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REVIEW PROTOCOL

Educational technologies focused on preventing substance use in adolescence: a scoping review protocol

Tecnologias educacionais centradas na prevenção do consumo de drogas por adolescentes: um protocolo de revisão de escopo

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ABSTRACT

Objective: To identify and map educational technologies to prevent adolescent substance use. **Methods:** This scoping review protocol will be conducted according to the guidelines of the Joanna Briggs Institute (JBI) manual and the PRISMA Extension for Scoping Reviews. Thirteen data sources will be accessed, namely: MEDLINE, LILACS, Scopus, CINAHL, ERIC, Cochrane Library, PsycINFO, Web of Science, Theses & Dissertations Catalog of the Coordination for Improvement of Superior Level Staff (CAPES), RCAAP, DART-Europe, Trove, and Theses Canada.

Descriptors: Adolescents; Educational Technology; Alcoholic Beverages; Tobacco; Illicit Drugs.

RESUMO

Objetivo: Identificar e mapear as tecnologias educacionais centradas na prevenção do consumo de drogas por adolescentes. **Método:** Este protocolo de revisão de escopo realizado de acordo com os preceitos do manual do Instituto Joanna Briggs (JBI) e do PRISMA *Extension for Scoping Reviews*. Serão acessadas 13 fontes de dados: MEDLINE, LILACS, Scopus, CINAHL, ERIC, Cochrane Library, PsycINFO, *Web of Science*, Catálogo de Teses & Dissertações da Coordenação de Aperfeiçoamento de Pessoal de Nível Superior, RCAAP, DART-Europe, Trove e Theses Canada.

Descritores: Adolescente; Tecnologia Educacional; Bebidas Alcoólicas; Tabaco; Drogas Ilícitas.

INTRODUCTION

According to the World Health Organization (WHO), adolescence is the period of life between the ages of 10 and 19[1]. In contrast, the Brazilian Statute of the Child and Adolescent (ECA) considers an adolescent as a person between the ages of 12 and 18[2]. Regardless of the age criteria adopted, it is a fact that adolescence is a transitional phase to adulthood, during which various transformations occur that affect the social, psychological, and biological dimensions of the adolescent[3].

Experimentation with new situations and behaviors that can affect health is typical of adolescence[4-5]. Among these practices is the use of drugs, which is influenced by factors such as the places that individuals frequent, their relationships, family dynamics, and economic conditions[5-7]. A study conducted in the state of Bahia, Brazil, showed the use of drugs among adolescents was high and associated with a lack of religious practice, low educational attainment, and early initiation into sexual activity and work[8].

According to the 2020 World Drug Report published by the United Nations Office on Drugs and Crime (UNODC), an estimated 13 million drug users in 2018 were adolescents aged 15 to 16. Among them, the annual prevalence of cannabis use was about 4.7%, which is higher than that of the population aged 15 to 64[9].

The World Health Organization (WHO) considers substance use to be one of the significant health problems among the youth[10]. Substance

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use can affect this group's quality of life and future. In addition, drug use, especially alcohol use, is associated with causes of death and the onset of early disability[11-12].

Within the Strategy for Family Health, nurses can collaborate with schools and conduct health education activities. Strategies guided by the School Program for Health (PSE) are used[13]. Educational technologies (ETs) can support educational activities[14].

ETs are resources available in both digital and non-digital formats; non-digital ETs include technologies presented as physical educational resources[15]. An integrative review aimed at presenting the educational technologies used to address health topics with adolescents found booklets, videos, websites, games, and simulations were the most commonly used ETs[16].

In general, ETs contribute to knowledge development and help conduct educational activities[14]. It is not enough to simply create an ET; it is also important to validate it so that other professionals can use it confidently [17]. When applied to adolescents, these tools are critical, especially in promoting student health. Using ETs with this group can help promote dialogue, learning, and closer links between adolescents and health services. To achieve this, professionals must be trained to develop ETs, use them, adapt them to different care scenarios, and encourage active participation by adolescents[16].

We conducted preliminary searches for studies in databases, which helped us understand the need for similar studies. From this perspective, the present study aims to identify and map educational technologies focused on the prevention of drug use among adolescents.

METHOD

This scoping review protocol was developed using the Joanna Briggs Institute manual[18], the PRISMA Extension for Scoping Reviews (PRISMA-ScR)[19], and the steps outlined by Arksey e O'Malley[20]. This protocol is registered on the Open Science Framework (OSF) under DOI 10.17605/OSF.IO/BWXKJ.

Review question

What educational technologies have been developed to prevent drug use among adolescents? This guiding question considered the following elements of the PCC mnemonic: P (Population) = adolescents; C (Concept) = educational technologies; C (Context) = prevention of substance use.

Eligibility criteria

Population

We included fully available studies that addressed educational technologies for the prevention of drug use among adolescents. We adopted the WHO criterion for defining adolescents (i.e., those between 10 and 19 years of age)[1]. Although the review is conducted by Brazilian authors, this age range was considered to include studies with an international scope.

Concept

Studies involving both digital and non-digital ETs will be included[15]. ETs result from technical-scientific knowledge that contributes to the educational process and, when used from a health perspective, promotes changes in harmful habits and health promotion[15,21-22].

Context

Studies addressing ETs related to drug use prevention will be included. No time or language restrictions will be applied. Review studies, duplicates, theoretical essays, editorials, manuals, books, testimonials, and reflective studies will be excluded from the review.

Data sources to be accessed

The Medical Literature Analysis and Retrieval System Online (MEDLINE), *Literatura Latino-Americana e do Caribe em Ciências da Saúde* (LILACS), Scopus, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Educational Resources Information Center (ERIC), Cochrane Library, PsycINFO, Web of Science, Theses & Dissertations Catalog of the Coordination for Improvement of Superior Level Staff (CAPES), *Repositório Científico de Acesso Aberto de Portugal* (RCAAP), DART-Europe, Trove, and Theses Canada databases were used to collect relevant data for this review.

Search strategy

To search for similar studies, searches were conducted on several platforms, including the JBI Clinical Online Network of Evidence for Care and Therapeutics (JBI CONNECT+), OSF, the Database of Abstracts of Reviews of Effects (DARE), The Cochrane Library, and the International Prospective Register of Systematic Reviews (PROSPERO). If no similar studies were found, we proceeded with the design of the present protocol. *Descritores em Ciências da Saúde* (DeCS) and Medical Subject Headings (MeSH) terms were defined to construct the

search strategy (Figure 1). CINAHL and PubMed databases were searched to select keywords. The final strategy combined descriptors and keywords with the Boolean operators AND and OR (Figure 2). The approach was adapted to the specifics of each database.

Figure 1 - Descriptors used in the database search. Recife, PE, Brazil, 2024

DeCS terms			
Tecnologia Educacional	Prevenção Primária	Drogas Ilícitas	Adolescente
MeSH terms			
Educational Technology	Primary Prevention	Illicit Drugs	Adolescent

Figure 2 - Strategies adopted using descriptors and keywords. Recife, PE, Brazil, 2024

Search strategy adopted using DeCS terms and keywords
Tecnologia educacional OR (tecnologia instrucional OR tecnologia educativa em saúde OR intervenção educativa) AND prevenção primária OR (prevenção OR comportamento perigoso à saúde OR promoção em saúde) AND drogas ilícitas OR (drogas de abuso OR drogas de rua OR drogas de uso indevido OR droga ilegal OR drogas ilegais OR drogas recreativas OR medicamentos proibidos OR consumo de tabaco OR uso de bebidas alcoólicas) AND adolescente OR (adolescência OR adolescentes OR jovem OR jovens OR juventude)
Search strategy adopted using MESH terms and keywords
Educational technology OR (instructional technology OR educational health technology OR educational intervention) AND primary prevention OR (prevention OR hazardous health behavior OR health promotion) AND illicit drugs OR (abuse drugs OR street drugs OR misuse drugs OR illegal drug OR illegal drugs OR recreational drugs OR prohibited drugs OR tobacco consumption OR use of alcoholic beverages) AND adolescent OR (adolescence OR adolescents OR teenagers OR teens OR young OR youth)

A search will be conducted in the selected data sources, first eliminating texts by reading titles and abstracts. Subsequently, full texts will be read, and those not meeting the study objective and defined eligibility criteria will be excluded. Finally, the references of the remaining studies will also be searched to identify any studies that may not have been included in the initial searches. The entire search and data extraction process will be carried out independently by pairs. If there is any doubt about the inclusion or exclusion of a study that cannot be resolved by the pairs, a third reviewer will be consulted. EndNote software will be used to assist in the search process.

Data collection instrument

The data collection instrument will be adapted from the model provided in the Joanna Briggs Institute manual. It will include the following variables: title, year of publication, country, objective, study type, database, study population, results, and conclusions (Figure 3).

Figure 3 - Variables and standardization of the variables selected for data extraction. Recife, PE, Brazil, 2024

Variable	Standardization
Title	To write the title of the study
Year of publication	Year the study was published
Country	Place of origin of the study
Objective	To point out the aim of the study
Type of study	To indicate the type of study performed
Database	To identify the database from which the study comes
Study population	To detail information about the study participants
Results	To detail the main results of the studies, covering variables such as: databases, year of publication, country of publication, type of study, types of technology used, which type of drug it refers to, status of the technology, theory, target audience and the benefits of its use.
Conclusions	To point out the main conclusions of the studies

Data analysis
Data will be tabulated in Excel and presented through tables, infographics, and descriptive summaries.

*Paper extracted from the dissertation "Educational technologies for preventing drug use in adolescence: scoping review", presented to the Universidade de Pernambuco, Recife, PB, Brazil.

CONFLICT OF INTERESTS
The authors have declared that there is no conflict of interests.

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