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Alcohol use and associated factors among high school, college and university students in Ethiopia: systematic review and meta-analysis protocol, 2017

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Abstract

Background: Alcohol is a psychoactive substance that leads to dependence and harmful drinking in worldwide. Alcohol use is the most prevalent among age from 13 to 29 year particularly in high school, college, and university students. It affected students mentally, physically, economically and their social issues. In low and middle-income countries particularly in Ethiopia, there is lack of data in systematic review and meta-analysis regarding the prevalence of alcohol use and associated factors among students.

Methods: We will search studies using computerized search engine, main electronic databases and other applicable sources. PubMed/Medline, Global Health, Africa-wides, PsycINFO, Google Scholar, EMBASE, and direct Google search will be searched to retrieve studies written in English language from 2010 to 2017. Observational studies (case control, cross-sectional, cohort or longitudinal survey, and surveillance reports) on the prevalence of alcohol use and associated factors among students in Ethiopia will be eligible. Data will be extracted by two authors independently. Data synthesis and statistical analysis will be carried out. Pooled estimate will be done to determine the prevalence of alcohol use by using comprehensive meta-analysis software.

Protocol registration

PROSPERO: 2017: CRD42018083222.

Key words; alcohol use, student, systematic review

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Introduction

The alcoholic beverage is a liquid that contains ethanol and is ready for drinking, and the most predominant beverage are beer, wine and spirits (1). In United State, by the end of high school, 80% students drink alcohol, and the highest prevalence of drinking alcohol from middle or late teens to the mid-20s(2). Alcohol is a psychoactive substance that leads to dependence and harmful drinking causes a large disease, economic and social burden in the societies. Alcohol abuse can produce serious depression, anxiety, and psychoses (2, 3). Alcohol withdrawal syndrome usually marked by insomnia, evidence of hyperactivity of the autonomic nervous system (2). It is legal and the most readily available substance on the market to young individuals (4). Globally, about 2.5 million people die in every year due to harmful use of alcohol. At the age of 15 to 29 year old, 320, 000 die from alcohol-related factors that accounting 9% of all deaths in this age group (5). About 6% of all global deaths were caused by alcohol consumption (3). Alcohol is the third largest risk factor for disease burden and it costs about 210 to 665 billion dollars in the world (5). Harmful alcohol drinking is risky both for the drinker and for other people (death, disease, and injuries) (6, 7) In the world, alcohol is the most used substance by students in age 13 to 15years one in four use alcohol in the past 12months and harmful drinking is common among adolescents(13 to 19 years) that account 11.7% (1, 8). In the United States, alcohol-related health problems cause to 2 million injuries in every year and 22,000 deaths (2). Men are as twice as women to drink alcohol (9). As educational level increases, the rate of alcohol use increases and college students (18 to 22 years) consumed 63.9% in the current time (10). In Africa alcoholism seemed to promote in late twentieth century and it is the leading risk factor for morbidity and mortality in developing country (11, 12). In Sub-Saharan African countries alcohol use among age 12 to 19 year in the last 12 months was 9% (13). In systematic review in east Africa alcohol use in lifetime, in the past 12months and in the last 1 month were 52 %, 28% and 26% respectively (14). In Kenya school going students (13 to 22years), current alcohol use was 34.7%(15), in Ethiopia at the age of 18 to 24 years lifetime alcohol consumption was 30.6% (16). Students who use alcohol had poor academic achievement, absent from class, poor concentration, cannot read their books, criminals and social issues are common (17-23)

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Current alcohol user in In United State college students was 68.9%(24), In UK university students was 74% (23), in American college students was 40% ((25), in Brazil university was 83.1 % and 89.3% among having religions and not having religion respectively (26), in Serbia three largest universities was 77.7%(27) and in Thailand school students in the 30days were 14.8%(28). In African countries the finding showed different results. In current alcohol use in Ghana university students was 25.81% and smokers were highly drunker than the non-smoker male (33.67%) and females (17.91%)(29), in Nigeria university students was 42% (30), in Nigeria the last one-month alcohol use among university students was 43% (31). Randomized control trial In South Africa alcohol use disorder was (21.1%)(32). Age 13 to 16 years in the last one month alcohol use in Zambian and Ugandan students were 42.6% and 24.1% respectively (33). In rural South Africa high school students binge drinking was 21.2% (34). In South African students alcohol use problems was 55.1% (35). In Malawi university student 72% use alcohol (36), in Kenya Egerton University students use alcohol was 21.1%(37),

The causes for adolescents to use substance are multi-factorial; however, media can play a key role (13). Peer pressure (18, 30, 31, 38), TV advertising exposure (39, 40) , sadness, no friend and missing school(40), being male (13, 25, 34, 39, 40), substance(smoking, use illicit drug (26, 28), experiencing reduced adult supervision (24), availability and cost of alcohol (11, 41) were the most likely factors that lead students to use alcohol.

The reasons why students use alcohol were to increase sexual performance, boost confidence, and reduce stress and to increase social interaction (42). The legal access to alcohol increases drinking behavior (19). In low and middle-income countries, there is lack of data on the frequency of alcohol use (1).

Since different studies used different study design, places, study population and tools, as the result there will be an extensive variation in the prevalence rates of alcohol use among high school, college, and university students in Ethiopia. Such limited and discrepant logical information about alcohol use in students in our country through its disparity ended interval and backgrounds had not been systematically reviewed for health decision makers and implementers.

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Methods

We will conduct a meta-analysis of published reports that include prevalence estimation of alcohol use among high school, college and university students in Ethiopia.

The procedure and writing of the results of this systematic review and meta-analysis will be based on PRISMA guidelines (43)(Figure1).

Identification and selection of studies

A systematic review of the literature will be conducted to identify English language articles that reported the last one-month prevalence of alcohol use among high school, college and university students in Ethiopia. The following databases will be searched (2010 to 2017): PubMed/Medline, Cochrane Library, EMBASE, Global Health, Africa-wides, PsycINFO and Google Scholar. Protocol details for this systematic review were registered on PROSPERO (see: https://www.crd.york.ac.uk/PROSPERO, ID=CRD42018083222). An overview of search terms will be provided in the online supplementary materials. Primary search terms include “alcohol use OR alcohol user OR alcohol drunker OR alcohol abuse OR ethanol OR substance OR substance use and prevalence OR epidemiology and associated factors OR risk factors AND higher education OR university OR college OR high school students and Ethiopia”.

Eligible criteria

1. The study reported the last one-month prevalence of alcohol use.
2. The sample consisted of the students enrolled in high school, college and University.
3. Participants were recruited through a probability sampling methods.

The following studies will be excluded

1. Clinical, qualitative and psychometric studies.
2. Literature not written in the English language.

References of included articles will hand searched for further studies. Authors of the included articles will be contacted by email with a request to provide missing information and will be requested for any additional studies to be included in a meta-analysis. The initial searches and choosing will be undertaken by TA. Following searches and checking

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will be accomplished by TA and WG. Differences pertaining to study inclusion will be resolved through consensus.

Data quality assessment

The methodological quality of the included studies will be evaluated using the modified Meta-analysis Of Observational Studies in Epidemiology (MOOSE) guidelines for reporting (44),and Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA-P) statement (45). The abilities of each of the finding reports in systematic review will be assessed by using a checklist adjusted from Joanna Briggs Institute(JBI) Critical Appraisal for Study Papers(46)

Statistical analysis

Excel and STATA Version 14 software will be used for data entry and analysis respectively. Forest and funnel plot will be created and, publication bias will be assessed by Egger's regression test and Begg-Mazumdar's rank correlation test for funnel plot asymmetry. The p-value of publication bias will be determined; therefore, the overall effect (pooled estimated effect size) of the prevalence of alcohol use and associated factors will be approved using the random/fixed effects meta-analysis model (47). Furthermore, subgroup analysis will be included for university, college and high school students. Cumulative meta-analysis will also be used to see the effect of each study for pooled estimates. A review of statistically heterogeneity will be assessed by the Cochran's Q test ($P<0.10$ considered indicative of statistically significant heterogeneity), which tests whether the amount of between-study heterogeneity is greater than the probability of chance (48), and the I^2 statistic which assesses the magnitude of statistical heterogeneity that can be expected by splitting out the chance heterogeneity (values of 25%, 50% and 75% are measured to represent low, medium and high heterogeneity, respectively). We will use τ^2 to estimate the total amount of heterogeneity (49).

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PRISMA 2009 Flow Diagram

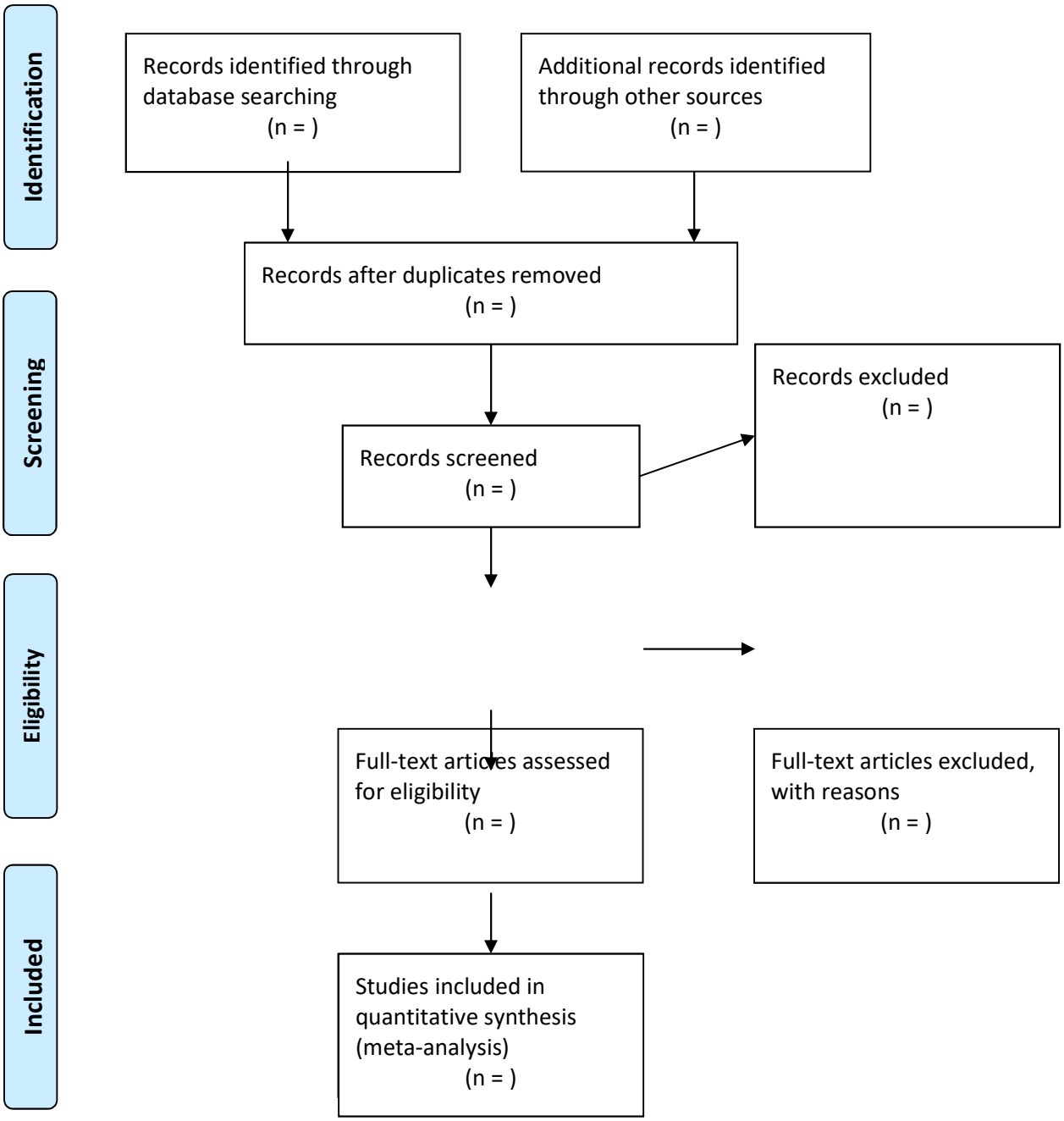

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Figure1 a flow chart of systematic review of the literature; preferred reporting items for systematic reviews and meta-analyses, 2017(43)

Discussion

The systematic review and meta-analysis aims to synthesis variables primary search finding on prevalence of alcohol use and associated factors among high school, college and university students. Although, there is a rough estimate on the prevalence of alcohol among students, it remains a challenging problem in the management of alcohol use problems. Using alcohol contributes to enormous poor health, economy and social and academic achievement outcomes. This shows substantial work still need to be done to improve health, economy and social and academic achievement of the students. Therefore, comprehensive and summarized search evidence is needed to identify the key risk factors of the alcohol use.

Declarations

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Available of data and material

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Authors' contributions

TA: had a primary role in the conceptualization, data review, data extraction, data analysis, in the write up and editing of this manuscript. WG: had a role in data Review, data extraction, in the write up.

Ethics approval and consent to participant

Not applicable

Consent for publication

Not applicable

Competing interests

Authors declare that no competing interests.

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