

## Original Paper

# The Impact of Theater-based Interventions for Sexual Health Education to Adolescents: A Systematic Review




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## ABSTRACT

**Introduction:** Sexual education programs are necessary for adolescents. According to the literature, adolescents find theater-based interventions more acceptable and memorable than traditional didactic teaching methods.

**Objective:** This study aims to summarize all the available primary research with theater-based interventions for sexual health education to adolescents.

**Materials and Methods:** In this systematic review, studies were searched in the databases of Web of Science, PubMed, Scopus, ScienceDirect, ProQuest, Magiran, SID, and IranDoc, which were written in English or Farsi from 2011 to 2021. Quantitative and mix-method studies with a theater-based intervention for sexual education were selected.

**Results:** All of the 7 selected studies determined the impact of theater-based sex education on sexual activity and sexually transmitted diseases, and four studies on "psychological issues related to sexual health" or "healthy relationship" or "sexual violence." The outcomes of the studies included increasing knowledge and self-efficacy and improving attitudes regarding sexual health, the intended age of first sex, and less risky behavior in condom usage. Also, two studies determined the appropriate method for theater-based sex education for adolescents.

**Conclusion:** Theater is an attractive and effective method of sexual education for adolescents. It is recommended that further interventional theater-based studies on adolescents should not only emphasize the biological aspects of reproduction but also focus on acquiring healthy behaviors.

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## Highlights

- Sexuality education programs are necessary for adolescents.
- Theater is an attractive and effective method of sex education for adolescents.
- Most interventional theater-based studies on adolescents focus on the biological aspects of reproduction.
- It is recommended that future interventional theater-based studies focus on healthy behaviors and topics such as sexual identity and diversity, sexual violence, and healthy relationships.

## Plain Language Summary

Adolescence is a transitional period in one's lifetime in which rapid physical growth and sexual development lead to the physical ability to reproduce. During sexual maturation, adolescents undergo major changes and increased sexual instincts and face many questions in their minds. Receiving inappropriate answers or wrong education can profoundly affect their life and future. Therefore, sex education is very necessary for adolescents. Literature has shown that adolescents find theater-based education more acceptable and memorable than traditional didactic teaching methods. Studies showed that well-designed theater performances could positively change adolescents' sexual behaviours. It is recommended that education interventions should emphasize both the biological aspects of reproduction and acquiring healthy behaviours.

### Introduction

**S**exual health is a state of physical, emotional, mental, and social well-being about sexuality. In other words, it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships [1]. Health education is a primary prevention method for promoting changes in behavior and achieving healthy habits [2]. Adolescence is a transitional period in one's lifetime in rapid physical growth, and sexual development lead to the physical ability to reproduce [3, 4]. During sexual maturation, adolescents undergo major changes and increased sexual instincts and face many questions in their minds. Receiving inappropriate answers or wrong education can profoundly affect their life and future [5].

To achieve adequate sexual health, sex education programs are necessary to promote healthy sexuality by transmitting a variety of topics such as puberty, sex, gender identity, gender roles, sexual orientation, healthy relationships, contraception, and sexually transmitted infections (STIs) [6-8]. The majority of adolescents tend to have sex education. Unfortunately, this request is often ignored or places too much emphasis on the biological aspects of reproduction and lacks the focus on acquiring healthy behaviours [7]. The education should result from teamwork comprising sexolo-

gists, health professionals, teachers, and family [9]. Lack of maturity during the first sexual relations, also specific characteristics of teenagers (need for independence, impulsiveness, and emotional lability) increase risky behaviors [10-12]. Teenagers are at increased risk of STIs and HIV, so innovative, youth-focused sexual health promotion programs are needed [13, 14]. Sex education effectiveness is greater before the beginning of sexual relations [15, 16]. Sex education can be an actual effort for the promotion of healthy sex habits and the prevention of STIs [16, 17].

Studies have suggested various methods for sexual education for adolescents. In some studies, the parents of the adolescents were educated, and the effect of sex educational intervention was determined on the adolescents [18-26]. One of the related methods is theater-based sex education [27]. Since the theater's inauguration in 2008, the theater has been considered a major social or theoretical mover. For decades, theater-based approaches have been implemented as a method of health education and a strategy for changing behavior. Theater performances can engage the audience and influence the knowledge, attitudes, and behaviors of audience members. Also, adolescents find theater-based interventions more acceptable and memorable than traditional didactic teaching methods [27]. Also, the theater performance program for sexual education to adolescents was significantly impactful and improved attitudes related to sexual issues,

including STIs [13, 25, 28-30] mental health [31], increased sexual health self-efficacy [25, 32], and behavior change concerning contraception device [29, 32].

Lameiras-Fernández et al. reported the effectiveness of sex education programs and thereby informed better public policy-making in this area [33]. This study aimed to deliver a detailed summary of all the available primary research for determining the theater-based methods, sex education contents, and outcomes in theater-based interventions for sexual health.

## Materials and Methods

This systematic review assessed the studies conducted on the impact of a theater-based intervention on the health of adolescence. The study's findings were reported using the PRISMA (Preferred Reporting Items for Systematic review and Meta-Analysis) protocol.

The inclusion criteria were determined based on PICOS (P: Population, I: Interventions, C: Comparisons, O: Outcomes, and S: Study design). The selected resources were those whose study participants were adolescents/teenagers aged 11-19 years, and theater-based sex education was determined as an intervention program. Each interventional study was selected, regardless of the type of study. For example, randomized controlled trials, quasi-experimental, before-after studies, and qualitative studies determining the impact of intervention were accepted. Also, only the resources with a full text published in English or Farsi were selected as high-quality studies.

This review included a severe systematic search of the peer-reviewed literature. Resources were searched systematically in the electronic databases, including [Web of Science](#), [PubMed](#), [Scopus](#), [ScienceDirect](#), and [ProQuest](#), and national databases such as [Magiran](#) and [Scientific Information Database \(SID\)](#). Furthermore, the dissertations of doctoral and master students of Iranian universities and Iranian students who graduated from foreign universities were searched in the [IranDoc](#) website. This site belongs to the Iranian Ministry of Science, Research, and Technology; the full text of Iranian students' theses is available on this site. In addition, the researchers also checked the citation lists of included studies.

Resources were searched with English keywords such as "theatre," "theater," "sexual," "sex education," and "sex training," and their equivalent Farsi words. There were two spellings of "theater" and "theatre" in the lit-

erature. In American English, the spelling is "theater"; in Britain and the rest of the English-speaking world, "theatre" is used. So, both spellings were used for the search. Databases were explored with time limitations between 2011 and 2021 to find newer methods.

The electronic databases were searched for titles and abstracts with the key terms in all the databases: ("sexual" OR "sex education," OR "sex training,") AND ("theatre" OR "theater"). Then, the titles and abstracts of all retrieved papers were screened based on PICOS criteria, and the selected resources were assessed for methodological validity using the Newcastle Ottawa Scale (NOS) checklist. Two independent authors conducted study selection, quality assessment, and data extraction. Data extracted included the first author's name, publication date, the aim of the study, context including the name of the country, sample size, participant characteristics (gender, age), study design, intervention (duration, sex education content, theater performance) and key findings were developed.

## Results

We identified a total of 802 studies through the initial search in databases of [Web of Science](#) (183), [Scopus](#) (249), [PubMed](#) (45), [ScienceDirect](#) (144), [ProQuest](#) (179), [Magiran](#) (0), [SID](#) (0), and [IranDoc](#) (2). After excluding 135 duplicates, the other papers were screened according to the title and abstract. Then 10 studies were selected based on the inclusion criteria, and their full texts were reviewed. Finally, 7 papers had the eligibility criteria and were carefully chosen to be included in this review. [Figure 1](#) shows the flowchart of the search process in the PRISMA flow diagram. The characteristics of the selected studies are presented in [Table 1](#).

The research methods of the studies were as follows: two mixed methods, one qualitative method, and four quantitative methods. The sample size of qualitative studies was 19-20 individuals, and quantitative studies varied from 159 to 1143. The research environment was in 7 contexts (i.e. Sweden, Canada, and 4 different states of the USA). Except for one case where the gender was not stated, in all other studies, both girls and boys participated; the number of girls was slightly higher than that of boys. The age of the participants ranged from 11 to 18 years.

**Table 1.** Characteristics of the studies conducted on the impact of theater-based interventions for sexual health education to adolescents

Author (Publication Year)	Aim	Participant Characteristics and Context	Study Design and Intervention	Key Findings
Jerlström (2020) [29]	To evaluate if an intervention, including theater in school sex education, affects students' knowledge, attitudes, and behavior regarding condom use	Sample size: 826 (intervention group=427, control group=399) Gender: male and female, almost equal in each group Age: 15 years Context: Sweden	Design: cluster randomized controlled trial Intervention duration: once for 80 min Sex education content: regarding the prevention of chlamydia infections Theater performance: SAFETY involved a theater/play (20 min), value exercise (10 min), chlamydia games (10 min), condom school (10 min), and a replay (30 min). At first, the actors enacted a theater/play showing the problems with condom use. Two school girls and boys discuss whether to use a condom or not. Then the question of using condoms arises in practice. Theater and value exercise were thought to affect attitude and behavior. The program continued with chlamydia games held by the condoms being handed out. The condom school and chlamydia games were supposed to affect the adolescents' knowledge.	Higher levels of knowledge, improved attitudes, and less risky behavior regarding condom use
Kim (2019) [30]	Evaluation of the impact and implementation of theater-based sexual health in High School Sex Squads (HSSS)	Sample size: 20, in 3 focus groups (n=5, n=6, n=9) Gender: not stated Age: 13-18 years Context: Los Angeles, USA	Design: a qualitative study (content analysis design) Duration intervention: during lunch, one day a week, 10-week Sex education content: broad topics related to sex, sexuality, and gender Theater performance: The HSSS programs use monologues, skits, songs, dance, spoken word, and other forms of performance art. The components of the HSSS included identifying urgent sexual health topics, sexual health education workshops, art-making, high school sex squad performances, and high school sex squad festival.	Gaining knowledge in sexual health, empowered to educate and advocate for changes on campus, comfort, and confidence in discussing sexual health and performing on stage.
Lan (2019) [25]	To evaluate the efficacy of two delivery modes (live and virtual) of a theater-based sexual health intervention for promoting sexual health strategies among adolescents	Sample size: 300 Gender: 130 males (60 live, 70 virtual), 170 females (76 live, 94 virtual) Age: high school students (13-18 years) Context: Los Angeles, USA	Design: a comprehensive intervention trial Intervention duration: three 60-min sessions, over eight weeks in each group Sex education content: to promote HIV prevention knowledge and strategies, to educate about condom use and HIV, to teach about how to properly use a condom Theater performance: AMP** consisted of three components: (1) Sex squad performance (live performance included scenes, monologues, spoken word and song, and weaving together humor, vulnerability, personal narrative –in the virtual group: view a video, a compilation of monologues and skits, (2) Positively speaking (in Live group: one class session led by two local HIV-positive advocates trained by a program– in the virtual group: view 3–5 short biographical videos, portraying men and women living with HIV) and (3) Interactive workshop (live: one sexual health education workshop and condom demonstration – in the virtual group: Teachers were given a discussion guide to lead the discussion after viewing the video and asked to complete the activities.	The live and virtual modes increased HIV knowledge and improved safe sex self-efficacy.
Lightfoot (2015) [13]	To assess the efficacy of a theater-based HIV prevention approach for adolescents	Sample size: 317 Gender: male and female Age: high school students (14-15 years) Context: North Carolina, USA	Design: mixed method, quantitative (pretest, posttest quasi-experimental), and qualitative (focus groups) Intervention duration: not stated Sex education content: condom demonstration and negotiation Theater performance: AMP consisted of three components: (1) sex education squad performance, (2) condom demonstration and negotiation workshop, and (3) interactive presentation and discussion facilitated by people living with HIV.	Increasing in participants' HIV knowledge, changes in attitudes and awareness, reduction in HIV stigma

Author (Publication Year)	Aim	Participant Characteristics and Context	Study Design and Intervention	Key Findings
Lieberman (2012) [34]	To evaluate the impact of STAR LO, an innovative theory-driven, theater-based intervention, on the primary prevention of sexual activity among early adolescents	Sample size: 1143 (control group=247, intervention group=896) Gender: slightly more than half of the participating students were female. Age: early adolescence (11-14 years) Context: New York City, USA	Design: pretest-posttest with a control group Intervention duration: 8 classroom sessions, 10 to 12 weeks Sex education content: focus on building confidence; setting goals which include delaying sexual activity; increasing self-efficacy in refusal skills; improving knowledge about puberty, sex, pregnancy, and STI prevention; facilitating decision-making around setting physical boundaries and limits; and encouraging communication with parents about these topics. Theater performance: STAR LO program embeds theater within a classroom-based curriculum. This educational theater uses professional young adult actors/educators as teachers. The program's approach builds on students' observation of and interactions with role models as a serious part of education. The actor/educators portray characters, each with a personality, life circumstances, and choices that reflect those of adolescents in terms of sexuality; then continue the character after the performance and interact with them, representing peer role models.	Increases in sexual intentions and decreases in pro-abstinence attitudes and intended age of first sex
Taggart (2016) [28]	To evaluate a well-designed (i.e. methodologically rigorous) and theory-driven analysis of the effects of a theater-based intervention based on AMP in two school-based studies on adolescent awareness, attitudes, and knowledge about HIV	Sample size: 159 students in California and 317 students in North Carolina Gender: 46% male Age: 9th-grade student (14-15 years) Context: an urban county in California and a suburban county in North Carolina, USA	Design: pretest-posttest with a control group Intervention duration: three 60- to 90-minute sessions over 8 weeks Sex education content: Topics in the performance: HIV and STIs, contraception, testing, general sexual health information, substance use during sexual activity, peer communication, and partner communication. Topics in the workshop: Proper condom use, hands-on condom demonstrations, condom negotiation skills, partner communication, and parent communication. Topics in the HIV-positive Speakers: To share the experiences of being a young person living with HIV Theater performance: 1) Performance: undergraduate students developed and performed a theater piece about sexual health and HIV. The final performance was an episodic compilation of scenes, monologues, and song-weaving together humor, vulnerability, personal narrative, and medically accurate information to promote HIV prevention. 2) Interactive theater workshop: undergraduate students led high school students in an interactive workshop. The workshop began with warm-up activities and presented three short scenarios demonstrating risky sexual situations. Intervention participants role-played what they would do in the situation and discussed their choices. 3) HIV-positive speakers: Local HIV+ advocates used personal stories to share their experiences of being a young person living with HIV, and a Q&A session	Higher scores on HIV knowledge, HIV awareness, and HIV attitudes
Taylor (2020) [32]	To design, implement, and evaluation of a novel and innovative participatory action research project, SEt***, as a pedagogical tool for sexual health education in a newcomer priority neighborhood	Sample size: 19 Gender: 10 male (52.6%), 9 female (47.4%) Age: grade 9-12 students (14-18 years) Context: Toronto, Canada	Design: A mixed method action research consisting of surveys, focus groups, peer interviews, and arts-based data collection within a realist evaluation framework to examine intervention effects Intervention duration: 10 weeks (2 hours a week) Sex education content: sex-related stigma, taboo, and culture; STIs; contraception and pregnancy options; testing and community resources; gender and sexuality; gender expectations, women's apparel, and religion/culture; healthy relationships and consent; rape culture, sexual violence, and social media; and personal identity. Theater performance: Each workshop involved: warm-up activities for developing theater skills through improvisation work, voice, and body; a facilitated group discussion about the topic; activities of drama topic; activities of non-drama topic; the adolescents creatively communicate the learned lessons to their peers with the topics by individual and group creation of scenes, raps, songs, poetry and dances; performance of designed scenes for the peers; and a facilitated debrief of scenes where the adolescents explained their creations and were challenged by providing feedback to each other. The facilitator/researcher moderated activities, challenging deeper reflection, ensuring that feedback remained useful, correcting any mistakes, and answering any questions.	Increased sexual health self-efficacy and improved personal/social development. Qualitative analysis identified five theater pedagogy mechanisms (pleasure, creative engagement, personal relevance, role-play and embodiment, vicarious role-play and modeling), and context-mechanism-outcome configurations were developed.

\*AMP: Arts-based, multiple components, peer education. \*\*HSSS: High school sex squad. \*\*\*SEt: Sex education by theater.

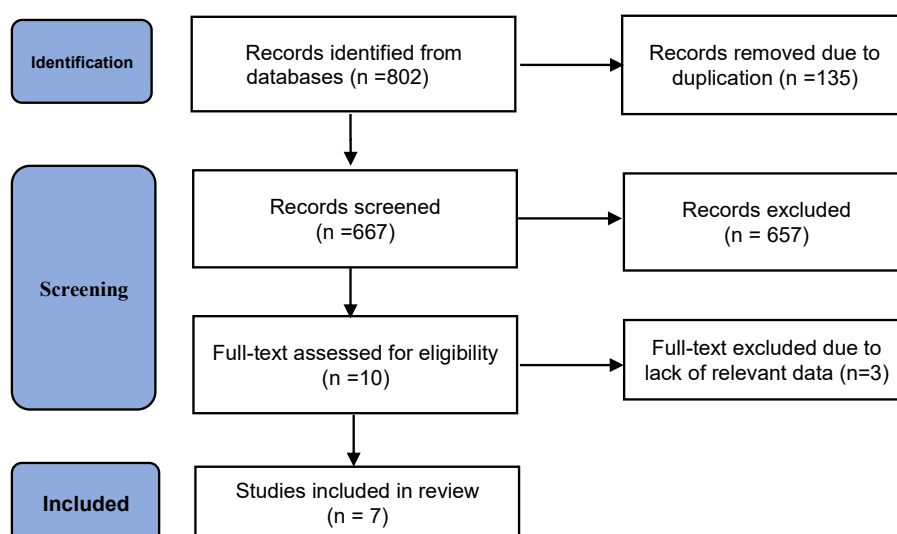


Figure 1. PRISMA flow diagram for search process

The content of sex education was different in the 7 included studies. So we summarized the findings and divided the topics of sexual education in the studies into four categories: 1) “sexual activity,” including STIs, contraception and pregnancy options, delaying sexual activity, 2) “psychological issues related to sexual health,” including gender and sexuality, religion/culture, personal identity, puberty, sex-related stigma, women’s apparel, increasing self-efficacy in refusal skills, building confidence, facilitating decision making about setting physical boundaries and limits, 3) “sexual violence,” including rape culture, sexual violence, and 4) “communication,” including peer, partner and parent communication, and social media. All 7 studies determined the effect of the intervention on “sexual activity,” 3 studies on each of “psychological issues related to sexual health” [25, 29, 32] and “communication” [25, 30, 32], and only one study on “sexual violence” [32].

Two studies determined the effect of theater performance without considering sex education content [30, 32]. Taylor et al. reported that sex education by theater (SEXT) improved personal/social development (personal growth, social inclusion, and social engagement) in peer educators, and their qualitative analysis identified 5 theater pedagogy mechanisms (pleasure, creative engagement, personal relevance, role-play and embodiment, vicarious role-play and modeling), and development of context-mechanism-outcome configurations [32]. In addition, Kim et al. argued about the impact of theater-based-sex education as follows: feeling empowered to educate their peers and advocate for changes on campus in response to their acquired sexual health knowledge and comfort and confidence in discussing sexual

health, feeling more comfortable with performing on stage, facilitating learning environments that allow students to more openly share and engaging in dialog about sexual health [30]. Also, in one study the appropriate method of using theater for sexual education was determined by research design [32].

In seven included studies, the theater performance as the intervention lasted 1-10 sessions, each session for 60-120 minutes and mostly one session per week. The theater performance method was different in selected studies. Education in three studies was based on art-based, multiple-component, and peer education (AMP) [13, 28, 29]. AMP uses a theater-based approach for sexual health education for high school students in school settings [25]. AMP consists of three components facilitated by undergraduate students [13, 25, 28]. Another method was SEXT. Adolescents were trained as peer educators by participating in workshops designed with the adolescents’ input. Peer educators designed and performed a play on the selected sexual health topics for their peers [32]. STAR LO program embeds theater within a classroom-based curriculum and uses professional young adult actors/educators as teachers [34]. Also, the High School Sex Squad (HSSS) programs facilitated by AMP staff and sex squad students (divided based on their culture) mentors involving workshops, interactive games, and rituals [30]. SAFETY is performed in school by professional actors and school nurses [29]. These methods are explained in Table 1.



## Discussion

This systematic review determined the effect of theater-based sex education on the health of adolescents. In this review, all interventions were performed in developed countries. Also, the setting of the 5 studies was high schools. Interestingly, all students received standard health education curricula, and the intervention groups received additional theater-based-sex education. Studies show that sex education for adolescents is necessary and accepted, and many countries offer this education to students at school. Sex education in school can be effective in promoting sexual health and preventing violence [19].

In all selected studies, the intervention was designed for both boys and girls. Some have suggested that boys and girls have different intervention needs, and some studies have presented that the effect of reproductive health interventions varies by gender [34]. Therefore, the number of girls and boys was almost equal in all interventions of the included studies in this review. The content of sex education was different in these 7 selected studies; all of them determined the effect of the intervention on sexual activity and sexually transmitted diseases, while fewer studies were about the other issues of sexual education content.

After years of debate, there is little agreement on the content of sex education [35]. There is much scientific evidence examining educational programs to improve sexual activity and prevent STIs [36, 37]. Sex education must not only focus on STIs and their prevention, but a more comprehensive vision of sexuality that addresses topics such as puberty, sexual identity, sexual diversity, and healthy relationships must also add to sex education [7, 8]. In Iran, some studies have been conducted about the education on puberty and sexual problems, the necessity of sex education, the content of the education, educators, and the training time [4]. No interventional studies meet the WHO-defined criteria for proper, comprehensive sex education [7].

Sexual health education for adolescents increases the tendency to investigate more related questions in this regard using suitable sources [38]. Also, sex education programs for adolescents do not lead to an increase in sexual practice; they certainly increase with age, regardless of whether the teenagers have participated in an intervention [4].

The theater performance and content of sex education were different in the 7 selected studies. All of the studies determined the impact of the intervention on sexual activity and sexually transmitted diseases, while fewer studies were

about the other issues of sexual education content. Theater has been recognized globally as an educational strategy for changing the behavior of adolescents and their parents on health issues [39]. Previous research has shown that theater-based techniques, such as storytelling and role-play, allow for the gaining of knowledge and skills as well as opportunities to practice and develop educated information [40]. Studies have consistently suggested that well-designed theater performances can engage audience members, impact the knowledge, attitudes, and behaviors of audiences, and positively influence peer, cultural, and social norms [41-48].

For example, theater-based programs have reduced anxiety, depression, isolation, and physical complaints [49, 50]. Also, the effects of school sex education are patchy and often short-term. Classroom sex education is challenging because schools emphasize academic-presentation issues [21]. It seems that other approaches, such as theater-based programs, can address these weaknesses in current sex education.

As a key limitation of our review, only the studies published in English or Persian language were included in our study. As the strength of this study, to our knowledge, this is the first systematic review to determine the impact of theater-based interventions for sexual health education on adolescents. It is recommended that further interventional theater-based studies on adolescents should not only emphasize the biological aspects of reproduction but also focus on acquiring healthy behaviours and topics such as sexual violence, healthy relationships, sexual identity, sexual diversity, and puberty. It is also suggested to use theater as an attractive and effective method in sexual education for adolescents.

## Ethical Considerations

### Compliance with ethical guidelines

This systematic review is part of a PhD thesis explaining the model of pedagogical theater with the aim of sex education to adolescent girls, registered with number 1651510 at [Tarbiat Modares University](#).

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### Authors' contributions

Study concept and design: Faezeh Daemi, Hassan Ali Pourmand, Farhad Mohandespour, Raziye Maasou-

mi; Acquisition, analysis, and interpretation of data: Faezeh Daemi, Raziye Maasoumi, Farhad Mohandespour; Writing the first draft: Faezeh Daemi; Revising the article critically for important intellectual content: Farhad Mohandespour, Raziye Maasoumi, Hassan Ali Pourmand, and Sayed Najmedin Amir Shahkarami; Final approval: All authors.

### Conflict of interest

The authors declared no conflict of interest.

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