

Preventive practices towards Sexually Transmitted Infection and its determinants among young people in Ethiopia: a protocol for a systematic review and Meta-analysis

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Abstract

Background: Globally, about 178.5 million new cases of curable sexually transmitted infections occur among young people aged 15-24 years. There are fragmented and inconsistent findings on preventive practices of sexually transmitted infection. Thus, this systematic review and meta-analysis aimed to estimate the pooled prevalence of preventive practices of sexually transmitted infection and identify its determinants among young people in Ethiopia.

Methods: We will use the Preferred Reporting Items for Systematic review and Meta-analyses (PRISMA) to develop the review protocol. We will use online databases such as PubMed, CINAHL, Google, and Google Scholar to search published and unpublished studies. We will use the Joanna Briggs Institute Meta-Analysis of Statistics Assessment and Review Instrument to assess the quality. We will check statistical heterogeneity using the Cochran Q test and I^2 statistics. We will perform subgroup analyses and meta-regression to identify the sources of heterogeneity. The statistical analysis will be done using STATA version-14 software. We will use a random-effects model to estimate the pooled prevalence and identify determinants of preventive practices of sexually transmitted infections.

Discussion: Young people have a high unmet need for sexual and reproductive health services and poor preventive practices toward sexually transmitted infection. Although there are studies on the sexually transmitted infection preventive practice, there is no study finding on the pooled prevalence of the preventive practices of sexually transmitted infection and its determinants among young people in Ethiopia. Thus, this systematic review and meta-analysis will help to develop appropriate interventions.

Introduction

Sexually transmitted infections (STIs) are diseases like gonorrhea, syphilis, chancroids, lymphogranuloma venerum, and more than 30 different bacteria, viruses, and parasites. STIs can be curable and incurable. The curable STIs include gonorrhea, syphilis, trichomonas, and chlamydia. The incurable STIs include the herpes simplex virus, hepatitis B, HIV, and human papillomavirus (HPV). The STIs transmit through sexual contact such as vaginal, anal, and oral sex. It can also spread through non-sexual means via blood or blood products and mother to child during pregnancy, childbirth, and breastfeeding. The common symptoms of or syndrome of STI include urethral discharge, vaginal discharge, genital ulcer, urethral discharge, vaginal discharge, lower abdominal pain, inguinal bubo, neonatal conjunctivitis, and scrotal swelling [1–4]

Globally, about 357 million new cases of curable sexually transmitted infections occur among people aged 15–49 years, and over half of them are between 15–24 years [5, 6]. Every day, more than 1 million sexually transmitted infections (STIs) are acquired [1]. STIs are health threats to adolescents and young people in developed and developing countries [4, 7–11]. In Ethiopia, though there lack of surveillance data, a self-reported prevalence of STIs among youth aged 15–24 years was 3% and 1 %, respectively

[12]. STIs can have serious consequences include risk of HIV infection, stillbirth, neonatal death, low birth weight, sepsis, pneumonia, and neonatal conjunctivitis or blindness [1].

The age of young people by itself is a risk for many factors. It is a critical developmental period where youth begin to know and explain their sexual values and experimenting with sexual behaviors. They are at high risk for unsafe sexual behaviors include sexually transmitted infection (STI), unplanned pregnancy, abortion, low school performance, psychosocial problems, and economic crisis [1, 13]. Moreover, rapid reproductive maturity among young people could lead to early sexual initiation and unsafe sex with the reluctance to use contraceptives methods [14–17].

In addition, factors such as multiple sexual partners, engaging in risky sexual activities, sex without a condom, sex with a commercial sex worker and older partners, consumption of alcohol and illicit drugs, cultural, religious, peer pressure, watching pornography, being single, nondisclosure of HIV status, conflicts between couples and families affect young people risky sexual behavior (RSB) [4, 8, 10, 18–24].

In Ethiopia, despite several interventions of STIs remains one of the sustainable development goal agendas [25] and the development of national guidelines for the management of sexually transmitted infections using a syndromic approach [26], there is a lack of attention and surveillance data on preventive practice STIs in young people [27]. Moreover, though studies had conducted in different parts of the country on the preventive practices of sexually transmitted infection (STIs) among young people, there are inconsistent findings on prevalence and its determinants. Thus, this systematic review and meta-analysis aimed to estimate the pooled prevalence of preventive practices of sexually transmitted infection (STIs) and identify its determinants among young people in Ethiopia.

Research Question

- What is the level of pooled prevalence of preventive practices towards sexually transmitted infection among young people in Ethiopia?
- What are the determinants of preventive practices towards sexually transmitted infection among young people in Ethiopia?

Objectives

- To determine the overall pooled prevalence of preventive practices towards sexually Transmitted Infection among young people in Ethiopia
- To identify the determinants of preventive practices towards sexually transmitted infection among young people in Ethiopia

Methods

Review protocol development

We will use the Preferred Reporting Items for Systematic review and Meta-analyses (PRISMA) to develop the review protocol [28] and PRISMA-P 2015 checklist to report the review findings [29] (Additional file 1).

PECO search guide

Population: Young people (10–24 years old) [30].

Exposure: exposures are determinants that increase or decrease the likelihood of preventive practice toward sexually transmitted infections.

Comparison: The reference group for each determinant in each study will be the comparison variable. It may include good knowledge versus poor, positive attitude versus negative, education versus no education, access to information versus no accesses, consistent use of condoms versus not, etc.

Outcome: The outcome variable will be preventive practices of sexually transmitted infection (STIs). We will consider studies with the primary objective to determine the prevalence of preventive practices of sexually transmitted infections (STIs) and its determinants among young people in Ethiopia.

Data source and searching strategies

We will use online databases such as PubMed, CINAHL, Google, and Google Scholar to search published and unpublished studies. The two authors (EW and SB) will retrieve the studies. In addition, we will use a cross-reference search to add other related studies from the final included studies that may miss in the databases search. The search term or keywords will be (Sexually Transmitted infections OR Sexually Transmitted Diseases OR STIs OR Gonorrhea OR Infection OR HIV Infections OR HIV/AIDS OR Human papillomavirus OR Prevalence OR behaviors OR prevention & control OR control OR Practice OR Sexual Behavior OR Sexual Partners OR Unsafe Sex OR utilization OR Sexual Abstinence OR Unsafe Sex OR Condoms OR Condoms use OR preventive practices) AND (Humans OR Adolescence OR Adolescent OR Female OR Male OR Young Adult OR young people OR youths OR unmarried youths) AND (Factors Or predictors OR determinants OR Health Knowledge OR knowledge OR Attitudes OR Attitude to Health OR risk perception OR female sex workers OR commercial sex OR oral sex Or anal sex OR Family Characteristics OR Parents OR education OR alcohol-related sex OR drug-related sex OR Multiple Sexual Partners OR Premarital Sex OR Unprotected Sex OR Unsafe Sexual Practice OR risky sexual behavior OR Risky OR Sexuality) AND (Ethiopia OR Rural OR urban OR community survey OR institution survey OR Sub-Saharan Africa OR low income country OR Developing country) (*Additional file 2*). The search string will be adapted based on the specific requirement of the database to identify relevant studies. We will export retrieve studies to Endnote version 8 reference manager software [31].

Eligibility criteria

We will include all observational studies (cross-sectional, case-control, and cohort) in the systematic review and meta-analysis. We will include studies that reported the prevalence of preventive practices of sexually transmitted infection (STIs) and its determinants among young people in Ethiopia. Moreover, we will also consider studies that reported only the prevalence of preventive practices of sexually transmitted infections (STIs) or at least measured association between determinants variables with the preventive practice of sexually transmitted infections (STIs). We will include both institutional and community-based studies. We will exclude studies that only address the qualitative approach. However, studies that examine both quantitative and qualitative study findings will only consider the quantitative results. We will not make restrictions to the date of publication. We will exclude studies published other than the English language, expert opinions, conferences, national surveys, and case reports.

Selection of studies

The two authors (EW and SB) will independently screen the studies based on the titles and abstract. We will remove or exclude duplicates, irrelevant titles, and abstracts studies from the citation manager. We will further evaluate the studies of the full text for quality. We will exclude Full-text studies that will not be eligible and include eligible studies in systematic review and meta-analysis. We will discuss with the third author (MA) to solve any disagreement among reviewers during the review process. We will present the selection process flow diagram using the PRISMA chart (*Additional file 3*).

Quality assessment

To assess the quality and validity of the studies, we will use the Joanna Briggs Institute Meta-Analysis of Statistics Assessment and Review Instrument (JBI-MAStARI) [32]. The quality assessment will focus on clear inclusion criteria, study subjects and setting, standard measurement criteria, exposure and outcomes measurement, and appropriate statistical analysis (*Additional 4*). The quality of the studies will be assessed independently by the two authors (EW and SB). We will include studies 50% and above of the quality scale and considered them for final systematic review and meta-analysis. We will solve any disagreement among reviewers during the quality review of the studies by the third author (MA).

Data extraction

We will construct a data extraction template form on Microsoft Excel (2016). Before the beginning of the actual data extraction, we will pilot the Microsoft Excel data extraction form. We will include the first author's name, publication year, the study area, study design, sample size, associated factors, odds ratio, and prevalence of the studies on the data extraction template. In addition, we will calculate the logarithm and standard error (SE) of the prevalence and odds ratio. The two authors (EW and SB) will extract the

data independently. We will discuss any difference with a third author (MA) to reach on consensus. We will contact the corresponding author of the studies in case of missing data or incomplete reports.

Data synthesis and statistical analysis

We will present the narrative synthesis of data for the included studies. We will prepare a summary table and graph to describe the characteristics of the included studies. We will use a random-effects model [33] to estimate the overall pooled prevalence of preventive practices of sexually transmitted infections (STIs) and identify its determinants among youths in Ethiopia. We will use 95% CI to declare the statistical significance. We will check statistical heterogeneity using the Cochran Q test [34] and I^2 statistics [35]. I^2 values represent 25% low, 50% moderate, and 75% substantial heterogeneity. We will perform subgroup analyses and meta-regression to identify the sources of heterogeneity. We will do sensitivity analysis to assess the effect of studies on the overall estimation. We will also check the presence of publication bias using funnel plot [36], Egger's, and Beggar's test [37].

Discussion

This systematic review and meta-analysis protocol aimed to estimate the pooled prevalence of preventive practices of sexually transmitted infection (STIs) and identify its determinants among young people in Ethiopia. Though Young people are sexually active, they have an unmet need for sexual and reproductive health services. The common barriers in low and middle-income countries include lack of behavioral change and accessibility of services [38–40]. Despite different interventions implemented to enhance the preventive practice of sexually transmitted infection (STIs) among young people, the problem is still a challenge in low-income countries, including Ethiopia [12, 26].

As far as we know, there is no study finding on the pooled prevalence of preventive practices of sexually transmitted infection (STIs) and its determinants among young people in Ethiopia. Thus, this systematic review and meta-analysis will help policymakers to develop appropriate interventions on preventive practices of sexually transmitted infection (STIs) in Ethiopia. This study protocol may have a limitation on heterogeneity between studies. We will only include observational studies design published only in the English language.

Abbreviations

JBIMAStARI: Joanna Briggs Institute Meta-Analysis of Statistics Assessment and Review Instrument; PRISMA: Preferred Reporting Items for Systematic review and Meta-analyses; STI: Sexually transmitted infections; HPV: Human papillomavirus; HIV: human immunodeficiency virus; RSB: Risky sexual behavior; PECO: population, exposure, compression and outcome.

Declarations

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Author contribution

EW designed and drafted the systematic review and meta-analysis protocol. All authors reviewed the protocol manuscript. Each author read and approved the final version of the protocol.

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Availability of data and materials

The protocol manuscript was submitted with additional files as supplementary materials.

Ethics approval and consent to participate

N/A

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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