

UNMET NEED FOR CONTRACEPTION AND ASSOCIATED FACTORS AMONG WOMAN HAVING CARDIOVASCULAR DISEASE IN ST PAUL HOSPITAL MILLENNIUM MEDICAL COLLEGE ADDIS, ABABA, ETHIOPIA

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ABSTRACT

BACKGROUND: Cardiovascular illness complicates 1-4% of pregnancy. Cardiovascular disease during pregnancy is challenging for care and carries high morbidity and mortality than uncomplicated pregnancy. This research aimed to investigate the magnitude of unmet need and contributing factors.

METHODS: A facility based cross sectional study was conducted through an exit interview of 284 reproductive age women with cardiovascular disease at Saint Paul hospital medical millennium collage using convenient sampling technique. Structured and pretested questionnaire was used to obtain information from February 1–May 30/2020. Descriptive, bivariate, and multivariate methods was used to analyze the level of unmet need and its associated factors

RESULTS: The overall unmet need for contraception was 36 %. Majority of the respondent lacks counseling on contraception use. The most common reasons for non-use

was fear for drug side effect-interaction.

Unmet need for contraception was found to be more likely among women never used contraception before (AOR= 3.2, CI 1.12-8.92), no partner support on contraception use (AOR=6.2, CI: 1.91-19.8) and never counseled on contraceptive use (AOR 6.7, CI 1.83-24.7). However, unmet need was less likely among women having frequent counseling (AOR =0.56, CI: 0.2-1.59) and Women having collaborative decision with the husband on contraception use (AOR=0.19, CI 0.07-0.55).

CONCLUSION AND

RECOMMENDATIONS: Unmet need for contraception is high in this high risk population group. Appropriate preconception counseling to correct misconceptions address the barriers to contraceptive use. Therefore, counseling on contraception use should be strengthened.

KEY WORDS: unmet need, cardiovascular disease, contraception, preconception, chronic medical disease.

1. INTRODUCTION

1.1. STATEMENT OF THE PROBLEM

Cardiovascular disease complicates 1-4% of pregnancy, among which chronic valvular heart disease (CVHD) is the leading case followed by adult Coronary artery syndrome (CAD), hypertension (HTN), congenital heart disease (CHD) and cardiomyopathy. (1)

Cardiac disease is the leading cause of maternal mortality in the developed world.

(2) The majority of women with heart disease are able to successfully undergo pregnancy.(3)

However, in women with severely impaired ventricular function, is associated with a significant risk, and these women should be counseled against pregnancy if there is no option for treatment that reduces risk.(1)

Perinatal & maternal mortality and morbidity is directly associated with the severity of the cardiovascular disease which is graded in world health organization (WHO) classes I through IV. Pregnancy should not be discouraged especially those with class I and II unlike class III and IV. (4)

Most patients with cardiovascular disorders have multiple visits before conceptions; golden opportunity for

contraceptive counseling is often limited by time constraints. (5) Clinicians often concentrate on medication refill and adjustment, acute medical conditions and appointments. (6)

Therefore, planned pregnancy and birth spacing are key elements to prevent complications of cardiovascular illness during pregnancy.(7) Therefore; Consistent use of contraceptive is crucial to obtain this goal. (6)

Governmental and non-governmental organization (NGO) concentrate on ways of decreasing maternal mortality and morbidity rate but chronic medical conditions like cardiovascular disease lacks emphasis as way to improve maternal health quality care as a one target point. (8) Ethiopia has a low rate of family planning practice. Among married Ethiopian women, 35% currently used a modern contraceptive method, and 22% reported unmet need for family planning in 2016. (9)

The aim of this research is to investigate unmet need of contraceptive and associated factors for unmet need among women with cardiovascular disease in Saint Paul hospital millennium medical college.

2. METHODOLOGY

2.1 STUDY DESIGN AND SETTING

Institutional based cross-sectional study was conducted in the cardiac clinics of SPHMMC through an exit interview among women having cardiovascular disease from Feb 1 to May 30, 2020 GC. SPHMMC is found in Addis Ababa, Ethiopia which was built in 1961 E.C by the Emperor Haileselassie with the help of the German Evangelical Church. Its core services are medical care, teaching activity and research.

2.2 STUDY POPULATION

Study population was sampled currently married or in union women age (15–49 years) with cardiovascular disease and attending cardiac clinics who fulfill the inclusion criteria.

2.3 INCLUSION & EXCLUSION

2.3.1 INCLUSION CRITERIA

- ✓ Women in the reproductive age group (aged between 15-49 years who had cardiovascular disease who are enrolled in chronic care and treatment at time of data collection
- ✓ Women who are competent to give informed consent and willing to permit chart review and other pertinent information if in need.
- ✓ Woman who are currently married or living with a partner who are sexually active

2.3.2 EXCLUSION CRITERIA

- ✓ Women who have acute medical condition and unable to give consent
- ✓ Women who are coming for the first time to the chronic clinic

2.4 SAMPLE SIZE AND SAMPLING

The required sample size was determined using the single population proportion formula: Since there is no study specifically addressing unmet need of cardiovascular patient p was taken 50%. Finite population correction was used since the sample size is less than 10,000. Therefore, sample size was recalculated to be 291.

Convenient sampling method was applied to identify and include all the study participants. Based on the finding we consecutively recruited the study subject until the total sample size was achieved.

2.5 STUDY VARIABLES

The dependent variable was the ‘unmet need of contraceptives’ whereas the independent variables were age, parity, educational status, income, occupation, previous contraceptive use, preconception counseling, and partner support in the cardiovascular care and contraception use.

2.6 DATA COLLECTION

Data collection tool format is prepared in English and was translated into Amharic

and back to English again. It was tested on 29 participants before data collection.

Training was given to the data collectors on pre-tested interviewer-administered questionnaire. Data was collected by four trained nurses working in chronic medical clinic, overall supervision also made by the Principal Investigators.

The tool consists of socio-demographic, unmet need of contraception and cardiac care and follow-up, and preconception counseling.

Questioners used in this study is developed the by referring to various literatures and unmet need parts are taken from DHS analytical studies revised definition of unmet need in 2012.(10)

2.7 DATA PROCESSING & ANALYSIS

Consecutive code was given to each case before the data entry. Data was entered, cleaned and analyzed by SPSS version 20.

Data was recoded, descriptive analysis was used to describe data. Chi-square test was done to see the significance of association between independent variables and the outcome variable. Bivariate logistic regression analysis of was carried out.

Variables with p value < 0.2 in bivariate analysis were entered for multivariable logistic regression to see association with unmet need of contraception. P value of <0.05 is taken as statically significant.

2.8 ETHICAL CONSIDERATIONS

The study proposal was approved by the institutional review board and department of OBGYN of SPHMMC before data collection process. All participants were informed about the study purpose and procedures in their native language. Privacy and confidentiality of study participants was ensured throughout the study by collecting data in private room.

3. RESULT

3.1 SOCIO-DEMORGRAPHIC CHARACTERISTIC

The study was undertaken with 291 women in reproductive age having cardiovascular disease. Among them 7 were non-responders (5 refused the interview and 2 discontinued at some points during the

interview) which makes the response rate 97.6 %.

The age range of 15-49 years were participated in the study and the mean age being 34(± 7.4 SD). (Table 1)

Table 1: Socio-Demographic characteristics of the respondents, Addis Ababa, Ethiopia, 2020

AGE	Frequency (N)	Percentage (%)
15-18	11	3.9
19-34	134	47.2
35-44	113	39.8
45-49	26	9.2
Level of education		
No formal education	53	18.7
Primary	67	23.6
Secondary	83	29.2
Technical/vocational	23	8.1
Higher	58	20.4
Occupation		
Student	16	5.6
Unemployed	16	5.6
Housewife	135	47.5
House servant	9	3.2
Daily laborer	20	7.0
Merchant	55	19.4
Government employee	33	11.6
Private employee	16	5.6
Other *	16	5.6
Monthly income		
No monthly income	171	60.2
Less than 1000 ETB	7	2.5
1001- 3000 ETB	54	19.0
3001-5000 ETB	25	8.8
More than 5001 ETB	27	9.5

3.2 SEXUAL AND REPRODUCTIVE CHARACTERISTICS

Among 284 women 199 (70.1%) used modern contraception at least once in their life. There were 51 pregnant women during the study, 18(35.3%) didn't want the current pregnancy. During data collection

86(30.2 %) were using modern contraception. More than 87% of the participant were sexually active within the past one year (Table 2)

Table 2 : Reproductive and sexual characteristics of respondents, Addis Ababa, Ethiopia, 2020

Pregnancy status	FREQUENCY (N)	PERCENT (%)
Currently pregnant	51	18.0
Not pregnant	233	82.0
Ever used modern contraceptive		
Yes	199	70.1
No	85	29.9
Current contraceptive use		
Pregnant	51	18.0
Yes	86	30.2
No	147	51.8
Marital status		
Yes, currently married	214	75.4
Yes, living with a man	70	24.6
Last time of sexual contact		
Days ago	114	40.1
Weeks ago	82	28.9
Months ago	50	17.6
Years ago	38	13.4
Partner support on contraceptive		
Yes	180	63.4
No	68	23.9
I don't know	36	12.7
Decision maker for contraceptive use		
Respondent	121	42.6
Husband of the respondent	28	9.9
Both	135	47.5

3.3 CARDIAC CARE & FOLLOW UP

Most commonly observed cardiovascular disease were hypertension 90(31.7%) and chronic rheumatic valvular disease 89(31.3%). Sixty percent have support from their partner for the follow up and

care. The duration of chronic care and treatment range from 3 month to 20 years and the mean duration 54.6(±41) months. (Table 3).

Table 3: Care and treatment of the respondents, Addis Ababa, Ethiopia, 2020

TYPE OF DISEASE	FREQUENCY(N)	PERCENT (%)
CVHD	89	31.3
Adult CHD	47	16.5
HTN	90	31.7
Coronary heart disease	26	9.2
Cardiomyopathy	22	7.7
Other *	10	3.5
Husband support on cardiac care		
Yes	172	60.6
No	77	27.1
I don't know	35	12.3
Duration of cardiovascular follow-up		
Less than 1 year	49	17.3
1-4 years	121	42.6
4-8 years	72	25.4
More than 8 years	42	14.8
Others* stroke, DVT and pericarditis		

3.5 PRECONCEPTION CARE & COUNSELING

Despite of having multiple visits in the cardiac clinic majority lacks counseling. Women never counseled on unintended pregnancy, future pregnancy plan, contraception use were 62.7%, 61.3%,

56% respectively. Fifty seven percent of the client preferred to get family planning service in the cardiac clinic as integrated service. (Table 4)

Table 4: preconception counseling of respondents, Addis Ababa, Ethiopia, 2020

Types of preconception counseling	Frequency(N)	Percent (%)
Unintended pregnancy		
Yes	92	32.4
No	178	62.7
Don't remember	14	4.9
Use of contraceptives		
Yes	117	41.2
No	159	56.0
Don't remember	8	2.8
Future pregnancy plan		
Yes	94	33.1
No	174	61.3
Don't remember	16	5.6
Frequency of discussion About contraception		
Some times	21	7.4
Frequently	104	36.6
Never	159	56.0
Sent to family planning unit		
Yes	71	25.0
No	200	70.4
Don't remember	13	4.6
Want to have Integrated care		
Agree	189	66.5
Disagree	84	29.6
Neutral	11	3.9
Preferred place to get contraception		
prefer to get in the cardiac clinic	161	56.7
prefer to get in the family planning clinic	68	23.9
no preference place	55	19.4

3.6 UNMET NEED AND CONTRACEPTION UTILIZATION

The overall unmet need for contraception was 36.0 % of which 26.8 % for spacing and 9.2 % for limiting. The contraceptive use rate 30.2%. (Figure 1)

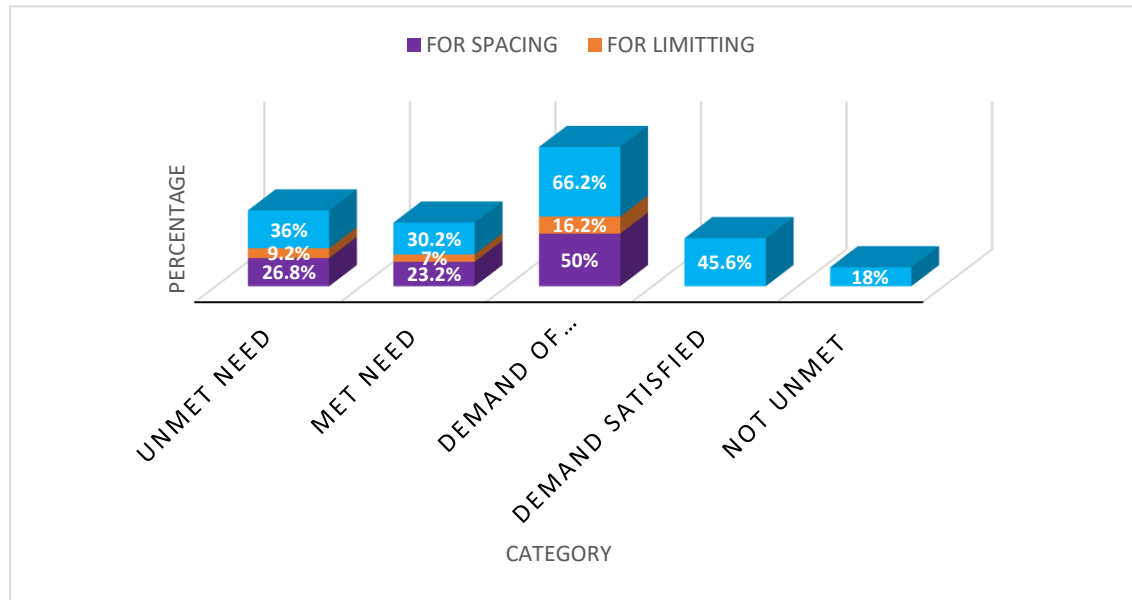


Figure 1: The percentage of unmet need, met need, and demand satisfied for contraception among respondent, Addis Ababa, Ethiopia, 2020

The main reason for not using modern contraception was fear for the side effect and drug interactions with the cardiovascular drugs, followed by perception to low risk for pregnancy and breast feeding. (Figure 2)

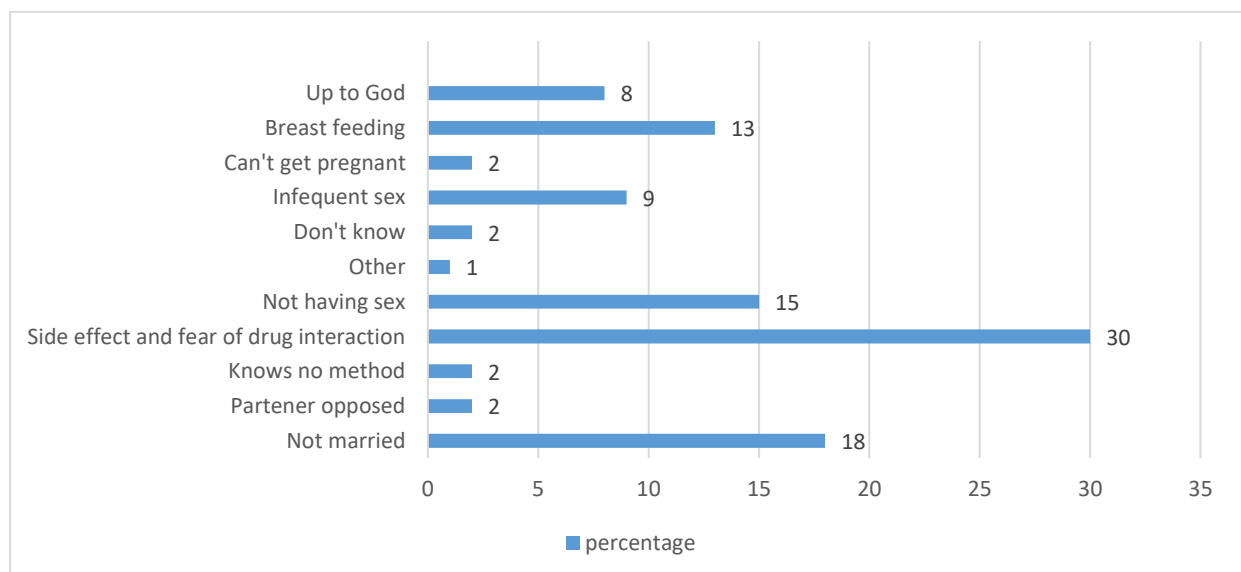


Figure 2: The reason for not using contraceptive among the "unmet need group" Addis Ababa, Ethiopia, 2020

3.7 UNMET NEED FOR AND ASSOCIATED FACTORS

Demographic characteristics like age, education and income and occupation were not found to be significantly associated with unmet need for contraception.

Likewise, current pregnancy status, ever birth were not associated with unmet need.

However, previous contraception use, marital status, partner involvement on contraception has significant association. (Table 5)

Unmet need for contraception was also found to be more likely among those who

have never used contraceptive method (AOR=3.2, 95% CI: 1.12-8.92), no partner support on contraception use (AOR=6.2, CI: 1.91-19.8) and Women never counseled on contraception use (AOR 6.7, CI 1.8-24.7). However, less likely hood of unmet need was found in women having collaborative decision with the partner on contraception use (AOR=0.19, CI 0.07-0.55) and frequent counseling (AOR =0.09, CI 0.03-0.32). (Table 5)

Table 5: Association of independent variables with unmet need for contraception among respondents AA, Ethiopia, 2020.

	Unmet need		COR(95% CI)	AOR(95%CI)	p-value
*Ever used contraceptive	No	Yes			
Yes	151	48	1.00	1.00	
No	31	54	5.5(3.17-9.48)	3.2(1.12-8.92)	<0.001
Ever gave birth					
Yes	124	71	1.00		
No	58	31	0.9(0.55-1.58)		0.87
*Marital status					
Married	171	43	1.00	1.00	
Living with man	11	59	21.3(10.3-44.1)	9.4(2.9-30.6)	0.04
*Decision maker on contraceptive use					
Respondent	58	63	1.00	1.00	
husband of the respondent	10	18	1.7(0.71-3.89)	6(0.98-37.66)	0.02
Both	114	21	0.2(0.09-0.31)	0.19(0.07-.55)	
*Partner support on contraceptive use					
Yes	135	45	1.000	1.00	
No	19	49	7.7(4.13-14.5)	6.2(1.91-19.8)	<0.001
I don't know	28	8	0.86(0.36-2.02)	1.3(0.23-7.71)	
*Future pregnancy plan counseling					

Yes	78	16	1.00	1.00	
No	94	80	4.15(2.24-7.67)	2.8(0.76-9.89)	0.001
Don't remember	10	6	2.93(0.93-9.20)	6.9(0.8-61.96)	
*Unintended pregnancy counseling					
Yes	71	21	1.00	1.00	
No	102	76	2.52(1.42-4.46)	0.5(0.15-1.81)	<0.001
Don't remember	9	5	1.88(0.57-6.22)	0.8(0.08-8.14)	
*Use of contraceptives counseling					
Yes	105	12	1.00		
No	70	89	11.13(5.7-21.8)	6.7(1.8-24.7)	<0.001
Don't remember	7	1	1.25(0.1-11.04)	0.7(0.02-19.7)	
*Frequency of counseling					
Some-times	15	6	0.36(0.13-.97)	0.38(0.07-2.07)	<0.001
Frequently	92	12	0.12(0.06-0.03)	0.09(0.03-.32)	
Never	75	84	1.00		
*Proffered place for FP services					
I would prefer here	90	71	2.3(1.17-4.57)	3.5(1.06-11.8)	<0.001
I would prefer referral in the family planning clinic	51	17	0.98(0.43-2.21)	0.67(0.14-3.09)	
I would have no preference	41	14	1.00		
*Partner support on chronic care					
Yes	136	36	1.00	1.00	
No	18	59	12.4(6.5-23.6)	11(3.28-37.2)	0.006
I don't know	28	7	0.9(0.38-2.34)	0.4(0.05-2.48)	
CI 95% confidence interval , P value <0.05 =statically significant, AOD- adjusted odds ratio, COR-cruds odds ratio					

4. DISCUSSION

Contraceptive utilization has a pivot role to play in maternal mortality, therefore, removing barriers of contraceptive use would reduce incidence of unplanned pregnancy and thereby avert potential maternal neonatal complication.(6)

Nevertheless, having diagnosed with heart disease or hypertension has already put them at a higher risk if they were to get pregnant as compared to a healthy women. (11) Having an unplanned pregnancy will certainly add more risk and lead to higher

maternal morbidity and poorer fetal outcome. (5)

Given the scarcity of knowledge in contraceptive use among women with chronic medical condition, especially cardiovascular disease, this study was conducted to get prevalence of unmet need of contraceptive and factors associated with unmet need of contraceptive.

Total unmet need is 36 % in this study is slightly higher than the national study found in the EDHS 2016 ,22% for the whole population and 11 % Addis-Ababa.(9) The setup of the two study is different that EDHS was done from the general population but this study was done in the hospital setting. Also less use of contraception by the clients for fear of drug side effect and interactions.

In the same setting research was done by Ferid(2015) on patient with HIV and the unmet need was 25.1% which is slightly lower than our finding in this study, which can be explain with the relatively good counseling and integrated family planning care in the ART clinic which is absent in the chronic medical clinics. (12)

The greater likelihood of risk to the mother and the fetus in this group makes the unmet need for contraceptive unacceptably high.(12)

The prevalence contraceptive use is 30.2 % is slightly lower than the EDHS 2016 (36%) in general and 50% for Addis

Ababa. The demand for contraceptive is 66.2 % again this is higher than the national study (58%) and demand satisfied for contraception is 46.1% which lower than the national study.(9) This can be explained with the fear for drug side effect and interactions, provider hesitance to provide contraception.

In comparison to, the study done at Gondar university hospital in diabetic and hypertensive clients by Mekonen (2015), the contraception use was 53.3% much higher than our finding in this study which may be explained with the socio-demographic characteristics of the participation and the primary objective of the study which infertile and pregnant women were excluded from the onset.(13) Low prevalence of contraceptive use and a high unmet need of contraception among women with cardiovascular disease may lead them to unplanned pregnancy.(14) The prevalence of contraceptive use in this study was slightly lower than the national prevalence.

The most frequent reason for contraception non-use are perception for low risk for pregnancy and fear of side effect and drug interaction which is similar with finding in university of Gondar(Mekonen,2015) and SPHMMC(Ferid,2015) .(12,13)

There was another study done in Malaysia (Manaf, 2012) on chronic medical care clinic and the total contraception non-use

was 70 % which much higher than our findings, but in that study unmet need was no calculated based on revised definition of unmet need and age range of 18-50 years were included.(4)

The most important factors associated with unmet need of contraception were lack of preconception counseling on contraception use, no partner support on use of contraception, no previous use of contraceptive. There is no single consistent factors affection of unmet need of contraception but similar finding was found in the study done at Gondar (Mokone, 2015) and SPHMMC (Ferid, 2015) especial provider counseling. (5,12) The study demonstrates that women who never had counseling on contraception use have high unmet need than those counseled. Preconception period is a golden opportunity to stabilize the medical condition, counseling about risk of pregnancy and use of contraception.(15) Discussed with health care providers about contraceptive encourage use contraceptive. (16)This is intuitive because discussion increases women's contraceptive knowledge and addresses their concerns, decrease fear and clears the bad tells of contraception.(17)

The study didn't shows the association of preconception counseling on future pregnancy and unintended pregnancy with unmet need. Therefore this may rise

question on appropriateness of the counseling. Inappropriate counseling may induce fear and they want to avoid pregnancy without using contraception use. Which even increase the likely hood of unmet need. This may create fear-unmet need vicious cycle explained with fear-unmet need vicious cycle. (8)(Figure 7) Women never use contraception previously have highly likelihood of unmet need because previous user are experienced on use and possible adverse effects, are also well informed during provision and care but new users fear the complications and drug interactions. (18) Those women with no partner support on contraception use was another important factor associated with unmet need for contraception. These findings were in line with the study done in the same setting on HIV clients (Ferid 2015). (12) As we know fertility issue is not only a woman concern, so involvement of marriage partner increase uptake of contraception.

Lack of Partner support on the chronic care has also an effect on unmet need of contraception. If partner knows and understand the extent and complications of chronic illness he may help her on the decision to avoid pregnancy by using contraception.(19)

Frequent counseling shows less likelihood of unmet need. This is due to multiple times counseling clears confusions, gives

better understanding and change the attitude as well practice on the use of contraception. However, no study stated same finding.

Due to limited resources, this study also did not examine the provider factors of

contraceptive service which is an important aspect influencing unmet need. Further research is recommended to study KAP of the provider.



Figure 3: Fear-unmet vicious cycle

5. CONCLUSION AND RECOMMENDATION

The study revealed high unmet need for contraception in this high risk population group and nearly 2/3 of the women lack preconception counseling. The most common reason for not using contraception was fear for drug side effect and interaction. Factors strongly associated

with unmet need of contraception are lack of counseling and lack of partner support. Appropriate preconception counseling to correct misconceptions, address the barriers to contraceptive use. Therefore, counseling on contraception use should be strengthened. Additionally, partner involvement on both chronic care and contraception use should be encouraged.

ABBREVIATIONS

ACEI....Angiotensin converting enzyme inhibitors
ANC..... Ante Natal Care
CHD.....Congenital heart disease
CRP.....Contraceptive rate prevalence
CVHD....Chronic valvular heart disease
EDHS.... Ethiopian demographic and health survey
GOVT....Government
HTN.....Hypertension
IUD..... Intra uterine contraceptive device (IUCD)
KAP..... Knowledge, attitude and practice

LARC....Long acting reversible contraception
NYHA... New York Heart Association
MEC....Medical eligibility criteria
OBGYN..... Obstetrics and Gynecology
RR.....Relative risk
RH....Reproductive Health
SPHMMC.... St Paul's Hospital Millennium Medical College
SPSS.....Statistical package for social sciences
TOP.....Terminations of pregnancy
UFH...Unfractionated heparin
WHO.....World Health Organiza

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