior, Empirical, and Normative Expectation of adolescent girls on empowerment and decision making

3.3.3.2.1. Attitude on empowerment and decision making

Majority (76%, 83% and 85%) of adolescent girls agreed that married girls in the first, triple-combination arm and delayed intervention/control arms, respectively shouldn't require permission

from their husbands to go outside of home, while 84%, 88% and 90% of adolescent girls in the first, triple-combination arm and delayed intervention/control arms said girls should ask permission from their parents before they go outside home. 8 out of 10 adolescent girls in all arms agreed that girls should have a say in the decision making over household income. (Table 13)

8 out of 10 adolescent girls in all arms agreed that adolescent girls should get to decide how much education they can get. (Table 14)

3.3.3.2.2. Empirical Expectation on empowerment and decision making

Almost 8 out of 10 girls in all arms reported that most married girls require permission from their husbands to go outside, while almost 9 of 10 girls reported that most girls in the community need permission from their parents to go outside of the home. Almost 6 in 10 girls believed that most adolescent girls in the community have a say on the use of household income. (Table 13)

55%, 58% and 62% of respondents in the first, triple-combination arm and delayed intervention/control arms, respectively believed that most girls in their community have the right to express their opinion on matters. (Table 14)

3.3.3.2.3. Normative Expectation on empowerment and decision making

73% and 75% in the first and triple-combination arms, respectively think most people expect married adolescent girls to require permission from their husbands to go outside, while 80% of girls in the first and triple-combination arms thought that most people think it's not fine for girls to move freely outside the home without needing parents' permission. 6 in 10 adolescent girls think most people expect adolescent girls to have a say on the use of household income. (Table 13)

Majority (54%, 59% and 62%) of adolescent girls believed that most people expect adolescent girls to voice their opinion on matters to their parents. 67%, 71% and 74% of respondents in the first, triple-combination arm and delayed intervention/control arms, respectively believed that most people expect adolescent girls to decide on how much education they can get. (Table 14)

3.3.3.2.4. Behavior on empowerment and decision making

More than half of married adolescent girls often needed husband's permission to go outside. It was similarly indicated that half of adolescent girls in the double-combination arm and 60% of girls in the triple-combination arm and delayed intervention/control arms often needed parent's

permission to go outside of the home. 6 out of 10 girls in all arms to some extent had decision making power over household income (Table 13)

Nearly half of adolescent girls in all arms reported that their opinions about personal and household matters are sometimes listed to. Only 4 out of 10 girls in all arms had full decision making power over their education aspiration and achievements. (Table 14)

Table 13: Empowerment and Decision making social norm matrix of Adolescent girl's permission for movement

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		Married girls should not require permission from their husband to go outside of the home	Most married girls would not require permission from their husbands to go outside of the home	Most people expect married adolescent girls not to require permission from their husbands to outside of home		How often do you need permission from your husband to go outside of home?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	48.05 (42.21,53.94)	6.025 (4.46,8.093)	7.739 (5.999,9.93)	Often	50.68 (39.25,62.03)
	Agree a little	28.6 (23.4,34.43)	16.06 (12.98,19.7)	17.99 (15.04,21.36)	Sometimes	26.16 (15.85,39.98)
	Disagree a little	8.538 (6.936,10.47)	19.91 (16.56,23.76)	20.83 (17.55,24.53)	Rarely	19.07 (10.46,32.23)
	Disagree a lot	14.46 (11.51,18.01)	57.62 (52.77,62.32)	53.19 (48.25,58.07)	Never	4.091 (1.21,12.94)
Triple-combination arm	Agree a lot	63.69 (57.61,69.36)	6.955 (5.708,8.45)	8.199 (5.821,11.43)	Often	57.14 (45.01,68.48)
	Agree a little	20.24 (17.1,23.79)	11.1 (8.683,14.09)	13.74 (10.7,17.46)	Sometimes	28.83 (18.27,42.34)
	Disagree a little	6.313 (4.456,8.873)	17.78 (12.8,24.15)	17.73 (14.22,21.89)	Rarely	8.049 (5.254,12.14)
	Disagree a lot	8.494 (5.942,12)	62.42 (55.27,69.06)	58.65 (51.68,65.28)	Never	4.785 (2.317,9.622)
Delayed intervention/control arm	Agree a lot	65.73 (60.6,70.52)	8.452 (6.519,10.89)	8.019 (6.185,10.34)	Often	55.06 (45.96,63.83)
	Agree a little	20.45 (17.1,24.27)	11.32 (8.543,14.86)	14.2 (11.51,17.39)	Sometimes	23.67 (16.74,32.37)
	Disagree a little	5.592 (3.989,7.787)	17.12 (13.23,21.86)	17.31 (14.46,20.58)	Rarely	16.94 (10.62,25.94)
	Disagree a lot	7.948 (6.266,10.03)	62.39 (57.06,67.44)	59.58 (54.27,64.67)	Never	3.307 (.8797,11.65)
		Adolescent girls should ask permission from their parents before they go outside the home	Most adolescent girls go outside their homes at their own will without needing permission	Most people think it's fine for girls to move freely outside the home without needing permission		How often do you need permission from your parents to go outside of home?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	59.08 (55.18,62.86)	2.854 (1.964,4.131)	4.252 (2.997,6.001)	Often	48.57 (43.59,53.57)
	Agree a little	24.3 (20.57,28.46)	10.41 (8.186,13.14)	14.87 (12.26,17.93)	Sometimes	24.93 (21.55,28.65)
	Disagree a little	7.587 (5.701,10.03)	24.76 (21.08,28.85)	23.95 (20.01,28.39)	Rarely	13.75 (10.86,17.26)
	Disagree a lot	8.945 (6.829,11.64)	61.71 (56.49,66.68)	56.67 (51.25,61.93)	Never	12.67 (10.53,15.18)
Triple-combination arm	Agree a lot	73.55 (68.29,78.21)	2.448 (1.584,3.766)	4.672 (3.162,6.853)	Often	60.61 (54.86,66.08)
	Agree a little	15.86 (12.57,19.83)	8.192 (6.369,10.48)	12.73 (9.667,16.58)	Sometimes	19.48 (16.3,23.1)
	Disagree a little	4.841 (3.507,6.649)	19.09 (14.43,24.82)	22.53 (18.21,27.53)	Rarely	10.77 (8.275,13.9)
	Disagree a lot	5.319 (3.784,7.428)	69.34 (62.62,75.33)	58.34 (51.69,64.69)	Never	8.761 (6.613,11.52)
Delayed intervention/control arm	Agree a lot	72.6 (67.46,77.21)	2.644 (1.815,3.837)	4.656 (3.227,6.675)	Often	60.12 (54.21,65.75)
	Agree a little	18.78 (15.47,22.62)	8.621 (6.76,10.93)	11.18 (8.973,13.85)	Sometimes	20.5 (16.5,25.18)
	Disagree a little	4.338 (3.089,6.061)	17.7 (14.93,20.86)	22.19 (18.41,26.49)	Rarely	11.91 (9.222,15.25)
	Disagree a lot	4.156 (3.026,5.682)	70.41 (65.47,74.92)	61.11 (55.66,66.29)	Never	7.119 (5.162,9.741)
		Adolescent girls should have a say on the use of household income.	Most adolescent girls have a say on the use of household income	Most people expect adolescent girls to have a say on the use of household income		To what extent do you decide on the use of the income generated in the household?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	40.68 (36.33,45.19)	14.3 (11.31,17.92)	16.22 (12.53,20.75)	Fully	17.89 (9.965,30.01)
	Agree a little	41.66 (37.72,45.71)	44.81 (40.85,48.85)	44.87 (39.94,49.91)	To some extent	66.81 (53.35,77.99)
	Disagree a little	12.01 (10.09,14.23)	27.85 (24.44,31.54)	27.06 (22.83,31.74)	Never	15.3 (8.585,25.79)
	Disagree a lot	5.589 (3.846,8.055)	12.86 (10.32,15.9)	10.83 (8.575,13.59)		
Triple-combination arm	Agree a lot	49.88 (45.16,54.6)	15.88 (13.22,18.96)	18.46 (15.64,21.65)	Fully	13.64 (6.964,24.98)
	Agree a little	36.79 (33.13,40.62)	41.48 (36.99,46.12)	46.34 (41.27,51.49)	To some extent	58.18 (47.99,67.73)
	Disagree a little	9.448 (7.192,12.32)	26.69 (22.83,30.95)	23.08 (19.52,27.07)	Never	26.62 (16.51,39.95)
	Disagree a lot	3.141 (2.091,4.692)	13.78 (10.93,17.22)	9.539 (7.186,12.56)		
Delayed intervention/control arm	Agree a lot	40.52 (36.58,44.58)	14.16 (11.77,16.95)	17.57 (14.61,20.99)	Fully	13.87 (8.181,22.55)
	Agree a little	43.78 (40.06,47.57)	46.37 (42.67,50.1)	45.07 (40.13,50.11)	To some extent	62.89 (53.66,71.26)
	Disagree a little	10.7 (8.862,12.86)	28.1 (25.25,31.14)	26.24 (23.51,29.16)	Never	22.63 (15.98,31.03)
	Disagree a lot	4.253 (2.927,6.143)	10.62 (8.216,13.63)	9.299 (6.843,12.52)		

Table 14: Agency, Empowerment and Decision making Attitude, Behavior, Empirical, and Normative Expectation of Adolescent girls on opinion and educational attainment

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		Adolescent girls should be listened to when they share their opinion about things that are important to them or the household.	In most households, adolescent girl has the right to express her opinion if she doesn't agree with what her parents/husband say	Most people expect adolescent to voice their opinions to their parents if they don't agree with what their parents say		How often do your parents or guardians listen when you share your opinion about things that are important to you or the household?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	40.01(35.41,44.79)	11.18 (8.758,14.16)	13.35 (10.06,17.51)	Often	15.24 (12.6,18.31)
	Agree a little	43.18 (38.63,47.85)	44.69 (39.74,49.75)	41.2 (36.03,46.57)	Sometimes	49.08 (44.56,53.62)
	Disagree a little	11.09 (8.922,13.7)	29.25 (24.68,34.29)	28.95 (25.27,32.92)	Rarely	30.77 (25.76,36.27)
	Disagree a lot	5.641 (4.217,7.509)	14.54 (11.3,18.51)	15.92 (12.23,20.46)	Never	4.044 (3.042,5.357)
	Don't know	.0842 (.0115,.6128)	.3427 (.1138,1.027)	.5844 (.2379,1.429)	Don't know	.7793 (.2969,2.03)
Triple-combination arm	Agree a lot	49.03 (43.89,54.19)	12.72 (10.28,15.65)	15.86 (12.27,20.25)	Often	17.75 (14.58,21.45)
	Agree a little	38.63 (34.63,42.79)	46.11 (42.14,50.13)	44.55 (40.04,49.15)	Sometimes	47.42 (43.1,51.79)
	Disagree a little	9.086 (7.032,11.66)	26.16 (22.1,30.67)	26.67 (22.41,31.41)	Rarely	27.32 (23.61,31.38)
	Disagree a lot	2.735 (1.656,4.486)	13.48 (9.579,18.64)	10.51 (7.785,14.05)	Never	5.341 (3.686,7.68)
	Don't know	.5169 (.0971,2.704)	1.531 (.7462,3.117)	2.271 (1.117,4.565)	Don't know	1.98 (.9002,4.299)
Delayed intervention/control arm	Agree a lot	43.79 (39.81,47.84)	14.47 (11.65,17.84)	16.77 (13.85,20.15)	Often	17.48 (14.36,21.11)
	Agree a little	43.05 (39.73,46.44)	48.08 (44.05,52.13)	46.53 (41.67,51.46)	Sometimes	47.65 (43.22,52.12)
	Disagree a little	9.373 (7.562,11.56)	25.44 (22.69,28.4)	22.93 (20.16,25.96)	Rarely	27.24 (24.06,30.69)
	Disagree a lot	3.332 (2.122,5.193)	10.96 (8.759,13.62)	11.32 (9.055,14.07)	Never	5.499 (4.004,7.508)
	Don't know	.458 (.1371,1.519)	.9553 (.4003,2.262)	2.452 (1.385,4.306)	Don't know	2.024 (1.221,3.34)
		Adolescent girls should be able to decide how much education they can get.	Most adolescent girls can decide how much education they can get	Most people expect adolescent girls to decide on how much education they can get		To what extent do you think you can decide how much education you can get?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	43.85 (39.75,48.04)	27.26 (24.30,79)	28.61 (24.99,32.51)	Fully	37.87 (32.74,43.3)
	Agree a little	36.79 (33.8,39.89)	40.05 (35.96,44.29)	39.76 (34.83,44.9)	To some extent	48.8 (44.23,53.4)
	Disagree a little	12.81 (10.03,16.22)	21.3 (17.17,26.12)	17.81 (14.81,21.25)	Never	11.97 (9.922,14.37)
	Disagree a lot	6.393 (4.855,8.374)	11.38 (9.078,14.18)	12.81 (10.48,15.58)	Don't know	1.355 (.6114,2.977)
	Don't know	.1539 (.0381,.6201)	0	1.017 (.4753,2.161)		
Triple-combination arm	Agree a lot	47.79 (42.43,53.19)	28.41 (23.25,34.2)	29.33 (23.47,35.96)	Fully	34.71 (29.31,40.54)
	Agree a little	35.66 (30.82,40.82)	41.99 (37.42,46.69)	42.32 (37.04,47.78)	To some extent	42.3 (37.64,47.1)
	Disagree a little	9.569 (7.48,12.16)	18.07 (15.14,21.42)	16.7 (13.52,20.46)	Never	19.95 (16.3,24.18)
	Disagree a lot	5.515 (3.859,7.823)	9.247 (6.636,12.75)	8.356 (6.632,10.48)	Don't know	2.921 (1.783,4.753)
	Don't know	1.106 (.4679,2.591)	2.202 (1.079,4.438)	3.206 (1.662,6.095)		
Delayed intervention/control arm	Agree a lot	49.76 (46.05,53.48)	30.16 (24.97,35.91)	32.53 (27.6,37.88)	Fully	32.73 (27.87,37.98)
	Agree a little	36.81 (33.23,40.54)	45.29 (39.7,51)	42.59 (36.45,48.97)	To some extent	50.24 (44.29,56.18)
	Disagree a little	9.564 (7.718,11.8)	15.76 (13.47,18.35)	16.19 (13.63,19.13)	Never	14.53 (11.97,17.53)
	Disagree a lot	3.238 (2.213,4.714)	7.56 (5.571,10.18)	6.478 (4.717,8.836)	Don't know	2.506 (1.515,4.119)
	Don't know	.5344 (.2277,1.249)	1.141 (.5524,2.342)	2.111 (.104,4)		

3.3.4. Sexual and Reproductive Health indicators of Adolescent girls

3.3.4.1. Sexual and Reproductive Health knowledge of Adolescent girls

Adolescent girls who had contact with Health extension workers were 7.36%, 10.08% and 5.59% in the first, triple-combination arm and delayed intervention/control arm woredas, respectively. For the majority of adolescent girls, reason for contacts with health extension worker were Curative services 55.91% and 42.88% followed by Family planning 40.48% and 36.72% in the triple-combination arm and delayed intervention/control arms , while it was Curative services (59.68%) followed by ANC services (41.53%) in the double-combination arm. (Table 16)

Among the adolescent girls had contact with HEWs asked for their degree of satisfaction, respond high percentage of satisfaction in the triple-combination arm (84.26%) and (56.03%) in the double-combination arm, (66.37%) in the delayed intervention/control arm. Differences between respondents among Arms were also apparent in this regard, fairly satisfied (37.75%) double-combination arm, (9.69%) triple-combination arm and (23.78%) delayed intervention/control arm.

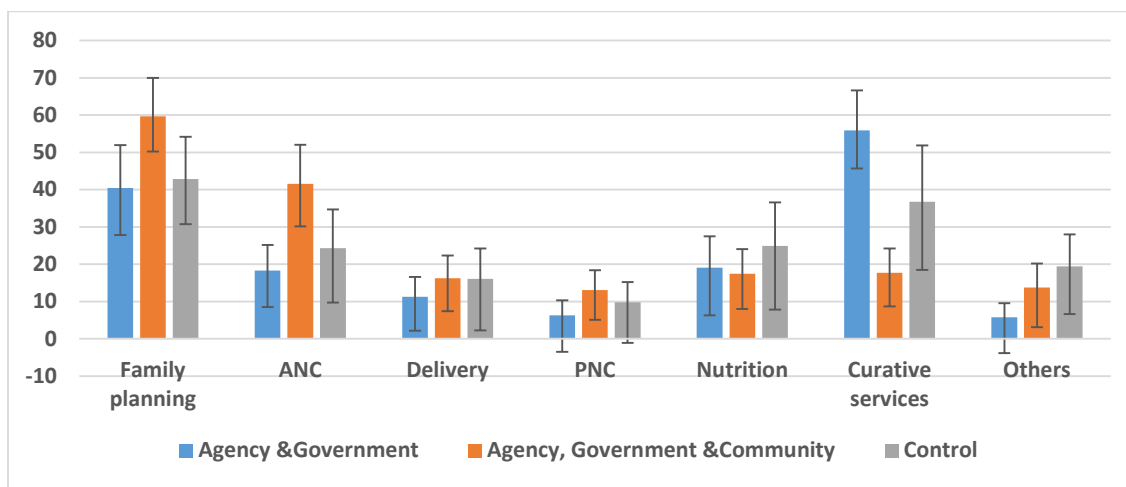


Figure 7. The content of adolescent interaction with Health extension workers

Among adolescent girls who had sexual intercourse, average debut age was 14.56 ± 0.156 (14.25, 14.87), 14.41 ± 0.099 (14.22, 14.61) and 14.93 ± 0.128 (14.67, 15.18) in the first, triple-combination arm and delayed intervention/control arms.

Among girls who are sexually active, 16.73%, 9.05% and 19.45% of adolescent girls in the double-combination arm, triple-combination arm and delayed intervention/control arms,

respectively were currently pregnant. One fourth (26.79% and 25.15%) of adolescent girls in the double-combination arm and delayed intervention/control arms, were currently using contraceptive methods, while contraceptive use was almost one tenth in the triple-combination arm. Among contraceptive used by adolescent girls ,majority of adolescents girls (76.49%, 82.37% and 83.94%) in the double-combination arm, triple-combination arm and delayed intervention/control arms, were using injectable, followed by Pills (23.51%, 7.23% and 7.19%). Primary source of contraception for the adolescent girls were Health extension workers (25.7%, 15.95% and 14.11%) in the double-combination arm, triple-combination arm and delayed intervention/control arms, respectively. (Fig. 9)

Among adolescent girls approached for non-consensual sex only one fourth of them (22.49%, 24.73% and 28.73%) in the first, triple-combination arm and delayed intervention/control arm were them ever been able to say no to non-consensual sex. (Fig.8)

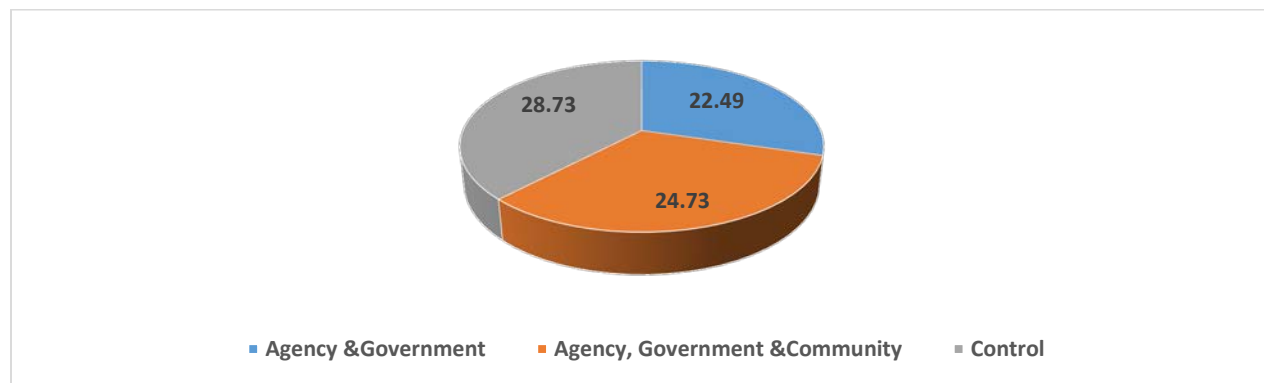


Figure 8. Adolescent girls who approached for non-consensual sex and able to say no for non-consensual

Menstruation (71.28%, 66.79% and 67.39%), Growth in breast (86.06%, 83.67%, and 81.86%), and growth of pubic and underarm hair (66.07%, 55.33% and 60.51%) were among the frequently reported puberty characteristics by the Adolescent girls. However, growth in the hip area was the least mentioned puberty characteristics by the adolescents. Acne, behavioral change, weight gain and thinning of voices are among other listed characteristics.

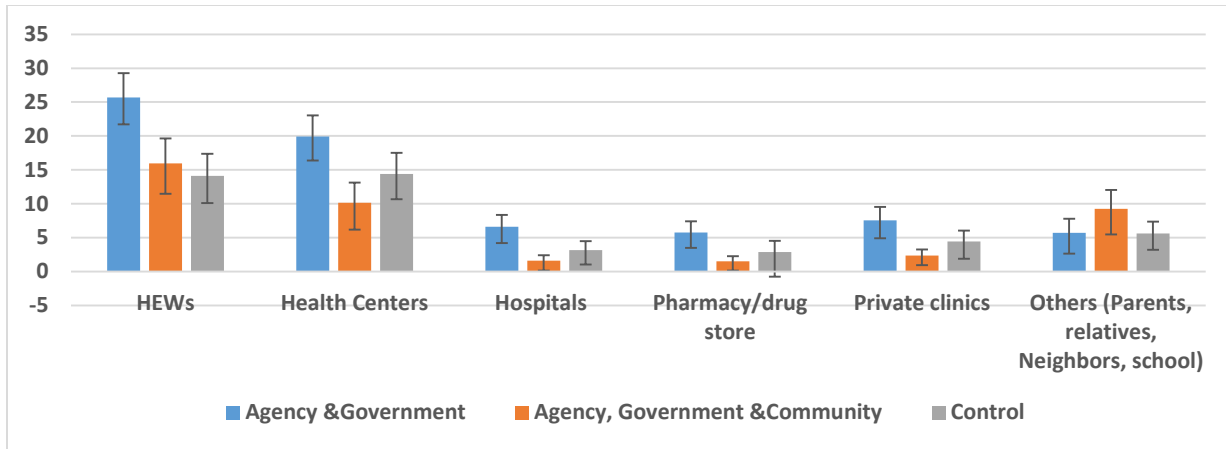


Figure 9. Place where adolescents get contraceptive methods

Adolescents' across the Arms were almost accurate on the knowledge of average menstrual cycle duration average with Standard error Adolescents (28.77 ± 0.10 , 28.53 ± 0.24 and 28.59 ± 0.25) in the double-combination arm, triple-combination arm and delayed intervention/control arm respectively. Age at menarche also widely mentioned correctly by the adolescents; (79.79%, 68.62% and 67.51 %) across the Arms. More than half of Adolescents in the double-combination arm (54.97%) shown had knowledge on duration of menstrual blood flow (3-5 days). Similarly, (42.99% and 40.26%) the other two Arms respectively.

Less than half of the adolescents respond as they heard ways or methods to avoid pregnancy (41.92%, 44.94% and 37.25%). Among those who heard about contraception method; majority of the adolescent recalled Injectable (83.52%, 83.63% and 87.62%), pills (88.13%, 82.81% and 81.66%) and male condom (36.61 %, 30.48% and 26.16%) more repeatedly. Male sterilization and withdrawal methods were among the least mentioned contraceptive method. (Fig.10)

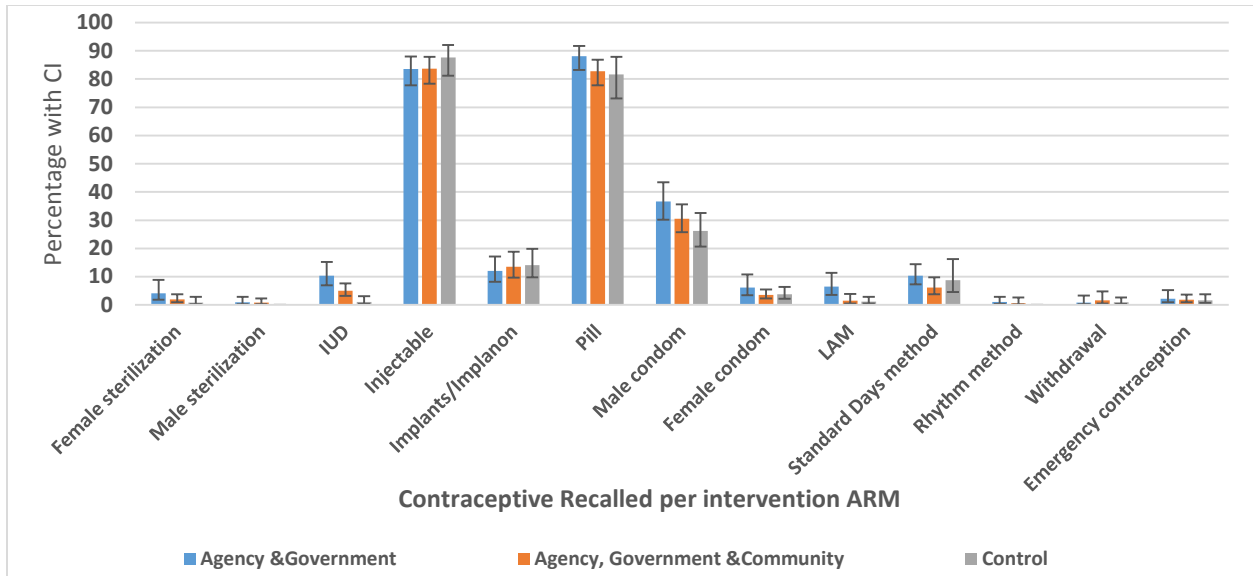


Figure 10: Contraceptive methods recalled by the respondent

Only (38.37 %) in the double-combination arm, (36.98 %) in the triple-combination arm and (25.45 %) in the delayed intervention/control arm know as condom can be used to prevent pregnancy.

For the question asked about sexual transmitted infections adolescents could recall; HIV/AIDS (73%, 65.59% and 55.8%), gonorrhea (29.97%, 23.1% and 14.48%) and syphilis (33.57 %, 27.61% and 17.73%) were among vastly recalled sexual transmitted infections. Chlamydia (1%, 0% and 0.3%) and genital herpes (2%, 0.4% and 0.8%) were among the least recalled. (Fig. 11)

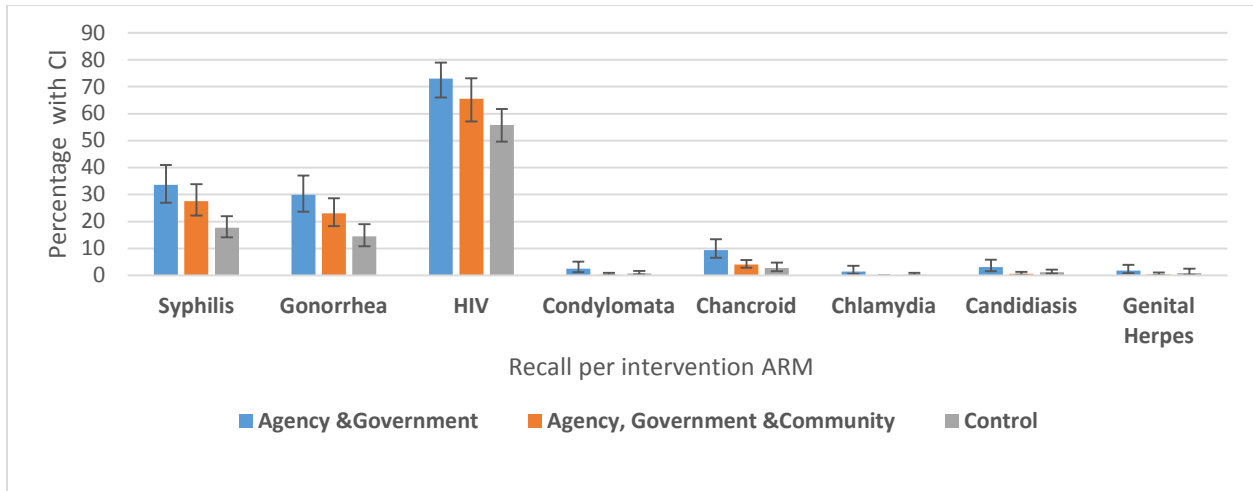


Figure 11. Knowledge on Sexual Transmitted Infection

The adolescents also asked whether they know about sign and symptom of sexually transmitted infection, loss of weight (37.63%,27.59% and26.17%), burning pain during urination (17.99%,13.26% and 9.33 %), genital sore/ulcer (15.11%,9.76% and 8.13%), abdominal pain (11.94%,7.53% and 7.13%) and genital discharge/drip ping (10.53%,7.63% and 5.19%) were among repeatedly pointed out by the adolescents.(Fig. 15)

Among ways of transmission for sexual transmitted disease; (70.44%, 59.92% and 53.58%) transmission through Sexual contact was well known by the adolescent. Following this, sharing of needles and other drug and need stick injuries (56.78%, 39.82% and 38.44%), Mixture of infectious body fluids (17.87%, 10.59% and 10.59%) and Skin-to-skin contact (13.4%, 9.83% and 6.93%) were among the listed means of transmissions by the adolescent girls. (Fig. 12)

Regarding the prevention method of sexual transmitted infection; abstinence (54.55%,45.12% and 39.59%), Avoid sharing razors/blades (29.79%,19.26% and 19.82%), Using condom (27.04%,23.91% and 17.99%) and limit sex to one partner (staying faithful) (27.54%,18.62% and 18.46%) were listed in high proportion by the adolescent girls. There were also wrongly perceived prevention methods like avoiding sick person and getting immunization mentioned by the respondents as other method of prevention. (Table 15)

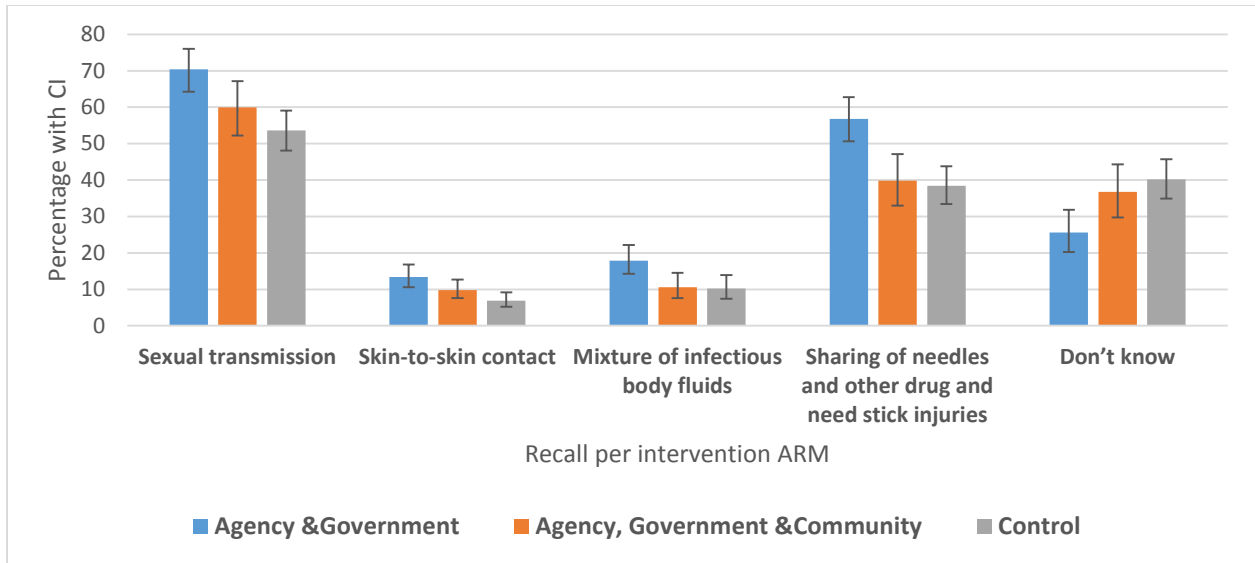


Figure 12. Knowledge on means of transmission of sexual transmitted infection

Among all adolescents asked for their degree of ability to negotiate for financial support they get for their hygiene need, it was less likely and unlikely for comparable number of adolescents (40.68%, 35.93% and 34.36%) to negotiate for their hygiene needs.

Table 15: Sexual Transmitted Infection, symptoms and prevention methods adolescent girls recalled

		Double-combination arm	Triple-combination arm 1	Delayed intervention/control arm
		% (95% CI)	% (95% CI)	% (95% CI)
Symptoms of STIs on women recalled	Abdominal pain	11.94 (8.992,15.7)	7.53 (4.89,11.42)	7.13 (5.26,9.60)
	Genital discharge/dripping	10.53 (8.239,13.36)	7.633 (5.287,10.9)	5.194 (3.516,7.61)
	Foul smelling discharge	9.48 (6.725,13.2)	6.89 (4.52,10.39)	5.17 (3.51,7.53)
	Burning pain on urination	17.99 (13.85,23.03)	13.26 (9.84,17.62)	9.33 (7.05,12.27)
	Redness/Inflammation in Genital area	8.884 (6.546,11.95)	4.08 (2.62,6.30)	2.73 (1.88,3.94)
	Smell in Genital area	9.397 (6.961,12.57)	4.82 (3.453,6.68)	4.15 (2.98,5.76)
	Genital sores/Ulcers	15.11 (12.08,18.73)	9.76 (6.94,13.54)	8.13 (6.31,10.41)
	Genital warts	3.71 (2.42,5.648)	0.77 (0.35,1.69)	1.01 (0.055,1.85)
	General itching	9.959 (7.477,13.15)	7.36 (5.79,9.29)	6.29 (4.76,8.29)
	Blood in urine	8.57 (6.368,11.44)	5.47 (3.92,7.59)	4.17 (2.77,6.24)
	Loss of weight	37.63 (31.95,43.67)	27.59 (22.82,32.93)	26.17 (21.71,31.18)
	Hard to get pregnant/have a child	5.19 (3.81,7.02)	2.30 (1.39,3.77)	2.83 (1.58,5.02)
	Others(Anemia, becoming pale, coughing, fatigue, feeling unhealthy, loss of appetite, loss of hair, loss of immunity)	1.17 (0.00,2.71)	0.40 (0.12,1.36)	0.18 (0.04,0.75)
	No symptoms	0.39 (0.14,1.09)	1.23 (0.56,2.68)	0.796 (0.37,1.71)
Don't know	47.64 (41.62,53.73)	56.08 (49.09,62.83)	63.63 (58.07,68.84)	
Prevention methods of STIs recalled	Abstain from sex	54.55 (49.74,59.27)	45.12 (37.56,52.92)	39.59 (34.97,44.4)
	Use condom	27.04 (21.85,32.93)	23.91 (19.66,28.76)	17.99 (13.92,22.93)
	Limit sex to one partner/staying faithful	27.54 (22.94,32.67)	18.62 (13.95,24.4)	18.46 (14.28,23.53)
	Limit number of sex partner	16.39 (12.75,20.82)	8.691 (6.66,11.26)	10.18 (6.111,16.47)
	Avoid sex with prostitutes	11.48 (8.64,15.09)	5.537 (4.13,7.38)	5.875 (3.74,9.111)
	Avoid sex with persons who have many partner	7.10 (5.04,9.92)	4.968 (3.22,7.59)	4.767 (2.887,7.772)
	Avoid sex with drug users	4.07 (2.52,6.502)	2.11 (1.09,4.05)	2.169 (.9922,4.674)
	Avoid blood transfusions	10.21 (7.771,13.29)	9.652 (7.357,12.57)	7.361 (5.141,10.43)
	Avoid injections	6.13 (3.99,9.30)	4.58 (2.52,8.185)	4.52 (3.11,6.54)
	Avoid sharing razors/blades	29.79 (25.79,34.13)	19.26 (14.84,24.61)	19.82 (15.18,25.45)
	Avoid kissing	2.01 (1.11,3.60)	1.37 (0.71,2.64)	1.56 (1.04,2.32)
	Avoid mosquito bites	1.38 (0.75,2.55)	0.07 (0.01,0.50)	0.41 (0.13,1.3)
	Seek protection from traditional healer	1.65 (0.91,2.94)	1.63 (0.89,2.94)	1.31 (0.62,2.77)
	Others (avoid sick person, avoid people, eating balanced diet, get immunized, Keeping personal hygiene)	0.19 (0.05,0.75)	0.6 (0.23,1.89)	0.71 (0.33,1.50)
Don't know	31.25 (26.02,37)	41.1 (33.47,49.18)	45.89 (40.59,51.28)	
Heard about HIV or AIDS	Yes	77.68 (72.26,82.3)	72.93 (66.4,78.59)	67.14 (61.96,71.94)
HIV/AIDS can be cured	Yes	9.27 (6.80,12.52)	6.358 (4.42,9.06)	6.44 (4.19,9.78)
	No	85.67 (82.37,88.43)	86.87 (82.44,90.31)	86.04 (83.33,88.38)
	Don't know	5.06 (3.41,7.45)	6.77 (4.629,9.812)	7.514 (5.34,10.48)
A person with HIV always looks emaciated or unhealthy	Yes	70.72 (66.23,74.85)	75.86 (71.08,80.07)	77.8 (71.77,82.84)
	No	23.21 (19.23,27.74)	17.46 (13.66,22.05)	13.53 (10.11,17.88)
	Don't know	6.06 (4.19,8.68)	6.68 (4.77,9.26)	8.67 (6.08,12.23)
People can take a simple test to find their HIV status	Yes	58.9 (51.54,65.89)	67.16 (61.2,72.62)	58.54 (51.7,65.06)
	No	26.85 (21.64,32.79)	17.45 (12.96,23.1)	18.35 (14.52,22.92)
	Don't know	14.24 (10.89,18.42)	15.38 (11.46,20.34)	23.11 (17.98,29.18)

Table 16: Sexual and Reproductive Health characteristics of Adolescent girls

Characteristics		Double-combination arm	Triple-combination arm	Delayed intervention/control arm
		% (95% CI)	% (95% CI)	% (95% CI)
Have you ever had contact with Health Extension workers? (n=3181)	Yes	7.36 (4.927,10.86)	10.08 (7.932,12.73)	5.59 (4.133,7.508)
	No	92.64 (89.14,95.07)	89.92 (87.27,92.07)	94.41 (92.49,95.87)
How old were you when your first had sexual intercourse? (n=427)	Mean±SE	14.56±0.156 (14.25, 14.87)	14.41±0.099 (14.22, 14.61)	14.93±0.128 (14.67, 15.18)
Have you ever been pregnant (n=430)	Yes	47.93(39.07,56.94)	49.39(40.22,58.6)	59.15 (49.67,68)
	No	52.07(43.06,60.93)	50.61 (41.4,59.78)	40.85(32,50.33)
Have you ever gotten pregnant before getting married? (n=430)	Yes	1.883 (4827,7.056)	4.006 (1.676,9.27)	1.653 (.2379,10.59)
	No	88.91 (78.02,94.77)	90.38 (83.45,94.59)	92.02 (81.94,96.7)
	Don't know	9.208 (3.738,20.94)	5.615 (2.698,11.32)	6.328 (3.066,12.61)
Are you pregnant now? (n=430)	Yes	16.73 (8.919,29.18)	9.049 (6.162,13.1)	19.45 (14.04,26.31)
	No	78.58 (66.85,86.97)	89.11 (84.12,92.67)	78.62 (71.7,84.22)
	Don't know	4.692 (1.758,11.93)	1.838 (.5506,5.955)	1.926 (.488,7.288)
Are you currently doing something or using any method to delay or avoid getting pregnant? (n=1050)	Yes	26.79 (16.68,40.08)	9.076 (5.752,14.03)	25.15 (18,33.97)
	No	73.21 (59.92,83.32)	90.92 (85.97,94.25)	74.85 (66.03,82)
Which method are you using? (n=118)	Female sterilization	0	6.616 (1.743,22.05)	2.425 2.425
	Injectable	76.49 (41.99,93.6)	82.37 (68.5,90.94)	83.94 (62.6,94.23)
	Implants/Implanon	0	3.783 (1.269,10.73)	7.194 (1.559,27.51)
	Pill	23.51 (6.4,58.01)	7.234 (3.046,16.21)	6.437 (1.394,25.08)
	Male condom	11.56 (3.068,35.06)	1.969 (.2776,12.66)	0
	LAM	0	0	4.088 (.4977,26.64)
	Withdrawal	0	1.876 4285,7.831)	0

3.3.4.2. Attitude, Behavior, Empirical, and Normative Expectation of adolescent girls on Sexual and Reproductive Health

3.3.4.2.1. Attitude on sexual and reproductive health

Majority (82.89%, 83.47% and 82.77%) of adolescent girls through the arms thought that it was not ok for girls to engage in premarital sex even if they could avoid getting pregnant. Uniformly across the Arms, considerable amount (84.2%, 87.31%, and 86.98%) of adolescent themselves

thought that adolescents who got pregnant out of wedlock should be sanctioned. Adolescent girls thought, ideal age for at which adolescent girls had their sexual intercourse were (16.65 ± 0.15) , (16.14 ± 0.14) and (16.11 ± 0.09) for each Arm respectively. While ideal age to start having children was (18.62 ± 0.15) , (18.15 ± 0.13) , & (18.03 ± 0.10) respectively according to the adolescent.

6 out of 10 girls in the first and delayed intervention/control arm argued that unmarried adolescent girls shouldn't use contraceptives. Likewise, more than half of adolescents in each Arm (65.47% , 53.94% and 57.72%) disagree on the idea of married adolescent girls should talk to their husbands about contraceptives.

3.3.4.2.2. Empirical expectation on sexual and reproductive

Considerable amount of Adolescent girls believe that most girls thought it's ok if they had sex before marriage as long as they avoid getting pregnant (78.43% , 75.1% , 77.64%). Most adolescent girls (86% , 85% and 87%) in the first, triple-combination arm and delayed intervention/control arms said that most girls in the community who got pregnant out of wedlock got sanctioned. Most of adolescent girls in the community started having sexual intercourse at the age of (16.18 ± 0.14) , 15.51 ± 0.95 and 15.77 ± 0.84) in the first, triple-combination arm and delayed intervention/control arm respectively. Whereas, most of adolescent girls in the study community started having children (18.19 ± 0.14 , 17.48 ± 0.12 and 17.81 ± 0.09) according to the respondent.

72.4% , 61.37% and 65.02% amount of adolescent girls from each Arm disagree on the idea of most unmarried adolescent girls use modern contraceptive methods if they need to.

Four out of ten adolescent girls thought that, most married adolescent girls talk to their husbands about using contraceptives.

3.3.4.2.3. Normative expectation on sexual & reproductive

Almost universally across the Arms, adolescent girls believe that Parents would look down upon adolescent girls if they got pregnant before they got married (93.24% , 95.69% and 96.22%) respectively. Nine out of ten Adolescent girls believe that as Parents expected them to had sexual intercourse only after getting married.

Adolescent girls' parent's perceived expectation of debut age for sexual intercourse 16.81 ± 0.17 (95% CI. 16.48 , 17.14), 16.28 ± 0.13 (95% CI. 16.02 , 16.54) and 16.38 ± 0.09 (95% CI. 16.19 ,

16.56), respectively. Although, parents expect their adolescent girls to start having children at 18.67 ± 0.16 (18.35, 18.99), 18.05 ± 0.14 (17.76, 18.34) and 18.22 ± 0.08 (18.05, 18.39) age along the three Arms. (Table 18)

More than half adolescent girls agreed that Parents did not expect unmarried adolescent girls to use modern contraceptive methods if were engaged in premarital sex (71.72%, 63.25% and 55.06%). Near to half adolescent girls agreed that other People didn't expect married adolescent girls to talk to their husbands about using contraceptives (49.12%, 36.04% and 35.93%) for each Arm.

6 out of 10 girls in the first and delayed intervention/control arm argued that unmarried adolescent girls shouldn't use contraceptives, while the same majority reported that parents also expect unmarried adolescent girls to no use modern contraception if they are sexually active.

3 of 10 girls in triple-combination arm and 4 out of 10 girls in the first and delayed intervention/control arms, respectively reported that other adolescent girls in the community talk to their partners about contraceptives, but, 4 out of 10 adolescent girls in all arms have never talked to their parents about contraceptives. (Table 20)

3.3.4.2.4. Behavior on sexual and reproductive

Among adolescent girls who currently married few of them were got pregnant before they got married (2%, 4% and 2%). Average age of sexual intercourse debut was 14.55 ± 0.16 (95% CI. 14.25, 14.87), 14.41 ± 0.09 (95% CI. 14.22, 14.61) and 14.93 ± 0.13 (95% CI. 14.67, 15.18) in the first, triple-combination arm and delayed intervention/control arms. Similarly average age for giving birth to their child was 15.46 ± 0.17 (15.12, 15.80), 15.57 ± 0.14 (15.29, 15.84) and 16.05 ± 0.10 (15.85, 16.25) for each Arm.

Significant amount of married adolescent girls not use methods to delay or avoid getting pregnant currently (73.21%, 90.92%, and 74.85%) in the first, triple-combination arm and delayed intervention/control arm respectively. 3 out of 10 married adolescent girls along the arms had never talked to their partner about contraceptives.

Table 17: Sexual and Reproductive Health social norm matrix of Adolescent girls on pregnancy

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		It is ok for a girl to have sex before marriage as long as she avoids getting pregnant	Most girls think it's ok to have sex before marriage as long as they avoid getting pregnant	Parents would look down upon adolescent girls if they get pregnant before they get married	Response	Have you ever gotten pregnant before getting married?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	4.535 (3.212,6.368)	6.106 (4.531,8.183)	81.32 (77.61,84.54)	Yes	1.883 (.4827,7.056)
	Agree a little	5.841 (3.909,8.642)	10.36 (7.963,13.37)	11.92 (9.973,14.18)	No	88.91 (78.02,94.77)
	Disagree a little	7.235 (5.692,9.156)	13.62 (10.62,17.31)	3.793 (2.482,5.756)	Don't know	9.208 (3.738,20.94)
	Disagree a lot	75.66 (71.8,79.15)	64.81 (60.04,69.3)	2.185 (1.402,3.388)		
Triple-combination arm	Agree a lot	4.626 (3.045,6.97)	7.092 (5.194,9.613)	86.87 (81.93,90.61)	Yes	4.006 (1.676,9.27)
	Agree a little	4.743 (3.331,6.714)	12.05 (8.981,15.99)	8.816 (6.479,11.89)	No	90.38 (83.45,94.59)
	Disagree a little	6.769 (4.144,10.87)	13.29 (10.12,17.27)	2.577 (1.191,5.487)	Don't know	5.615 (2.698,11.32)
	Disagree a lot	76.71 (70.76,81.77)	61.81 (55.01,68.17)	1.041 (.5345,2.016)		
Delayed intervention/control arm	Agree a lot	5.358 (4.182,6.841)	7.211 (5.677,9.12)	88.57 (84.83,91.49)	Yes	1.653 (.2379,10.59)
	Agree a little	3.219 (2.112,4.878)	8.734 (6.548,11.56)	7.645 (5.397,10.72)	No	92.02 (81.94,96.7)
	Disagree a little	5.982 (4.257,8.346)	11.01 (9.001,13.41)	1.555 (.9232,2.608)	Don't know	6.328 (3.066,12.61)
	Disagree a lot	76.79 (73.46,79.82)	66.63 (61.68,71.24)	1.166 (.6086,2.224)		
		Adolescent girls who get pregnant out of wedlock should be sanctioned.	Most girls who get pregnant out of wedlock get sanctioned	Parents expect me to have sexual intercourse only after getting married		Have you ever gotten pregnant before getting married?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	73.19 (69.19,76.85)	68.32 (64.33,72.05)	76.91 (73.58,79.93)	Yes	1.883 (.4827,7.056)
	Agree a little	11.01 (8.796,13.7)	18.11 (14.74,22.07)	13.96 (12.02,16.15)	No	88.91 (78.02,94.77)
	Disagree a little	4.962 (3.53,6.932)	4.486 (2.95,6.766)	3.14 (2.01,4.872)	Don't know	9.208 (3.738,20.94)
	Disagree a lot	7.514 (5.573,10.06)	6.756 (4.849,9.338)	4.6 (3.537,5.964)		
Triple-combination arm	Agree a lot	77.78 (71.57,82.96)	75.86 (69.08,81.55)	81.09 (74.92,86.02)	Yes	4.006 (1.676,9.27)
	Agree a little	9.533 (6.606,13.57)	10.7 (7.545,14.97)	11.83 (8.325,16.55)	No	90.38 (83.45,94.59)
	Disagree a little	5.51 (3.145,9.48)	6.848 (4.14,11.12)	2.461 (1.386,4.334)	Don't know	5.615 (2.698,11.32)
	Disagree a lot	5.543 (3.801,8.016)	4.594 (3.36,6.252)	3.558 (2.378,5.294)		
Delayed intervention/control arm	Agree a lot	80.74 (75.12,85.33)	77.46 (71.17,82.72)	85.1 (81.26,88.26)	Yes	1.653 (.2379,10.59)
	Agree a little	6.242 (4.247,9.086)	10 (7.487,13.24)	6.771 (4.878,9.325)	No	92.02 (81.94,96.7)
	Disagree a little	4.184 (2.372,7.278)	5.006 (3.407,7.299)	2.956 (2.002,4.343)	Don't know	6.328 (3.066,12.61)
	Disagree a lot	5.616 (4.084,7.676)	5.326 (3.459,8.115)	2.897 (1.906,4.379)		
		What should be the ideal age at which adolescent girls to have their sexual intercourse?	How old are most girls in this community when they start having sexual intercourse?	At what age do parents expect adolescent girls to start having sexual intercourse?		How old when you first had sexual intercourse?
Double-combination arm	Mean±SE	16.65±0.15 (16.35, 16.96)	16.18±0.14 (15.90, 16.45)	16.81±0.17 (16.48, 17.14)	Mean±SE	14.55±0.16 (14.25, 14.87)
Triple-combination arm	Mean±SE	16.14±0.14 (15.88, 16.41)	15.51±0.95 (15.33, 15.70)	16.28±0.13 (16.02, 16.54)	Mean±SE	14.41±0.09 (14.22, 14.61)
Delayed intervention/control arm	Mean±SE	16.11±0.09 (15.92, 16.29)	15.77±0.84 (15.61, 15.94)	16.38±0.09 (16.19, 16.56)	Mean±SE	14.93±0.13 (14.67, 15.18)
		What should be the ideal age at which adolescent girls to start having children?	How old are most girls in this community when they start having children?	At what age do parents expect adolescent girls to start having children?		How old were you when you gave birth to your child?
Double-combination arm	Mean±SE	18.62±0.15 (18.31, 18.92)	18.19±0.14 (17.91, 18.46)	18.67±0.16 (18.35, 18.99)	Mean±SE	15.46±0.17 (15.12, 15.80)
Triple-combination arm	Mean±SE	18.15±0.13 (17.89, 18.40)	17.48±0.12 (17.24, 17.72)	18.05±0.14 (17.76, 18.34)	Mean±SE	15.57±0.14 (15.29, 15.84)
Delayed intervention/control arm	Mean±SE	18.23±0.10(18.03,18.43)	17.81±0.09 (17.64, 17.99)	18.22±0.08(18.05,18.39)	Mean±SE	16.05±0.10 (15.85, 16.25)

Table 18: Family planning social norm matrix description of Adolescent girls on contraception

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		Unmarried adolescent girls may use contraceptive methods if they need to do so	Most unmarried adolescent girls use modern contraceptive methods if they need to.	Parents expect unmarried adolescent girls to use modern contraceptive methods if are engaged in premarital sex		Are you currently doing something or using any method to delay or avoid getting pregnant?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	6.568 (4.217,10.09)	3.479 (2.254,5.333)	1.012 (.4371,2.327)	Yes	26.79 (16.68,40.08)
	Agree a little	8.293 (6.341,10.78)	7.782 (5.245,11.4)	1.854 (1.171,2.925)	No	73.21 (59.92,83.32)
	Disagree a little	10.91 (8.615,13.73)	11.39 (8.731,14.74)	9.115 (6.848,12.03)		
	Disagree a lot	53.64 (48.64,58.57)	61.01 (57.6,64.31)	62.61 (57.45,67.51)		
Triple-combination arm	Agree a lot	10.21 (7.472,13.79)	6.02 (4.058,8.841)	1.842 (1.031,3.271)	Yes	9.076 (5.752,14.03)
	Agree a little	11.93 (9.008,15.64)	10.96 (8.252,14.42)	4.024 (2.39,6.7)	No	90.92 (85.97,94.25)
	Disagree a little	8.916 (6.586,11.96)	10.13 (7.697,13.21)	8.813 (6.321,12.16)		
	Disagree a lot	46.71 (40.82,52.7)	51.24 (45.37,57.07)	54.44 (47.99,60.74)		
Delayed intervention/control arm	Agree a lot	8.204 (6.088,10.97)	5.395 (3.822,7.564)	1.905 (1.143,3.158)	Yes	25.15 (18,33.97)
	Agree a little	7.399 (5.741,9.487)	5.866 (4.041,8.442)	3.135 (1.937,5.036)	No	74.85 (66.03,82)
	Disagree a little	7.786 (5.869,10.26)	9.049 (6.716,12.09)	6.079 (4.249,8.625)		
	Disagree a lot	54.2 (49.89,58.45)	55.97 (51.37,60.47)	48.99 (45.65,52.33)		
		Married adolescent girls talk to their husbands about contraceptives	Most married adolescent girls talk to their husbands about using contraceptives	People expect married adolescent girls to talk to their husbands about using contraceptives		How often do you talk to you partner about using contraceptives?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	4.203 (2.821,6.22)	17.07(12.72,22.53)	19.15 (14.43,24.97)	Often	15.71 (8.711,26.7)
	Agree a little	8.273 (6.326,10.75)	18.91 (16.22,21.93)	18.37 (16.05,20.95)	Sometimes	24.4 (15.07,37)
	Disagree a little	10.33 (8.698,12.23)	11.99 (9.424,15.14)	14.11 (11.36,17.39)	Rarely	19.81 (12.05,30.82)
	Disagree a lot	55.14 (49.93,60.23)	34.08 (28.46,40.18)	35.02 (30.38,39.95)	Never	37.25 (24.89,51.54)
Triple-combination arm	Agree a lot	6.302 (4.116,9.534)	25.95 (20.18,32.7)	26.88 (21.27,33.34)	Often	20.42 (13.1,30.41)
	Agree a little	12.36 (9.585,15.81)	20.96 (17.62,24.74)	20.19 (16.93,23.89)	Sometimes	25.52 (17.9,35)
	Disagree a little	11.46 (8.522,15.24)	9.467 (6.084,14.44)	9.988 (6.968,14.12)	Rarely	15.86 (10.86,22.58)
	Disagree a lot	42.48 (36.57,48.61)	19.89 (16,24.44)	26.06 (21.53,31.16)	Never	33.04 (23.15,44.7)
Delayed intervention/control arm	Agree a lot	6.134 (4.174,8.929)	25.75 (21.37,30.67)	25.05 (20.79,29.86)	Often	14.06 (9.335,20.64)
	Agree a little	8.335 (6.539,10.57)	19.39 (16.79,22.28)	19.98 (16.88,23.49)	Sometimes	28.16 (20.84,36.85)
	Disagree a little	9.428 (7.184,12.28)	8.55 (6.181,11.71)	10.1 (7.471,13.53)	Rarely	14.39 (8.972,22.27)
	Disagree a lot	48.3 (44.48,52.15)	22.24 (19.07,25.76)	25.83 (22.62,29.32)	Never	38.38 (30.33,47.12)

3.3.5. Household Food Allocation of Adolescent girls

One out of ten adolescent girls in the delayed intervention/control arm were severely stunted in, while most of the girls had normal Height for their age (HAZ).

Adolescent girls (89.29%, 87.28% and 87.1%) in the first, combine and delayed intervention/control arm respectively have normal body mass index for age (BAZ) score. However, one out of ten girls in the triple-combination arm and delayed intervention/control arm were thin for their age.

Table 19: HAZ score and BAZ score of adolescent girls aged 13 – 17 years

Characteristics		Double-combination arm	Triple-combination arm	Delayed intervention/control arm
		% (95% CI)	% (95% CI)	% (95% CI)
Height for age (HAZ) score (1 st measurement) (n=3149)	Normal	92.85 (90.81,94.46)	91.77 (88.74,94.04)	89.43 (86.92,91.5)
	Stunted	6.419 (4.856,8.441)	6.546 (4.873,8.739)	9.404 (7.275,12.08)
	Severely stunted	.7333 (.357,1.5)	1.682 (.6977,3.997)	1.169 (.6738,2.02)
Body mass index for age (BAZ) score (1 st measurement) (n=3149)	Sever thinness	1.27 (.722,2.226)	1.468 (.8731,2.459)	1.337 (.7571,2.35)
	Thinness	6.273 (4.87,8.047)	9.963 (8.22,12.03)	8.828 (7.304,10.63)
	Normal	89.37 (86.8,91.49)	86.77 (84.31,88.89)	87.42 (85.15,89.38)
	Obesity	3.087 (2.093,4.529)	1.802 (.8948,3.597)	2.262 (1.414,3.601)
	Sever Obesity	0	0	.1565 (.0215,1.126)

3.3.5.1. Attitude, Behavior, Empirical, and Normative Expectation of adolescent girl Nutrition and food allocation indicators of Adolescent girls

3.3.5.1.1. Attitude on Nutrition and food allocation indicators

According to the study, 6 out of 10 adolescent girls in the first, triple-combination arm and delayed intervention/control arms believe that adolescent girls and boys should had the same amount of food. Seven out of ten girls in the first, triple-combination arm and delayed intervention/control arm thought that adolescent girls and boys of the same age living with their parents should ate the same time. Also, 9 out of 10 girls in all arms agreed that adolescent girls and boys should have the same type of food.

Regarding eating order in the family, adolescent girls 76.81% in the double-combination arm, 81.63% in the triple-combination arm and 80.71% in delayed intervention/control arm disagree on the idea of adolescent girls should eat first before everybody in the family eats. Likewise, 7 out of

10 adolescent girls agree on the idea of adolescent girls should eat after everybody in the family eats.

3.3.5.1.2. Empirical Expectation on Nutrition and food allocation indicators

Five out of ten adolescent girls through the Arms believe that most adolescent girls in the community have the same amount of food as their male siblings or husbands in the household.

Most adolescent girls (77%, 78% and 79%) in the first, triple-combination arm and delayed intervention/control arms, respectively agreed that most other adolescent girls ate after adolescent boys have eaten. Similarly, plenty of most other adolescent girls in the community have the same quality of food as their male siblings or husbands (87.56%, 85.45% and 89.6%) in the first, triple-combination arm and delayed intervention/control arm respectively.

Considerable, amount of adolescent girls disagree on the idea of most adolescent girls usually eat before their male siblings or husbands (78.47%, 84.01% and 85.23%) in the first, triple-combination arm and delayed intervention/control arm respectively.

Near to eight out of ten adolescent girls in the study area agreed on that most adolescent girls in the community eat after everybody in the family eats.

3.3.5.1.3. Normative Expectation on Nutrition and food allocation indicators

Six out of ten adolescent girls in the first, triple-combination arm and delayed intervention/control arms, believe that Community members expect adolescent girls to eat the same amount of food as their male siblings or husbands. Similarly, 67.82%, 69.41% and 65.73% of adolescent girls in the first, triple-combination arm and delayed intervention/control arms, respectively believe Community members expect adolescent girls to eat at the same time as their brothers.

Likewise, 87.58%, 87.14% and 87.59% of adolescent girls in the first, triple-combination arm and delayed intervention/control arms, respectively believe that Community members expect adolescent girls to have the same quality of food as everybody in the family.

Most adolescents, (74.34%, 73.92% and 72.18%) disagree on that Community members expect adolescent girls to eat before everybody in the family eats. Conversely, 76.17%, 75.78% and 75.41% Community members expect adolescent girls to eat after everybody in the family eats.

With regard to food allocation preference, three forth of adolescent girls in the first, triple-combination arm and delayed intervention/control arms reported that Adult men were served food first. Surprisingly, 7 out of 10 girls in all arms believed that adolescent girls should eat after everybody in the family has eaten, while only 1 out of 10 in the double-combination arm and 2 out of 10 girls in the triple-combination arm and delayed intervention/control arms reported to eating after everybody in the family. But still a majority of adult women and girls were eating after everybody in the family. (Table 21)

3.3.5.1.4. Behavior on Nutrition and food allocation indicators

More than half of adolescent in the first, triple-combination arm and delayed intervention/control arm respectively (67.82%, 65.57% and 61.98%) ate the same amount of food as their brothers/others adolescent boys of the same age/Husband in the household often or sometimes.

70.57%, 67.29% and 64.07% of adolescent girls in the first, triple-combination arm and delayed intervention/control arm often or sometimes had their meals at the same time as their brothers/others adolescent boys of the same age living in the household.

64.22%, 60.8% and 53.52% of adolescent girls in the first, triple-combination arm and delayed intervention/control arm witnessed that they ate the same type of food as their brothers/others adolescent boys in the household often or sometimes.

More than half the adolescent girls 65.76%, 65.95% and 62.72% in the first, triple-combination arm and delayed intervention/control arm respectively did as adult men were served first in the household.

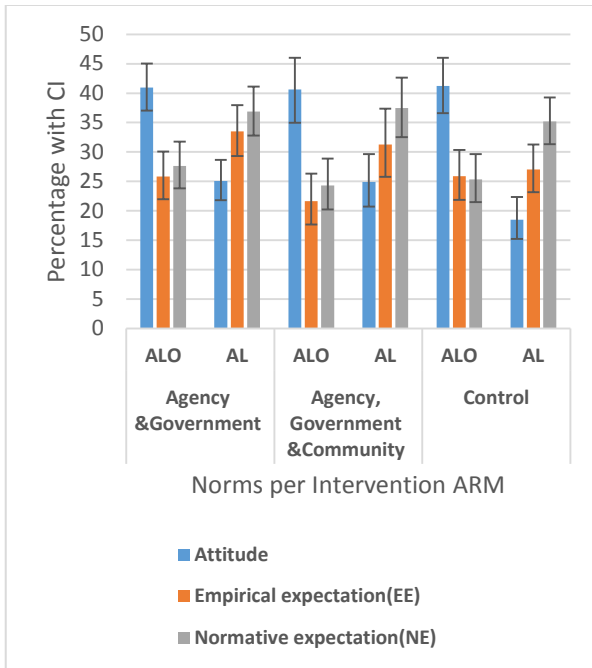


Fig 13a. Shows norm of adolescent girls and boys of the same age living with their parents should eat at the same time

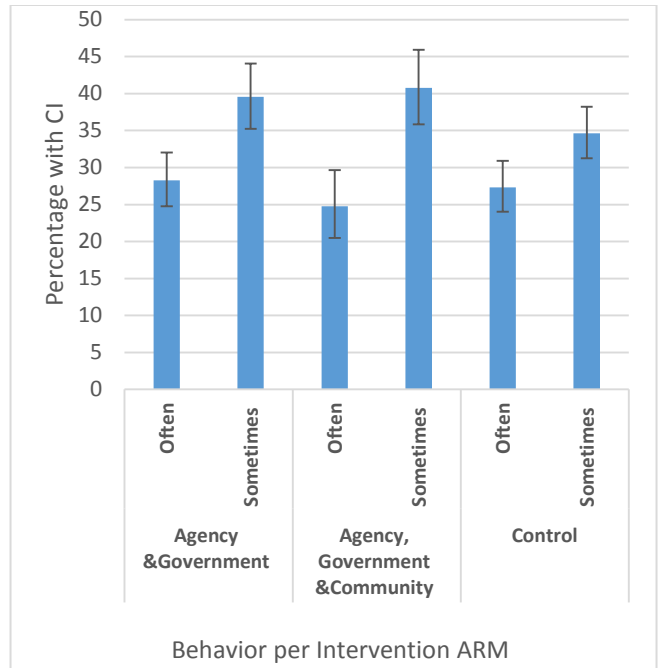


Fig 13b. Shows Behavior of adolescent girls on how often do they have meals at the same time as their brothers/others adolescent boys of the same age

Table 20: Nutrition and food allocation social norm description of Adolescent girls on food consumption and eating order

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		Adolescent girls and boys of the same age should have the same amount of food. % (95% CI)	Most adolescent girls in the community have the same amount of food as their male siblings or husbands % (95% CI)	Community members expect adolescent girls to eat the same amount of food as their male siblings or husbands. % (95% CI)	Response	How often do you eat the same amount of food as your brothers/others adolescent boys/Husband? % (95% CI)
Double-combinati on arm	Agree a lot	40.98 (37.06, 45.01)	25.82 (21.97, 30.09)	27.63 (23.85,31.76)	Often	28.26 (24.77,32.03)
	Agree a little	25.08 (21.83, 28.64)	33.51 (29.33, 37.98)	36.86 (32.8,41.12)	Sometimes	39.56 (35.23,44.07)
	Disagree a little	13.74 (11, 17.03)	20.1 (16.19, 24.67)	16.97 (13.65,20.89)	Rarely	16.44 (13.78,19.5)
	Disagree a lot	19.45 (14.7, 25.28)	20.56 (15.99, 26.05)	18.46 (14.08,23.84)	Never	15.73 (12.32,19.87)
Triple-combinati on arm	Agree a lot	40.63 (34.98,46)	21.67 (17.66, 26.3)	24.31 (20.24,28.89)	Often	24.78 (20.47,29.66)
	Agree a little	24.91 (20.72, 29.63)	31.27 (25.78, 37.34)	37.46 (32.54,42.66)	Sometimes	40.79 (35.84,45.93)
	Disagree a little	13.96 (11.03, 17.51)	24.23 (19.15, 30.14)	20.05 (15.69,25.27)	Rarely	20.12 (16,24.99)
Delayed interventi on/control arm	Disagree a lot	19.13 (14.52, 24.79)	21.2 (16.26, 27.16)	15.85 (11.32,21.75)	Never	13.71 (10.18,18.21)
	Agree a lot	41.23 (36.62, 46.01)	25.89 (21.87, 30.35)	25.35 (21.49,29.64)	Often	27.33 (24.01,30.92)
	Agree a little	18.52 (15.22, 22.36)	27.03 (23.18, 31.26)	35.2 (31.32,39.29)	Sometimes	34.65 (31.27,38.2)
	Disagree a little	18.91 (15.17, 23.33)	24.07 (21, 27.44)	20.4 (16.83,24.51)	Rarely	18.4 (15.11,22.21)
	Disagree a lot	19.13 (15.16, 23.85)	22.31 (18.028, 26.92)	17.14 (13.02,22.22)	Never	18.66 (14.56,23.58)
	Adolescent girls and boys of the same age living with their parents should eat at the same time % (95% CI)	Most adolescent girls eat after adolescent boys eat. % (95% CI)	Community members expect adolescent girls to eat at the same time as their brothers % (95% CI)		How often do have your meals at the same time as your brothers/others adolescent boys of the same age living with their parents? % (95% CI)	
	Double-combinati on arm	45.75 (40.8, 50.79)	44.42 (38.94,50.04)	26.71 (23.61,30.07)	Often	28.83 (25.94,31.92)
	Agree a little	31.18 (26.14, 36.7)	33.95 (29.35,38.87)	41.11 (37.53,44.78)	Sometimes	41.74 (39.06,44.47)
	Disagree a little	10.58 (8.155, 13.61)	13.2 (10.51,16.44)	18.99 (15.52,23.03)	Rarely	19.26 (16.62,22.21)
	Disagree a lot	12.09 (9.317, 15.55)	8.356 (6.23,11.12)	13.1 (10.09,16.85)	Never	10.17 (7.604,13.47)
	Triple-combinati on arm	45.75 (40.72, 50.87)	45.81 (39.46,52.31)	27.55 (23.23,32.34)	Often	25.39 (21.4,29.84)
	Agree a little	29.41 (25.05, 34.19)	33.26 (29.22,37.56)	41.86 (36.63,47.28)	Sometimes	43.91 (40.55,47.32)
	Disagree a little	12.98 (10.19, 16.39)	10.91 (7.981,14.74)	16.12 913.41,19.27)	Rarely	23.38 (19.94,27.2)
	Disagree a lot	10.92 (7.833, 15.02)	8.973 (6.543,12.19)	12.4 (9.015,16.82)	Never	7.014 (4.688,10.37)
Delayed interventi on/control arm	Agree a lot	40.57 (36.6, 44.67)	47.44 (42.57,52.35)	26.85 (22.3,31.94)	Often	24.52 (21.37,27.98)
	Agree a little	29.26 (26.13,32.6)	32.18 (28.9,35.64)	38.88 (34.32,43.65)	Sometimes	39.55 (35.23,44.04)
	Disagree a little	15.67 (13.31,18.37)	12.53 (9.879,15.76)	19.38 (15.71,23.66)	Rarely	23.69 (20.83,26.8)
	Disagree a lot	12.85 (9.662,16.89)	7.514 (5.783,9.709)	12.85 (9.554,17.060)	Never	11.6 (8.338,15.91)
	Adolescent girls and boys in the same household should eat the same type of food % (95% CI)	Most adolescent girls in the community have the same quality of food as their male siblings or husbands % (95% CI)	Community members expect adolescent girls to have the same quality of food as everybody in the family % (95% CI)		How often do you eat the same type of food as your brothers/others adolescent boys? % (95% CI)	
	Double-combinati on arm	68 (63.78,71.93)	48.75 (43.58,53.96)	46.71 (41.87,51.62)	Often	28.15 (24.61,31.98)
	Agree a little	27.2 (23.51,31.23)	38.81 (34.81,42.96)	40.87 (36.59,45.28)	Sometimes	36.07 (33.14,39.12)
	Disagree a little	2.83 (1.882,4.235)	8.397 (6.039,11.56)	8.697 (6.811,11.04)	Rarely	23.07 (20.3,26.09)
	Disagree a lot	1.565 (0.877,2.776)	3.977 (2.555,6.142)	3.648 (2.453,5.393)	Never	12.63 (9.702,16.29)
	Triple-combinati on arm	71.18 (65.5,76.26)	47.89 (41.23,54.62)	50.99 (45.13,56.82)	Often	24.58 (20.95,28.61)
	Agree a little	21.52 (17.3,26.44)	37.56 (32.38,43.04)	36.15 (32.13,40.39)	Sometimes	36.22 (32.31,40.32)
	Disagree a little	3.616 (2.101,6.155)	9.493 (6.547,13.57)	7.78 (5.65,10.62)	Rarely	25.15 (20.78,30.09)
	Disagree a lot	2.809 (1.501,5.198)	3.516 (2.02,6.05)	2.987 (1.543,5.702)	Never	13.59 (10.04,18.15)
Delayed interventi on/control arm	Agree a lot	71.69 (67,75.95)	53.85 (49,58.63)	54.34 (49.34,59.25)	Often	25.87 (23.04,28.91)
	Agree a little	21.08 (17.55,25.12)	35.75 (31.68,40.03)	33.25 (28.78,38.04)	Sometimes	31.63 (28.55,34.87)
	Disagree a little	4.452 (2.87,6.845)	7.226 (5.291,9.796)	8.18 (5.985,11.09)	Rarely	27.65 (23.55,32.16)
	Disagree a lot	1.311 (0.7569,2.263)	2.762 (1.757,4.318)	3.116 (2.033,4.747)	Never	14.51 (11.59,18.02)

Table 21: Food allocation preference social norm characteristics description of Adolescent girls on eating order

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		Adolescent girls should eat first before everybody in the family eats.	Most adolescent girls usually eat before their male siblings or husbands	Community members expect adolescent girls to eat before everybody in the family eats.		When meals are served in your household, who usually eats first?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	8.45 (6.236,11.36)	4.496 (3.199,6.285)	6.163 (4.362,8.64)	Adult men	65.76 (60.64,70.54)
	Agree a little	14.5 (11.05,18.79)	16.92 (13.49,21.01)	19.06 (15.42,23.33)	Adult women	0.7316 (0.27,1.99)
	Disagree a little	24.27 (18.97,30.48)	25.73 (21.64,30.3)	28.72 (24.7,33.1)	Female adolescents	0.20 (0.05,0.83)
	Disagree a lot	52.54 (46.39,58.62)	52.74 (46.99,58.41)	45.62 (40.98,50.33)	Adult men & boys	6.578 (4.302,9.932)
					Adult men & women	4.714 (3.348,6.6)
				Everyone eats together	21.01 (16.55,26.3)	
Triple-combination arm	Agree a lot	5.973 (4.419,8.027)	4.063 (2.783,5.89)	5.166 (3.875,6.857)	Adult men	65.95 (61.41,70.22)
	Agree a little	11.68 (9.369,14.48)	11.21 (8.416,14.77)	18.86 (14.54,24.12)	Adult women	0.47 (0.1884,1.159)
	Disagree a little	24.22 (19.39,29.8)	23.46 (19.74,27.64)	23.63 (20.38,27.22)	Female adolescents	0.15 (0.04,0.65)
	Disagree a lot	57.41(50.93,63.65)	60.55 (54.61,66.18)	50.29 (43.86,56.71)	Adult men & boys	10.02 (6.664,14.8)
					Adult men & women	4.357 (2.63,7.13)
				Everyone eats together	15.54 (12.5,19.16)	
Delayed intervention/control arm	Agree a lot	7.491 (5.151,10.77)	4.749 (3.136,7.13)	7.18 (5.108,10.01)	Adult men	62.78 (59.08,66.34)
	Agree a little	11.28 (8.623,14.63)	9.492 (7.146,12.51)	19.86 (16.37,23.89)	Adult women	1.324 (0.512,3.38)
	Disagree a little	20.59 (17.91,23.56)	25.45 (22.45,28.69)	21.71 (18.22,25.65)	Female adolescents	1.191 (0.0167,0.85)
	Disagree a lot	60.12 (54.46,65.52)	59.78 (54.74,64.63)	50.47 (44.05,56.88)	Adult men & boys	8.875 (6.921,11.31)
					Adult men & women	4.281 92.874,6.33)
				Everyone eats together	19.93 (17.02,23.21)	
		Adolescent girls should eat after everybody in the family eats.	Most adolescent girls eat after everybody in the family eats	Community members expect adolescent girls to eat after everybody in the family eats.		When meals are served in your household, who usually eats last
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	43.83 (38.49,83)	47 (41.51,52.56)	43.04 (37.69,48.55)	Adult women	26 (21.71,30.81)
	Agree a little	27.53 (23.58,31.86)	31.71 (27.74,35.97)	33.13 (29.2,37.3)	Female adolescents	11.54 (8.567,15.36)
	Disagree a little	15.84 (13.19,18.91)	14.27 (11.36,17.78)	13.62 (10.9,16.88)	Adult women & girls	29.07 (23.28,35.63)
	Disagree a lot	12.71 (10.27,15.62)	6.886 (5.16,9.134)	10.03 (8.067,12.39)	Male children	2.41 (1.13,5.069)
					Female children	4.452 (2.932,6.706)
				Everyone eats together	22.42 917.77,27.87)	
Triple-combination arm	Agree a lot	44.41 (38.31,50.68)	48.09 (42.38,53.85)	45.67 (39.49,51.97)	Adult women	20.53 (16.16,25.72)
	Agree a little	25.87 (22.28,29.83)	32.19 (27.88,36.82)	30.11 (25.12,35.62)	Female adolescents	22 (17.2,27.69)
	Disagree a little	14.55 (11.06,18.9)	10.64 (8.009,14.01)	13.15 (9.813,17.4)	Adult women & girls	22.56 (18.11,27.74)
	Disagree a lot	14.91(10.99,19.92)	8.298 (5.597,12.13)	9.527 (6.774,13.24)	Male children	4.782 (2.467,9.066)
	Don't know	0.2576 (0.0648,1.019)	0.7812 (0.2658,2.273)	1.546 (0.747,3.172)	Female children	5.696 (3.825,8.402)
				Everyone eats together	15.64 (12.68,19.13)	
Delayed intervention/control arm	Agree a lot	46.7 (41.75,51.71)	49.72 (44.87,54.59)	48.04 (43.45,52.66)	Adult women	22.66 (18.07,28.03)
	Agree a little	25.18 (21.93,28.73)	29.86 (26.71,33.21)	27.37 (24.74,30.17)	Female adolescents	21.8 (17.14,27.31)
	Disagree a little	14.54 (11.8,17.79)	12.63 (9.883,15.99)	13.8 (11.59,16.36)	Adult women & girls	22.5 (18.75,26.74)
	Disagree a lot	12.9 (10.36,15.96)	7.452 (5.879,9.403)	10.4 (8.276,13)	Female children	3.956 (2.86,5.448)
	Don't know	0.586 (0.251,1.362)	0.2443 (0.077,0.772)	0.2024 (0.0497,0.8214)	Everyone eats together	21.01 (17.77,24.67)

3.3.6. Female Reference groups

3.3.6.1. Socio-demographic characteristics

A total of 3243 female references (mothers, sisters, mother-in-law and sister-in-law) participated in the study with 99.4%, 94.4% and 90.7% response rate in the Double-combination arm, triple-combination arm and delayed intervention/control arms, respectively. The average age of the female references was mean age (\pm SD) of 40.33 \pm 8.52, 9.91 \pm 8.84 and 38.38 \pm 8.48 in the Double-combination arm, triple-combination arm and delayed intervention/control arms, respectively.

Nine in ten of female references across all arms were either married or living together with a partner. Recalled mean(\pm SD) age at first marriage was 16.61 \pm 3.14, 16.04 \pm 2.65 and 18.33 \pm 4.95 in the first, triple-combination arm and delayed intervention/control arms, respectively. The majority of female references (86.26%, 74.67% and 76.31%) in the Double-combination arm, triple-combination arm and delayed intervention/control arms, respectively were doing household work/were housewives.

Sex in ten female references in the double-combination arm reported having joint decision making with their husbands on income generated in the household, 5 in 10 and 4 in 10 female references in the triple-combination arm and delayed intervention/control arms, respectively had decision making over household incomes. Farming was the universal (98.32%, 95.86% and 97.04%) source of income for households in the Double-combination arm, triple-combination arm and delayed intervention/control arms, respectively.

Majority of the respondents were Muslim (86.26%, 81.07% and 94.57%) and Oromo (95.83%, 95.01% and 97.22%) in the Double-combination arm, triple-combination arm and delayed intervention/control arms, respectively. (Table 22)

Table 22: Background information of female references

Characteristics		Double-combination arm	Triple-combination arm	Delayed intervention/control arm
		n (%)	n (%)	n (%)
No of female references visited		1140	1140	1140
No of female references responded		1128 (99.4)	1062 (94.4)	1013 (90.7)
		n=1128	n=1062	n=1013
Age of HH members Mean (\pm SD)		40.33 \pm 8.52	39.91 \pm 8.84	38.38 \pm 8.48
Marital Status	Married/Living together	1,033(91.58)	977(92.00)	924(91.23)
	Never married	4(0.35)	8(0.75)	6(0.59)
	Widowed	76(6.74)	55(5.18)	58(5.73)
	Divorced	7(0.62)	5(0.47)	6(0.59)
	Separated	8(0.71)	17(1.60)	14(1.38)
Age at first marriage (Average mean \pm SD)		16.61 \pm 3.14	16.04 \pm 2.65	18.33 \pm 4.95
Occupation	Farmer	70(6.21)	154(14.50)	114(11.25)
	Daily laborer	36(3.19)	13(1.22)	51(5.03)
	Household work	973(86.26)	793(74.67)	773(76.31)
Source of income	Yes	441(39.0)	554(52.17)	468(46.20)
	No	687(60.90)	508(47.83)	545(53.80)
Main decision maker over respondent's income	Myself	73(16.55)	122(22.02)	99(21.15)
	Husband	129(29.25)	175(31.59)	155(33.12)
	Jointly	238(53.97)	257(46.39)	211(45.09)
Who mainly makes decision over household finances?	Myself	98(8.69)	136(12.81)	108(10.66)
	Husband	366(32.45)	395(37.190)	432(42.65)
	Jointly	657(58.24)	522(49.15)	463(45.71)
Religion	Muslims	973(86.26)	861(81.07)	958(94.57)
	Orthodox Christians	145(12.85)	133(12.52)	54(5.33)
	Catholic	1(0.09)	67(6.31)	1(0.10)
Ethnicity	Oromo	1081(95.83)	1009(95.01)	992(97.22)
	Amhara	46(4.08)	53(4.99)	20(1.97)
What is the main source of income for the household?	Farming	1,109(98.32)	1,018(95.86)	983(97.04)
	Trade	6(0.53)	34(3.20)	16(1.58)
	Remittance from relatives	10(0.89)	69(0.56)	7(0.69)

3.3.6.2. Education and school attendance

According to the female references who responded to the survey, 12.34%, 12.94% and 5.6% in the Double-combination arm, triple-combination arm and delayed intervention/control arms reported that they could read and write, respectively. When tested with a reading card, only 38.75%, 48.72% and 37.09% in the Double-combination arm, triple-combination arm and delayed intervention/control arms could read a whole sentence, respectively. About 14.12% of female references in the Double-combination arm reported to having ever attended formal education. (Table 23)

Table 23: Background information on education of female references

Characteristics		Double-combination arm	Triple-combination arm	Delayed intervention/control arm
		% (95%CI)	% (95%CI)	% (95%CI)
Can you read & write?	yes	12.34 (10.25,14.78)	12.94 (9.921,16.71)	5.601 (4.279,7.301)
	No	87.66 (85.22,89.75)	87.06 (83.29,90.08)	94.4 (92.7,95.72)
Read the sentence shown in the card	Cannot read at all	12.51 (7.357,20.49)	8.583 (3.523,19.44)	7.919 (3.307,17.78)
	Able to read only parts of sentence	48.74 (40.36,57.18)	42.7 (33.09,52.89)	55 (38.89,70.12)
	Able to read whole sentence	38.75 (31.58,46.44)	48.72 (36.75,60.84)	37.09 (24.21,52.1)
Have you ever attended school?	yes	14.12 (12.31,16.14)	17.84 (13.87,22.64)	7.907 (6.37,9.775)
	Never	85.88 (83.86,87.69)	82.16 (77.36,86.13)	92.09 (90.22,93.63)

3.3.6.3. Attitude, empirical expectation, normative expectation and behavior of female reference groups on education and school attendance

3.3.6.3.1. Attitude on adolescent girls' education and school attendance

Ninety one percent, 85% and 84% of female references in the first, triple-combination arm and delayed intervention/control arms agreed that female references should give adolescent girls the same opportunity in education as boys. The mean level of school grade girls should be allowed to achieve was reported as 11.27 ± 0.15 (95% CI. 10.99, 11.56) and 10.83 ± 0.22 (95% CI. 10.39, 11.26) in the first and triple-combination arms, respectively. (Table 25) 7 out of 10 female references in the double-combination arm disagreed the notion that adolescent girls are more helpful in the household instead of going to work while 6 out of 10 female references girls in the triple-combination arm and delayed intervention/control arms said the same thing. (Table 25)

3.3.6.3.2. Empirical expectation on adolescent girls' education and school attendance

Seven in ten female references in the first, triple-combination arm and delayed intervention/control arms said that most female references in the community give adolescent girls the same opportunity in education as boys, while respondents reported that most other female references would let their

adolescent girls to attend school up to Mean (\pm SE) 10.47 ± 0.17 (95% CI. 10.12, 10.82), 9.75 ± 0.33 (95% CI. 9.09, 10.42) and 9.77 ± 0.15 (95% CI. 9.47, 10.06) in the first, triple-combination arm and delayed intervention/control arms, respectively. (Table 24)

Fifty seven percent of female references in the first woreda and 51% and 47% of female references out of 10 girls in the triple-combination arm and delayed intervention/control arms have recalled that most female references in the community often make adolescent girls get absent from school to do make them do household chores. (Table 25)

3.3.6.3.3. Normative expectation on adolescent girls' education and school attendance

Concerning education opportunity, almost 8 out of 10 female references in the double-combination arm and 7 out of 10 female references in triple-combination arm and delayed intervention/control arms reported that most people expect female references to give adolescent girls the same opportunity in education as boys.

Female references reported that the mean school grade level people in the community expect them to send adolescent girls to was 10.44 ± 0.18 (95% CI. 10.09, 10.80), 9.77 ± 0.34 (95% CI. 9.09, 10.44) and 9.82 ± 0.14 (95% CI. 9.55, 10.09) in the first, triple-combination arm and delayed intervention/control arms, respectively. (Table 24)

Almost 6 in 10 female references in the first and 5 in 10 female references in the triple-combination arm and delayed intervention/control arms, respectively disagreed that most people expect them to take out their adolescent girls out of school to do household chores. (Table 25)

3.3.6.3.4. Behavior on adolescent girls' education and school attendance

Approximately 9 out of 10 girls in the double-combination arm and triple-combination arm and 8 out of 10 girls in the delayed intervention/control arm reported to having the same opportunity in education as boys in their household.

Majority of female references in the first, triple-combination arm and delayed intervention/control arms reported a mean grade level of 11.96 ± 0.10 (95% CI. 11.75, 12.18), 11.66 ± 0.18 (95% CI. 11.28, 12.03) and 11.15 ± 0.16 (95% CI. 10.83, 11.48), respectively to achieved by their adolescent girls. (Table 24)

Sixty four percent, 58% and 56% of female references in the double-combination arm, triple-combination arm and delayed intervention/control arm, respectively reported to getting making their adolescent girls to get absent from school to do household chores. (Table 25)

Table 24: Education and school attendance social norm matrix description of Female references

Education norms						
Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		f250 Mothers should give adolescent girls the same opportunities in education as boys % (95% CI)	f271 Most mothers give adolescent girls the same opportunity in education as adolescent boys % (95% CI)	f279 Community members expect mothers to give adolescent girls the same opportunity as adolescent boys in education % (95% CI)	Response	f213. Do you have the same opportunity in education as boys in your household? % (95% CI)
Double-combination arm	Agree a lot	67.82 (62.14,73.01)	36.42(35.82,46.25)	43.86(39.56,48.25)	No, never	10.15(8.06-12.7)
	Agree a little	23.31 (19.42,27.7)	37.07(33.04,41.28)	36(31.92,40.3)	Yes, always	52.99 (48.12-57.8)
	Disagree a little	5.973 (4.449,7.975)	14.33(11.63,17.52)	12.39(9.768,15.6)	Yes, sometimes	36.87(31.51-42.57)
	Disagree a lot	2.899 (1.683,4.951)	7.409(5.19,10.47)	7.37(5.239,10.27)		
	Don't know	0	.2646(.0806,.8646)	.3159(.1148,.8665)		
Triple-combination arm	Agree a lot	60.82 (54.48,66.81)	35.99(30.39,42.92)	42.91(36.85,49.19)	No, never	112.47 (9.782,15.77)
	Agree a little	25.09 (21.43,29.14)	35.28(31.54,39.22)	32.69(29.27,36.29)	Yes, always	52.86 (47.44,58.21)
	Disagree a little	7.22 (4.965,10.39)	14.91(11.41,19.26)	12.54(8.456,18.2)	Yes, sometimes	34.67 (30.16,39.47)
	Disagree a lot	6.56 (4.554,9.364)	12.36(9.078,16.61)	11.15(8.086,15.17)		
	Don't know	0 .3126 (.1223,.7971)	.9495(.5065,1.773)	.7231(.2305,2.245)		
Delayed intervention/control arm	Agree a lot	61.34 (58.31,64.28)	37.73(32.07,40.1)	42.71(38.61,46.91)	No, never	16.16 (13.58,19.13)
	Agree a little	23.02 (20.87,25.32)	36.18(32.63,39.89)	33.94(30.39,37.68)	Yes, always	49.07 (44.72,53.44)
	Disagree a little	8.89 (6.866,11.44)	15.96(13.96,18.19)	12.66(10.43,15.27)	Yes, sometimes	34.76 (31.08,38.64)
	Disagree a lot	6.329 (4.657,8.548)	10.86(8.278,14.12)	9.72(7.365,12.73)		
	Don't know	0.4192 (0.1765,.9924)	1.013(.5236,1.95)	.8637(.4613,1.612)		
		f252 Until what grade should mothers let their adolescent girls ideally get educated? % (95% CI)	f273 Until what grade do you think most mothers let adolescent girls attend school? % (95% CI)	f281 Until what grade do community members expect mothers to send their adolescent girls to school % (95% CI)		f263 How much school grades do you really think your adolescent girl will complete? % (95% CI)
Double-combination arm	Mean±SE	11.27±0.15 (10.99, 11.56)	10.47± .17 (10.12, 10.82)	10.44± 0.18 (10.09, 10.80)	Mean±SE	11.96±0.10 (11.75, 12.18)
Triple-combination arm	Mean±SE	10.83±0.22 (10.39, 11.26)	9.75±0.33 (9.09, 10.42)	9.77 ±0.34 (9.09, 10.44)	Mean±SE	11.66±0.18 (11.28, 12.03)
Delayed intervention/control arm	Mean±SD	10.67±0.16 (10.36, 10.99)	9.77 ±0.15 (9.47, 10.06)	9.82 ± 0.14 (9.55, 10.09)	Mean±SE	11.15± 0.16 (10.83, 11.48)

Table 25: School attendance and household work social norm matrix description of Female references on school attendance and household chores

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		f253 Compared to boys, adolescent girls should help in the household chores than going to school? % (95% CI)	f274 Most mothers take their adolescent girls out of school to make them do household chores % (95% CI)	f282Community members expect mothers to take their adolescent girls out of school to make them do household chores % (95% CI)	How often do you make your adolescent girl get absent from school to do household chores when compared to other adolescent boys? % (95% CI)	
Double-combination arm	Agree a lot	19.1(15.47,23.34)	30.36(26.65,34.34)	28.52(23.9,33.63)	Often	7.86 (6.182,9.945)
	Agree a little	26.53(23.29,30.03)	28.82(25.52,32.36)	29.4(25.19,33.98)	Sometimes	26.91 (22.94,31.29)
	Disagree a little	46.76(40.39,53.24)	29.59(25.65,33.87)	32.23(27.17,37.75)	Rarely	26.75 (22.93,30.94)
	Disagree a lot	0.0418(.0056,.3121)	.6265(.2888,1.354)	.5302(.2356,1.189)	Never	37.82 (31.26,44.86)
	Don't know	13.38(10.07,17.57)	17.89(14.01,22.56)	14.34(11.06,18.38)	Don't know	.5906 (.2651,1.311)
Triple-combination arm	Agree a lot	19.4(15.75,23.65)	28.94(25.23,32.96)	26.36(21.76,31.53)	Often	11.55 (8.508,15.49)
	Agree a little	16.96(13.93,20.5)	23.09(18.65,28.22)	23.59(19.88,27.76)	Sometimes	24 (19.83,28.73)
	Disagree a little	49.96(41.78,58.15)	28.72(22.58,35.75)	34.5(27.78,41.9)	Rarely	21.95 (18.97,25.26)
	Disagree a lot	0.1729(.0418,.7122)	1.236(.6664,2.281)	1.219(.6308,2.341)	Never	37.01 (32.01,42.29)
	Don't know	14.72(12.18,17.69)	19.99(16.87,23.52)	17.29(14.82,20.09)	Don't know	2.046 (1.251,3.33)
Delayed intervention/control arm	Agree a lot	21.23(18.26,24.55)	31.59(28.44,34.93)	28.13(25.23,31.23)	Often	11.12 (9.071,13.57)
	Agree a little	19.81(16.62,23.44)	20.88(18.03,24.06)	25.23(22.38,28.31)	Sometimes	29.58 (25.89,33.56)
	Disagree a little	43.7(37.82,49.75)	26.62(23.4,30.12)	28.65(24.61,33.08)	Rarely	25.18 (21.57,29.17)
	Disagree a lot	0.425(.1784,1.009)	.8184(.4009,1.664)	.6908(.2808,1.689)	Never	31.04 (27.21,35.14)
	Don't know	19.1(15.47,23.34)	30.36(26.65,34.34)	28.52(23.9,33.63)	Don't know	2.775 (1.758,4.356)

3.3.6.4. Attitude, empirical expectation, normative expectation and behavior of female reference groups on early marriage

3.3.6.4.1. Attitude on adolescent girls' early marriage

The average ideal age for adolescent girls to get married as reported by female references was 14.24 ± 0.09 (95% CI. 14.05, 14.43), 13.81 ± 0.09 (95% CI. 13.62, 14.00) and 14.15 ± 0.08 (95% CI. 13.99, 14.31) in the first, triple-combination arm and delayed intervention/control arms, respectively. Sixty nine percent of female references in the double-combination arm and 63% and 62% of female references in the triple-combination arm and delayed intervention/control arms believed that adolescent girls should get to decide who to marry. (Table 28) Similarly, 73%, 78% and 79% of female references in the first, triple-combination arm and delayed intervention/control arms, respectively agreed that adolescent girls should have the final decision regarding their marriage. (Table 28)

6 in 10 female references in the double-combination arm and 7 in 10 of female references in the triple-combination arm and delayed intervention/control arms believed that adolescent girls should talk to their female references (Mothers/Sisters) before deciding to marry. (Table 26)

3.3.6.4.2. Empirical expectation on adolescent girls' early marriage

Female references in the first, triple-combination arm and delayed intervention/control arms reported that most adolescent girls in the community commonly marry at age of 16 and later. Seven in ten female references in the first and triple-combination arms and 6 in 10 female references in the delayed intervention/control arm reported that other adolescent girls in the community decide who they marry.

Three fourth of female references across all arms believed that adolescent girls should have the final decision over their decision to marry, while over half of them across all arms said most female references (Mothers/Sisters) get consulted by their adolescent girls before making decision to marry.

3.3.6.4.3. Normative expectation on adolescent girls' early marriage

Female references believed that community members expect them to marry off their adolescent girls by 17.22 ± 0.13 (95% CI. 16.95, 17.48), 16.76 ± 0.13 (95% CI. 16.49, 17.03) and 16.84 ± 0.08

(95% CI. 16.85, 17.02) in the first, triple-combination arm and delayed intervention/control arms, respectively. Three fourth of female references across all arms thought that community members expect them to let their adolescent girls to have the final decision regarding the decision to marry. (Table 28)

Similarly, 6 in 10 female references across all arms believed that community members expect adolescent girls to consult their mothers/sisters before making the decision to marry. (Table 26)

3.3.6.4.4. Behavior on adolescent girls' early marriage

The average age at marriage for married girls was 14.59 ± 0.16 (95% CI. 14.26, 14.91), 14.45 ± 0.11 (95% CI. 14.23, 14.67) and 14.89 ± 0.14 (95% CI. 14.62, 15.18) in the first, triple-combination arm and delayed intervention/control arms, respectively. Regarding choosing a partner, 61%, 38% and 39% of female references (Mothers-in-law/sister-in-law) in the first, triple-combination arm and delayed intervention/control arms Adolescent girls being the main decision makers, followed by the husbands with 24%, 38% and 32%, respectively. (Table 27)

Most (44% and 32%) female references in the first and triple-combination arms said adolescent girls made the final decision regarding their marriage while, in the delayed intervention/control arm woreda it was only 28%. Father of the bride with 36%, was the final decision maker regarding his adolescent girls marriage in the delayed intervention/control arm.

Table 26: Age at marriage and reference consultation social norm matrix of female references

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		What is the ideal age for a girl to get married?	At what age do most mothers marry off their adolescent daughters?	At what age do community members expect mothers to marry off their adolescent daughters?	Response	At what age did you first marry?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Mean±SE	14.24±0.09 (14.05,14.43)	16.86±0.13 (16.6,17.12)	17.22±0.13(16.95, 17.48)	Mean±SE	14.59±0.16 (14.26,14.91)
Triple-combination arm	Mean±SE	13.81± 0.09 (13.62,14.00)	16.23±0.14 (15.95,16.5)	16.76±0.13(16.49,17.03)	Mean±SE	14.45 ± 0.11 (14.23,146.67)
Delayed intervention/control arm	Mean±SE	14.15±0.08 (13.99,14.31)	16.45±0.07 (16.31,16.59)	16.85±0.08(16.67,17.02)	Mean±SE	14.89±0.14 (14.62,15.18)
		uf364 Adolescent girls should talk to their mothers/sisters before making the decision to marry	Uf372 Most mothers/sisters are consulted by their adolescent daughters/sisters before making the decision to marry	Uf379 Community members expect adolescent girls/sisters to consult their mothers before making the decision to marry		
		% (95% CI)	% (95% CI)	% (95% CI)		
Double-combination arm	Agree a lot	33.14 (28.02,38.69)	22.38 (18.52,26.77)	25.74 (22.17,29.66)		
	Agree a little	28.43 (24.43,32.8)	31.22 (27.26,35.47)	33.15 (28.93,37.66)		
	Disagree a little	19.2 (15.35,23.76)	23.7 (20.42,27.32)	22.41 (19.11,26.1)		
	Disagree a lot	18.92 (14.33,24.58)	22.51 (18.92,26.56)	18.5 (15.23,22.28)		
	Don't know	.3035 (.0922, .9946)	.1371 (.0193, .968)	.201 (.0464, .866)		
Triple-combination arm	Agree a lot	43.82 (38.69,49.08)	21.31 (17.64,25.5)	26.4 (22.88,30.25)		
	Agree a little	27.55 (24.2,31.17)	31.77 (26.77,37.23)	35.25 (29.93,40.96)		
	Disagree a little	13.65 (11.23,16.5)	23.24 (17.36,30.39)	19.39 (14.58,25.32)		
	Disagree a lot	14.73 (11.59,18.54)	23.05 (19.19,27.41)	17.65 (13.72,22.42)		
	Don't know	.2549 (.0724, .8933)	.6347 (.2708,1.48)	1.307 (.6481,2.617)		
Delayed intervention/control arm	Agree a lot	42.78 (38.1,47.59)	22.99 (20.16,26.09)	28.65 (25.07,32.51)		
	Agree a little	29.17 (25.48,33.15)	31.61 (27.81,35.68)	33.73 (29.08,38.71)		
	Disagree a little	14.83 (11.9,18.33)	24.65 (22.11,27.38)	19.19 (16.44,22.26)		
	Disagree a lot	12.84 (9.797,16.66)	20.27 (16.66,24.44)	17.35 (14.02,21.27)		
	Don't know	.381 (.1451, .9969)	.4816 (.1794,1.286)	1.096 (.6005,1.991)		

Table 27: Marriage and decision making social norm matrix of female references

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		Who mainly should choose who a girl marries?	Who mostly chooses the adolescent girls that husbands marry?		Response	Who mainly chose the adolescent girl that your son/brother married?
		% (95% CI)	% (95% CI)			% (95% CI)
Double-combination arm	The Girl	69.16(62.14,75.39)	72.06(50.79,86.56)		The Girl	60.38(43.75,49)
	The Husband-to-be	3.16(2.03,4.887)	11.27(4.234,26.72)		The Husband	24.43(12.51,42.22)
	Father	15.98(12.1,20.81)	15.07(5.274,36.13)		Her Father	3.7(.5094,22.38)
	Mother	2.886(1.74,4.749)	0		Her mother	0
	Husband-to-be's father	3.271(1.822,5.803)	0		Myself	0
	Other Family members	.5352(.1993,1.429)	0		Other Family members	6.8(1.64,24.2)
	Friends	2.597(1.546,4.333)	1.604(.207,11.35)		Friends	2.03(.2653,13.89)
	Others(brokers, elders)	2.128(.9033,4.931)			Others	2.66(.3544,17.35)
Triple-combination arm	The Girl herself	63.42(57.73,68.77)	70.37(60.92,78.35)		The Girl	43.61(33.45,54.34)
	The Husband-to-be	5.196(3.437,7.783)	9.235(5.404,15.34)		The Husband	38.27(27.55,50.26)
	Father	19.82(14.52,26.46)	17.25(10.96,26.09)		Her Father	9.123(4.059,19.24)
	Mother	3.835(2.46,5.932)	1.366(.3137,5.746)		Her mother	0
	Husband-to-be's father	1.356(.6493,2.808)	.4312(.0568,3.196)		Myself	4.416(1.543,11.98)
	Friends	3.687(2.238,6.017)	1.344(.3269,5.355)		Respondent's husband	1.179(.2765,4.882)
	Other (Adolescent girls, brokers, elders)	1.356(.7969,2.297)	0		Friends	2.471(.9222,6.451)
	Delayed intervention/control arm	The Girl herself	61.72(57.24,66.02)	64.5(53.15,74.43)		The Girl
The Husband-to-be		4.675(3.227,6.728)	10.36(4.934,20.46)		The Husband	32.49(20.95,46.63)
Father		22.12(18.77,25.88)	20.22 (12.61,30.81)		Her Father	12.38(6.26,23.02)
Mother		3.825(2.657,5.476)	0		Myself	4.474(1.716,11.16)
Husband-to-be's father		1.255(.6806,2.304)	2.228(.5704,8.3)		Respondent's husband	2.811(.9168,8.29)
Friends		3.536(2.454,5.072)	0		Friends	2.67(.8455,8.107)
Other (Adolescent girls, brokers, elders)		1.735(1.044,2.871)	1.083(.1441,7.663)		Other	5.979 (2.459,13.82)

Table 28: Marriage and final decision making social norm matrix of female references

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
					Response	mf363 Who made the final decision regarding your adolescent daughter-in-law's/sister-in-law's marriage?
		Uf363 Mothers/sisters should let adolescent girls/sisters have the final decision regarding their marriage	Uf371 Most mothers/sisters let their adolescent girls/sisters to have the final decision regarding their marriage	Uf378 Community members expect mothers/sisters to let their adolescent girls/sisters to have the final decision over their decision to marry		
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	41.27 (36.55,46.16)	32.8 (28.09,37.89)	34.58(30.04,39.41)	The Girl	43.8(30.57,57.97)
	Agree a little	32.43(27.61,37.65)	34.4(30.75,38.25)	32.75(28.52,37.27)	The Husband	32.37(18.95,49.49)
	Disagree a little	17 (13.9,20.61)	19.72(16.18,23.81)	19.92(16.9,23.33)	Her Father	19.14(9.18,35.66)
	Disagree a lot	9.302 (6.778,12.64)	12.94(10.16,16.34)	12.59(10.14,15.53)	Her Mother	2.03(.2653,13.89)
	Don't know	0	.1371(.0193,.968)	.169 (.0524,.5433)	Other	2.66(.3544,17.35)
Triple-combination arm	Agree a lot	41.74 (38.25,45.31)	28.22(23.33,33.68)	28.48(23.37,34.21)	The Girl	32.41(24.48,41.5)
	Agree a little	36.56(31.85,41.55)	35.57(31.18,40.21)	38.68(33.18,44.48)	The Husband	30.51(24.35,37.45)
	Disagree a little	11.56(8.899,14.88)	20.92(14.98,28.42)	19.55(14.31,26.11)	Her Father	26.24(18.67,35.53)
	Disagree a lot	9.893(7.272,13.32)	14.55(10.58,19.68)	12.03(8.934,16.01)	Myself	3.102(.895,10.19)
	Don't know	.2446(.0735,.811)	.752(.3665,1.537)	1.264(.5146,3.069)	My husband	2.482(.8359,7.134)
					Other Family members	1.556(.3603,6.461)
					Other	1.556(.4492,5.247)
Delayed intervention/control arm	Agree a lot	43.67 (39.6,47.83)	32.12(28.43,36.05)	29.78(26.65,33.12)	The Girl	27.82(19.3,38.32)
	Agree a little	35.81 (31.41,40.47)	33.98(30.46,37.68)	38.9(35.14,42.79)	The Husband	23.66(16.71,32.36)
	Disagree a little	11.33 (9.217,13.85)	21.93(18.82,25.38)	19.07(16.2,22.3)	Her Father	36.22(27.09,46.46)
	Disagree a lot	8.688 (6.487,11.55)	11.64(9.118,14.75)	11.71(9.03,15.04)	Her Mother	2.213(.5629,8.297)
	Don't know	.5031 (.1571,1.599)	.3334(.1055,1.048)	.5464(.2163,1.373)	Myself	8456(.1173,5.834)
					My husband	3.231(.6963,13.72)
					Other Family members	3.137(.7361,12.39)
				Other (s)	2.036(.5098,7.773)	

3.3.6.5. Attitude, empirical expectation, normative expectation and behavior of female reference groups on empowerment and decision making

3.3.6.5.1. Attitude on adolescent girls' empowerment and decision making

Majority (67%, 60% and 62%) of female references agreed married adolescent girls in the first, triple-combination arm and delayed intervention/control arms, respectively shouldn't require permission from their husbands to go outside of home, while 81%, 81% and 84% of female references in the first, triple-combination arm and delayed intervention/control arms said adolescent girls should ask permission from their parents before they go outside home (Table 30). Six in ten of female references in the double-combination arm and 7 in 10 of female references in the triple-combination arm and delayed intervention/control arms believed that female references should allow adolescent girls to have a say on the use of household income.

Majority of female references (65%, 74% and 73%) in the first, triple-combination arm and delayed intervention/control arms, respectively reported that female references should allow adolescent girls to decide how much education they can get. (Table 30)

3.3.6.5.2. Empirical expectation on adolescent girls' empowerment and decision making

Eight in ten female references (mother-in-law/sister-in-law) in the double-combination arm and 5 in 10 female references in the triple-combination arm and delayed intervention/control arms reported that most female references didn't think married adolescent girls require permission from their husbands to go outside, while 8 of 10 female references across all arms reported that most female references in the community feel that they can't allow adolescent girls to go outside of the home. (Table 29)

Three fourth of female references across all arms believed that most female references allow their adolescent girls to have a say on the use of household income. Majority (70%, 74% and 74%) of respondents in the first, triple-combination arm and delayed intervention/control arms, respectively believed that most female references girls in their community allow their adolescent girls to decide how much education they can get. (Table 30)

3.3.6.5.3. Normative expectation on adolescent girls' empowerment and decision making

Sixty three percent and fifty seven percent of female references in the first and triple-combination arms, respectively thought other female references expect husbands to give permission for adolescent wives to go outside of the home, while 8 in 10 of female references girls across all arms disagreed that most female references expect them to allow their adolescent girls to go outside of their home at their own will (Table 30). Three fourth of female references across all arms believed that most female references people expect them to allow their adolescent girls to have a say on the use of household income.

Majority (70%, 72% and 74%) of respondents in the first, triple-combination arm and delayed intervention/control arms, respectively believed most female references expected them to allow adolescent girls to decide how much education they can get. (Table 30)

3.3.6.5.4. Behavior on adolescent girls' empowerment and decision making

It was indicated that 8 in 10 of female responses across all arms rarely to never allowed adolescent girls to go outside of the home at their own will. Only 4 out of 10 female references across all arms reported that they fully let adolescent girls decide how much education they can get. (Table 30)

Table 29: Agency and freedom of movement social norm matrix of female references

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		Husbands of adolescent should give permission for their wives to go outside of the home	Most mother-in-laws/sisters-in-law think husbands give permission for their wives to go outside of the home	Other mothers/mother-in-law/sister-in-law expect husbands in the community to give permission for their wife/daughter to go outside of the home	Response	
		% (95% CI)	% (95% CI)	% (95% CI)		
Double-combination arm	Agree a lot	11.11(7.79,15.6)	7.46(2.828,18.26)	12.82(9.627,16.88)		
	Agree a little	21.53(17.99,25.55)	8.615(2.443,26.19)	22.8(18.84,27.32)		
	Disagree a little	28.17(23.66,33.18)	36.01(20.6,54.98)	28.98(24.78,33.58)		
	Disagree a lot	39.19(34.4,44.19)	46.25(28.95,64.5)	35.21(30.57,40.15)		
	Don't know	0	1.666(.2154,11.73)	.1848(.057,.5977)		
Triple-combination arm	Agree a lot	15.63(12.54,19.32)	13.64(8.05,22.16)	20.93(15.87,27.08)		
	Agree a little	22.54(19.13,26.35)	30.32(19.74,43.51)	20.66(17.15,24.67)		
	Disagree a little	21.05(18.05,24.4)	26.59(19.79,34.73)	22.01(16.63,28.53)		
	Disagree a lot	39.95(34.7,45.44)	28.86(19.16,40.99)	35.18(29.18,41.69)		
	Don't know	.8327(.4115,1.678)	.58(.08,4.25)	1.22(.55,2.65)		
Delayed intervention/control arm	Agree a lot	15.05(12.13,18.51)	16.82(10.25,26.34)	22.09(17.57,27.38)		
	Agree a little	22.71(19.35,26.47)	22.62(13.17,36.06)	20.44(16.07,25.63)		
	Disagree a little	21.34(18,25.1)	17.76(10.47,28.5)	21.07(17.17,25.57)		
	Disagree a lot	40.64(34.58,47.01)	41.31(29.11,54.67)	35.33(30.04,41.01)		
	Don't know	.2601(.0826,.8158)	1.494(.364,5.92)	1.076(.5468,2.106)		
		f432 Mothers should allow adolescent girls to go outside of the home at their own will	448 Most Mothers in this community feel they can allow adolescent girl to go outside of their home at their own will.	463 Most mothers in the community expect you to allow your adolescent girl to go outside of her home at her own will		f441 How often do you allow your adolescent girl to go outside of your home at her own will?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	4.119(2.634,6.388)	2.771(1.624,4.689)	2.111 (1.261,3.515)	Often	1.734(1.088,2.754)
	Agree a little	13.77(10.77,17.45)	16.05(13.03,19.61)	17.89 (14.26,22.19)	Sometimes	15.69(13.16,18.59)
	Disagree a little	29.31(25.64,33.27)	31.55(26.76,36.76)	32.02 (26.3,38.33)	Rarely	31.67(26.53,37.3)
	Disagree a lot	52.31(47.73,56.86)	49.51 (43.24,55.8)	47.69 (41.61,53.85)	Never	50.59(44.48,56.69)
	Don't know	.3081(.1074,.8808)	.1182(.027,.5117)	.2932 (.1093,.7841)	Don't know	.3183(.1027,.9819)
Triple-combination arm	Agree a lot	5.193(3.499,7.641)	3.82 (2.377,6.087)	4.108 (2.341,7.111)	Often	1.807(1.107,2.938)
	Agree a little	10.76(8.015,14.3)	14.06(11.12,17.63)	16.67 (13.56,20.33)	Sometimes	16.71(14.01,19.81)
	Disagree a little	23(18.67,27.98)	21.77(17.84,26.29)	23.84 (19.24,29.14)	Rarely	25.87(21.43,30.87)
	Disagree a lot	58.84(50.68,66.54)	58.45(51.83,64.78)	54.62 (46.41,62.58)	Never	55.15(49.39,60.78)
	Don't know	2.158(.8559,5.336)	1.692(.8856,3.209)	.7612 (.3247,1.774)	Don't know	.4614(.2003,1.059)
Delayed intervention/control arm	Agree a lot	4.045(2.749,5.914)	3.372(2.136,5.282)	3.806 (2.573,5.597)	Often	1.54(.9668,2.444)
	Agree a little	10.79(8.782,13.19)	14.4 (11.74,17.54)	14.44 (10.42,19.66)	Sometimes	15.33(13.05,17.93)
	Disagree a little	21.64(18.69,24.9)	23.06(19.24,27.39)	22.02 (18.69,25.76)	Rarely	22.87(20.27,25.7)
	Disagree a lot	62.73(58.1,67.14)	58.58(53.79,63.22)	59.29 (54.17,64.23)	Never	59.83(55.55,63.97)
	Don't know	.8001(.2958,2.145)	.4815(.1723,1.338)	.4414 (.1865,1.041)	Don't know	.4237(.1787,1.001)

Table 30: Agency on income and educational attainment social norm matrix of female references

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		f436 Mothers should allow adolescent girls to have a say on the use of household income % (95% CI)	457 Most mothers allow their adolescent girls to have a say on the use of household income % (95% CI)	471 Most mothers in the community expect you to allow your adolescent girl to have a say on the use of household income % (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	22.08(18.11,26.65)	15.9 (12.64,19.8)	20.3 (16.37,24.88)		
	Agree a little	41.89(38.19,45.69)	50.17(45.56,54.77)	46.63 (41.66,51.67)		
	Disagree a little	22(18.27,26.25)	23.85(20.06,28.09)	22.17 (18.68,26.12)		
	Disagree a lot	13.92(11,17.46)	9.889(7.503,12.93)	10.34 (8.215,12.93)		
	Don't know	.1015(.0241,.4273)	.2015 (.049,.8242)	.5572 (.1952,1.58)		
Triple-combination arm	Agree a lot	27.42(24.09,31.02)	19.08(15.07,23.85)	20.79 (16.64,25.66)		
	Agree a little	44.43(40.97,47.95)	48.66(43.49,53.87)	46.68 (41.88,51.55)		
	Disagree a little	15.81(12.99,19.1)	22.48 (19.5,25.78)	19.83 (16.5,23.64)		
	Disagree a lot	11.49(9.111,14.4)	8.899(6.616,11.87)	10.21 (7.45,13.83)		
	Don't know	.8454(.3498,2.029)	.8778(.4042,1.896)	2.487 (1.243,4.918)		
Delayed intervention/control arm	Agree a lot	28.18(24.58,32.07)	19.62(16.33,23.39)	19.38 (16.4,22.76)		
	Agree a little	45.17(39.97,50.49)	48.56 (43.6,53.55)	48.07 (43.09,53.1)		
	Disagree a little	16.44(13.76,19.52)	23.65 (20.7,26.89)	23.36 (20.57,26.4)		
	Disagree a lot	9.971(7.548,13.06)	7.612 (5.523,10.4)	7.702 (5.815,10.14)		
	Don't know	.239(.0333,1.696)	.5471(.2484,1.201)	1.487 (.7673,2.863)		
		f435 Mothers should allow adolescent girls to decide how much education they can get	456. Most mothers allow their adolescent girls to decide how much education they can get.	470. Most mothers in the community expect you to allow your adolescent girl on decide how much education she can get.		f444 To what extent do you allow adolescent girls to decide how much education she can get?
Double-combination arm	Agree a lot	36.04(32.24,40.03)	30.85(26.98,35.01)	34.37 (30.86,38.05)	Fully	41.14 (36.25,46.21)
	Agree a little	29.77(26.07,33.76)	40.8 (36.33,45.42)	35.99 (31.56,40.68)	Partially	29.84 (27.1,32.74)
	Disagree a little	15.76(12.81,19.23)	17.24(14.01,21.04)	19.53 (16.17,23.41)	Slightly	21.53 (17.06,26.78)
	Disagree a lot	17.98(15.13,21.22)	10.89(8.327,14.12)	9.715 (7.115,13.13)	Never	7.42 (5.452,10.02)
	Don't know	.331(.1332,.8202)	.2244(.0505,.9908)	.3948 (.1489,1.043)	Don't know	.0715 (.0097,.5237)
Triple-combination arm	Agree a lot	42.24(37.15,47.49)	32.1 (26.63,38.12)	31.64 (25.92,37.98)	Fully	45.48 (39.48,51.61)
	Agree a little	31.74(26.95,36.94)	42.08 (38.26,46)	41 (35.94,46.25)	Partially	28.22 (24.89,31.82)
	Disagree a little	11.24(9.627,13.09)	15.3 (11.48,20.1)	15.52 (12.96,18.48)	Slightly	14.55 (10.44,19.92)
	Disagree a lot	12.08(9.765,14.86)	9.95 (7.732,12.72)	9.787 (7.405,12.83)	Never	11.19 (8.753,14.21)
	Don't know	2.701(1.636,4.428)	.5733(.2531,1.293)	1.939 (1.076,3.47)	Don't know	.56 (.2429,1.286)
Delayed intervention/control arm	Agree a lot	40.19(36.37,44.12)	34.76 (31.2,38.49)	34.67 (31.04,38.49)	Fully	43.94 (39.27,48.72)
	Agree a little	33.58(27.96,39.69)	40.52(34.68,46.64)	40.12 (34.27,46.27)	Partially	32.48 (27.59,37.77)
	Disagree a little	12.29(9.491,15.77)	15.94(13.41,18.86)	16.14 (13.05,19.8)	Slightly	15.37 (12.45,18.83)
	Disagree a lot	12.28(9.735,15.39)	7.845(5.776,10.57)	7.058 (5.339,9.276)	Never	7.894 (6.006,10.31)
	Don't know	1.664(1.086,2.54)	.9358(.4465,1.951)	2.008 (1.142,3.508)	Don't know	.3172 (.0808,1.237)

3.3.6.6. Attitude, empirical expectation, normative expectation and behavior of female reference groups on Sexual and reproductive health

3.3.6.6.1. Attitude on adolescent girls' Sexual and Reproductive health

Majority (71%, 74% and 74%) of female references in the first, triple-combination arm and delayed intervention/control arms respectively, believed that adolescent girls shouldn't have sex before marriage though they can avoid pregnancy. Female references in the first, triple-combination arm and delayed intervention/control arms reported that the ideal age at which adolescent girls should have their first sexual intercourse were (16.69 ± 0.12) , (15.98 ± 0.12) and (16.14 ± 0.13) , respectively. While ideal age to start having children was (18.57 ± 0.14) , (17.99 ± 0.12) , & (18.10 ± 0.08) respectively according to the female references. (Table 31)

Majority (80%, 73% and 76%) of female references in the first, triple-combination arm and delayed intervention/control arm said that Female references shouldn't talk to their unmarried adolescent girls about contraceptives, while 72%, 77% and 74% of female references believed contraceptives should be only used by married women. (Table 32)

3.3.6.6.2. Empirical expectation on adolescent girls' Sexual and Reproductive health

Eight in ten of female references believed most adolescent girls don't engage in sexual intercourse before marriage. Most female references thought adolescent girls in the community started having sexual intercourse at the age of (16.41 ± 0.13) , 15.66 ± 0.11 and 15.95 ± 0.09 in the first, triple-combination arm and delayed intervention/control arm respectively. Whereas, female references believed that adolescent girls in the study community start having children at an average age of (18.32 ± 0.14) , 17.62 ± 0.12 and 17.8 ± 0.09 in the first, triple-combination arm and delayed intervention/control arms. (Table 31)

Majority (83%, 79% and 72%) of female references in the first, triple-combination arm and delayed intervention/control arms disagreed on the idea that most female references talk to their married adolescent girls about contraceptives, while 7 in 10 of female references believed that most female references believed that adolescent girls contraceptive methods should only be used by married women. (Table 32)

3.3.6.6.3. Normative expectation on adolescent girls' Sexual and Reproductive health

Eight in ten female references across all arms believed that community members think Adolescent girls have sexual intercourse before getting married.

Female references expected adolescent girls debut age for sexual intercourse was on average 16.69 ± 0.13 (95% CI. 16.43, 16.97), 16.11 ± 0.12 (95% CI. 15.88, 16.34) and 16.23 ± 0.08 (95% CI. 16.06, 16.39) in the first, triple-combination arm and delayed intervention/control arms, respectively. Female references expect their adolescent girls to start having children at mean (\pm SE) age of 18.66 ± 0.15 (18.34, 18.97), 18.00 ± 0.13 (17.73, 18.28) and 18.10 ± 0.08 (17.94, 18.28) age along the respective arms. (Table 31)

Eight in ten of the respondents across all arms thought other female references expect them to talk to their unmarried adolescent girls about contraceptives. Majority (66%, 71% and 70%) of respondents thought that other female references expected them to believe contraceptive methods should only be used by married women.

3.3.6.6.4. Behavior on adolescent girls' Sexual and Reproductive health

Among the respondents who responded, majority (92%, 85% and 88%) of female references in the first, triple-combination arm and delayed intervention/control arms said they are unlikely to accept their adolescent girls if she gets pregnant before marriage. Average age of sexual intercourse debut of the adolescent girls was 14.55 ± 0.16 (95% CI. 14.25, 14.87), 14.41 ± 0.09 (95% CI. 14.22, 14.61) and 14.93 ± 0.13 (95% CI. 14.67, 15.18) in the first, triple-combination arm and delayed intervention/control arms. Adolescent girls' age for giving birth to a child was 15.46 ± 0.17 (15.12, 15.80), 15.57 ± 0.14 (15.29, 15.84) and 16.05 ± 0.10 (15.85, 16.25) for each Arm.

Eight in ten of female references across all arms reported that they never talk to their unmarried adolescent girls about contraceptives. Two in ten of In-laws of adolescent girls across all arms reported that they often talk to their daughter-in-law/sister-in-law about using contraceptives. (Table 32)

Table 31: Premarital pregnancy, age at pregnancy and birth social norm matrix of female references

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior		
		Adolescent girls should not have sex before marriage though they can avoid pregnancy. % (95% CI)	Most adolescent girls have sex before marriage % (95% CI)	Community members think adolescent girls have sex before marriage % (95% CI)	Response		
Double-combination arm	Agree a lot	63.53(58.55,68.24)	2.976(1.592,5.496)	3.972 (2.614,5.99)			
	Agree a little	7.972 (6.12,10.33)	6.001 (4.33,8.25)	7.241 (5.31,9.81)			
	Disagree a little	5.796 (4.07,8.198)	16.2 (13.23,19.68)	15.96 (12.56,20.08)			
	Disagree a lot	22.26(18.52,26.51)	67.49(64.05,70.76)	70.3 (65.66,74.57)			
	Don't know	.44 (.12,1.57)	7.275 (4.82,10.84)	2.52 (1.54,4.11)			
Triple-combination arm	Agree a lot	65.7 (60.21,70.79)	2.707 (1.66,4.397)	5.418 (3.739,7.79)			
	Agree a little	8.533 (6.05,11.91)	7.786 (6.08,9.924)	8.44 (6.24,11.33)			
	Disagree a little	4.565 (2.98,6.93)	18.06(14.38,22.44)	14.85 (11.6,18.81)			
	Disagree a lot	20.17(16.97,23.81)	64.05(58.91,68.88)	67.74 (62.85,72.27)			
Delayed intervention/control arm	Don't know	1.03 (.4916,2.147)	7.395 (5.38,10.08)	3.55 (2.35,5.345)			
	Agree a lot	69.75(65.31,73.84)	3.292 (2.33,4.632)	3.886 (2.75,5.47)			
	Agree a little	4.546 (3.36,6.122)	7.287 (5.65,9.35)	7.62 (5.69,10.12)			
	Disagree a little	4.95 (3.66,6.65)	11.29 (8.59,14.68)	13.49 (11.13,16.26)			
	Disagree a lot	18.89 (15.81,22.4)	67.94(63.07,72.45)	72.09 (67.82,76)			
	Don't know	1.668(.92,3.02)	9.786 (7.04,13.45)	2.482 (1.55,3.95)			
		What should be the ideal age for girls to have their first sexual intercourse?	At what age do most adolescent girls have their first sexual intercourse?	What is the age do mothers expect adolescent girls to start having sex?			
	Double-combination arm	Mean±SE	16.69±0.12 (16.44, 16.95)	16.41±0.13 (16.15, 16.67)	16.69±0.13 (16.43, 16.97)		
Triple-combination arm	Mean±SE	15.98±0.12 (15.741, 16.213)	15.66 ±0.11 (15.43, 15.89)	16.11±0.12 (15.88, 16.34)			
Delayed intervention/control arm	Mean±SE	16.14±0.13 (15.956, 16.326)	15.95±0.09 (15.76, 16.14)	16.23±0.08 (16.06,16.39)			
		What should be the ideal age at which adolescent girls to start having children?	How old are most girls in this community when they start having children?	At what age do mothers expect adolescent girls to start having children?			
	Double-combination arm	Mean±SE	18.57±0.14 (18.29, 18.84)	18.32±0.14 (18.04, 18.60)	18.66± 0.15 (18.34, 18.97)		
	Triple-combination arm	Mean±SE	17.99±0.12 (17.76, 18.23)	17.62±0.12 (17.38, 17.86)	18.00±0.13 (17.73, 18.28)		
	Delayed intervention/control arm	Mean±SE	18.10±0.08 (17.94, 18.26)	17.87624±0.09 (17.69, 18.06)	18.10±0.08 (17.94, 18.28)		

Table 32: Contraceptive use and consultation social norm matrix of female references

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		Mothers should talk to their unmarried adolescent girls about contraceptives	Most mothers/sisters talk to unmarried adolescent girls/sisters about contraceptives	Other mothers/sisters expect you to talk to your unmarried adolescent girl about contraceptives		How often do you talk to your unmarried adolescent girl/sister about contraceptives?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	3.39 (2.27,5.03)	1.77 (.97,3.21)	2.21(1.29,3.74)	Often	1.53(.85,2.73)
	Agree a little	7.545(5.81,9.745)	4.36(3.01,6.27)	5.27 (3.63,7.61)	Sometimes	9.84 (7.96,12.11)
	Disagree a little	14.1 (11.22,17.56)	13.87(10.99,17.37)	13.87(11.05,17.27)	Rarely	8.865(6.94,11.26)
	Disagree a lot	66.56(61.65,71.13)	70.29(65.67,74.53)	70.29(65.96,74.28)	Never	79.38(76.04,82.36)
	Don't know	8.24 (5.34,12.5)	9.531(6.47,13.82)	8.36(5.493,12.52)	Don't know	1.3916(0.0795,1.906)
Triple-combination arm	Agree a lot	8.326(6.498,10.61)	2.924(1.86,4.559)	2.88(1.97,4.18)	Often	2.104 (1.27,3.48)
	Agree a little	11.4(9.36,13.81)	9.56 (6.56,13.72)	9.104(6.15,13.28)	Sometimes	9.411(6.421,13.59)
	Disagree a little	13.2 (9.291,18.42)	13.78(9.55,19.48)	15.25(10.49,21.65)	Rarely	6.008(4.197,8.53)
	Disagree a lot	60.13(54.31,65.67)	65.34(57.99,72.03)	66.72(58.9,73.71)	Never	80.84(75.42,85.3)
	Don't know	6.65(4.92,8.922)	7.876(6.11,10.1)	5.901 (4.33,7.99)	Don't know	1.638 (.79,3.33)
Delayed intervention/control arm	Agree a lot	7.127(5.61,9.023)	3.01(2.01,4.50)	2.69(1.63,4.41)	Often	1.737 (.96,3.11)
	Agree a little	9.88(7.58,12.79)	7.204(5.21,9.88)	7.94(5.71,10.93)	Sometimes	9.371(6.84,12.7)
	Disagree a little	12.96(9.96,16.69)	10.76 (8.51,13.51)	14.52(11.42,18.29)	Rarely	5.222(3.741,7.244)
	Disagree a lot	64.85(59.11,70.2)	71.63(66.22,76.47)	69.44(63.2,75.03)	Never	81.55(77.5,85.01)
	Don't know	4.78(3.544,6.42)	6.285(4.58,8.57)	4.598(3.23,6.51)	Don't know	1.66(.99,2.742)
		Contraceptives should only be used by married women	Most mothers believe that contraceptive methods should be used only by married women	Most mothers expect you to believe contraceptive methods should be used only by married women		How often do you demand your adolescent daughter-in-law/sister-in-law to start using contraceptives
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	57.12 (50.8,63.21)	52.96(46.78,59.05)	50.11(43.98,56.25)	Often	19.52(9.505,35.9)
	Agree a little	15.7 (13.43,18.28)	15.06(12.56,17.95)	16.23 (13.49,19.4)	Sometimes	21.81(11.75,36.89)
	Disagree a little	6.36 (4.49,8.914)	9.52 (7.63,11.83)	9.53 (7.47,12.09)	Rarely	30.25(19.39,43.89)
	Disagree a lot	16.69(12.89,21.35)	18.89(14.94,23.61)	20.25 (16.42,24.7)	Never	24.11(13.4,39.46)
	Don't know	3.95 (2.364,6.535)	3.52 (1.99,6.14)	3.60 (2.27,5.68)	Don't know	4.309(1.019,16.46)
Triple-combination arm	Agree a lot	67.09(61.85,71.94)	57.61(50.71,64.22)	55.21(48.79,61.47)	Often	24.57(15.69,36.29)
	Agree a little	10.88 (8.68,13.55)	14.18(11.21,17.78)	16.19(12.9,20.14)	Sometimes	20.95(15.14,28.25)
	Disagree a little	5.951 (4.51,7.81)	8.99 (6.75,11.88)	9.26(6.652,12.75)	Rarely	22.57(15.34,31.91)
	Disagree a lot	11.62 (9.01,14.87)	14.16(10.97,18.08)	14.18(11.15,17.87)	Never	25.31(18.12,34.15)
	Don't know	4.02 (2.62,6.121)	4.9 (3.18,7.492)	5.03(3.403,7.375)	Don't know	3.515(1.513,7.951)
	Agree a lot	64.77(57.59,71.34)	61.47 (53.92,68.5)	57.97(51.56,64.12)	Often	19.05(10.32,32.51)
	Agree a little	10.48(8.461,12.91)	12.24 (9.85,15.12)	13.35(10.92,16.21)	Sometimes	25.59(16.95,36.69)

Delayed intervention/control arm	Disagree a little	7.01 (4.97,9.78)	6.23(4.56,8.439)	7.572(5.59,10.18)	Rarely	15.23(8.932,24.76)
	Disagree a lot	13.37(10.55,16.81)	14.04(11.13,17.56)	16.61(14.07,19.49)	Never	32.3(23.12,43.07)
	Don't know	3.76 (2.59, 5.401)	5.125 (3.66,7.13)	4.067(2.636,6.224)	Don't know	5.711(2.179,14.14)

3.3.6.7. Attitude, empirical expectation, normative expectation and behavior of female reference groups on Nutrition and food allocation

3.3.6.7.1. Attitude on adolescent girls' Nutrition and food allocation

According to the study, two third of female references in the first and delayed intervention/control arms and three fifth of female references in the triple-combination arm believed that adolescent girls and boys should had the same amount of food. Four fifth of female references in the first and triple-combination arms and three fourth of female references in the delayed intervention/control arm thought that adolescent girls and boys of the same age living with their parents should ate the same time. (Table 34) Also, slightly more than 9 in 10 female references across all arms agreed that adolescent girls and boys should have the same type of food. (Table 34)

Regarding eating order in the family, 79% of female references in the double-combination arm, 84% in the triple-combination arm and 84% in delayed intervention/control arm disagreed on the idea of adolescent girls eating first before everybody in the family eats. In the same tone, 7 out of 10 female references agreed on the idea of adolescent girls eating after everybody in the family eats. (Table 36)

3.3.6.7.2. Empirical expectation on adolescent girls' Nutrition and food allocation

Two third of female references across the arms believed that most female references let adolescent girls in the community have the same amount of food as their male siblings or husbands.

Seven in ten female references across all arms agreed that most female references let adolescent girls eat at the same time as boys of the same age living with their parents. Similarly, 9 in 10 female references across all arms believed most female references let adolescent girls in the community have the same quality of food as their male siblings or husbands. (Table 34)

3.3.6.7.3. Normative on adolescent girls' expectation on Nutrition and food allocation

Two third of female references across all arms believed that Community members expect them to let their adolescent girls to eat the same amount of food as their male siblings or husbands. Majority

(71.98%, 76.5% and 72.92%) of female references thought that community members expect them to let adolescent girls to eat at the same time as their brothers. (Table 33)

Eight in ten female references across all arms reported that Community members expect them to let adolescent girls to have the same quality of food as everybody in the family.

Most female references (75.62%, 77.06% and 77.67%) in the first, triple-combination arm and delayed intervention/control arms, respectively disagreed that community members expect them to let their adolescent girls to eat before everybody in the family eats. Conversely, 76%, 68.07% and 68.43% of female references in the first, triple-combination arm and delayed intervention/control arms, respectively asserted that community members expect them to let their adolescent girls eat after everybody in the family eats. (Table 36)

3.3.6.7.4. Behavior on adolescent girls' Nutrition and food allocation

One third of female references across all arms often let their adolescent girls eat the same amount of food as their brothers/others adolescent boys of the same age/Husband in the household. According to the study, 32.38%, 37.15% and 33.15% of female references often let their adolescent girls had their meals at the same time as their brothers/others adolescent boys of the same age living in the household.

Six in ten of female references across all arms often let their adolescent girls eat the same type of food as their brothers/others adolescent boys in the household often or sometimes. (Table 34)

Majority (66.94%, 62.22% and 60.51%) of female references reported that adult men eat first in the family, while 7 in 10 of female references reporting that adult women and girls eating last after everybody in the family has eaten.

Table 33: Food allocation and consumption social norm matrix of female references

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		Adolescent girls and boys of the same age should have the same amount of food.	Most mothers/sisters/in-laws let adolescent girls in the community have the same amount of food as their male siblings or husbands	Community members expect you to let your adolescent girl the household eat the same amount of food as their male siblings or husbands.	Response	How often do you let your adolescent girl eat the same amount of food as boys of the same age?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	42.66 (37.76,47.71)	32.06 (27.63,36.85)	31.71 (27.85,35.83)	Often	31.95 (27.72,36.51)
	Agree a little	24.58 (20.26,29.47)	37.29 (32.89,41.92)	34.85 (30.82,39.11)	Sometimes	34.56 (30.77,38.56)
	Disagree a little	14.4 (12.25,16.85)	13.85 (10.66,17.8)	15.99 (12.98,19.55)	Rarely	17.8 (15.08,20.9)
	Disagree a lot	18.23 (14.38,22.85)	16.73 (13.01,21.26)	17.45 (13.57,22.15)	Never	15.69 (12.04,20.18)
	Don't know	.1279 (.018,.9033)	.0638 (.0086,.4696)	0	Don't know	0
Triple-combination arm	Agree a lot	39.79 (34.27,45.59)	29.72 (24.28,35.81)	31.65 (26.58,37.21)	Often	33.29(28.14,38.87)
	Agree a little	22.77 (18.67,27.46)	37.47 (30.89,44.55)	36.68 (31.23,42.5)	Sometimes	34.11(29.55,38.98)
	Disagree a little	19.25 (15.39,23.8)	16.33 (11.85,22.09)	15.48 (11.89,19.92)	Rarely	17.11(13.87,20.92)
	Disagree a lot	18.09 (13.83,23.32)	15.67 (10.7,22.37)	14.25 (10.09,19.76)	Never	15.31(11.33,20.35)
	Don't know	.09 (.01,.69)	.8007 (.2534,2.501)	1.928 (.9659,3.812)	Don't know	.07(.01,.5074)
Delayed intervention/control arm	Agree a lot	43.44 (39.24,47.73)	33 (28.17,38.21)	31.94 (27.41,36.84)	Often	34.17(30.51,38.02)
	Agree a little	20.79 (17.58,24.42)	33.32 (29.85,36.98)	34.85 (31.19,38.7)	Sometimes	32.49(29.65,35.47)
	Disagree a little	16.6 (14.56,18.87)	17.86 (14.83,21.36)	16.31 (13.5,19.56)	Rarely	18.99(15.64,22.87)
	Disagree a lot	18.7 (15.08,22.95)	15.19 (12.03,19)	15.95 (12.24,20.52)	Never	14.13(10.73,18.38)
	Don't know	.47 (.1407,1.558)	.6314 (.2581,1.536)	.8149 (.3849,1.717)	Don't know	.22(.05,.91)
		Adolescent girls and boys of the same age living with their parents should eat at the same time	Most mothers/sisters/mother-in-law/sister-in-law let adolescent girls eat at the same time as boys of the same age	Community members expect you to let your adolescent girl eat at the same time as boys of the same age living with their parents		612 How often do you let your adolescent girl eat food at the same time as boys of the same age living with their parents?
Double-combination arm	Agree a lot	43.02 (39.91,46.19)	31.07 (27.87,34.46)	32.23(29.16,35.47)	Often	32.38(28.46,36.56)
	Agree a little	34.96 (31.47,38.62)	42.03 (37.26,46.95)	39.75 (35.39,44.29)	Sometimes	33.99(29.66,38.6)
	Disagree a little	12.65 (10.18,15.62)	15.43 (12.51,18.89)	15.93 (12.8,19.65)	Rarely	21.45(18.62,24.58)
	Disagree a lot	9.37 (7.025,12.39)	11.47 (8.425,15.42)	12.09 (9.391,15.43)	Never	12.18(9.498,15.5)
	Don't know	0	0	0	Don't know	0
Triple-combination arm	Agree a lot	49.13 (43.99,54.28)	34.37 (28.83,40.38)	36.27(31.42,41.41)	Often	37.15(31.97,42.64)
	Agree a little	30.82 (26.41,35.61)	39.03 (33.89,44.43)	40.23 (35.25,45.43)	Sometimes	35.53(31.76,39.48)
	Disagree a little	11.09 (8.925,13.7)	16.06 (11.89,21.35)	12.72 (9.806,16.34)	Rarely	18.22(14.16,23.14)
	Disagree a lot	8.891 (6.439,12.16)	9.686 (6.948,13.35)	8.868 (6.069,12.78)	Never	8.911(6.06,12.92)

	Don't know	.0688 (.0093,.5074)	.8454 (.2068,3.389)	1.916 (.8312,4.355)	Don't know	.1911(.0454,.8007)
Delayed intervention/control arm	Agree a lot	46.87 (43.11,50.67)	32.83 (28.52,37.46)	31.37(27.16,35.92)	Often	33.15(29.16,37.39)
	Agree a little	28.04 (25.51,30.72)	39.18 (35.96,42.5)	41.55(38.07,45.11)	Sometimes	35.69(32.43,39.09)
	Disagree a little	13.89 (12.24,15.73)	15.82 (13.2,18.84)	14.41(11.76,17.54)	Rarely	19.35(16.33,22.78)
	Disagree a lot	11.07 (8.16,14.86)	11.78 (8.199,16.63)	11.79(8.523,16.09)	Never	11.73(8.829,15.43)
	Don't know	.1203 (.0164,.8783)	.3945 (.1206,1.283)	.7394(.3276,1.66)	Don't know	.078(.0106,.5732)

Table 34: Food allocation on quality/type social norm matrix of female references, August 2016

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		603. Adolescent girls and boys in the same household should eat the same type of food	623 Most mothers/sisters/mother-in-law/sister-in-law let adolescent girls in the community have the same quality of food as their male siblings or husbands	634 Community members expect you to let adolescent girl in the household have the same quality of food as everybody in the family		613 How often do you let your adolescent girl/sister/daughter-in-law/sister-in-law eat the same type of food as boys in the same household?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	68.4 (64.28,72.25)	51.69 (47.36,55.99)	44.44 (39.09,49.93)	Often	58.58(53.37,63.61)
	Agree a little	26.52 (23.34,29.96)	37.74 (34.03,41.6)	36 (31.58,40.67)	Sometimes	27.25(24.02,30.74)
	Disagree a little	3.498 (2.401,5.071)	7.381 (5.447,9.928)	11.52 (9.06,14.55)	Rarely	12.74(10.08,15.96)
	Disagree a lot	1.588 (.988,2.544)	3.098 (1.806,5.263)	7.955(5.628,11.13)	Never	1.311(.8238,2.08)
	Don't know	0	.0913 (.0126,.6604)	.0776 (.0106,.5664)	Don't know	.123(.0172,.8714)
Triple-combination arm	Agree a lot	74.3 (67.85,79.84)	52.82 (46.4,59.14)	45.44 (39.61,51.4)	Often	64.88(59.06,70.3)
	Agree a little	20.61 (16.46,25.49)	34.78 (29.66,40.27)	34.51 (28.66,40.87)	Sometimes	22.41(19.18,26.01)
	Disagree a little	3.185 (1.757,5.706)	7.555 (5.42,10.44)	12.27 (9.907,15.1)	Rarely	10.59(7.583,14.6)
	Disagree a lot	1.907 (1.139,3.177)	3.618 (2.403,5.415)	6.347 (4.156,9.577)	Never	2.116(1.299,3.429)
	Don't know	0	1.232 (.3418,4.337)	1.394 (.5753,3.34)	Don't know	0
Delayed intervention/control arm	Agree a lot	75.99 (72.06,79.52)	57.36 (52.8,61.8)	48.11 (43.99,52.25)	Often	64.45(59.4,69.18)
	Agree a little	18.3 (15.31,21.73)	31.96 (28.28,35.88)	35.68 (31.72,39.84)	Sometimes	23.57(20.73,26.66)
	Disagree a little	3.609 (2.546,5.092)	7.123 (4.985,10.08)	9.518 (6.922,12.95)	Rarely	10.31(7.697,13.68)
	Disagree a lot	1.98 (1.189,3.28)	3.137 (2.135,4.586)	5.736 (4.145,7.888)	Never	1.598(.9145,2.778)
	Don't know	.1203 (.0164,.8783)	.4193 (.1335,1.309)	.8185 (.3618,1.841)	Don't know	.078(.0106,.5732)

Table 35: Food allocation and eating order social norm matrix of female references

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		609. Adolescent girls should eat first before everybody in the family eats.		640 Community members expect you to let your adolescent girl to eat before everybody in the family.		619. When meals are served in your household, who usually eats first?
		% (95% CI)		% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	5.194 (3.593,7.454)		5.688 (3.856,8.317)	Adult men	66.94(61.46,72)
	Agree a little	15.04 (12.24,18.34)		18.62 (14.96,22.95)	Adult women	.61(.28, 1.32)
	Disagree a little	29.63 (25.54,34.07)		29.41 (25.76,33.36)	Male adolescents	.37(.14,.97)
	Disagree a lot	49.93 (45.09,54.77)		46.21 (41.21,51.3)	Adult men & boys	7.17(4.769,10.65)
	Don't know	.2164 (.0541,.8605)		.0597 (.0081,.4409)	Adult men & women	2.297(1.319,3.969)
					Everyone eats together	20.3(16.17,25.17)
					Other	.84(.27,2.59)
Triple-combination arm	Agree a lot	3.915 (2.608,5.838)		5.045 (3.517,7.189)	Adult men	62.22(57.59,66.64)
	Agree a little	11.09 (8.458,14.42)		15.91 (12.47,20.08)	Adult women	1.037(.4711,2.266)
	Disagree a little	24.22 (20.12,28.84)		22.76 (19.14,26.85)	Male adolescents	1.6(.9484,2.686)
	Disagree a lot	60.55 (53.26,67.39)		54.3 (47.69,60.76)	Adult men & boys	9.162(6.171,13.4)
	Don't know	.2284 (.0545,.9517)		1.891 (.6945,5.046)	Adult men & women	4.358(2.169,8.563)
					Everyone eats together	16.76(13.3,20.91)
					Other	2.759(1.584,4.764)
Delayed intervention/control arm	Agree a lot	5.574(4.022,7.677)		6.644 (4.491,9.726)	Adult men	60.51(56.69,64.19)
	Agree a little	10.23 (8.409,12.39)		15.16 (12.16,18.74)	Adult women	1.545(.5786,4.06)
	Disagree a little	21.93 (19.45,24.62)		22.16 (19.24,25.4)	Male adolescents	1.122(.6262,2.004)
	Disagree a lot	62.27 (58.15,66.21)		55.51 (50.32,60.59)	Adult men & boys	10.75(8.722,13.19)
	Don't know	0		.5216 (.1952,1.386)	Adult men & women	2.146(1.375,3.334)
					Everyone eats together	19.81(16.84,23.16)
					Other	1.759(1.137,2.714)

Table 36: Attitude, behavior, empirical and normative expectation of female references on Adolescents girl Food allocation and eating order

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		Double-combination arm	Double-combination arm	Double-combination arm	Double-combination arm	Double-combination arm
		% (95% CI)		% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	42.31 (36.93,47.89)		40.65 (35.5,46.01)	Adult men	.566(.2221,1.435)
	Agree a little	30.25 (26.88,33.84)		35.35 (31.78,39.09)	Adult women	28.24(23.94,32.98)
	Disagree a little	16.09 (13.48,19.08)		13.75 (11.16,16.83)	Female adolescents	13.91(9.474,19.97)
	Disagree a lot	11.29 (8.844,14.3)		10.25 (8.052,12.96)	Adult women & girls	30.6(24.93,36.93)
	Don't know	.0617 (.0083,.455)		0	Everyone eats together	22.36(18.36,26.94)
Triple-combination arm	Agree a lot	44.65 (37.95,51.55)		37.77 (31.41,44.58)	Adult men	.5919(.2529,1.379)
	Agree a little	26.97 (22.66,31.77)		30.3 (26.65,34.21)	Adult women	23.36(18.29,29.32)
	Disagree a little	14.75 (11.77,18.32)		15.59 (12.2,19.71)	Female adolescents	24.22(18.88,30.49)
	Disagree a lot	13.14 (9.434,18.02)		14.75 (10.97,19.55)	Adult women & girls	23.29(19.47,27.6)
	Don't know	.4144 (.1369,1.247)		1.499 (.5746,3.851)	Everyone eats together	17.53(14.2,21.46)
Delayed intervention/control arm	Agree a lot	46.66 (41.94,51.45)		39.81 (35.07,44.75)	Adult men	1.756(.9689,3.162)
	Agree a little	25.62 (22.26,29.29)		27.62 (24.45,31.04)	Adult women	23.32(19.71,27.38)
	Disagree a little	13.79 (11.14,16.93)		16.97 (14.24,20.11)	Female adolescents	24.46(20,29.56)
	Disagree a lot	13.87 (11.31,16.9)		14.84 (12.49,17.53)	Adult women & girls	22.59(19.17,26.42)
	Don't know	0		.7578 (.3201,1.784)	Everyone eats together	20.69(17.56,24.22)

3.3.7. Male Reference groups

3.3.7.1. Socio-demographic characteristics

A total of 3241 male references (fathers, brothers, husbands, fathers-in-law and brothers-in-laws) participated in the study with 98.7%, 94.9% and 90.7% response rate in the Double-combination arm, triple-combination arm and delayed intervention/control arms, respectively. The average age of the male references was with a mean age (\pm SD) of 44.08 \pm 12.82, 42.95 \pm 14.16 and 43.16 \pm 14.24 in the double-combination, triple-combination and delayed intervention/control arms respectively. More than nine in ten of male references across all arms were either married or living together with a partner. Recalled age at first marriage 22.10 \pm 4.39, 21.62 \pm 5.09 and 23.29 \pm 7.69 in the first, triple-combination arm and delayed intervention/control arms, respectively. The majority of male references (96.51%, 95.51% and 95.45%) in the double-combination arm, triple-combination arm and delayed intervention/control arms, respectively were Farmers or were doing farm work. Majority (59.75%, 73.03% and 70.69) of male references in the first, triple-combination arm and delayed intervention/control arms had a source of income, while sex in ten male references across all arms reported having joint decision making with their wives on income generated in the household. Farming was the universal (98.84%, 97.66% and 97.52%) source of income for households in the double-combination arm, triple-combination arm and delayed intervention/control arms, respectively.

Majority of the respondents were Muslim (86.67%, 83.8% and 94.59%) and Oromo (96.51%, 95.6% and 97.92%) in the Double-combination arm, triple-combination arm and delayed intervention/control arms, respectively.

Table 37: Background information of male reference group distributed by program area

Characteristics		Double-combination arm	Triple-combination arm	Delayed intervention/control arm
		n (%)	n (%)	n (%)
No of male references visited		1140	1140	1140
No of male references responded		1118 (98.07)	1068 (93.68)	1010 (88.60)
		n=1118	n=1068	n=1010
Average Age of male References Mean (\pm SD)		44.08 \pm 12.84	42.95 \pm 14.16	43.16 \pm 14.24
Marital Status	Married/Living together	1033 (92.4)	1008(94.38)	934(92.48)
	Never married	73(6.53)	49(4.59)	56(5.54)
	Married, more than one spouse	4(0.36)	3(0.28)	11(1.09)
Age at first marriage (Average mean \pm SD)		22.10 \pm 4.39	21.62 \pm 5.09	23.29 \pm 7.69
Occupation	Farmer or farm work	1079 (96.51)	1020(95.51)	964(95.45)
	Business	6(0.54)	12(1.12)	10(0.99)
	Household work	14(1.25)	9(0.84)	12(1.19)
Do you have a source of income?	Yes	668(59.75)	780(73.03)	714(70.69)
	No	450(40.25)	288(26.97)	296(29.31)
Who mainly decides on the use of the income you generated?	Myself	203(30.39)	287(36.79)	259(36.27)
	Husband	15(2.25)	10(1.28)	10(1.4)
	Jointly	435(65.12)	469(60.13)	432(60.5)
	Other (Respondent's parents)	12(1.8)	10(1.28)	5(0.7)
Who mainly makes decision over household finances?	Myself	258(23.08)	292(27.345)	299(29.6)
	Husband	24(2.15)	22(2.06)	20(1.98)
	Jointly	788(70.48)	707(66.2)	644(63.76)
	Other (Respondent's parents)	34(3.04)	29(2.72)	31(3.07)
Religion	Muslim	969(86.67)	895(83.8)	959(94.59)
	Orthodox Christians	140(12.52)	135(12.64)	51(5.05)
	Protestant	6(0.54)	2(0.19)	0
	Catholic	0	35(3.28)	0
Ethnicity	Oromo	1079(96.51)	1021(95.6)	989(97.92)
	Amhara	39(3.49)	46(4.31)	21(2.08)
What is the main source of income for the household?	Farming	1105(98.84)	1043(97.66)	985(97.52)
	Trade	4(0.36)	10(0.94)	13(1.29)
	Employment	3(0.27)	10(0.94)	4(0.4)

3.3.7.2. Education and school attendance

According to the male references who responded to the survey, 47.65%, 50.98% and 44.55% in the double-combination arm, triple-combination arm and delayed intervention/control arms reported that they could read and write, respectively. When tested with a reading card, 58.91%, 62.24% and 52.86% in the double-combination arm, triple-combination arm and delayed intervention/control arms could read a whole sentence, respectively. Half of male references in the first and triple-combination arms reported ever attending school, while in the delayed intervention/control arm, the figure was around 41.91%.

Table 38: Education and School Attendance Indicators of male references, August 2016

Indicators		Double-combination arm	Triple-combination arm	Delayed intervention/control arm
		% (95%CI)	% (95%CI)	% (95%CI)
Can you read & write?	yes	47.65 [43.58,51.76]	50.98 [46.31,55.62]	44.55 [40.15,49.04]
	No	52.35 [48.24,56.42]	49.02 [44.38,53.69]	55.45 [50.96,59.85]
Read the sentence shown in the card	Cannot read at all	3.119 [1.904,5.07]	2.875 [1.871,4.391]	3.439 [1.892,6.171]
	Able to read only parts of sentence	37.98 [32.38,43.91]	34.89 [29.55,40.63]	43.7 [38.45,49.1]
	Able to read whole sentence	58.91 [53.42,64.18]	62.24 [56.3,67.83]	52.86 [47.55,58.11]
Have you ever attended school?	yes	49.32 [44.64,54.02]	50.03 [44.41,55.65]	41.91 [37.95,45.98]
	Never	50.68 [45.98,55.36]	49.97 [44.35,55.59]	58.09 [54.02,62.05]

3.3.7.3. Male reference groups' Attitude, Empirical Expectation, Behavior and Normative Expectation on Education

3.3.7.3.1. Attitude on Adolescent girls' Education

Around three fourth of male references (70.35%, 70.84%, and 68.28%) in the double, triple-combination and delayed intervention/control arms, respectively, agreed a lot on that they should give adolescent girls the same opportunities as boys in education. They also thought that ideally, adolescent girls should get education until average grade 11.43 ± 0.13 in the double combined, 11.00 ± 0.22 in the triple combined, and 10.66 ± 0.13 in the delayed intervention/control arm. In the same way, male reference groups (6.58%, 10.67%, and 11.67%) in the double, triple and delayed intervention/control arms respectively agreed a lot on that adolescent girls should help in the household chores than going to school compared to boys.

3.3.7.3.2. Empirical Expectation on Adolescent girls' Education

About forty percent (40.62%) of male reference group in the double, (44.25%) in triple and (36.37%) delayed intervention/control arms believe that most fathers in their community give adolescent girls the same opportunity as adolescent boys in education. Similarly, most male references think that most mothers let adolescent girls to attend school until average grade 10.42 ± 0.19 (10.04, 10.79), 9.66 ± 0.27 (9.13, 10.19), 9.62 ± 0.16 (9.3, 9.93) in the double, triple and delayed intervention/control arms respectively.

One in ten male reference groups in all arms think that other male references take their adolescent girls out of school to make them do household chores (10.87%, 18.43%, and 18.79%).

3.3.7.3.3. Normative Expectation on Adolescent girls' Education

Community members expect male references to give adolescent girls the same opportunity as adolescent boys in education (36.43%, 21.57 %, and 28.72%) in the double, triple and delayed intervention/control arm respectively. Whereas, Community members expect mothers to send their adolescent girls to average grade school 10.33 ± 0.19 , 9.68 ± 0.28 and 9.57 ± 0.16 in the first, combine and delayed intervention/control arm respectively.

Male reference group (7.11%) in the first, (16.35%) in the triple-combination arm and (18.68%) delayed intervention/control arm Agreed a lot on that Community members expect them to take their adolescent girls out of school to make them do household chores.

3.3.7.3.4. Behavior on Adolescent girls' Education

Most of male reference group (85.39%) in the double, (86.28%) triple-combination and (79.85%) in the delayed intervention/control arms gave their adolescent girl the same opportunity in education as they would to boys. Most reference group really think their adolescent girl will complete average school grades 12.21 ± 0.11 , 11.80 ± 0.19 and 11.49 ± 0.14 in the first, combine and delayed intervention/control arm respectively at the time of interview. Three out of ten male references said they never make their adolescent girl be absent from school to do household chores when compared to other adolescent boys (39.37%, 37.95%, and 31.9%) in the double, triple and delayed intervention/control arms respectively.

Table 39: Attitude, behavior, empirical and normative expectation of male references on Adolescents Education and school attendance (1)

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		m250 Fathers/brothers/husbands/ father-in-law/ brother-in- law should give adolescent girls the same opportunities as boys in education % (95% CI)	m271 Most fathers give adolescent girls the same opportunity as adolescent boys in education % (95% CI)	f279 Community members expect fathers/brothers/husbands /father in laws/brother in laws to give adolescent girls the same opportunity as adolescent boys in education % (95% CI)	Response	260. Do you give your Adolescent girl the same opportunity in education as boys? % (95% CI)
Double-combinati on arm	Agree a lot	70.35 (63.83,76.14)	40.62 (35.1,46.38)	36.43 (25.77,48.62)	Yes	85.39 (81.01,88.91)
	Agree a little	19.95 (15.48,25.32)	34.86 (30.57,39.41)	17.46 (11.22,26.15)	No	14.61 (11.09,18.99)
	Disagree a little	5.56 (3.813,8.042)	15.38 (12.52,18.74)	19.29 (12.08,29.35)		
	Disagree a lot	4.047 (1.901,8.405)	9.017 (6.031,13.27)	25.41 (16.45,37.09)		
	Don't know	.0955 (.0131,.6905)	.1291 (.0174,.9487)	1.406 (.1924,9.535)		
Triple-combinati on arm	Agree a lot	70.84 (65.97,75.28)	44.25 (36.78,51.98)	21.57 (12.82,33.97)	Yes	86.28 (81.61,89.91)
	Agree a little	18.39 (15.01,22.32)	28.17 (23.61,33.24)	21.64 (12.81,34.17)	No	13.72 (10.09,18.39)
	Disagree a little	5.593 (4.032,7.71)	15.12 (10.03,22.16)	23.28 (13.11,37.88)		
	Disagree a lot	4.998 (2.944,8.361)	11.9 (8.329,16.72)	31.86 (20.69,45.6)		
	Don't know	.1803 (.0439,.7368)	.5163 (.1932,1.372)	1.65 (.2273,11)		
Delayed interventio n/control arm	Agree a lot	68.28 (63.41,72.78)	36.37 (30.94,42.17)	28.72 (17.33,43.63)	Yes	79.85 (76.08,83.16)
	Agree a little	21.48 (17.99,25.43)	33.64 (29.47,38.09)	35.13 (23.24,49.19)	No	20.15 (16.84,23.92)
	Disagree a little	6.259 (4.403,8.826)	18.32 (15.64,21.35)	18.85 (11.76,28.82)		
	Disagree a lot	3.746 (2.545,5.481)	11.28 (8.733,14.45)	16.07 (10.36,24.08)		
	Don't know	.2297 (.0563,.9316)	.3894 (.1244,1.212)	1.243 (.1674,8.634)		
		m252 Until what grade should fathers/brothers/husbands/ father in laws/father in laws let their adolescent girls ideally get educated?	F 273 Until what grade do you think most mothers let adolescent girls attend school?	F 281 Until what grade do community members expect mothers to send their adolescent girls to school		F 263 How much school grades do you really think your adolescent girl will complete?
Double-combinati on arm	Mean±SD	11.43±0.13 (11.18, 11.68)	10.42±0.19 (10.04, 10.79)	10.33±0.19 (9.94, 10.73)	Mean±SD	12.21±0.11 (12.0, 12.42)
Triple-combinati on arm	Mean±SD	11.00±0.22 (10.57, 11.43)	9.66±0.27 (9.13, 10.19)	9.68±0.28 (9.13, 10.22)	Mean±SD	11.80±0.19 (11.42, 12.19)
Delayed interventio n/control arm	Mean±SD	10.66±0.13 (10.40, 10.91)	9.62±0.16 (9.3, 9.93)	9.57±0.16 (9.26, 9.88)	Mean±SD	11.49±0.14(11.22, 11.76)

Table 40: Attitude, behavior, empirical and normative expectation of male references on Adolescents Education, school attendance and household chores

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		M 253 Compared to boys, adolescent girls should help in the household chores than going to school	M 274 Most fathers/brothers/husband/father in laws/brother in laws take their adolescent girls out of school to make them do household chores	M 282Community members expect fathers/brothers/husband/father in laws/brother in laws to take their adolescent girls out of school to make them do household chores		How often do you make your adolescent girl get absent from school to do household chores when compared to other adolescent boys?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	6.583 (4.453,9.627)	10.87(8.328,14.06)	7.106(5.112,9.799)	Often	8.047 (6.652,9.703)
	Agree a little	16.56 (12.97,20.91)	25.96(22.08,30.25)	24.04(19.58,29.15)	Sometimes	22.92 (19.99,26.13)
	Disagree a little	20.73 (16.55,25.64)	28.62(24.89,32.67)	29.68(25.49,34.23)	Rarely	28.45 (23.21,34.36)
	Disagree a lot	56.12 (49.08,62.93)	34.05(28.85,39.66)	38.55(32.53,44.94)	Never	39.37 (33.16,45.95)
	Don't know	0	.5091(.1624,1.584)	.5046(.1599,1.581)	Don't know	1.125 (.5358,2.347)
Triple-combination arm	Agree a lot	10.67 (7.936,14.21)	18.43(14.43,23.24)	16.35(12.83,20.6)	Often	11.28 (8.66,14.57)
	Agree a little	15.73 (12.5,19.6)	27.24(22.91,32.04)	26.16(21.35,31.62)	Sometimes	25.23 (21.33,29.57)
	Disagree a little	16.49 (12.43,21.56)	19.23(16.06,22.85)	21.24(18.25,24.58)	Rarely	21.26 (17.87,25.1)
	Disagree a lot	57.02 (49.78,63.96)	34.18(27.7,41.31)	35.41(28.98,42.4)	Never	37.95 (32.18,44.08)
	Don't know	.09 (.0124,.6526)	.8889(.4323,1.819)	.8394(.411,1.706)	Don't know	4.086 (2.523,6.552)
Delayed intervention/control arm	Agree a lot	11.67 (9.27,14.59)	18.79(15.58,22.47)	18.68(15.69,22.11)	Often	10.01 (8.042,12.4)
	Agree a little	19.44 (16.72,22.47)	30.02(26.39,33.92)	28.08(25.03,31.34)	Sometimes	29.54 (26.27,33.04)
	Disagree a little	18.87 (15.27,23.07)	21.29(18.28,24.65)	23.63(20.2,27.43)	Rarely	25.07 (22.03,28.37)
	Disagree a lot	49.96 (44.52,55.39)	29.26(25.09,33.81)	28.43(24.62,32.59)	Never	31.9 (28.06,36)
	Don't know	.0718 (.0098,.5266)	.6403(.2678,1.523)	1.095(.5156,2.31)	Don't know	3.208 (.023,5.051)

3.3.7.4. Attitude, Empirical Expectation, Behavior and Normative Expectation on Marriage

3.3.7.4.1. Attitude on Adolescent girls' Marriage

According to male references, the ideal average age for a girl to get married (Mean \pm SE) is 17.97 ± 0.08 in the double, 17.48 ± 0.08 triple and 17.48 ± 0.07 delayed intervention/control arms. In addition, male references think that adolescent girl herself should mainly choose whom to marry (81.2%) in the double, (74.54%) in the triple arm and (76.71%) delayed intervention/control arm. Four in ten male references agree that they should let adolescent girls/sisters to have the final decision regarding their marriage (44.26%, 45.53% and 49.19%).

Three out of ten in the double and triple combination arms and four out of ten in the delayed intervention/control arm agree a lot on idea of adolescent girls should talk to their fathers/brothers before making the decision to marry (36.9 %, 34.92% and 43.56%). Most male references agreed a lot on that they should let adolescent girls have a say whether they want to marry or not (48.44%, 60.74%, and 55.41%) in the double, triple and delayed intervention/control arms respectively.

3.3.7.4.2. Empirical Expectation on Adolescent girls' Marriage

Most male references states average age (Mean \pm SE) (16.82 ± 0.13 , 16.13 ± 0.13 and 16.35 ± 0.07) at which most mothers marry off their adolescent daughters. More than one fourth of male reference says it is the girl herself who mostly choose the adolescent girls those husbands marry (33.62%, 38.02% and 43.33%) in the first, triple-combination arm and delayed intervention/control arm.

Most male references agreed a lot on that other male references should let their adolescent girls/sisters have the final decision regarding their marriage (35.45%, 40.09% and 39.9%) in the double, triple and delayed intervention/control arms respectively. Only one fourth of male references agreed a lot that other male references are consulted by their adolescent daughters/sisters before making the decision to marry (24.26%, 30.47% and 25.99%) in the first, triple-combination arm and delayed intervention/control arm. Near to half of male references agreed a lot on that most fathers/brothers let their adolescent daughters/sisters to have a say whether they want to marry or not (41.1%, 50.34% and 45.75%) in the double, triple and delayed intervention/control arms respectively.

3.3.7.4.3. Normative Expectation on Adolescent girls' Marriage

According to male reference perception, community members expect them to marry off their adolescent daughters at mean age of (Mean \pm SE) 17.22 \pm 0.14, 16.54 \pm 0.13 and 16.61 \pm 0.08 in the double, triple and delayed intervention/control arms respectively. Community members expect adolescent girls/sisters to consult their mothers before making the decision to marry (27.03%, 30.64% and 29.55%).Community members expect fathers/brothers to let their adolescent daughters have a say whether they want to marry or not (38.12%, 43.16% and 39.33%).

3.3.7.4.4. Behavior on Adolescent girls' Marriage

Among married male references, most of them marry at average age of (14.59 \pm 0.16, 14.45 \pm 0.11 and 14.89 \pm 0.14) in the respective arms. The male references (60.5 %, 81.03% and 78.5%) in the double, triple and delayed intervention/control arms revealed that they themselves are who mainly chose the adolescent girl that their son/brother married. Regarding the final decision on adolescent girl's marriage, plenty of male reference responded that the adolescent herself decide on her marriage (50.72%, 53.03% and 47.59%) in the double, triple and delayed intervention/control arms respectively.

Most of male reference group never talk to their parents before making the decision to marry (77.98%, 76.37% and 73.82%) in the double, triple and delayed intervention/control arms respectively. Most of the male reference groups let their wife to have a say over whether she wanted to marry or not (80.59 %, 89.39 % and 82.07%) during her marriage in the double, triple and delayed intervention/control arms respectively.

Table 41: Attitude, behavior, empirical and normative expectation of male references on Adolescent girl marriage age and choice

Marriage norms						
Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		What is the ideal age for a girl to get married? Mean ± SE	At what age do most mothers marry off their adolescent daughters? Mean ±SD	At what age do community members expect fathers/brothers/husbands/father in law/ to marry off their adolescent daughters?	Response	At what age did you (adolescent girl) first marry?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Mean±SD	17.97±.08(17.79, 18.14)	16.82±.13(16.56, 17.08)	17.22±.14(16.94, 17.50)	Mean±SD	14.59±0.16 (14.26, 14.91)
Triple-combination arm	Mean±SD	17.48±.08(17.32, 17.65)	16.13±.13(15.87, 16.39)	16.54± .13(16.29, 16.78)	Mean±SD	14.45 ± 0.11 (14.23, 146.67)
Delayed intervention/control arm	Mean±SD	17.48±.07(17.34, 17.61)	16.35±.07(16.20, 16.49)	16.61±.08(16.45, 16.76)	Mean±SD	14.89±0.14 (14.62, 15.18)
		M 362. Who mainly should choose who a girl marries?	Mm 373 Who mostly choose the adolescent girls those husbands marry?			MM 366 Who mainly choose the adolescent girl that your son/brother married?
		% (95% CI)	% (95% CI)			% (95% CI)
Double-combination arm	The Girl herself	81.2(76.25,85.32)	33.62 (20.86,49.33)		The Girl	15.65 (8.235,27.74)
	The Husband-to-be	3.122(2.072,4.678)	49.35 (35.98,62.81)		The respondent	60.5 (45.24,73.95)
	Father	11.08(8.024,15.12)	15.1 (7.248,28.82)		Her Father	10.5 (3.93,25.17)
	Mother	1.054(.4651,2.369)	1.926 (.2625,12.78)		Friends	10.12 (3.282,27.2)
	Husband-to-be's father	2.441(1.255,4.694)	0		Others	3.227 (.4719,19)
Triple-combination arm	The Girl herself	74.54(68.27,79.93)	38.02 (29.9,46.87)		The Girl	5.33 (2.721,10.18)
	The Husband-to-be	3.178(1.498,6.614)	36.56 (28.62,45.3)		The respondent	81.03 (73.64,86.72)
	Father	16.34(12.09,21.72)	16.44 (9.208,27.61)		Her Father	5.269 (2.456,10.94)
	Mother	2.616(1.05,6.368)	1.778 (.4395,6.907)		Her mother	4.17 (1.583,10.53)
	Husband-to-be's father	.4699(.1814,1.212)	3.988 (1.243,12.05)		Respondent's father	.5459 (.0749,3.864)
					Friends	3.658 (1.347,9.548)
Delayed intervention/control arm	The Girl herself	76.71(73.24,79.85)	43.33 (35.02,52.03)		The Girl	7.443 (3.891,13.77)
	The Husband-to-be	2.472(1.554,3.91)	38.53 (29.49,48.43)		The respondent	78.5 (64.05,88.21)
	Father	16.4(13.9,19.26)	11 (5.973,19.37)		Her Father	6.261 (2.777,13.51)
	Mother	1.341(.7266,2.463)	0		Her mother	2.496 (.7882,7.622)
	Husband-to-be's father	.2244(.031,1.607)	1.974 (.2744,12.85)		Other Family members	1.974 (.2744,12.85)
	Other Family members/relatives	.426(.1789,1.011)	2.162 (.5004,8.848)		Friends	3.327 (.9363,11.13)
	Friends	1.451(.7891,2.652)	1.029(.1485,6.772)			
	Other (Adolescent girls, brokers, elders)	.6333(.1575,2.511)	1.124 (.1605,7.439)			

Table 42: Attitude, behavior, empirical and normative expectation of male references on Adolescent girl marriage and decision making

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		Um 363 Fathers/sisters/brothers should let adolescent girls/sisters have the final decision regarding their marriage	Um371 Most Fathers/sisters/brothers should t let their adolescent girls/sisters to have the final decision regarding their marriage	Fbh 378 Community members expect fathers/brothers/husbands to let their adolescent girls/sisters have the final decision over their decision to marry		mm368 Who made the final decision regarding your adolescent daughter-in-law's/sister-in-law's marriage?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	44.26(39.08,49.57)	35.45 (30.55,40.67)	35.19 (30.69,39.97)	The Girl	50.72 (34.9,66.4)
	Agree a little	35.21(31.16,39.48)	37.98 (33.93,42.2)	36.51 (32.73,40.47)	The respondent	20.2 (10.36,35.67)
	Disagree a little	12.42(9.818,15.6)	16.1 (13.34,19.3)	18.2 (14.81,22.15)	Her Father	20.73 (11.77,33.88)
	Disagree a lot	8.068(5.781,11.15)	10.33 (7.54,14.01)	10.02 (7.457,13.34)	Her mother	4.451 (1.046,17.03)
	Don't know	.0402(.0054,.3004)	.1385 (.0195,.977)	.075 (.0102,.549)	Respondent's father	3.902 (1.049,13.46)
					Respondent's mother	0
					Other Family members	0
					Neighbors	0
					Friends	0
Triple-combination arm	Agree a lot	45.53(38.86,52.36)	40.09 (35.72,44.62)	38.18 (32.61,44.08)	The Girl	53.03 (43.13,62.69)
	Agree a little	14.73(9.946,21.27)	36.43 (32.9,40.12)	40.6 (36.13,45.23)	The respondent	17.14 (10.64,26.43)
	Disagree a little	16.95(13.07,21.69)	14.55 (10.66,19.56)	12.85 (9.672,16.87)	Her Father	16.63 (9.028,28.61)
	Disagree a lot	3.504(2.167,5.616)	8.577 (7.074,10.36)	7.85 (6.162,9.952)	Her mother	2.418 (.5916,9.353)
	Don't know	.2223(.0513,.9582)	.3485 (.1221,.9908)	.5245 (.2228,1.23)	Respondent's father	3.206 (1.287,7.764)
					Respondent's mother	0
					Other Family members	1.57 (.4446,5.387)
					Neighbors	0
					Friends	1.102 (.1521,7.538)
Delayed intervention/control arm	Agree a lot	49.19(45.03,53.37)	39.9 (35.68,44.27)	36.84 (32.71,41.17)	The Girl	47.59 (36.13,59.31)
	Agree a little	35.57(31.08,40.33)	38.17 (33.88,42.66)	40.76 (35.68,46.05)	The respondent	19.3 (13.9,26.16)
	Disagree a little	8.7(6.539,11.49)	12.3 (9.893,15.19)	13.04 (10.21,16.5)	Her Father	23.83 (13.45,38.64)
	Disagree a lot	6.54(4.852,8.763)	9.408 (7.861,11.22)	9.004 (7.188,11.22)	Her mother	1.029 (.1485,6.772)
	Don't know	0	.2233 (.0546,.9076)	.3569 (.1187,1.068)	Respondent's father	2.18 (.6754,6.805)
					Respondent's mother	.8615 (.1131,6.251)
					Other Family members	2.009 (.5137,7.53)
					Neighbors	0
					Friends	1.029 (.1485,6.772)
				Others	2.171 (.5522,8.148)	

Table 43: Attitude, behavior, empirical and normative expectation of male references on Adolescent girl marriage and family consultation

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		um364 Adolescent girls should talk to their fathers/brothers before making the decision to marry	Um372 Most fathers/brothers are consulted by their adolescent daughters/sisters before making the decision to marry	Um379 Community members expect adolescent girls/sisters to consult their mothers before making the decision to marry	312. Did you talk to your parents before making the decision to marry?	
		% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	
Double-combination arm	Agree a lot	36.9 (31.92,42.19)	24.26 (20.09,28.97)	27.03(22.76,31.77)	Yes	22.02 (12.32,36.18)
	Agree a little	33.23 (29.33,37.38)	31.31 27.67,35.19)	34.84(29.59,40.49)	No	77.98 (63.82,87.68)
	Disagree a little	12.68 (10.21,15.64)	22.97 (18.88,27.65)	21.33(17.57,25.65)		
	Disagree a lot	17.19 (14.14,20.73)	21.09 (17.36,25.37)	16.74(13.59,20.45)		
	Don't know	0	.3725 (.0809,1.698)	0		
Triple-combination arm	Agree a lot	34.92 (28.84,41.53)	30.47 (25.76,35.62)	30.64(26.02,35.68)	Yes	23.63 (16.03,33.4)
	Agree a little	14.28 (10.31,19.46)	35.28 (30.6,40.25)	37.48(32.98,42.21)	No	76.37 (66.6,83.97)
	Disagree a little	15.7 (12.03,20.23)	17.51 (14.07,21.57)	17.48(13.27,22.67)		
	Disagree a lot	12.34 (9.288,16.21)	15.91 (12.95,19.39)	14.06(11.44,17.16)		
	Don't know	0	.8394 (.423,1.659)	.3445(.1084,1.09)		
Delayed intervention/control arm	Agree a lot	43.56 (40.17,47)	25.99(22.87,29.37)	29.55(26.67,32.6)	Yes	26.18 (17.45,37.3)
	Agree a little	26.65 (23.34,30.24)	37.92(33.8,42.23)	35.2(31.68,38.89)	No	73.82 (62.7,82.55)
	Disagree a little	12.15 (9.778,15)	17.53(14.2,21.45)	18.57(15.29,22.35)		
	Disagree a lot	17.42 (13.43,22.3)	18.43(15.04,22.37)	16.29(13.59,19.41)		
	Don't know	.2261 (.0546,.9304)	.1359(.0186,.9864)	.3954(.1309,1.188)		
		Fbh 353. Fathers/brothers/husbands should let adolescent girls have a say whether they want to marry or not	Um368 Most fathers/brothers let their adolescent daughters/sisters to have a say whether they want to marry or not	Um376 Community members expect fathers/brothers to let their adolescent daughters have a say whether they want to marry or not	H365. Did you let your wife have a say over whether she wanted to marry or not?	
		%(CI)	%(CI) %(CI)	%(CI) %(CI) %(CI)	%(CI) %(CI) %(CI)	
Double-combination arm	Agree a lot	48.44 (42.78,54.13)	41.1 (35.91,46.48)	38.12 (33.02,43.49)	Yes	80.59 (66.43,89.7)
	Agree a little	32.5 (27.74,37.65)	36.4 (31.92,41.13)	35.44 (31.91,39.14)	No	19.41 (10.3,33.57)
	Disagree a little	10.33 (8.009,13.24)	13.88 (10.09,18.8)	16.97 (13.09,21.72)	Don't know	0
	Disagree a lot	8.731 (6.183,12.19)	8.406 (5.99,11.68)	9.224 (6.759,12.47)		
	Don't know	0	.2151 (.0467,.9849)	.2488 (.0636,.9685)		
Triple-combination arm	Agree a lot	60.74 (55.93,65.34)	50.34 (45.18,55.49)	43.16 (37.77,48.71)	Yes	89.39 (80.28,94.58)
	Agree a little	25.41 (21.71,29.5)	33 (29.09,37.17)	37.35 (32.46,42.51)	No	10.3 (5.17,19.47)
	Disagree a little	7.109 (5.173,9.696)	9.452 (7.167,12.37)	10.99 (8,14.92)	Don't know	.3091 (.0411,2.285)
	Disagree a lot	6.743 (4.944,9.132)	6.888 (5.638,8.39)	7.983 (6.063,10.44)		
	Don't know	0	.3154 (.0996,.9936)	.5186 (.2005,1.335)		
Delayed intervention/control arm	Agree a lot	55.41 (50.74,59.99)	45.75 (41.87,49.68)	39.33 (35.15,43.67)	Yes	82.07 (73.19,88.46)
	Agree a little	29.69 (25.57,34.17)	35.73 (31.45,40.24)	39.44 (35.14,43.9)	No	17.06 (10.99,25.51)
	Disagree a little	8.303 (6.546,10.48)	10.95 (8.792,13.57)	12.7 (10.45,15.35)	Don't know	8754 (.1282,5.726)
	Disagree a lot	6.4 (4.818,8.454)	7.408 (5.591,9.753)	7.98 (6.347,9.989)		
	Don't know	.1925 (.0471,.7834)	.1637 (.0387,.6907)	.5539 (.2383,1.282)		

3.3.7.5. Attitude, Empirical Expectation, Behavior and Normative Expectation on girls' Empowerment and decision making

3.3.7.5.1. Attitude on Adolescent girls' Empowerment and decision making

Most of male references (40.62 %, 34.29 % and 37.52%) in the first, triple-combination arm and delayed intervention/control arm disagree a lot that husbands of adolescent should give permission for their wives to go outside of the house. More than half (51.53% and 55.08%) in the triple-combination and delayed intervention/control arms and (48.46 %) in the double-combination arm disagree a lot on the idea that fathers should allow adolescent girls to go outside of the house at their own will.

Only two out of ten male references agree that fathers should allow adolescent girls to have a say on the use of household income (22.08%, 27.42% and 28.18%) in the first, triple-combination arm and delayed intervention/control arm. Two out of ten in the double-combination arm, three out of ten in the triple-combination arm and delayed intervention/control arm agree a lot on the idea that mothers should allow adolescent girls to decide how much education they can get (29.77%, 31.74% and 33.58%).

3.3.7.5.2. Empirical Expectation on Adolescent girls' Empowerment and decision making

Nearly half of the male references (40.06%, 35.51% and 39.81%) in the double, triple and delayed intervention/control arms think most other fathers/husbands in the community give permission for their wives to go outside of the house. Most fathers (51.08%, 50.83% and 51.86%) in the double, triple and delayed intervention/control arms feel that they can allow adolescent girl to go outside of their house at their own will.

Only one in ten fathers in all arms allow their adolescent girls to have a say on the use of household income (15.9%, 19.08% and 19.62%). Although, three out of ten (30.85 %, 32.1% and 34.76 %) mothers in all arms allow their adolescent girls to decide how much education they can get.

3.3.7.5.3. Normative Expectation on Adolescent girls Empowerment and decision making

Three out of ten (39.27 %, 34.53 % and 34.6 %) husbands/father in law/brother in laws in all arms expect husbands in the community to give permission for their wife/daughter to go outside of the house. Considerable male references (43.04 %) in the double , (41.93 %) in the triple and (47.67%) delayed intervention/control arms respectively agree a lot that most fathers in the community expect them to allow their adolescent girl to go outside of her house at her own will.

Two out of ten in the double and triple combination arms and one in the ten in the delayed intervention/control arm (20.3%, 20.79 % and 19.38%) agree a lot that most fathers in the community expect you to allow your adolescent girl to have a say on the use of household income. Most of male references (34.37%, 31.64% and 34.67%) in the double, triple and delayed intervention/control arms agree a lot that most mothers in the community expect them to allow their adolescent girl on decide how much education she can get.

3.3.7.5.4. Behavior of on Adolescent girls Empowerment and decision making

One-fourth of male (38.81 %, 34.24% and 36.97%) in the double, triple and delayed intervention/control arms never allow their adolescent girl to do what she wants to do as they would allow for their adolescent boys. Half of the male reference (53%, 58.28% and 62.93%) in the double, triple and delayed intervention/control arms revealed that they never allow their adolescent girl to go outside of their house at her own will.

More than half of male reference (71.21%, 65.64% and 63.92%) in the double, triple and delayed intervention/control arm make decision over household finances jointly. Four out of ten (41.14%, 45.48% and 43.94%) male reference in the first, triple and delayed intervention/control arm fully allow their adolescent girls to decide how much education she wants to get.

Table 44: Attitude, behavior, empirical and normative expectation of male references on Girls empowerment and free movement

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		Husbands of adolescent should give permission for their wives to go outside of the home	Most fathers/husbands give permission for their wives to go outside of the home	Other husbands/father in law/brother in laws expect husbands in the community to give permission for their wife/daughter to go outside of the home	Response	How often do you allow your adolescent girl to do what she wants to do as you do for your adolescent boys?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	11.53 (7.995,16.34)	8.76 (6.121,12.39)	9.311 (6.799,12.63)	Often	4.181 (3.042,5.721)
	Agree a little	22.08 (18.34,26.34)	21 (17.79,24.62)	23.04 (19.44,27.08)	Sometimes	24.6 (21.23,28.31)
	Disagree a little	25.46 (21.34,30.06)	29.94 (24.36,36.19)	27.75 (23.64,32.28)	Rarely	32.3 (28.05,36.86)
	Disagree a lot	40.62 (36.58,44.8)	40.06 (35.69,44.59)	39.27 (34.44,44.32)	Never	38.81 (34.86,42.9)
	Don't know	.311 (.0841,1.143)	.2402 (.0761, .756)	.6263 (.2629,1.484)	Don't know	.1177 (.0164, .8385)
Triple-combination arm	Agree a lot	17.96 (14.28,22.34)	13.05 (9.631,17.44)	14.73 (10.78,19.8)	Often	9.317 (7.002,12.3)
	Agree a little	24.65 (20.89,28.84)	26.4 (22.4,30.84)	25.8 (21.67,30.42)	Sometimes	29.08 (25.05,33.47)
	Disagree a little	22.87 (19.27,27)	24.46 (18.37,31.77)	24.26(19.61,29.61)	Rarely	26.68 (23.49,30.12)
	Disagree a lot	34.29 (28.87,40.16)	35.51 (29.59,41.92)	34.53 (28.77,40.78)	Never	34.24 (29.65,39.14)
Delayed intervention/control arm	Don't know	.2336 (.0573, .9476)	.5791 (.1886,1.764)	.6854 (.3355,1.395)	Don't know	.685 (.2259,2.058)
	Agree a lot	15.65 (12.9,18.87)	10.05 (7.836,12.81)	13.76 (10.86,17.29)	Often	7.755 (5.878,10.17)
	Agree a little	24.1 (20.97,27.53)	25.28 (22.49,28.28)	24.65 (20.49,29.34)	Sometimes	27.09 (24.32,30.05)
	Disagree a little	22.52 (19.47,25.91)	24.43 (20.73,28.55)	26.41 (22.15,31.15)	Rarely	27.89 (24.85,31.15)
	Disagree a lot	37.52 (32.46,42.87)	39.81 (35.08,44.72)	34.6 (29.13,40.52)	Never	36.97 (32.93,41.2)
	Don't know	.2055 (.0513, .8201)	.4353 (.1591,1.185)	.5818 (.2084,1.613)	Don't know	.2947 (.0922, .9373)
		m432 fathers should allow adolescent girls to go outside of the home at their own will	m448 Most fathers in this community feel they can allow adolescent girl to go outside of their home at their own will.	f463. Most fathers in the community expect you to allow your adolescent girl to go outside of her home at her own will		F441How often do you allow your adolescent girl to go outside of your home at her own will?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	4.539 (3.135,6.53)	3.183(2.043,4.927)	3.9 (2.72,5.562)	Often	2.067(1.432,2.976)
	Agree a little	17.85 (14.38,21.95)	15.46(11.87,19.9)	23.36 (20.14,26.93)	Sometimes	15.63(13.09,18.56)
	Disagree a little	29.09 (24.29,34.4)	30.21(25,35.98)	29.23 (24.73,34.16)	Rarely	29.31(25.64,33.26)
	Disagree a lot	48.46 (43.33,53.62)	51.08(46.03,56.11)	43.04 (37.5,48.76)	Never	53(48.43,57.52)
	Don't know	0	.0622(.0084, .4583)	.4691 (.1796,1.22)	Don't know	0
Triple-combination arm	Agree a lot	8.874(6.427,12.13)	4.819(3.209,7.175)	8.614 (5.511,13.22)	Often	3.121(2.004,4.828)
	Agree a little	15.84(13.13,18.99)	19.67(16.42,23.38)	21.98 (18.46,25.95)	Sometimes	15.76(13,18.97)
	Disagree a little	23.25 (18.18,29.23)	24.29(20.58,28.43)	26.37 (20.87,32.72)	Rarely	21.97(18.63,25.72)
	Disagree a lot	51.53(44.48,58.51)	50.83(45.81,55.83)	41.93 (35.71,48.4)	Never	58.28(53.12,63.26)
	Don't know	.3572(.1233,1.03)	.3898(.1282,1.179)	1.113 (.3428,3.552)	Don't know	.8733(.3893,1.947)
Delayed intervention/control arm	Agree a lot	5.969(4.247,8.327)	4.246(3.187,5.636)	6.181 (4.581,8.291)	Often	2.145(1.483,3.092)
	Agree a little	17.56(14.53,21.08)	18.77(15.23,22.92)	23.49 (18.26,29.67)	Sometimes	16.32 (13.82,19.18)
	Disagree a little	21.19(18.21,24.5)	24.63(21.48,28.09)	22.31 (18.64,26.47)	Rarely	18.09(15.49,21.03)
	Disagree a lot	55.08(50.04,60.02)	51.86(46.8,56.89)	47.67 (41.51,53.91)	Never	62.93(58.88,66.82)
	Don't know	.1979(.0487, .7997)	.4836(.1651,1.408)	.354 (.1164,1.072)	Don't know	.5059(.2081,1.225)

Table 45: Attitude, behavior, empirical and normative expectation of male references on Girls' household decision making and education attainment

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		f436 fathers should allow adolescent girls to have a say on the use of household income	457 Most fathers allow their adolescent girls to have a say on the use of household income	471 Most fathers in the community expect you to allow your adolescent girl to have a say on the use of household income		m110. Who mainly makes decision over household finances?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	22.08(18.11,26.65)	15.9 (12.64,19.8)	20.3 (16.37,24.88)	Myself	21.86 (16.76,28)
	Agree a little	41.89(38.19,45.69)	50.17 (45.56,54.77)	46.63 (41.66,51.67)	Husband	2.356 (1.572,3.516)
	Disagree a little	22(18.27,26.25)	23.85 (20.06,28.09)	22.17 (18.68,26.12)	Jointly	71.21 (64.87,76.81)
	Disagree a lot	13.92(11,17.46)	9.889 (7.503,12.93)	10.34 (8.215,12.93)	Respondent's mother)	3.205 (2.174,4.702)
	Don't know	.1015(.0241,.4273)	.2015 (.049,.8242)	.5572 (.1952,1.58)	Respondent's parents jointly	1.131 (.619,2.057)
Triple-combination arm	Agree a lot	27.42(24.09,31.02)	19.08 (15.07,23.85)	20.79 (16.64,25.66)	Myself	27.97 (21.3,35.76)
	Agree a little	44.43(40.97,47.95)	48.66 (43.49,53.87)	46.68 (41.88,51.55)	Husband	2.007 (1.109,3.605)
	Disagree a little	15.81(12.99,19.1)	22.48 (19.5,25.78)	19.83 (16.5,23.64)	Jointly	65.64 (58.05,72.5)
	Disagree a lot	11.49(9.111,14.4)	8.899 (6.616,11.87)	10.21 (7.45,13.83)	Respondent's mother)	2.633 (1.687,4.086)
	Don't know	.8454(.3498,2.029)	.8778 (.4042,1.896)	2.487 (1.243,4.918)	Respondent's mother	1.018 (.4303,2.388)
Delayed intervention/control arm	Agree a lot	28.18(24.58,32.07)	19.62 (16.33,23.39)	19.38 (16.4,22.76)	Myself	29.24 (25.47,33.32)
	Agree a little	45.17(39.97,50.49)	48.56 (43.6,53.55)	48.07 (43.09,53.1)	Husband	2.084 (1.369,3.159)
	Disagree a little	16.44(13.76,19.52)	23.65 (20.7,26.89)	23.36 (20.57,26.4)	Jointly	63.92 (59.75,67.9)
	Disagree a lot	9.971(7.548,13.06)	7.612 (5.523,10.4)	7.702 (5.815,10.14)	Respondent's mother)	3.292 (2.283,4.727)
	Don't know	.239(.0333,1.696)	.5471 (.2484,1.201)	1.487 (.7673,2.863)	Respondent's mother	.5336 (.2441,1.162)
					Respondent's parents jointly	.9273 (.4545,1.883)
		m435 Mothers should allow adolescent girls to decide how much education they can get.	456. Most mothers allow their adolescent girls to decide how much education they can get.	470. Most mothers in the community expect you to allow your adolescent girl on decide how much education she can get.		m444. To what extent do you allow adolescent girls to decide how much education she can get?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	29.77(26.07,33.76)	30.85 (26.98,35.01)	34.37 (30.86,38.05)	Fully	41.14 (36.25,46.21)
	Agree a little	15.76(12.81,19.23)	40.8 (36.33,45.42)	35.99 (31.56,40.68)	Partially	29.84 (27.1,32.74)
	Disagree a little	17.98(15.13,21.22)	17.24 (14.01,21.04)	19.53 (16.17,23.41)	Slightly	21.53 (17.06,26.78)
	Disagree a lot	.331(.1332,.8202)	10.89 (8.327,14.12)	9.715 (7.115,13.13)	Never	7.42 (5.452,10.02)
	Don't know	.1167(.0163,.8324)	.2244 (.0505,.9908)	.3948 (.1489,1.043)	Don't know	.0715 (.0097,.5237)
Triple-combination arm	Agree a lot	31.74(26.95,36.94)	32.1 (26.63,38.12)	31.64 (25.92,37.98)	Fully	45.48 (39.48,51.61)
	Agree a little	11.24(9.627,13.09)	42.08 (38.26,46)	41 (35.94,46.25)	Partially	28.22(24.89,31.82)
	Disagree a little	12.08(9.765,14.86)	15.3 (11.48,20.1)	15.52 (12.96,18.48)	Slightly	14.55(10.44,19.92)
	Disagree a lot	2.701(1.636,4.428)	9.95 (7.732,12.72)	9.787 (7.405,12.83)	Never	11.19 (8.753,14.21)
	Don't know	0	.5733 (.2531,1.293)	1.939 (1.076,3.47)	Don't know	.56 (.2429,1.286)
Delayed intervention/control arm	Agree a lot	33.58(27.96,39.69)	34.76 (31.2,38.49)	34.67 (31.04,38.49)	Fully	43.94 (39.27,48.72)
	Agree a little	12.29(9.491,15.77)	40.52 (34.68,46.64)	40.12 (34.27,46.27)	Partially	32.48 (27.59,37.77)
	Disagree a little	12.28(9.735,15.39)	15.94 (13.41,18.86)	16.14 (13.05,19.8)	Slightly	15.37(12.45,18.83)
	Disagree a lot	1.664(1.086,2.54)	7.845 (5.776,10.57)	7.058 (5.339,9.276)	Never	7.894 (6.006,10.31)
	Don't know	0	.9358 (.4465,1.951)	2.008 (1.142,3.508)	Don't know	.3172 (.0808,1.237)

3.3.7.6. Attitude, Empirical Expectation, Behavior and Normative Expectation on girls Sexual and Reproductive health

3.3.7.6.1. Attitude on Adolescent girls' Sexual and Reproductive health

More than sixty percent (67.18%, 71.99% and 68.75%) of male references in the in double, triple and delayed intervention/control arms respectively agree that adolescent girls should not have sex before marriage even though they can avoid pregnancy. Considerable amount of male references agree that it should be adolescent girl's fault if she gets pregnant before marriage (79.74%, 86.44% and 88.7%) in the double, triple and delayed intervention/control arms respectively.

According to male references the ideal age for girls to have their first sexual intercourse is sixteen in the double-combination arm and fifteen in the triple-combination arm and delayed intervention/control arm (16.59 ± 0.15 , 15.68 ± 0.12 and 15.80 ± 0.08). Four out of ten male reference disagree on the idea of Fathers should talk to their married adolescent girls about contraceptives (48.68 %, 42.47% and 47.23%) in the first, triple-combination arm and delayed intervention/control arm respectively. More than half of male reference s agree on that Contraceptives should only be used by married women (55.98%, 59.98% and 61.26%) in the first, combine and delayed intervention/control arm.

3.3.7.6.2. Empirical Expectation on Adolescent girls' Sexual and Reproductive health

Uniformly along the arms, male reference (66.23%, 65.45% and 67.49%) disagree on the idea of Most adolescent girls have sex before marriage in their community. Large amount of male references agreed on that most fathers in the community think that it is adolescent girls' fault if they get pregnant before marriage (75.99%, 82.56% and 86.12%) in the double, triple and delayed intervention/control arm.

According to male references response, sixteen for the double-combination arm and fifteen for the triple-combination arm and delayed intervention/control arm was age at most adolescent girls have their first sexual intercourse (Mean \pm SE) 16.39 ± 14 , 15.58 ± 17 and 15.79 ± 08 . Three fourth of male references disagreed on the idea of Most fathers/brothers talk to unmarried adolescent girls/sisters about contraceptives (73.1%, 70.73% and 71.74%) in the double, triple and delayed intervention/control arms respectively. Half of male references agreed on that most mothers

believe that contraceptive methods should be used only by married women (51.09%, 59.26% and 57.76%) in the double, triple and delayed intervention/control arms respectively.

3.3.7.6.3. Normative Expectation on Adolescent girls' Sexual and Reproductive health

Seven out of ten in the double-combination arm and six out of ten in the triple-combination arm and delayed intervention/control arm (71.39%, 64.29% and 65.61%) disagree on the idea of community members think adolescent girls have sex before marriage. Plenty of male references 75.99%, 82.56% and 86.12% in the double, triple and delayed intervention/control arms respectively agreed a lot on that community members expect them to think it is adolescent girls' fault if they get pregnant before marriage.

Sixteen is the average age at which mothers expect adolescent girls to start having sex in the double-combination arm (16.56 ± 0.14). What is more, fifteen is the average age at which mothers expect adolescent girls to start having sex in the triple-combination arm and delayed intervention/control arm ($15.64 \pm .13$ and $15.84 \pm .09$) according to the male references. More than seventy percent (73.69%, 71.55%) of male references in the double and delayed intervention/control arm and more than sixty (68.22%) in the triple-combination arm disagreed a lot other fathers/brothers expect them to talk to their unmarried adolescent girl about contraceptives. Half of male references agreed lot on the idea of most mothers expect them to believe contraceptive methods should be used only by married women (48.32%, 53.2% and 53.97%) in the double, triple and delayed intervention/control arms respectively.

3.3.7.6.4. Behavior on Adolescent girls' Sexual and Reproductive health

It very unlikely for three fourth of male references to accept if their daughter/sister gets pregnant before marriage (78.46%, 72.63% and 73.53%) in the double, triple and delayed intervention/control arms respectively. They (male references) were fourteen years old averagely when they first had sexual intercourse (14.55 ± 0.16 , 14.41 ± 0.09 and 14.93 ± 0.13) almost universally across the arms.

More than three fourth of male references never talk to their unmarried adolescent girl/sister about contraceptives(79.38%, 80.84% and 81.55 %) in the double, triple and delayed intervention/control

arms respectively. Two out of ten in the double-combination arm, four out of ten in the triple-combination arm and three out of ten male references in the delayed intervention/control arm often demand their adolescent daughter-in-law/sister-in-law to start using contraceptives (21.15%, 49.27% and 37.74%).

Table 46: Attitude, behavior, empirical and normative expectation of male references on adolescent girl abstinence and pregnancy

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		Adolescent girls should not have sex before marriage even though they can avoid pregnancy.	Most adolescent girls have sex before marriage	5100. Community members think adolescent girls have sex before marriage		
		% (95% CI)	% (95% CI)	% (95% CI)		
Double-combination arm	Agree a lot	67.18(62.51,71.53)	2.862(1.682,4.828)	3.276 (2.004,5.311)		
	Agree a little	8.038(6.178,10.39)	8.318(6.475,10.63)	7.669 (5.714,10.22)		
	Disagree a little	4.622(2.844,7.426)	14.99(12.01,18.55)	14.28 (11.3,17.89)		
	Disagree a lot	19.97(16.56,23.88)	66.23(61.95,70.27)	71.39 (67.73,74.79)		
	Don't know	.1908(.0479,.7566)	7.598(5.354,10.68)	3.292 (2.009,5.35)		
Triple-combination arm	Agree a lot	71.99 (68,75.66)	5.514(3.726,8.088)	6.271 (4.512,8.654)		
	Agree a little	6.732(4.941,9.111)	11.29(8.723,14.5)	11.74 (8.935,15.27)		
	Disagree a little	3.933(2.715,5.667)	12.33(9.153,16.42)	14.71 (11.15,19.16)		
	Disagree a lot	15.95(12.92,19.54)	65.45(59.47,70.97)	64.29 (57.45,70.6)		
	Don't know	1.389(.6317,3.027)	5.347(3.664,7.742)	2.985 (1.881,4.707)		
Delayed intervention/control arm	Agree a lot	68.75(63.49,73.57)	4.045(2.911,5.596)	5.238 (3.849,7.092)		
	Agree a little	4.197(2.816,6.21)	8.103(6.019,10.82)	9.941 (7.514,13.04)		
	Disagree a little	5.204(3.814,7.063)	14.67(11.42,18.64)	15.96 (13.19,19.19)		
	Disagree a lot	20.2(16.83,24.05)	67.49(63.61,71.15)	65.61 (60.39,70.47)		
	Don't know	1.568(.8929,2.74)	5.262(3.672,7.485)	2.752 (1.569,4.784)		
		It should be adolescent girls fault if she gets pregnant before marriage.	Most fathers think that it is adolescent girls' fault if they get pregnant before marriage	Community members expect you to think it is adolescent girls'/sisters' fault if they get pregnant before marriage		How likely is it for you to accept if your daughter/sister get pregnant before marriage?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	79.74(76.46,82.66)	75.99 (72.5,79.15)	75.99(72.5,79.15)	Very likely	8.64(6.905,10.76)
	Agree a little	15.14(12.71,17.94)	13.53 (11.01,16.51)	13.53(11.01,16.51)	Likely	5.875(4.249,8.072)
	Disagree a little	2.944(1.956,4.409)	5.005 (3.459,7.192)	5.005(3.459,7.192)	Unlikely	6.502(4.478,9.351)
	Disagree a lot	2.064(1.32,3.215)	4.841 (3.542,6.585)	4.841(3.542,6.585)	Very unlikely	78.46(75.74,80.95)
	Don't know	.1177(.0164,.8385)	.6411 (.2802,1.46)	.6411(.2802,1.46)	Don't know	0.5244(.2049,1.336)
Triple-combination arm	Agree a lot	86.44(83.02,89.27)	82.56 (77.95,86.38)	82.56(77.95,86.38)	Very likely	12.31(9.906,15.2)
	Agree a little	8.911(6.465,12.16)	10.03 (7.702,12.97)	10.03(7.702,12.97)	Likely	6.854(4.155,11.1)
	Disagree a little	1.651(.8709,3.109)	2.504 (1.227,5.04)	2.504(1.227,5.04)	Unlikely	6.155(4.215,8.904)
	Disagree a lot	2.85(1.621,4.964)	4.31 (2.611,7.037)	4.31(2.611,7.037)	Very unlikely	72.63(67.8,76.99)
	Don't know	.1436(.0202,1.014)	.5872 (.2328,1.473)	.5872(.2328,1.473)	Don't know	1.812(.8145,3.983)
Delayed intervention/control arm	Agree a lot	88.7(85.31,91.39)	86.12 (82.5,89.08)	86.12(82.5,89.08)	Very likely	12.59(9.954,15.79)
	Agree a little	5.219(3.859,7.022)	6.413 (4.919,8.321)	6.413(4.919,8.321)	Likely	7.377(5.278,10.22)
	Disagree a little	2.933(1.802,4.739)	2.747 (1.673,4.479)	2.747(1.673,4.479)	Less likely	5.524(4.135,7.344)
	Disagree a lot	2.625(1.822,3.768)	3.299 (2.176,4.971)	3.299(2.176,4.971)	unlikely	73.53(70.51,76.35)
	Don't know	.4401(.167,1.155)	1.143 (.4968,2.608)	1.143(.4968,2.608)	Don't know	.9808(.5073,1.888)

Table 47: Attitude, behavior, empirical and normative expectation of male references on adolescent girl age of sexual debut and pregnancy

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		What should be the ideal age for girls to have their first sexual intercourse?	What age do most adolescent girls have their first sexual intercourse? (Mean ± SE)	What is the age mothers expect adolescent girls to start having sex?		How old were you when you first had sexual intercourse? ↗
Double-combination arm	Mean±SE	16.59±0.15(16.29, 16.89)	16.39±14(16.13, 16.67)	16.56±.143(16.27, 16.84)	Mean±SE	14.55±0.16 (14.25, 14.87)
Triple-combination arm	Mean±SE	15.68±0.12 (15.44, 15.92)	15.58±.17(15.25, 15.91)	15.64±.13(15.39, 15.89)	Mean±SE	14.41±0.09 (14.22, 14.61)
Delayed intervention/control arm	Mean±SE	15.80±0.08 (15.63, 15.98)	15.79±.08(15.62, 15.96)	15.84±.09(15.67, 16.01)	Mean±SE	14.93±0.13 (14.67, 15.18)
		Fathers should talk to their married adolescent girls about contraceptives	Most fathers/brothers talk to unmarried adolescent girls/sisters about contraceptives	Other fathers/brothers expect you to talk to your unmarried adolescent girl about contraceptives		How often do you talk to your unmarried adolescent girl/sister about contraceptives?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	15.8 (12.52,19.74)	1.734(1.018,2.939)	1.962(1.144,3.346)	Often	1.528 (.8521,2.725)
	Agree a little	16.03 (13.51,18.92)	4.574(3.234,6.433)	3.793(2.582,5.54)	Sometimes	9.84 (7.96,12.11)
	Disagree a little	14.18 (11.36,17.57)	13.31(10.5,16.74)	14.67(11.73,18.21)	Rarely	8.865 (6.942,11.26)
	Disagree a lot	48.68 (44.74,52.65)	73.1(68.63,77.15)	73.69(69.11,77.8)	Never	79.38 (76.04,82.36)
	Don't know	5.307 (3.113,8.906)	7.274(4.781,10.92)	5.885(3.725,9.18)	Don't know	.3916 (.0795,1.906)
Triple-combination arm	Agree a lot	23.71 (18.24,30.21)	2.596(1.581,4.233)	2.44(1.373,4.302)	Often	2.104 (1.266,3.476)
	Agree a little	15.82 (12.58,19.7)	7.898(5.679,10.88)	7.678(5.577,10.48)	Sometimes	9.411 (6.421,13.59)
	Disagree a little	13.22 (9.119,18.79)	12.92(9.072,18.08)	17.25(12.52,23.28)	Rarely	6.008 (4.197,8.53)
	Disagree a lot	42.47 (36.38,48.81)	70.73(64.7,76.11)	68.22(61.11,74.56)	Never	80.84 (75.42,85.3)
	Don't know	4.63 (3.082,6.899)	5.699(3.837,8.385)	4.289(2.94,6.216)	Don't know	1.638 (.7987,3.328)
Delayed intervention/control arm	Agree a lot	19.25 (15.27,23.98)	2.251(1.225,4.101)	2.523(1.566,4.041)	Often	1.737 (.9646,3.107)
	Agree a little	13.6 (11.26,16.34)	5.384(3.808,7.561)	6.476(4.689,8.882)	Sometimes	9.371 (6.844,12.7)
	Disagree a little	15.47 (12.84,18.53)	12.69(10.24,15.64)	15.05(11.87,18.89)	Rarely	5.222 (3.741,7.244)
	Disagree a lot	47.23 (42.22,52.29)	71.74(66.6,76.37)	71.55(66.17,76.38)	Never	81.55 (77.5,85.01)
	Don't know	3.679 (2.422,5.551)	7.135(5.364,9.433)	3.75(2.76,5.076)	Don't know	1.655 (.9941,2.742)
		m543 Contraceptives should only be used by married women	m580 Most mothers believe that contraceptive methods should be used only by married women	5112 Most mothers expect you to believe contraceptive methods should be used only by married women		mm560 How often do you demand your adolescent daughter-in-law/sister-in-law to start using contraceptives
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	55.98(49.95,61.83)	51.09(44.7,57.44)	48.32(42.15,54.53)	Often	21.15(9.302,41.23)
	Agree a little	15.05(12.37,18.19)	15.32(13.03,17.94)	15.7(13.02,18.82)	Sometimes	59.16(44,72.75)
	Disagree a little	7.338(5.32,10.04)	8.848(6.975,11.16)	10.96(8.53,13.96)	Rarely	14.87(6.021,32.27)
	Disagree a lot	18.66(15.18,22.73)	20.11(17.18,23.4)	22.29(18.47,26.65)	Never	4.819(1.083,18.97)
	Don't know	2.969(1.738,5.027)	4.63(2.992,7.1)	2.731(1.764,4.206)	Don't know	0
Triple-combination arm	Agree a lot	59.98(54.01,65.68)	59.26(53.44,64.83)	53.2(46.57,59.72)	Often	49.27(35.48,63.18)
	Agree a little	14.13(11.41,17.37)	14.68(11.71,18.25)	18.58(14.33,23.75)	Sometimes	25.62(17.54,35.8)
	Disagree a little	7.732(5.46,10.84)	9.598(6.872,13.25)	10.73(8.089,14.1)	Rarely	10.29(5.381,18.78)
	Disagree a lot	14.3(10.66,18.91)	12.73(10.2,15.76)	14.66(12.08,17.67)	Never	11.99(5.103,25.65)
	Don't know	3.744(2.28,6.09)	3.569(2.159,5.844)	2.771(1.787,4.272)	Don't know	2.836(.6487,11.54)
Delayed intervention/control arm	Agree a lot	61.26(53.74,68.28)	57.76(50.48,64.72)	53.97(47.8,60.03)	Often	37.74(25.86,51.31)
	Agree a little	11.29(8.65,14.61)	12.09(9.66,15.04)	13.25(11.05,15.8)	Sometimes	33.26(22.17,46.58)

	Disagree a little	7.899(5.644,10.95)	8.832(6.232,12.37)	11.16(8.558,14.44)	Rarely	7.731(3.403,16.62)
	Disagree a lot	15.44(11.97,19.69)	16.21(13.29,19.63)	18.39(15.33,21.89)	Never	14.66(8.739,23.56)
	Don't know	3.412(2.384,4.861)	4.324(2.969,6.257)	2.278(1.599,3.235)	Don't know	6.601(2.936,14.17)

3.3.7.7. Attitude, Empirical Expectation, Behavior and Normative Expectation on girls Nutrition

3.3.7.7.1. Attitude on Adolescent girls' Nutrition

Half of male references agree a lot on that adolescent girls and boys of the same age should have to the same amount of food (48.32%, 53.2% and 53.97%) in the double, triple and delayed intervention/control arm respectively. Only four out of ten in the double and delayed intervention/control arm and five out of ten in the triple-combination arm agreed a lot on the issue of adolescent girls and boys of the same age living with their parents should eat at the same time (45.07%, 52.2% and 48.4%).

Around seventy percent of male references in the double, triple and delayed intervention/control arm agreed a lot on the idea of adolescent girls and boys in the same household should eat the same type of food (68%, 74.43% and 77.65%). More than half of male references in the first, triple-combination arm and delayed intervention/control arm disagreed a lot on that idea of Adolescent girls should eat first before everybody in the family eats (51.6%, 58.21% and 57.36%). Likewise, four out of ten (40.65%, 40.61% and 45.93%) male references agreed a lot on the issue of adolescent girls should eat after everybody in the family eats.

3.3.7.7.2. Empirical Expectation on Adolescent girls' Nutrition

Three out of ten male reference in all arm agreed a lot on that most fathers let adolescent girls have the same amount of food as their male siblings or husbands (34.45%, 34.67% and 38.23%). More than one fourth of male references agreed a lot that most fathers let adolescent girls eat at the same time as boys of the same age living with their parents (32.08%, 37% and 35.83%). According to near to half male references (49.59%, 53.74% and 54.56%) response, most fathers let adolescent girls in the community have the same quality of food as their male siblings or husbands.

Half of male references disagreed a lot on that most pregnant women usually eat before everybody in the family (49.74%, 58.73% and 58.83%) in the double, triple and delayed intervention/control

arms respectively. whereas inversely, the male reference agreed a lot on that most pregnant women usually eat after everybody in the family (44.92%, 42.72% and 45.95%) in the double, triple-combination and delayed intervention/control arms respectively.

3.3.7.7.3. Normative Expectation on Adolescent girls' Nutrition

Three out of ten male references agreed a lot on community members expect them to let their adolescent girl in the household eat the same amount of food as her male siblings or husbands (32.51%, 37.21 % and 36.02 %). Although comparable amount of them agreed a lot on community members expect them to let their adolescent girl eat at the same time as boys of the same age living with their parents (30.04%, 37.71% and 31.58%). Moreover, (45.87%, 49.95% and 51.29%) in the double, triple and delayed intervention/control arms respectively agreed a lot on community members expect them to let their adolescent girl in the household have the same quality of food as everybody in the family.

Four out of ten male reference (42.94%, 44.15% and 44.56%) consistently in all arms disagreed a lot on that community members expect them to let their adolescent girl to eat before everybody in the family. In the same way, three out of ten male reference agreed a lot (35.62%, 31.16% and 34.96%) on that community members expect them to let their adolescent girl to eat after everybody in the family.

3.3.7.7.4. Behavior on Adolescent girls' Nutrition

More than one fourth of male reference revealed that they often let their adolescent girls in their household to eat the same amount of food as boys of the same age (31.11 %, 38.88% and 37.67%). Similarly, (34.68%) in the double-combination arm, (43.09%) in the triple-combination arm and (38.23%) delayed intervention/control arm agreed a lot on they often let their adolescent girls in their household to eat food/ have meals/ at the same time as boys of the same age living with their parents. More than half of male references respond that they often let their adolescent girls in their household to eat the same type of food as boys in the same household (56.29%, 63.64% and 63.55%).

According to male reference practices, when meals are served in the household Adult men usually eat first (64.36 %, 59.71% and 61.35 %) in the double, triple and delayed intervention/control arms respectively. Also, regarding who eats last, (28.43%) in the double, (20.3%) in the triple and (25.65%) delayed intervention/control arms adult women usually eat last when meals are served in the household.

Table 48: Attitude, behavior, empirical and normative expectation of male references on adolescent girl food consumption and order.

Arm	Response	Attitude	Empirical expectation	Normative expectation		Behavior
		601. Adolescent girls and boys of the same age should have to the same amount of food	Fbfibi 621. Most fathers let adolescent girls have the same amount of food as their male siblings or husbands	Fbfibi 632. Community members expect you to let your adolescent girl in the household eat the same amount of food as her male siblings or husbands.	Response	611. How often do you let adolescent girls in your household to eat the same amount of food as boys of the same age?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	48.32(42.15,54.53)	34.45 (30.73,38.37)	32.51 (28.33,36.99)	Often	31.11 (27.74,34.69)
	Agree a little	15.7(13.02,18.82)	36.55 (32.71,40.57)	35.6 (31.11,40.35)	Sometimes	34.38 (31.08,37.84)
	Disagree a little	10.96(8.53,13.96)	14.03 (11.3,17.3)	15.46 (12.43,19.07)	Rarely	19.44 (16.3,23.02)
	Disagree a lot	22.29(18.47,26.65)	14.97 (11.47,19.3)	16.43 (12.77,20.89)	Never	15.07 (12.01,18.75)
	Don't know	2.731(1.764,4.206)	0	0	Don't know	0
Triple-combination arm	Agree a lot	53.2(46.57,59.72)	34.67 (29.04,40.77)	37.21 (31.65,43.14)	Often	38.88 (34.2,43.77)
	Agree a little	18.58(14.33,23.75)	33.96 (28.18,40.27)	35.29 (29.88,41.1)	Sometimes	33.06 (28.62,37.82)
	Disagree a little	10.73(8.089,14.1)	16.61 (11.2,23.92)	13.37 (10.44,16.97)	Rarely	14.2 (11.42,17.52)
	Disagree a lot	14.66(12.08,17.67)	14.18 (9.949,19.8)	12.92 (9.215,17.82)	Never	13.86 (10.15,18.66)
	Don't know	2.771(1.787,4.272)	.4392 (.1802,1.066)	1.205 (.4966,2.894)	Don't know	0
Delayed intervention/control arm	Agree a lot	53.97(47.8,60.03)	38.23 (32.79,43.99)	36.02 (31.42,40.89)	Often	37.67 (33.97,41.52)
	Agree a little	13.25(11.05,15.8)	30.92 (26.29,35.97)	34.84 (30.96,38.94)	Sometimes	31.64 (28.12,35.38)
	Disagree a little	11.16(8.558,14.44)	15.98 (12.88,19.67)	15.34 (12.3,18.98)	Rarely	18.37 (14.82,22.53)
	Disagree a lot	18.39(15.33,21.89)	14.27 (10.65,18.85)	11.98 (8.855,16.02)	Never	12.2 (8.89,16.52)
	Don't know	2.278(1.599,3.235)	.5938 (.2713,1.295)	1.808 (.9043,3.584)	Don't know	1304 (.0182,.9287)
		602. Adolescent girls and boys of the same age living with their parents should eat at the same time	Fbfibi 622. Most fathers let adolescent girls eat at the same time as boys of the same age living with their parents	Fbfibi 633. Community members expect you to let your adolescent girl at the same time as boys of the same age living with their parents.		612. How often do you let adolescent girls in your household to eat food/ have meals/ at the same time as boys of the same age living with their parents?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	45.07(41.73,48.45)	32.08 (28.6,35.77)	30.04 (26.91,33.37)	Often	34.68 (30.75,38.83)
	Agree a little	31.99(28.18,36.06)	40.95 (37.46,44.54)	41.39 (37.41,45.47)	Sometimes	34.07 (30.2,38.17)
	Disagree a little	12.23(9.479,15.65)	15.54 (12.42,19.28)	16.9 (13.59,20.82)	Rarely	21.57 (18.72,24.72)
	Disagree a lot	10.71(8.05,14.1)	11.3 (8.604,14.7)	11.56 (9.277,14.31)	Never	9.673 (7.797,11.94)
	Don't know	0	.1291 (.0316,.5265)	.1214 (.0274,.5357)	Don't know	0
Triple-combination arm	Agree a lot	52.2(47.42,56.95)	37 (31.12,43.3)	37.71 (32.43,78)	Often	43.09 (38.23,48.09)
	Agree a little	28.39(25.12,31.92)	40.18 (35.12,45.45)	42.31 (37.61,47.15)	Sometimes	30.39 (26.7,34.36)
	Disagree a little	11.45(8.605,15.09)	14.43 (10.81,19)	12.98 (10.14,16.47)	Rarely	18.09 (14.95,21.72)
	Disagree a lot	7.949(5.473,11.41)	7.8 (5.308,11.32)	5.901 (4.079,8.464)	Never	8.224 (6.017,11.15)
	Don't know	0	.5908 (.2258,1.537)	1.102 (.4733,2.546)	Don't know	1553 (.0218,1.096)
Delayed intervention/control arm	Agree a lot	48.4(44.35,52.46)	35.83 (31.04,40.92)	31.58 (27.44,36.03)	Often	38.23 (34.27,42.35)
	Agree a little	27.82(24.41,31.5)	37.69 (34.01,41.51)	40.62 (36.76,44.59)	Sometimes	33.2 (29.75,36.85)
	Disagree a little	13.52(11.14,16.32)	14.74 (12.23,17.68)	16.38 (13.95,19.14)	Rarely	19.5 (16.91,22.39)
	Disagree a lot	10.15(7.503,13.59)	11.14 (8.493,14.49)	9.932 (7.772,12.61)	Never	8.934 (6.455,12.24)
	Don't know	.1166(.0163,.8288)	.5938 (.2713,1.295)	1.496 (.7893,2.817)	Don't know	1304 (.0182,.9287)

Table 49: Attitude, behavior, empirical and normative expectation of male references on adolescent girl food quality and food order

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		Adolescent girls and boys in the same household should eat the same type of food	Most fathers let adolescent girls in the community have the same quality of food as their male siblings or husbands	Community members expect you to let your adolescent girl in the household have the same quality of food as everybody in the family		How often do you let adolescent girls in your household to eat the same type of food as boys in the same household?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	68(63.51,72.18)	49.59 (44.15,55.03)	45.87(40.08,51.77)	Often	56.29 (50.92,61.52)
	Agree a little	26.53(23.06,30.3)	38.92 (34.54,43.48)	38.94(34.54,43.51)	Sometimes	29.72 (26.28,33.4)
	Disagree a little	3.883(2.629,5.699)	7.377 (5.557,9.732)	9.57(7.302,12.45)	Rarely	12.7 (10.16,15.77)
	Disagree a lot	1.436(.8533,2.407)	4.05 (2.553,6.365)	5.481(3.726,7.995)	Never	1.284 (.735,2.233)
	Don't know	.1547(.0381,.6252)	.0645 (.0087,.4757)	.1445(.0352,.5904)	Don't know	0
Triple-combination arm	Agree a lot	74.43(68.14,79.86)	53.74 (46.72,60.6)	49.95(43.42,56.48)	Often	63.64 (56.74,70.02)
	Agree a little	19.72(15.64,24.55)	34.9 (30.62,39.44)	35.55(31.06,40.3)	Sometimes	23.73 (19.88,28.07)
	Disagree a little	4.306(2.821,6.52)	7.832 (4.297,13.85)	10.2(6.715,15.21)	Rarely	11.52 (8.254,15.84)
	Disagree a lot	1.541(.9112,2.593)	2.942 (1.525,5.602)	2.987(2.001,4.437)	Never	1.114 (.4806,2.562)
	Don't know	0	.5851 (.2258,1.507)	1.316(.5473,3.131)	Don't know	0
Delayed intervention/control arm	Agree a lot	77.65(72.61,81.99)	54.56 (48.97,60.03)	51.29(46.4,56.15)	Often	63.55 (57.44,69.25)
	Agree a little	16.28 (13.4,19.65)	32.36 (27.73,37.35)	33.76(29.36,38.45)	Sometimes	23.26 (19.81,27.11)
	Disagree a little	3.561 (2.251,5.589)	8.929 (5.915,13.26)	9.468(6.736,13.15)	Rarely	11.55 (8.44,15.6)
	Disagree a lot	2.32(1.484,3.61)	3.768 (2.532,5.573)	3.91(2.772,5.489)	Never	1.439 (.8323,2.475)
	Don't know	.1848(.0443,.7676)	.3919 (.1483,1.032)	1.578(.83,2.979)	Don't know	.207 (.0511,.8343)
		609. Adolescent girls should eat first before everybody in the family eats	630. Most pregnant women usually eat before everybody in the family	640. Community members expect you to let your adolescent girl to eat before everybody in the family.		619. When meals are served in the household who usually eats first?...
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	6.043(4.378,8.285)	6.291(4.675,8.415)	7.288(5.377,9.808)	Adult men	64.36 (59.26,69.15)
	Agree a little	13.77(11.3,16.67)	17.21(14.74,20)	21.17(17.19,25.79)	Adult women	49.46 (1.657,1.467)
	Disagree a little	28.32(24.32,32.69)	26.36(22.24,30.95)	28.35(24.91,32.06)	Adult men and boys	7.21 (4.832,10.63)
	Disagree a lot	51.6(46.62,56.55)	49.74(44.17,55.31)	42.94(38.33,47.67)	Adult men and women	3.059 (1.965,4.732)
	Don't know	.2721(.0841,.8769)	.2714(.0862,.8512)	.2526(.0743,.8553)	Everyone	22.89 (18.23,28.34)
Triple-combination arm	Agree a lot	6.098(4.459,8.288)	4.366(2.899,6.525)	12.06(8.877,16.17)	Adult men	59.71 (54.63,64.59)
	Agree a little	10.22(7.795,13.29)	12.77(10.08,16.05)	19.16(15.22,23.84)	Adult men and boys	8.016 (5.527,11.49)
	Disagree a little	25.24(21.04,29.97)	23.49(19.28,28.29)	23.5(19.91,27.51)	Adult men and women	4.112 (2.333,7.146)
	Disagree a lot	58.21(51.65,64.5)	58.73(52.85,64.38)	44.15(37.77,50.73)	Male children	1.855 (1.008,3.388)
	Don't know	.2267(.072,.7111)	.643(.2817,1.461)	1.067(.5242,2.161)	Everyone	22.45 (17.97,27.69)
Delayed intervention/control arm	Agree a lot	5.01(3.45,7.222)	4.551(2.809,7.293)	11.8(9.26,14.92)	Adult men	61.35 (58.17,64.44)
	Agree a little	13.88(10.62,17.94)	13.51 (10.59,17.09)	20.96(16.99,25.56)	Adult men and boys	7.994 (6.329,10.05)
	Disagree a little	23.54(21.08,26.2)	22.92(20.36,25.69)	22.13(19.71,24.75)	Adult men and women	3.437 (2.081,5.625)
	Disagree a lot	57.36(51.94,62.6)	58.83(53.84,63.64)	44.56(39.03,50.23)	Male children	1.955 (1.198,3.173)
	Don't know	.2124(.0484,.9272)	.1895(.0443,.8068)	.56(.2583,1.21)	Everyone	21.78 (18.48,25.48)

Table 50: Attitude, behavior, empirical and normative expectation of male references on adolescent girl on food consumption order.

Arm	Response	Attitude	Empirical expectation	Normative expectation	Behavior	
		610. Adolescent girls should eat after everybody in the family eats	631. Most pregnant women usually eat after everybody in the family	641. Community members expect you to let your adolescent girl to eat after everybody in the family.		620. When meals are served in the household who usually eats last?
		% (95% CI)	% (95% CI)	% (95% CI)		% (95% CI)
Double-combination arm	Agree a lot	40.65(34.87,46.69)	44.92(38.07,51.97)	35.62(30.41,41.19)	Adult men	.8914 (.4283,1.846)
	Agree a little	29.46(25.76,33.46)	29.68(25.66,34.03)	32.31(29.06,35.75)	Adult women	28.43 (24.15,33.14)
	Disagree a little	17.4(14.3,21.01)	14.3(10.84,18.64)	17.91(14.65,21.72)	Male Adolescent	.4968 (.1656,1.481)
	Disagree a lot	12.35(9.661,15.67)	11.01(8.909,13.53)	14.02(12.11,16.17)	Female Adolescent	10.65 (7.552,14.8)
	Don't know	.1334(.0188,.9389)	.092(.0127,.6653)	.1372(.0333,.5637)	Adult men and boys	.2153 (.0685,.6743)
					Adult women and girls	26.52 (21.2,32.62)
					Adult men and women	1.705 (.8219,3.504)
					Male children	2.387(.921,6.045)
					Female children	3.531(2.354,5.265)
					Everyone	24.07(19.61,29.17)
				Others	1.106(.4071,2.971)	
Triple-combination arm	Agree a lot	40.61(35.19,46.26)	42.72(37.31,48.32)	31.16(25.88,36.98)	Adult men	.9694 (4761,1.964)
	Agree a little	23.85 (20.58,27.47)	31.93(27.7,36.49)	29.68(25.48,34.25)	Adult women	20.3 (16.06,25.32)
	Disagree a little	15.6(12.56,19.22)	11.03(8.973,13.49)	17.72(14.07,22.07)	Male Adolescent	.1633 (.0396,.6711)
	Disagree a lot	19.87(14.84,26.08)	14(9.745,19.71)	20.4(15.95,25.71)	Female Adolescent	17.57 (13.78,22.13)
	Don't know	.0683(.0092,.5036)	.3098(.0819,1.164)	.8475(.3556,2.006)	Adult men and boys	2.036 (.5185,7.651)
					Adult women and girls	21.29 (16.81,26.58)
					Adult men and women	1.328 (.4553,3.809)
					Male children	3.829(1.923,7.477)
					Female children	5.587(3.771,8.203)
				Everyone	24.36(19.69,29.73)	
Delayed intervention/control arm	Agree a lot	45.93(41.58,50.34)	45.95(40.64,51.36)	34.96(30.63,39.54)	Adult men	1.646 (.931,2.893)
	Agree a little	24.25(21.59,27.13)	30.98(27.64,34.53)	27.79(24.15,31.75)	Adult women	25.65 (21.03,30.9)
	Disagree a little	15.77 (12.65,19.49)	12.85(10.48,15.68)	18.19(15.56,21.16)	Female Adolescent	21.3 (17.08,26.22)
	Disagree a lot	14.05(11.32,17.31)	10.13(7.856,12.97)	18.52(14.96,22.69)	Adult men and boys	1.47 (.8073,2.663)
	Don't know	0	.0797(.0109,.5819)	.5482(.2057,1.452)	Adult women and girls	18.19 (15.16,21.69)
					Adult men and women	2.36 (1.381,4.004)
				Male children	1.776(1.017,3.085)	

					Female children	3.488(2.262,5.343)
					Everyone	22.75(19.16,26.8)
					Others	1.243(.6835,2.249)

4. Lessons learnt during data gathering

- Informing government stakeholders about aim and field work activities in the woredas during the preparation phase allowed research team to gain easy access to the study areas.
- Approaching the community through influential community figures, such as religious leaders, allowed sincere reception of field team by the community which facilitated the data collection activity.
- Closer observation of the community was possible while field team had to spend days inside the community to complete the data collection.
- Mobilizing three teams, instead of one, in some clusters was necessary to expedite the data collection due security alerts.
- Data collection during Ramadan fasting season was found to be a major challenge. Most of the respondents were not comfortable to be interviewed in the afternoon which required re-scheduling of the interview to morning hours only. In addition, respondents in some clusters were sensitive to some of the questions about reproductive health.
- Mobilizing field team early in the morning was needed to locate household heads, especially male reference groups, before they went out to their farms.

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