Women's decision in family planning use and its determinants in Ethiopia. A systematic review and meta-analysis protocol

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Systematic Review

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Abstract

Background: Low uptake of contraceptive use have much consequence. Despite this effect, less emphasis was given to women's decision-making on family planning use in Ethiopia. Though there are studies conducted in different parts of the country on women's decision-making in family planning use, there are inconsistent findings. Thus, this systematic review and meta-analysis aimed to determine the pooled prevalence of women's decision-making in family planning use and its determinants in Ethiopia.

Methods: Preferred Reporting Items for Systematic Reviews and Meta-Analyses guideline will be followed to develop the review protocol. All observational studies will be retrieved using Medical Subject Heading (Mesh) terms or keywords from online databases PubMed, CINAHL, Google Scholar, and grey literature. The quality of the studies will be critically assessed using Joanna Briggs Institute checklist. Heterogeneity among studies will be examined using I-squared statistics. Funnel plots and Egger's test will be used to examine Publication bias. The Meta-analysis will be performed using STATA version 14 software. Statistical significance will be determined at 95% CI.

Discussion: Improving women's autonomy on decision-making on reproductive health services including contraceptive use has a substantial advantage. There are studies on women's decision-making in family planning use, however, there are inconsistent findings. Therefore, this review aims to determine the pooled prevalence of women's decision-making in family planning use and its determinants in Ethiopia. The finding from this systematic review and meta-analysis will help to inform policymakers to develop appropriate interventions to improve women's decision-making in family planning use.

Introduction

Women's decision-making power in family planning use is the ability of women to decide freely independently or argue with their husbands or partners about family planning needs and choices [1]. Family planning (FP) is an effort done by couples to limit or space the number of children through the use of family planning methods [2]. Women's decision making on family planning use associated with delayed marriage, access to accurate information, discuss freely family planning needs and choices with partners, members of the household, and the community, and independent decisions on fertility regulation, including increased health-seeking behavior to contraceptive [3, 4].

Increase women decision-making on family planning use provides benefits such as safeguards the health and rights of women, reduce maternal and child mortality, avoid unplanned pregnancy and induced abortion, long-term reduction in fertility rates, and improves households' economic status [4-7]. Women in low-income countries had deprived of their reproductive health rights [6, 8]. In developing countries, contraceptive use was low (40%), and the unmet need for family planning was 225 million people [9]. In sub-Saharan Africa, contraceptive use varies from 6.7% in Chad and 72% in Namibia [3]. In Ethiopia, contraceptive use was low (41.4%) and high unmet need 22%. Moreover, the total fertility rate (TFR) of 4.6

children per woman, maternal mortality 412 per 100,000 live birth, neonatal 30, infant 43, and under-five mortality rate per 1000 live birth were high [10, 11].

Low uptake of contraceptive use leads to high common childhood illness, lack of appropriate health, poor maternal and child health care, increase maternal and child mortality, increase workload of mothers, poor child growth, unfavorable impact on the economic status, and growth [2, 12-14]. Factors affecting women's decision-making on family planning use were educational level, socio-economic, domestic decision-making position and male partner influence, lack of knowledge, gender-based inequalities, and reproductive health services [14-20].

In Ethiopia, though the national 20-year health sector transformation plan [8], and national guideline for family planning Services [2], emphasized women's decision-making on family planning use, family planning use is still low. There is a lack of nationally representative data on women's decision-making on family planning use [10, 11]. Moreover, there are studies conducted in different parts of the country on women's decision-making in family planning [14, 15, 21-25]. However, there are inconsistent findings on prevalence and its determinants women's decision-making on family planning use. Thus, this systematic review and meta-analysis aimed to determine the pooled prevalence of women's decision-making in family planning use and its determinants in Ethiopia.

Research question

- What is the pooled prevalence of women's decisions in family planning use in Ethiopia?
- What are the determinants of women's decisions in family planning use in Ethiopia?

Objectives

- To determine the pooled prevalence of women's decisions in family planning use in Ethiopia.
- To identify determinants of women's decisions in family planning use in Ethiopia.

Methods

Study Protocol and Reporting

The review protocol will be reported using the Preferred Reporting Items for Systematic review and Meta-analyses (PRISMA) guideline [26]. PRISMA-P 2015 checklist will be used for the review report [27] (*Additional file 1*).

Eligibility criteria

All observational studies, including cross-sectional, case-control, and cohort and grey literature in Ethiopia will be included. Case reports, case series, and preprint will be excluded from the review. For quantitative and qualitative studies finding on women's decision-making in family planning use, we will only consider the quantitative result. Studies published in the English language alone will be included. There will not be a restriction on the publication date.

PECO search guide

Population: Women of reproductive age group (15–49years)

Exposure: determinates of women's decision-making in family planning use. Determinates are exposures that increase or decrease the likelihood of women's decision-making in family planning use among reproductive-age women in Ethiopia. The determinates can be the educational status of partners, domestic decision-making position, male partner influence, lack of knowledge on contraceptives, gender-based inequalities, access to reproductive health services, etc.

Comparison: The reported reference group for each determinate. Education versus no education, male or women household decision-making position, male partner influence versus no influence, good knowledge on contraceptives versus poor, gender-based equalities versus inequalities, access versus no access to reproductive health services, etc.

Outcome: Women's decision-making in family planning use will be evaluated using Yes or no questions from women response whether women have decision making power on delayed marriage, access to accurate information, discuss freely family planning needs and choices with partners, independent decisions on fertility regulation and increased health-seeking behavior to contraceptive. The response item will be scored as "1" for the yes response and "0" for No.

Searching strategy and study selection

PubMed, Google Scholar, CINAHL online databases, and grey literature will be used to search studies. In addition, cross-references searching of related studies will be done from the included studies. The search strategies will be done by (EW and SB). The studies will be retrieved and exported to Endnote version 8 reference manager to collect, organize and manage search results [28]. Removal of duplicates, irrelevant titles, and abstracts and process of articles selection and report results will be reported using PRISMA chart (*Additional file 2).* Full text selected studies will be evaluated further for quality.

The Medical Subject Heading (Mesh) terms search will be done using authors key words of related articles and PMID of index manuscripts on women's decisions in family planning use. The PMID of the manuscript had identified from PUMED. Yale MeSH analyzer will be searched on Mesh analyzer on google by inserting the identified PMID. Then, Boolean operators (OR, AND) will be used to search studies from the online databases. The terms or keywords include ((Decision-making OR Personal Autonomy OR Power OR participation in household decision-making OR Interpersonal Relations OR Power OR Employment OR Patient Acceptance of Health Care OR Psychological OR Contraception OR Contraception Behavior OR Family Planning OR Family Planning Services OR Family Characteristics OR Maternal-Child Health Services OR Reproductive Health OR Sexual Behavior OR Health Services Accessibility OR Health Knowledge OR knowledge OR Attitude OR Refusal to Participate) AND (Male OR Men OR Spouses OR Sexual Partners OR Socioeconomic Factors OR Marriage OR associated factors OR predictors OR determinates) AND (Humans OR married women OR Female OR Young Adult OR Middle Aged) AND (Ethiopia OR urban or rural OR urban population OR Rural Population OR Sub-Saharan Africa OR ow-income, country OR Developing country))) (*Additional file 3*).

Quality assessments

The quality of studies will be assessed using their title, abstract, and full-text review before the inclusion of studies on the final systematic review and meta-analysis. Joanna Briggs Institute Meta-Analysis of Statistics Assessment and Review Instrument (JBI-MAStARI) will be used to assess the qualities studies [29]. The tool emphasizes explicit inclusion and exclusion criteria, standard measurement criteria, study subjects and setting**,** strategies to deal with confounding, exposure measurement validly and reliably, outcomes measurement, and appropriate statistical analysis *(Additional reference 4).* The full-text articles will be assessed by two authors (EW and SB). A quality scale of 50% and above will be considered and included review. Disagreement among reviewers will be discussed by the third author (MA) to reach an agreement.

Data extraction and management

Piloting of the data extraction will be carried out independently by all authors on Microsoft Excel (2016) before the beginning of the actual data extraction. The actual data extraction will be done by the two authors (EW and SB). Discrepancies in data extraction will be solved by discussing with a third author (MA). The data extraction tool will contain information on the first author name, publication year, study setting, study design, sample size, prevalence, odds ratio, lower and upper bound of the confidence interval, log transformation, and standard error of logarithm. In case of missing data, or incomplete reports, we will contact the corresponding authors by email.

Data synthesis and analysis

Importing of extracted data to STATA version 14 for analysis will be done. A narrative synthesis of included studies will be done. Freeman Tuckey will be used for Square root transformation of data to avoid variance variability [30].

A random-effect model will be used to determine the pooled prevalence of women's decision-making in family planning use in Ethiopia [31]. Forest plots will be used to present the pooled prevalence and its determinants of women's decision-making in family planning use at a p-value of less than 0.05 05 [32]. The Cochran's Q [33], and I2 statistics [34] will be used to identify heterogeneity across studies. The I^2 statistic estimates the percentage of variations across studies. I^2 values of 25%, 50%, and 75% are low, moderate, and high heterogeneity respectively. The sources of heterogeneity will be using subgroup analysis and Meta-regression. Moreover, sensitivity analysis will be done to investigate the effect size of single a study. The funnel plot will be used to check publication bias using visual observation [32]. Statistical tests of Eggers and Begg's tests [35] will be done to check publication bias of the funnel plots. An asymmetry of the funnel plot indicates publication bias. A p-value of < 0.05 will be used to declare publication bias.

Discussion

This systematic review and meta-analysis protocol aim to synthesize the pooled prevalence of women's decisions in family planning use and its determinants in Ethiopia. Improving women's autonomy on decision-making on reproductive health services has a substantial advantage, including fertility regulation, reduction of child mortality, and improve child feeding practices [5, 6, 9, 24, 36-38].

Low contraceptive use leads to a lack of children proper care from households member [13]. Worldwide, about six million children died before reaching their first year birthday, and about 35 women died every hour due to birth-related complications [39-41]. In developing countries, particularly sub-Saharan Africa countries, contraceptive utilization was low [12, 13]. Contraceptives use was low in Ethiopia, and there was a higher unmet need for family planning, total fertility rate, neonatal, infant, and maternal mortality [10, 11].

The finding from this systematic review and meta-analysis will help to identify the pooled prevalence and its determinants of women's decisions in family planning use. Therefore, it is mandatory to synthesize studies finding to inform policymakers for appropriate intervention to improve women's decisions in

family planning use. This review protocol may have limitations, including heterogeneity due to differences in study designs, sample size, and publication biases. Articles published only in the English language will be included. Only observational studies design will be included and interventional and quasi-interventional studies will be excluded from the review.

Declarations

Conflict of interest

Authors have no conflict of interest

Author contribution

EW conceived, designed, and drafted the systematic review and meta-analysis protocol manuscript**.** EW, SB, and MA extensively reviewed and incorporated inputs in the protocol manuscript development. All authors approved the final version of the protocol.

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