

Intention to use and its predictors towards preconception care utilization among reproductive age women in Mizan-Aman town, Bench-Sheko Zone, southwest Ethiopia, 2020: Based on Theory of planned behaviour

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Research

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Abstract

Background: World health organization recommended the universal package of preconception care. The government of Ethiopia gives the emphasis to maternal and child health but the progress of its improvement is too slow. Most studies in Ethiopia were on maternal health during pregnancy and after deliver but none of the study on women's intention to use preconception care based on theory of planned behavior, hence this study aimed to determine behavioral intention and its predictors towards preconception care utilization among reproductive age women in Southwest, Ethiopia.

Methods: A community based cross sectional study was conducted among 419 reproductive age women at Mizan-Aman town Southwest Ethiopia. All assumptions of theory of planned behavior (TPB) were considered to measure intention, attitude, perceived social pressure and perceived ability to control circumstances against preconception care utilization. A systematic random sampling was used to select study participants. Data were collected by interviewer administered structured questionnaire through face to face interview. The collected data were entered Epi-data version 3.1 then exported to SPSS version 25 for further analysis. Multiple linear regression analysis was conducted to identify independent predictors of intention to use preconception care. P-value less than 5% was considered to indicate significant association.

Results: A total of 419 women were interviewed with response rate of 98.13%. The mean age of respondents was 34.21 (± 6.21) years. Nearly twenty (19.8%) of the respondents were used preconception care previously. The attitude ($\beta = 0.320$, $p = 0.0418$), subjective norm ($\beta = 0.344$, $p < 0.001$), perceived behavioral control ($\beta = 0.512$, $p < 0.001$), indirect subjective norm ($\beta = -0.108$, $p = 0.002$) and age of respondents ($\beta = 0.046$, $p = 0.020$) were the independent predictors of intention to use preconception care.

Conclusion: The utilization of preconception care is low in this study. Overall, the intention to use preconception care is the implication of attitude, perceived social pressure and perceived behavioral control confirming the hypothesis of the study. Age is the only socio-demographic variables associated to intention. Health behavior change interventions should focus on empowering women that could enable them to evaluate their control beliefs and develop ability beside social norms and circumstances that compete with the use of preconception care services.

Plain English Summary

Care before the women conceive is preconception care. Preconception care is preventive and promotive of health of women and its is given for all reproductive age women according to WHO recommendation. Preconception care is classified as proximal and distal preconception care. The service of preconception care given regardless of pregnancy status and desire of the child. Theory of planned behavior (TPB) is one of the theories used in different aspects of health activities to intervene, assess, evaluate programs, and projects. The TPB started as a TRA to predict an individual's intention to engage in the behavior at a specific time and place. This intended to explain all behaviors over which people have the ability to exert

self-control. Therefore identifying the intention towards preconception care of the women is very essential to improve the service delivery.

A total of 419 subjects were participated with a response rate of 98.13%. Of this, majority of the participants 321 (76.6%) were married and 302 (72.1%) of women were housewife. The study revealed that overall utilization of preconception care by reproductive age group women was 19.8%. A woman's age, Attitude, subjective norm, perceived behavioral control and indirect subjective norm were found to be the factors associated with intention to use preconception care. Overall; the study revealed that the behavioral intention to use preconception care services was a function of the psychographic variables; attitude, subjective norm and PBC.

Background

Preconception care is the establishment of preventive, promotive or curative health and social interventions before conception occurs. Preconception care includes both the period before conception and the interconception period and it has two types namely: proximal preconception care and distal preconception care¹. Know days, all healthcare providers should begin to provide preconception care to every woman every time². There are three components of preconception care; wellness check, counseling, and intervention. Preconception care risk assessment includes reproductive history, environmental hazard and toxin, a medication that are known teratogen, nutrition, folic acid intake, weight management, family history, chronic disease and mental illness. Growing with good health is right of all babies and children. Similarly, all women and men have the right to be healthy physically, psychologically and socially¹.

One of the essential elements of preconception care is reproductive life plan. It provides an opportunity for clinicians and women to work collaboratively to improve pregnancy outcomes, and it encourages an ongoing dialogue about an important but often overlooked opportunity for life planning³. Preconception care also reduces too early pregnancy, unplanned pregnancy and pregnancy that are too close. Preconception care could contribute to in each dimension of health and risk factors, to reducing maternal and childhood mortality, and to improving maternal and child health outcomes. WHO recommended preconception care intervention everywhere (e.g. folic acid supplementation, tobacco cessation advice, family planning services) and interventions that can be delivered even in countries with human and financial resource constraints¹.

The government of Ethiopia gives emphasis for the continuum of care through expanding health extension program, health developmental army, expanding health post, giving iron and folate supplementation, making the maternity service free of charge and construction of health institution are some of the interventions of the government in collaboration with development partners are doing⁴⁻⁶. Despite all the above efforts, the proportion of preconception care utilization is very low⁷⁻⁹. Even though the concept of preconception care has been explored in maternal and neonatal health as an adjunct to reduce maternal and newborn death in the last 2-3 decade in WHO and CDC^{1 2 10}, few studies have been examining preconception care utilization in Ethiopia. Thus, those studies revealed that factors such as

having formal education, being multiparous, having planning pregnancy, being elder, prior adverse birth outcomes, and pre-existing chronic health conditions were significant determinants of preconception care utilization^{7 8 11}.

Theory of planned behavior (TPB) is one of the theories used in different aspects of health activities to intervene, assess, evaluate programs, and projects. The TPB started as a TRA to predict an individual's intention to engage in the behavior at a specific time and place. This was intended to explain all behaviors over which people have the ability to exert self-control¹². The TPB has been found to be the most tightfisted model in predicting intentions and various behavioral outcomes¹³. One meta-analysis study showed that the TPB accounted for 39% of the variance in intentions and 27% of the variance in behavior across a broad spectrum of behaviors¹⁴. Other research conducted based on TPB predicted that the components of the TPB accounted for 32% of the variance in behavioral intention¹⁵. TPB has been found to be effective in predicting maternal health services intention in different previous studies¹⁶⁻¹⁸. So far, TPB has been used in predicting the changes in intention in relation to behaviors such as pre-pregnancy care, prenatal care, and receiving pre-pregnancy counseling^{19 20}.

Despite the above studies intention of the women towards preconception care utilization and its predictors isn't studied in Ethiopia. This, thus study applied theory of planned behavior due to the following reasons: the first reason is women's decision-making is the result of the process of decision making reflects people's values and attitudes. The second reason is to act in a specific direction requires that people behave in line with their motivation and attitudes. In addition, participating in preconception care services is a result of external factors that control or enhance the behavior. Personal factors like one's confidence to cope with and overcome barriers related to availability, affordability and accessibility of preconception care services and social supports are all supposed to determine the extent to which women decide to use the services. Therefore; the aim of this study was to determine behavioral intention and its predictors towards preconception care utilization among reproductive age women in Mizan-Aman town southwest, Ethiopia and the hypothesis of the study was; women's intention to use preconception care services is a function of Attitude, Subjective norms and PBC.

Methods

Study design, period and area

A community based cross-sectional study design was conducted in Mizan-Aman town, Bench-Sheko Zone, and Southwest Ethiopia from April 16 to May 26, 2020. The town is located 561 km Southwest of Addis Ababa. The town is divided into 5 kebeles that has a total area of 142.71 km with an average elevation of 2840m above sea level. According to the information obtained from the district health office in 2018/19, a total estimated population of 69,453 of which, 32,273 are females. There are one teaching hospital, one health center and five health posts, one University and one college under the government.

Study participants

All reproductive age women who lived in Mizan-Aman town were the source and study population. All reproductive age group women who lived in Mizan-Aman town for 6 months and above were included under the study

Sampling technique and procedure

The sample size was determined by using single population proportion formula with the assumption of 95% confidence level, 5% margin of error and the proportion of behavioral intention towards preconception care use was taken 50% since there is no study previously.

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

Where; n = sample size

$Z_{\alpha/2}$ = 95% confidence interval (1.96)

P = 50% proportion of behavioral intention towards preconception care use

d = 5% margin of error

Based on the above assumption

$n = (1.96)^2 * 0.5(1-0.5) / (0.05)^2 \approx 384$, 10% was added as non-response rate as a contingency rate for the non-response rate. This adjusting for the nonresponse rate/lost or refused to participants during the data collection period is to prevent replacing the non-respondents because replacing is considered as inclusion bias. Let 'X' is the expected nonresponse rate and 'N' is the number of participants adjusted to prevent replacing the non-respondents because replacing could introduce selection bias. $N = n / (1 - x)$,

$$N = 384 / 1 - 0.1 = 384 / 0.9 = 426.67 \approx 427.$$

So the sample size calculated from single population proportion was 427. Mizan-Aman town was purposively selected then all kebeles (A 'kebele' is the smallest administrative unit having 5000 population in average) were taken. To reach the study unit systematic random sampling technique was used in the Kebeles. The first house was selected randomly from 1–24 household and then every 24th house for all kebele was asked (Figure 1). The sampling interval of the households in each Kebele was determined by dividing the total number of households in the specific kebele to the allocated sample size. When there was no reproductive age group woman in the selected house, nearby house was selected and interviewed. In case of more than one eligible woman were encountered in the selected household, a lottery method was used to determine which woman would be interviewed. For the elicitation study, 20 participants were selected by purposive non-probability sampling technique.

Study variables

Dependent variable: Intention to use preconception care

Independent variables:

- Socio-demographic characteristics:-Age, Religion, Ethnicity, Marital status, Residency, Education status, Occupation
- Reproductive health related factors: ANC, PNC, FP, planning to pregnancy
- Knowledge towards preconception care
- TPB constructs Direct Attitude, subjective norm, perceived behavioral control, indirect subjective norm and indirect attitude.

Data collection process

Pretested interviewer-administered structured questionnaire was adapted from TPB constructs and different literatures¹²¹⁶²¹²². The questionnaire was developed based on TPB questionnaire development guidelines, different literature and modified based on the result of elicitation study. A face to face interview on 20 persons was conducted to elicit the salient beliefs using open-ended questions. An elicitation study was conducted through in-depth interview to explore relevant salient beliefs among a study population regarding perceived outcome expectation of using preconception care services, perceived social normative influences and beliefs about personal autonomy in seeking the services. Collected data in elicitation study was analyzed using content analysis into themes. The analysis was done by two researchers independently to increase the validity of the analysis. The results from the elicitation study were used to develop a tool for the indirect measurements of TPB constructs by revealing the salient beliefs of each construct. Listing themes in order of frequency for each of the predictors of the TPB model was done. This was done by using Atlas ti 7.0.1 software. Finally, the tool from the themes was prepared for the quantitative study. The questionnaire was prepared first in English and then translated to Amharic and was re-translated back to English by another person to ensure its consistency and accuracy. In addition to constructs of TPB, the questionnaire covered sociodemographic information, knowledge about preconception care and reproductive history. The finally, the overall developed questionnaire was pretested on 5% of sample size before 2 weeks of actual data collection on Tsebejaji town. Four Bachelor science degree holder health professionals were collect data and two health officers were supervising the data collection process. Two days training was given to the data collectors and supervisors on the data collection tools and procedures by principal investigators.

Data management and analysis

The questionnaires were checked for completeness and consistency of data at end to each data collection day. Data were coded, edited and checked for clarity, consistency, and completeness up to the end of the data collection period. The data were coded and entered into Epi-data version 3.1 then exported to SPSS version 25.0 for further analysis. Descriptive statistics were presented in mean and standard deviation for numerical variables and frequency and percentage for the categorical variables. Correlation analysis was conceded out to examine the association between intention and constructs of theory of planned behavior as bivariate analysis. In addition; an independent sample t-test and one way ANOVA was carried out to explore the associations between intention and categorical sociodemographic

variables. Those variables which have significant associations with intention to preconception care services at $p < 0.25$ in bi-variate analysis were qualified for multiple linear regression analysis. Multiple linear regression analysis was conducted to identify independent factors associated to intention to use preconception care service. The “backward” regression technique was used to run the analysis. P-value < 0.05 was considered to indicate significant association.

Each behavioral belief was multiplied by the score for the relevant outcome evaluation to create a new variable that represents the weighted score for behavioral belief. Each normative belief was weighted by each score of motivational to comply and each control belief. Then the weighted beliefs were summed to create a composite score for attitude, subjective norm and perceived behavioral control. Finally, the result was presented and summarized in texts, tables, numbers and figures.

Data quality control

The questionnaire was pre-tested by data collectors in the peoples who do not participate in the actual data collection. Training was given for the data collectors and supervisors on data collection process, approach and with additional training for the supervisors for data quality management. Data collection was closely supervised by the supervisors for the clarity, completeness, and proper procedure of data collection. The questionnaire after data collection was also be checked up by the principal investigator for its clarity and completeness.

Measurements and Scoring

Intention to preconception care utilization: was measured by using four items. Responses ranged from ‘strongly disagree’ (1) to ‘strongly agree’ (5). Composite score was done by summing up all the items then new composite scores of the intention were created.

Direct attitude towards preconception care use: was measured by 5 items semantic differential scales (SDS) measuring about the benefit/outcome of using preconception care services in the next 3 months on bipolar adjectives. Four Likert scale items were used to measure direct subjective preconception care norm. To assess indirect SN towards preconception care, participants were asked fourteen Likert scale items to indicate the extent to which they thought their health extension workers (HEW), health development army (H.D.A), neighbors, and health workers were likely to appreciate their use of preconception care services. Similarly, the score weighted each normative belief by the score for motivation to comply belief. Then, the composite scores of indirect SN were created by summing up of the weighted beliefs.

Direct measure of PBC was measured by using four items on bipolar differential scales. High composite score shows strong perceived ability or less difficulty to have preconception care services within the specified period of time.

Seven control belief items were used to measure indirect PBC ranging from unlikely to likely scale and perceived power of control was measured using seven items on bipolar Likert scale ranging from ‘strongly

disagree' to 'strongly agree'. The control belief items were multiplied by those of perceived power of control of the beliefs. Summing up of these product scores yields the composite score of indirect perceived behavioral control. The higher scores indicate a greater value for all measured TPB constructs to towards the use of preconception care services (Table 1).

Knowledge about preconception care utilization were assessed using 17 items with 'Yes' or 'No' response format²³. All items were scored as continuous variables and pulled together where the mean score was computed for further analysis

Practice of preconception care (past experiences): seventeen item was used to ask respondents whether they have ever been practice preconception care by using yes/No approach. Greater than one component use before pregnancy is considered as good practiced¹¹.

Table 1: Summary of measurements and scoring of direct and belief based measures of constructs of TPB of the study conducted in Mizan Aman town southwest Ethiopia, 2020.

	Items	Scale	Scoring	Outcome
Dimension(direct measures)				
Intention(Ii)	4	Likert scale	$\sum_{i=1}^4 li$	Intention score
Attitude(A)	5	SDS	$\sum_{i=1}^5 Ai$	Attitude score
Subjective norm(SN)	4	Likert scale	$\sum_{i=1}^4 SNi$	Subjective norm score
Perceived behavioral control(PBC)	4	SDS	$\sum_{i=1}^4 PBCi$	“PBC” score
Belief based(indirect measures)				
Behavioral beliefs (bbi)	8	Likert scale	$\sum_{i=1}^8 bbi * ebbi$	“IA” score
Evaluation of the beliefs (ebbi)	8	Likert scale		
Normative beliefs (nbi)	7	Likert scale	$\sum_{i=1}^7 nbi * mci$	“ISN” score
Motivation to comply (mci)	7	Likert scale		
Control beliefs (cbi)	7	Likert scale	$\sum_{i=1}^7 Cbi * pci$	“IPBC” score
Power of control (pci)	7	Likert scale		

Abbreviations: SDS: - Semantic differential scale, IA: - Indirect attitude, ISN:-
Indirect SN and IPBC:-indirect PBC

Results

Socio-demographic characteristics

From the total of 427 participants, 419 respondents completed the interview and producing 98.13% response rate. The age of the respondents was ranged between 17 to 48 years with mean age of 34.21 ± 6.21 years and nearly half, 205(48.9%) of the respondent in age category 35–49 years. More than half, 222 (53.0%) were orthodox religion follower followed by protestant accounting for 147 (35.1%). About, 161 (38.4%) of the respondents were Bench ethnic groups. Majority of the respondents, 321 (76.6%) were

married. Most, 302 (72.1%) of respondents were housewife. Most, 284 (67.8%) of the respondents did not attend formal education (Table 2).

Table 2
Socio-demographic characteristics of respondents in Mizan-Aman town,
Southwest Ethiopia 2017 (n = 419)

Variable	Categories	Frequency(percent)
Age in Years	15–24 years	30(7.2%)
	25–34 years	184(43.9%)
	35–49 years	205(48.9%)
Religion	Orthodox	222(53.0%)
	Protestant	147(35.1%)
	Muslim	39(9.3%)
	Otherst	11(2.6%)
Ethnicity	Bench	161(38.4%)
	Amhara	120(28.6%)
	Keffa	65(15.5%)
	Welayita	38(9.1%)
	Oromo	23(5.3%)
	others□	12(2.9%)
Residency	Urban	314(74.9%)
	Peri urban	79(18.9%)
	Rural	26(6.2%)
Marital status	Married	321(76.6%)
	Widowed	20(4.8%)
	Separated	72(17.2%)
	Others	6(1.4%)
Occupation	Housewife	302(72.1%)
	Employed(Gov't/private)	62(14.8%)
	Farmer	55(13.1%)
Educational status	No formal education	284(67.8%)
	Primary(1–8)education	66(15.8%)
	Secondary (9–12)	38(9.1%)

Variable	Categories	Frequency(percent)
	Tertiary(> 12)	31(7.4%)

Health facility related factors

Majority, 333(79.5%) of the study participants were multiparous. Most, 275(65.1%) of the respondents were experienced 2–4 pregnancy. About, 174(41.5%) of the study participants planned to their pregnancy. About 63.0% of the respondents were used family planning. More than half (57.5%) of the respondents attended at least one ANC visit in their nearest pregnancy (Table 3).

Table 3
Reproductive health characteristics of reproductive age women in Mizan-Aman town, Bench-Sheko Zone, Southwest Ethiopia, 2020(n = 419).

Variable	Category	Frequency(percent)
Gravidity	Only 1 pregnancy	74(17.7%)
	2–4 pregnancies	275(65.6%)
	≥ 5 pregnancies	70(16.7%)
Parity	Primipara (one delivery)	86(20.5%)
	Multiparous (≥ 2 deliveries)	333(79.5%)
Planning to pregnancy	Yes	174(41.5%)
	No	245(58.5%)
Previous FP use	Yes	264(63.0%)
	No	155(37.0%)
Previous ANC visit	Yes	241(57.5%)
	No	178(42.5%)
Previous PNC visit	Yes	75(17.9%)
	No	344(82.1%)
Previous APO	Yes	47(11.2%)
	No	366(87.4%)

Source of information, knowledge and practice of PCC

Out of 331 (79.0%) of respondents who have heard about preconception care, 147 (44.4%) heard during other service use in health facility and 139(42.0%) heard from health workers and others heard from Mass media, 12(3.6%), family/friend, 24(7.3%), school, 7(2.1%) and neighbor, 2(0.6%). Regarding

knowledge about preconception care, 121 (36.6%), 124(37.2%), 111(33.5%), 99(29.9%),110(33.3%) and 116(35.0%) knew about screening to STI, screening to hypertension, Screening of diabetes mellitus, taking folic acid before pregnancy, taking Iron/ferrous and taking good nutrition respectively. For each knowledge items, scores were summed and mean score was computed. Accordingly, only 157 (47.4%) of the respondents were answered above the mean and considered as knowledgeable. Preconception care practice was low in the area, as only 83 (19.8%) had good practice for it.

Direct and Indirect measure of TPB constructs

The mean score of direct attitude, subjective norm and PBC were 11.51 (SD = 3.7), 11.54 (SD = 4.04) and 11.51 (SD = 3.98) respectively and intention with mean score of 11.59(SD = 3.97) (Table 4).

Table 4

Descriptive statistics for components of theory of planned behavior and intention for reproductive age women in Mizan-Aman town southwest Ethiopia (N = 419)

Constructs	Items	Scale range	Scale mean	SD	Cronbach's alpha
Direct attitude	4	4–20	11.51	3.70	0.665
Direct Subjective norm	4	4–20	11.54	4.04	0.757
Direct PBC	4	4–20	11.51	3.98	0.756
Intention	4	4–20	11.59	3.97	0.771
Behavioral belief(BB)	8	8–40	23.2	6.26	0.724
Evaluation of behavioral belief (EBB)	8	8–40	23.25	6.4	0.749
Indirect attitude= $\frac{1}{2}(BB+EBB)$	16	16–288	79.17	37.41	0.870
Normative belief(NB)	7	7–35	20.27	5.92	0.784
Motivation to comply(MTC)	7	7–35	20.26	5.52	0.687
Indirect SN= $\frac{1}{2}(NB+MTC)$	14	14–196	61.18	33.64	0.864
Control belief(CB)	7	7–35	20.27	5.92	0.763
Power of control belief(PCB)	7	7–35	20.22	5.76	0.732
Indirect PBC= $\frac{1}{2}(CB+PCB)$	14	14–196	61.22	34.23	0.875

Relationship between intention, socio-demographic and Reproductive factors and measures of TPB constructs

To search association between dependent and independent variables; all the necessary bi-variate analysis were done. These include; the Pearson's correlation, an independent sample t-test and one way

ANOVA. Unfortunately, all the socio demographic and reproductive related variables were not significantly associated with intention to preconception care use. These variables were occupational status, educational status, number of pregnancy, number of children, and marital status etc. But the only variable that emerges as significant factors was age and time to reach health facility.

However, the Pearson’s correlation coefficients showed that all the direct measures of TPB were significantly and positively correlated with each other and with their respective indirect measures. The highest and lowest positive correlation was observed between intention and direct PBC ($r = 0.889, p < 0.001$), and between intention and indirect attitude($r = 0.784, p < 0.001$) respectively. Importantly; all indirect measures of TPB were positively and significantly correlated with their respective direct measures. This correlation is required to decide whether to run or not the regression analysis to predict intention using the direct measures. Finally, all indirect measures were positively and significantly correlated with each other. The highest inter-indirect measures correlation was observed between indirect perceived behavioral control and indirect subjective norm ($r = 0.983, p < 0.001$) (Table 5).

Table 5

Pearson’s Correlation between intention, direct and indirect measure of TPB of the current study (n = 419)

Component	DA	DPBC	DSN	IA	ISN	IPBC	Intention
DA	1						
DPBC	.939**	1					
DSN	.897**	.822**	1				
IA	.865**	.798**	.769**	1			
ISN	.890**	.819**	.764**	.974**	1		
IPBC	.939**	.868**	.843**	.960**	.983**	1	
Intention	.887**	.889**	.854**	.784**	.795**	.843**	1

Abbreviations: DA direct attitude, DSN direct subjective norm, DPBC direct perceived behavioral control, IDA Indirect attitude, IDSN Indirect subjective norm, IDPBC indirect perceived behavioral control. “**”the correlation is significant at $P < 0.001$

Independent factors predictors of intention to preconception care utilization and interpretations

Prediction of behavioral intention to preconception care use was conducted with all direct constructs of TPB and variables that were significant in bi-variate analysis. These are; attitude, subjective norms, perceived behavioral control, knowledge towards preconception care, age, past behavioral experience and time to reach health facility were entered to multivariate linear analysis. The standardized regression coefficients, PBC was found to be the best factor ($\beta = 0.512, p < 0.001$) followed by subjective norm ($\beta = 0.344, p < 0.001$). This indicates; a unit positive change in women’s perception of ability to control over

circumstances that inhibit them from using preconception care services will increase intention to use preconception care by 51.2% keeping other conditions constant. Women who perceive significant others will approve of their using preconception care services will have 34.4% higher intention to use preconception care than their counterparts. A unit-positive change in women's attitude toward the advantage associated with the use of preconception care services will increase the individual's intention to use it by 32.0% provided that all the other factors kept unvaried. Similarly, a unit-positive change in women's age associated with the use of preconception care services will increase the individual's intention to use preconception care services by 4.6% provided that all the other factors kept constant. In this study, Indirect subjective norm is negatively predicted with the intention to use preconception care ($\beta = -0.108$, $p = 0.002$). In this study, age the women was found to be the least factor associated to intention to preconception care utilization ($\beta = 0.046$, $p = 0.020$) (Table 6).

Table 6

Independent factors associated to behavioral intention to preconception care service utilization, Mizan-Aman town, southern Ethiopia, 2020 (n = 419)

Variables	Standardized β	P-value	95% CI for β
PBC	0.512	0.0001	0.432–0.590
SN	0.344	0.0001	0.269–0.407
Attitude	0.320	0.0418	0.136–0.470
IA	0.228	0.896	-0.018-0.020
ISN	-0.108	0.002	0.005–0.021
IPBC	-0.197	0.284	-0.065-0.019
Knowledge	-0.018	0.792	-0.006-0.063
PBE	-0.011	0.594	-0.056-0.032
Age	0.046	0.020	0.005–0.054
Time to reach HF	-0.005	0.789	-0.007-0.006
Abbreviations: DA direct attitude, DSN direct subjective norm, DPBC direct perceived behavioral control, IDA Indirect attitude, IDSN Indirect subjective norm, IPBC indirect perceived behavioral control, PBE Past behavioral experience, HF health facility			

Discussion

The aim of this study was to determine intention to use preconception care services and its associated factors among reproductive age women. In the present study perceived behavioral control is the strongest predictor of the intention to use preconception care. This is consistent with a study conducted in southern Ethiopia on intention to cervical cancer screening²⁴, in Jimma zone which conducted on intention to use maternity waiting home²⁵, and other study conducted in Bench Maji zone²⁶. This implies; those women

who had resources and opportunities to the behaviour (preconception care use) expressed greater intention towards it. In addition, this indicates that authorizing the women against challenges like access of health care provider, transportation, waiting time to take services, and supply of Iron, folic acid may improve the utilization of preconception care. As such interventions involved on challenges towards behavior is an effect on the increment of preconception care utilization. However, perceived behavioral control is not the predictor of intention to use pre-pregnancy care in a study conducted in Iran¹⁶ and intention to voluntary HIV counseling and testing(VCT) among health professionals in Jimma zone²⁷. Since the concept perceived behavioral control is very similar to Bandura's self-efficacy and similar results were obtained in studies examining self-efficacy^{20 28}.

The second strongest predictor of intention to use preconception care in this study is subjective norm of the individual study participants. This implies; those women who were more strongly recognized that their important others expected them to have preconception care services expressed stronger intention. As such, considering interventions addressing normative dimension of the women could have an effect on preconception care utilization. This is consistent with the previous study conducted in Ethiopia^{24 25} and Iran¹⁶ which showed that subjective norm is a predictor of intention to perform the behaviour. The intention to perform a behavior is the function of attitude, subjective norm and perceived behavioral control according to Ajzen theory of planned behavior²².

In the present study, attitude was predictor of women's intention to perform preconception care in the near/far future. This implies; those women who know the importance and usefulness of preconception care expressed more intention towards preconception care utilization than others. So, intervention on preconception care usefulness and awareness creation on it improves women's intention towards the behavior. This is consistent with study conducted in Ethiopia^{24 26 27} and Iran¹⁶ which indicated that attitude is the predictor of intention to perform the behavior. While, in the other study conducted attitude cannot predict mammography behavior²⁹. This could be accredited to the difference in the context/circumstances under which the behavior is to take place and the place where the study was conducted. The other predictor of intention to the behavior is indirect subjective norm. This implies that the women that had no comply of others and give recognition by someone increase the intention to the behavior. The other predictor of intention to preconception care utilization is age of individual women. Since intention change as time goes by which the mean that it is simply as a function of time¹².

In this study, only 19.8% of the women reported they had practiced good preconception care in previous time. However, it's higher than the study conducted in Debre Birhan, Adet, West Shoa and northern Ethiopia^{7-9 11}. This might be due to difference in socio economic status of study participants and difference in sample size of the study. Although, this study has addressed pressing public health issues by applying effective health behavioral theory; it has few limitations. The cross sectional nature of the study does not show cause effect relations among these psychographic variables. In addition, the social desirability bias may affect the precision of the data through its influence on individuals' attitude and intention.

Conclusions And Recommendation

Overall; the study revealed that the behavioral intention to use preconception care services was a function of the psychographic variables; attitude, subjective norm and PBC. The perceived behavioral control was found to be the strongest predictor of the intention to behavior. Age is the only socio-demographic variable which was significantly associated to intention. Health behavior change interventions should focus on increasing perceived power that enable women to evaluate their control belief positively and empower them to develop ability against social norms that could compete with the use of preconception care services and build an attitude that support the behavior. Study employing interventional design should be conducted to see the translation of behavioral intention to the actual behavior to see causal effect relation.

Declarations

Ethics approval and consent to participate

Ethical clearance was obtained from Institutional Review Board (IRB) of Jimma University, Institute of health, Faculty of public health. Support letter was obtained from department of population and family health. The necessary permission was obtained from Mizan-Aman town health office. Anonymity of the participants were kept by not to write their name and individuals information will not be disclosed to other third party and informed verbal consent was obtained from each study participant. All the study participants were informed about the purpose of the study, their right to refuse and assured about the confidentiality of the information they provide.

Consent for Publication

Not applicable

Availability of Data and Materials

The datasets analyzed during the current study are available from the corresponding author upon reasonable request.

Conflict of Interests

The author declare that have no competing interests.

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Abbreviations

H.D.A: Health development army, HEW: Health extension workers, PBC: Perceived behavioral control, PBE: Past behavior experience, PCC: Preconception care, SPSS: Statistical package for social sciences, TPB: theory of planned behavior, WHO: World health organization

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Figures

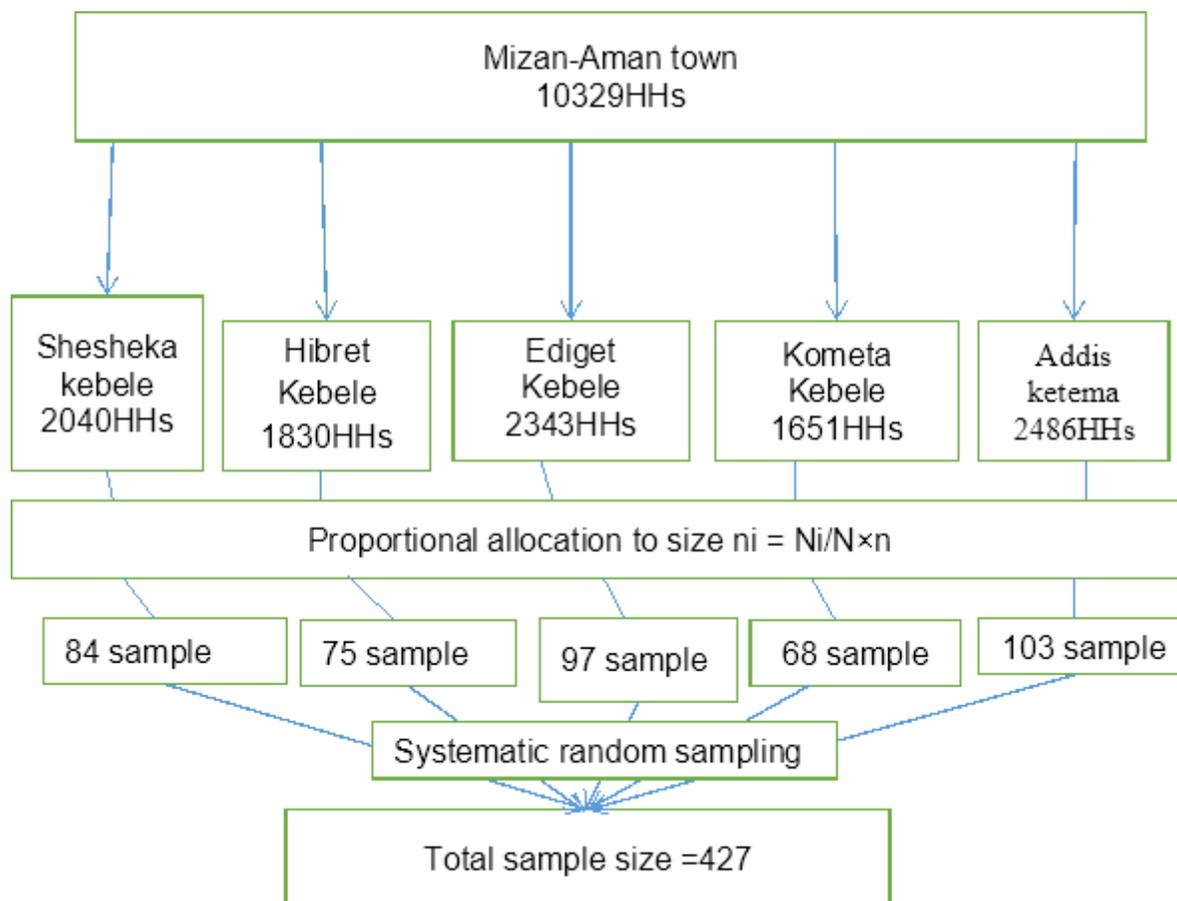


Figure 1

Schematic presentation of sampling procedure for a study conducted in Mizan-Aman town, Bench-Sheko Zone, Southwest Ethiopia, 2020. HHs=Households