

Review Paper:

A Review Study on Educational Interventions Promoting Sexual Health of Children Under 12 Years



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ABSTRACT

Context: Most children do not receive sexual education. This ignorance may adversely affect different dimensions of one's sexual health. However, talking to children about this issue constantly but briefly can have positive impacts on their relationships and sexual health. This study aimed at reviewing different types of educational interventions related to the sexual health of children under 12 years.

Evidence Acquisition: In this narrative review, Google Scholar, PubMed, Scopus, Science Direct, and Web of Science databases were searched using the following keywords: "sex education", "sexual education", "sexual health", "sexual training and children". Two researchers (Zahra Barimani Aboksari and Maedeh Rezaei) searched articles related to children's sexual health up to December 2018.

Results: The relevant articles were categorized into 4 groups: 1. children-focused interventions: sexuality education coaching program, child sexual abuse prevention program, body image, and decrease in gender-typed remarks; 2. parent-focused interventions: child sexual abuse prevention education and child sexual training; 3. children- and parent-focused interventions: HIV/AIDS prevention program and saving sex for later; and 4. the impact of culture and religion.

Conclusions: Sexual health in childhood can guarantee the sexual health of the coming years of life; therefore, it is worthwhile to pay attention to this issue and set plans and policies in familial and social aspects based on the interventions mentioned in this study.

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1. Context

Sexual health is based on people's knowledge; physical, and mental health; economic status; and social values. However, one's knowledge, which can be achieved by sexual training, plays the most crucial role in approaching an appropriate level of sexual health (1). Sexual training consists of instructing knowledge of reproduction, sexual issues, and attitude towards it and may be performed at schools or some other educational settings (2).

Sexual health issue comprises both genders at all age groups. However, sexual health and its importance can be defined differently in various periods of life. For instance, sexual health in children means providing a safe environment for normal sexual growth and preventing sexual abuse (1). Although sexual incentive and behavior are instinctive, it is affected by environmental factors if not guided and appropriately trained. This defect may lead to some problems and threaten the mental and physical health of the person. Therefore, parents and teachers should provide their children and students with sexual knowledge as they are growing up. Sexual training along with teaching the values, norms, and controlling skills, result in the prevention of early, High risk, and unprotected sexual activities and guarantees the individual's health in the present and future (2-4).

Sexual education is not taught to most of the children, and this ignorance may adversely affect different dimensions of one's sexual health. Girls may receive some information about menstruation from their mothers, while boys do not receive similar guides. Talking to children about this issue constantly but briefly can have positive effects on their relationships and sexual health (5). It should be emphasized that if children and teenagers cannot receive appropriate answers to their questions, they may refer to their peers and improper sources. Therefore, providing them with proper information and giving adequate answers to their questions is of great importance (6). Children's knowledge about sexual issues plays a decisive role in their development, general and sexual health, and reproduction. Thus, it is necessary to provide them with sexual information. Sexual education should be considered as an individual's right to education (7, 8).

Few people all over the world receive the necessary preparations, such as decision-making skills, refusal skills, body safety rules, and sexual abuse prevention for their sexual life. This lack of knowledge makes them

vulnerable to rape, sexual abuse, unwanted pregnancy, and sexually transmitted diseases (9, 10). Child Sexual Abuse (CSA) puts children in an embarrassing situation, bringing about short-term and long-term consequences such as fear, isolation, aggression, low self-esteem, embarrassment, inappropriate sexual behaviors, depression, and suicide. Moreover, sexual abuse experience in childhood is associated with negative body image and sexual dysfunction in adulthood (11). Hence, children need care, supervision, and training throughout their sexual development (12).

Both family and school are responsible for sexual training, but a review of literature has shown that most often, the consequences are not satisfactory (7). Primary school teachers are the key service providers for sexual training to children, families, and society. However, they are worried about the parents' attitude towards such training programs and class management considering the children's puberty stage, knowledge, and comfort. Thus, the teachers' relationship with parents should be encouraged, and they must receive training about children's sexual health (13). Parents and caregivers, as the primary educators, can play an essential role in protecting children's sexual health (14, 15). However, their efforts can be compromised by insufficient knowledge, lack of skills, and comfort (16). Formal sexual instruction at schools consisting of sexual decision-making skills and Sexually Transmitted Infection (STI) prevention can promote adolescence and youth health conditions (10). The study conducted by Gong J et al. revealed that HIV/AIDS prevention programs based on protection motivation theory (PMT-based instruction) for children and their parents had positive effects on their HIV/AIDS knowledge, sexual perception, and condom use intention (17). Martin J et al. found out that sexual instruction to the mothers of preschool children increased their knowledge and attitude score (18).

Similarly, other studies demonstrated that instructing parents in children's sexual health affects their knowledge, performance, and self-efficacy (19, 20). Some of the sexual health interventions may decrease other unwanted health consequences such as substance abuse or behavioral disorders. Some other interventions appear to be useful, though less effective in families and children with serious problems (18). Review studies conducted on sexual health have not focused on educational intervention for children under 12 (7, 12, 21, 22). Therefore, this study aimed at reviewing different types of educational interventions related to the sexual health of children under 12 years. We hope to recognize the interventions promoting the children's sexual health.

2. Evidence Acquisition

In this narrative review, Google Scholar, PubMed, Scopus, Science Direct, and Web of Science databases were searched using the following keywords: "sex education", "sexual education", "sexual health", "sexual training and children". Two researchers (Zahra Barimani Aboksari and Maedeh Rezaei) searched articles related to children's sexual health up to December 2018. Articles were included based on the subject of the study (sexual health of children under 12), study design (experimental, quasi-experimental, before-after studies), and consequences of the intervention (children's sexual health). Irrelevant studies were excluded from the review process. Data extraction was done by two researchers (Zahra Barimani Aboksari and Maedeh Rezaei).

3. Results

The relevant articles were categorized into 4 groups:

1. Children-focused interventions; 2. Parent-focused interventions; 3. Children- and parent-focused interventions; 4. The impact of culture and religion.

Those studies conducted on children were 5 articles (23-27), those done on parents included 7 articles (18-20, 28-31), and 4 studies had been conducted on both (17, 32-34). Among the 16 articles, 5 were conducted in Iran, 4 in the USA, 4 in Korea, 2 in the Bahamas, and one in England.

Children-focused interventions

Studies on 8- to 12-year-old children had investigated peer-led sex education (26), sexual abuse prevention training and appropriate touch (23, 24), body image (25), and decrease in gender-type remarks (27). These studies were carried out from 2004 to 2018 (Table 1).

Sexuality education coaching program

One study had investigated peer-led sexuality education. The children were 11 to 12 years old, and the syllabus consisted of sexual knowledge (sexual differentiation, pornography, and communication) and sexual attitude (sexual concept, relationship, physical development, sexual-psychological development, sexual health, the value of life, and sexual violence). It was taught to 21 fifth- and sixth-grade students in primary school during 10 sessions. Instruments such as activity paper, proverb card, vulgar belief card, worrying box, video, sonogram, children's storybook, embryo album activity paper, task,

sentence card, and textbook were used. The results of this study indicated that peer-led sexual education promoted sexual knowledge and attitude in children (26).

Preventing sexual abuse

Two articles worked on sexual abuse prevention education in children. One with 492 samples was school-based, and a 50-minute interactive workshop session was presented for the second- and third-grade students, using an age-appropriate activity book on body safety and puppets for role-playing scenarios. The following key concepts were discussed during that session: private parts of the body, the difference between safe and not-safe touch, secret and surprise differences, information that bad touch may be given by familiar ones, the fact that the child should keep telling an adult, so that s/he is convinced, that the child is not supposed to be blamed for receiving bad touch, a list of what the child can do while experiencing bad touch, one who should be informed at such cases, and assertive language skills to show discomfort and talk to reliable adults for reporting bad touch. This type of education promoted the knowledge about not-safe touch in children ($P < 0.001$) (23).

The other intervention study using lecture and active approaches such as role-playing, coping skills, group study paper, and the game was scheduled for six 40-minute sessions. Instructions such as the CSA, good and bad feelings, recognizing unsafe situations, coping skills, providing appropriate answers, and the actions to take when encountering sexual abuse were provided for 39 fifth-grade students. The results revealed that this intervention could be effective in increasing the self-protective behaviors about sexual abuse in students (24).

Body image

In an educational intervention, concepts such as valuing diversity in appearance, respecting one's unique appearance, managing appearance-related teasing, and developing resilience to peer pressure and media about appearance were instructed. The content was presented to 9- and 10-year-old children through brainstorming, class discussion, small group work, pair work, role-playing, and watching movies during six 1-hour sessions. In this study, 74 girls and 70 boys were recruited. Sustainable improvement instructional sessions led to good body esteem in girls, especially those with lower body esteem at the beginning of the study, though they were not effective in boys. Girls had lower body esteem at the baseline, and this primary satisfaction affected

the outcome of the intervention. Moreover, peer pressure may be more effective in this age group and intervention increases the knowledge of talking positively about the appearance among the girls and not the boys (25).

Decrease in gender-typed remarks

One study performed a school-wide program to decrease gender-typed remarks. It presented 6 concepts: 1. gender-based exclusion from peer interaction (just boys can play this game); 2. role-based biases (you cannot be a doctor; you have to be a nurse.); 3. stereotypes about appearance (why do you have boyish haircut?); 4. comparative judgment (boys outperform girls at math.); 5. trait stereotyping (girls are gentle.); and 6. highlighting gender in a neutral context (boys sit here, and girls sit there). These concepts were taught in six 20-minute sessions by narrative and practice conditions so that students could learn how to react to the gender-typed remarks of their peers. In this study, 153 students aged 5-10 years took part. The intervention enhanced the confrontation ability of the children with sexist remarks and decreased the gender-typed attitudes leading to a better atmosphere at school (27).

Parents-focused interventions

Four studies out of 7 had worked on mothers with preschool children (18, 28, 30, 31), two worked on parents with primary school-age children (19, 29), and one researched parents with 2-12-year-old children (20). In one study, instruction for preventing child sexual abuse was provided for the participants (19). The other 6 studies gave instructions on children sexual education (20), preschooler sexual education for mothers (18), children sexual care based on BASNEF model (28), sexual education program for mothers (30, 31), and a theoretical-based, client-center, multi-method program for kids (29) (Table 2).

Sexual abuse prevention

A study instructed parents with children of 6-12 years old on how to prevent CSA. Educational entities included recognizing different types of sexual abuse and prevention methods, the importance of family and the role of parents in preventing sexual abuse, and providing a self-protection instruction program for children. This program took place in four 60-minute sessions using lectures, question and answer, group discussion, educational movies, brochures, and booklet. The results revealed that the parents' knowledge and performance improved, though it did not have any effects on their

attitude, probably because of cultural issues and concerns about the consequences of sex education to children (19).

Upbringing and children sexual health

Six studies instructed upbringing and children's sexual health to parents. The average sample size of these studies was 71.16 participants. The instructed concepts included the proper meaning of sexuality, the importance of the parents' knowledge about sexual education and their role in this respect, children sexual growth and development, hygiene and function of genital organs, sexual behaviors in different stages of childhood, gender role development and stereotypes, attitudes towards gender role, gender equity, the necessity of sexual education to children and the appropriate age of education, providing answer to the children's sexual questions, biological sex, sexual identity, sexual deviation, treatment programs (promoting the child's self-esteem, self-management, safety rules, behavioral outcomes), destructive sexual culture, improper sexual information in media, unethical and inappropriate instruments, sexual violence, privacy, child abuse prevention, maturity, reproduction and birth, and masturbation in children.

These concepts were taught during 2 to 7 sessions of 90 to 120 minutes. The teaching methods contained question and answer, group discussion, short instructional film, group activity, examination, role-playing, smartphones, picture book, pictures, and exam sheets (18, 20, 28-31). The results revealed that interventions were effective in improving sexual knowledge and attitude (18, 20, 29-31), sexual attitude (18, 28, 30, 31), attitude towards gender role (29), mental norms, behavioral intention, behavior related to sexual care of children (28), and parents' competence in giving sexual instruction to children (20, 29).

Children- and parents-focused interventions

The target groups of 4 studies were the fourth-, fifth-, and sixth-grade students, along with their parents. Three of the studies had worked on preventive instruction and decreasing the risk of HIV/AIDS (17, 32, 34) and one study dealt with saving sex for later (33) (Table 3).

Prevention and decreasing the risk of HIV/AIDS

Out of three studies dealing with teaching prevention and decreasing the risk of HIV/AIDS program, two had worked on 1360 (17, 32) and one on 639 (34) students and their parents. Educational concepts included

decision-making skill, goal-setting, communication, negotiation, consensual relationship, knowledge, and skill related to abstinence, safe sex, parent-child communication about sexual activity, parental monitoring, HIV prevention, demonstrating and practicing condom use, self-protection rules, talking about puberty and preparing children for adolescence (17, 32, 34).

Instructional sessions in one study took place in ten 75-minute sessions and one 1-hour session (14). In the other two studies, interventions were held in eight (32) and twelve 90-minute sessions (34). Instructions were presented in video films, role-playing, consensual discussion, games, workgroups, and scheduled activities. Instructions led to preventive changes in HIV/AIDS knowledge, sexual perception, intention to use a condom, family key variables, including decision-making skills, family relationships, and ease of communication about sensitive issues. Moreover, there was an increase in the ability to use condom and self-efficiency in adolescence (17, 32, 34).

Saving sex for later

In one study, saving sex for later in a parent education program was presented to 846 families, both students, and their parents. This intervention included key messages about the importance of positive and continuous parental practices and the introduction of physical, emotional, and social changes of growth in audio CDs. These CDs were sent to the families in 3 phases with 12-week intervals for 6 months. The results indicated that saving sex for later was a promising intervention for sexual abstinence during adolescence (33).

The Impact of culture and religion

Because of diverse cultures and religions, sexual education programs vary across countries. For example, sexual education is provided in primary or secondary schools in the Netherlands, Austria, Brazil, and the United States (35-37), whereas in Spain and Portugal, the first formal education on sexual issues takes place before pregnancy. Though the incidence of teenage pregnancy and STDs (sexually transmitted diseases) are high in these countries (38). In some societies, childhood sexual issues are ignored, and it is believed that child education is not necessary because of the innocence of children (39). For example, there is no formal education program in India and the source of sexual information for teens is the Internet, books, and peers (40).

Similarly, in Malaysia, little attention is paid to sexual education in schools (41). Sexual and reproductive health is sensitive both politically and culturally in most countries in the Middle East and North Africa. The majority of adolescents lack access to reproductive health information and services. However, in a few countries, such as Tunisia, Morocco, Yemen, and Turkey, gender and fertility issues are being addressed (42). In Iran, there is no formal sex education program for children and limited studies have been conducted in this area (3). Only one interventional study entitled: "The effect of children's sexual health educational program on knowledge and attitudes of primary school health care providers" was conducted by Barimani et al. in the school setting in 2019. The results of this study showed that the native educational protocol promoted the knowledge and attitudes of school health care providers. Thus, despite all limitations, appropriate intervention can be useful in improving outcomes.

Conclusions

Intervention in the domain of children's sexual health leads to improvement in knowledge, attitude, and behavior of both children and parents. Since children can learn the related concepts and skills and parents, as the first instructors, play an essential role in this regard, enabling both groups is of great importance in providing and promoting children's sexual health. On the other hand, sexual health in childhood can guarantee the sexual health of the coming years of life; therefore, it is worthwhile to pay attention to this issue and set plans and policies based on these interventions in familial and social aspects.

The strength of this study was the exploration of different types of educational interventions related to the sexual health of children under 12 years, while previous studies did not consider it. On the other hand, the limitation of this study was the lack of searching the humanities and psychiatric databases.

The findings of this study help provide counseling and education by pediatricians, psychiatrists, psychologists, and counselors. The results can also be used to design and implement educational programs for families, teachers, and health care providers.

Ethical Considerations

Compliance with ethical guidelines

The authors fully respected the ethical considerations and general standards for publication, including avoid-

Table 1. Children-focused interventions promoting under 12 years children's sexual health

Summary Results	Intervention Content	Sample Size (Experimental Group/Control Group)	Number/Duration of Sessions	Outcome	Target Group	Intervention Methods	Type of Intervention	Country/ States/ Cities	Publication Year	First Author
Significant improvement in sex-related knowledge and attitudes	Group coaching: Sexual knowledge (sexual differentiation, pornography, communication), sexual attitude (sexual concept, relationship, physical development, sexual health, the value of life, sexual violence) Individual coaching: Changes in the adolescent period, prevention of pornography, prevention of sexual violence, communication, sexual violence of peers, wet dream, menses, relationship	21/ 23	10 sessions in three weeks	Sex-related knowledge and attitude of students	Elementary school students (the fifth and sixth grades)	Group coaching: Activity paper, proverb card, vulgar belief card, worrying box, the apron of our body, video, sonogram, children's storybook, embryo album activity paper, task, sentence card, textbook Individual coaching: Improvement of social technology, leaflet	Sexually education coaching program	Korea/ S city	2014	Im, Young Ilm (26)
Significant improvement in the knowledge of inappropriate touch	Private parts of the body, the difference between safe and not-safe touches, secrets versus surprises, and the information that not-safe touches can be given by someone the child knows, that children should keep telling an adult until they are believed, and that the child is not to blame for receiving a not-safe touch, facilitators guide the children in making a list of what to do if they experience a not-safe touch and whom to tell, as well as in practicing the assertive language skills needed to express discomfort and to talk with a trusted adult about a not-safe touch	492	A 50-minute interactive workshop	Knowledge of inappropriate touch	The second- and third-grade students at 6 public elementary schools	An interactive workshop, role-play, age-appropriate activity book on body safety	School-based child sexual abuse prevention program, Safe touches	USA/ New York City	2015	Mary L. Pulido (23)
Increase in students' self-protective behaviors	(1) Concept of Child sexual abuse (CSA), (2) "good" and "bad" feelings, (3) identifying unsafe situations, (4) coping skills, (5) responding properly, and (6) actions to take when sexual abuse has occurred.	39/ 50	Over 6 weeks (once a week) each session lasted for 40 min	Students' competence in terms of knowledge and self-protective behaviors	The fifth-grade elementary school students	Lecture, active approaches such as roleplaying, modeling, group discussion, and quiz gaming	Child sexual abuse prevention education program	Korea	2017	Shin-Jeong Kim (24)
Sustained improvement in girls' body esteem	Valuing diversity in appearance, celebrating one's unique appearance, managing appearance-related teasing, and developing resilience to media and peer pressures about appearance	144	A set of six, 1-hour lessons	Children's body satisfaction	Girls and boys aged 9 and 10 years from four primary schools	Brainstorming exercises, class discussion, small group work, work in pairs, game playing, role play, and viewing film clips	Body the image in the primary school	UK (south-west of England)	2016	Emma Halliwell (25)

Summary Results	Intervention Content	Sample Size (Experimental Group/Control Group)	Number/Duration of Sessions	Outcome	Target Group	Intervention Methods	Type of Intervention	Country/ States/ Cities	Publication Year	First Author
Significantly increase in children's challenges/ Decrease in gender typing of others among girls	Six forms of sexist remarks: (1) gender-based exclusion from peer interaction (e.g., "Only boys can play this game"), (2) role-based biases (e.g., "You can't be the doctor, you have to be the nurse"), (3) comments about a child's counter stereotypic characteristics (e.g., "Why do you have a boy's hair cut?"), (4) comparative judgments (e.g., "Boys are better at math than girls"), (5) trait stereotyping (e.g., "Girls are gentle") and (6) highlighting gender (e.g., "Boys sit over here, and girls sit over there").	153	Six 20-minute lessons	Challenge peers' sexist remarks to (a) improve school climate for gender nontraditional children, (b) decrease children's gender-typed attitudes, and (c) test hypotheses linking gender identity and peer-directed gender role behaviors	Elementary school children aged 5–10 years	Practice condition: recite and practice specific responses to peers' sexist remarks Narrative condition: hear readings of children's literature in which characters gave responses to peers' sexist remarks	A school-wide program designed to reduce children's gender-typed remarks	Southwest United States	2009	Lindsay M. Lamb (27)

Table 2. Parents-focused interventions promoting under 12 years children's sexual health

Summary Results	Intervention Content	Sample Size (Experimental Group/Control Group)	Number/Duration of Sessions	Outcome	Target Group	Intervention Methods	Type of Intervention	Country/ States/ Cities	Publication Year	First Author
Increase in knowledge and practice of the parents	Identifying different types of child sexual abuse and preventing methods, focused on the importance of family and the role of parents in the prevention of sexual abuse and providing self-protection training for children	50/ 50	Four 60-minute sessions	Knowledge, attitudes, and practices of parents	Parents with children aged 6 to 12 years	Questions and answers, group discussion, lecture, educational film, brochures, and booklet	Child sexual abuse prevention education	Iran/ Allgudarz	2017	Khanjari S. (19)

Summary Results	Intervention Content	Sample Size (Experimental Group/Control Group)	Number/Duration of Sessions	Outcome	Target Group	Intervention Methods	Type of Intervention	Country/ States/ Cities	Publication Year	First Author
Increase in parents' knowledge and sense of competence	The importance of parental awareness of sexual education, child sexual development, sexual behaviors at different stages of childhood, answer children's sexual questions, puberty, sexual identification and sexual deviations, therapeutic programs (improvement of child self-esteem, self-management, safety rules, behavioral consequences)	15 / 15 (pairs)	Seven 90-minute sessions	Parents' sexual knowledge and their sense of competence	Parents with children aged 2 to 12 years	Lecture, discussion, educational film	Child sexual training	Iran/ Ormia	2016	Khosro Rashid (20)
Improve knowledge and attitudes	Goals and importance of sex education, sexual development in children, sexual identity, sex education for children on topics such as the place of sleeping, bathing, touching and caressing, child genital organs and privacy, children's sexual questions, masturbation in children, and children sexual abuse	40/ 40	Two 2-hour sessions	Knowledge and attitudes of mothers of pre-school children	Mothers of pre-school children	Lectures, question, and answer, and group discussion	Preschool children's sex education especially for the mothers	Iran/ Tehran	2018	Jeno Martin (18)
Effective on mothers' attitude, subjective norms, behavioral intention and behavior about sexual care of their children	-	96	-	Mother's skill about sexual care of their children	Mothers of children aged 5-6	-	Educational intervention on the BASNEF model	Iran/ Tehran	2018	Hashemi Bakhshi, SH (28)
Effective in improving knowledge, attitude, and parent-efficacy	Sexual development, teaching children about sex, function & cleanliness of genital organs, pregnancy & labor, biological sex, gender role development & stereotypes, gender equality, distorted sex culture, obscene materials, sexual violence and characteristics of sexual offenders	27/ 28	4 sessions	Knowledge of sex, attitude toward sex, and parent-efficacy on child sexuality education	Mothers of preschoolers	PPT, picture books, pictures, exam papers about consciousness on gender equality, O/X quiz, video clips, smartphone, role-playing	Maternal sexuality education program	Korea/ G city	2013	Lee, Eun Mi (30)

Summary Results	Intervention Content	Sample Size (Experimental Group/Control Group)	Number/Duration of Sessions	Outcome	Target Group	Intervention Methods	Type of Intervention	Country/ States/ Cities	Publication Year	First Author
Significant improvement in sexual knowledge, gender role attitudes, parent efficacy for child's sex education, and marital consistency	Correct perception of sexuality, need for child sex education stage, pregnancy and childbirth, incorrect sexual information in the media, distorted sexual culture, prevention of sexual violence, child sexual abuse and harm imposed, the necessity of gender equality & practical methods, gender role attitudes	28/ 30	5-week (5-session)	Sexual knowledge, gender role attitude, parent efficacy for child's sex education, and marital consistency	Parents of lower elementary grade students	Lecture, group activity, role play & quiz	A theoretical-based, client-centered, multi-method children's sex education program	Korea/ G city	2017	Lee, Eun Mi (29)
Influence in knowledge and attitude	Importance of children's sexual education, the role of parents (especially mothers) in sexual education, the appropriate age for sexual education, child sexual questions and parents' concerns about such questions, different methods of dealing with children who do not ask any question, different methods of sexual education, how to respond to child sexual questions and masturbation and preventing sexual abuse in children	39/ 39	4 educational sessions (1.5 hours) in 4 weeks, one session per week	Knowledge and attitude of mothers	Preschoolers' mothers	Lecture followed by questions and answers and group discussions, two short educational movies	Sexual education program	Iran	2018	Katayun Mobrefdi (31)

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Table 3. Children- and Parents-focused interventions promoting under 12 years children's sexual health

Summary Results	Intervention Content	Sample Size (Experimental Group/Control Group)	Number/Duration of Sessions	Outcome	Target Group	Intervention Methods	Type of Intervention	Country/ States/ Cities	Publication Year	First Author
Resulted in and Sustained protective changes on HIV/AIDS knowledge, sexual perceptions, and condom use intention	FOYC: Healthy decision making, goal setting, communication, negotiation, consensual relationships, and information regarding abstinence, safer sex CimPACT: Parent-preadolescent communication, parental monitoring, and HIV prevention WW: Information about the protection of the environment GFI: Framework and skills to develop and reach future educational and career goals for parents	1360	FOYC: 10 (75 minutes) sessions CimPACT: A 1-hour parent intervention session WW: 10 youth control condition sessions GFI: A 1-hour alternative parent intervention session	Sexual risk and protection knowledge, perceptions, intentions, and behavior among Bahamian sixth-grade youth	Sixth-grade youth and their parents attending 15 government elementary schools	FOYC: Based on protection motivation theory CimPACT: Video filmed and role play WW: Presents information in an interactive and hands-on fashion GFI: Video filmed and discussion	HIV/AIDS prevention intervention program	Bahamas	2009	Jie Gong (17)

Summary Results	Intervention Content	Sample Size (Experimental Group/Control Group)	Number/Duration of Sessions	Outcome	Target Group	Intervention Methods	Type of Intervention	Country/ States/ Cities	Publication Year	First Author
Resulted in increased consistent condom use, abstinence/protected sex, condom-use skills, and parent-child communication about sex/ Lasting benefits regarding condom-use skills and self-efficacy	FOYC and BFOOY: Knowledge and skills regarding sexual-risk avoidance, decision-making, the importance of communication style ClmPACT and GFI: A parent-child conversation about sex, correct information about HIV prevention, demonstration of condom-use, parent-child communication about difficult subjects, youth, and parent practicing the correct use of condoms	3924	FOYC and BFOOY: 8-session	Impacts of an evidence-based HIV risk-reduction intervention delivered in pre-adolescence (grade-6), mid-adolescence (grade-10) or both and the benefit of adding a parental component to an intervention delivered to high school students	Grade-6 & 10 students and their parents	FOYC and BFOOY: Guided by protection motivation theory, interactive discussions, role-plays, games, etc ClmPACT and GFI: Video filmed, role play and discussion	HIV risk reduction	Bahamas	2016	Bonita Stanton (32)
Significant changes in key family-level variables in the following domains: family decision making, HIV/AIDS; and communication comfort regarding sensitive topics	Getting to know the CHAMP Family Program: working together to keep our kids safe! where are we going? paperwork! talking and listening to each other, keeping track of kids, who can help us raise our children? rules keep kids safe, growing up: talking about puberty, what we need to know about HIV/AIDS, growing up: preparing kids for adolescence, where are we ending up? paperwork and more paperwork! a celebration! where we have been and where we go from here	324/ 315	A 12-week pretest/posttest intervention/each program meeting, lasting approximately 90 minutes	Family communication, family decision-making, and family-level influences hypothesized to be related to later adolescent HIV risk	The fourth- and fifth-grade youth and their families	Multi-family group discussion, separate parent and child-only groups, family practice activity in a multifamily group format, (discussions, structured activities, and games)	CHAMP (Chicago HIV prevention and Adolescent Mental health Project) Family Program	USA	2004	MARY MCKERNAN MCKAY (34)

Summary Results	Intervention Content	Sample Size (Experimental Group/ Control Group)	Number/Duration of Sessions	Outcome	Target Group	Intervention Methods	Type of Intervention	Country/ States/ Cities	Publication Year	First Author
Promote youths' sexual abstinence	Importance of keeping positive parenting practices and acknowledging that youths change physically, emotionally and socially as the year passes	846 (families)	The three CDs were mailed to intervention family homes over six months—one CD about every 10 weeks	Parenting practices promotion and young adolescents' behaviors	Families with fifth- and sixth-grade students in seven New York City schools	Three audio CDs	Saving Sex for Later/ A parent education program	USA/ New York City	2005	Lydia O'Donnell (33)

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FOYC: Focus on Youth in the Caribbean; CImPACT: Informed Parents and Children Together in the Caribbean; WW: Wondrous Wetlands; GFI: Goal for It; BFOOY: Bahamian Focus on Older Youth

ing plagiarism, fabrication, data construction, data falsification, and the simultaneous subdivision of an article in several journals. This study was approved by the Research Council and Ethics Committee of Mazandaran University of Medical Sciences (Code: IR.MAZUMS.REC.1398.5199).

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Authors contributions

All authors contributed in preparing this article.

Conflict of interest

The authors declared no conflict of interest.

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