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

Running title: Children's Sexual Health

Zahra Barimani Aboksari[1], Jila Ganji[2], Nouraddin Mousavinasab[3], Maedeh Rezaei[4], Soghra Khani[2]*

[1] Student Research Committee, Nursing and Midwifery School, Mazandaran University of Medical Sciences, Sari, Iran
[2] Sexual and Reproductive Health Research Center, Mazandaran University of Medical Sciences, Sari, Iran
[3] Health Sciences Research Center, Health School, Mazandaran University of Medical Sciences, Sari, Iran
[4] Department of Midwifery, Gorgan Branch, Islamic Azad University, Gorgan, Iran

2*- Corresponding Author: Soghra Khani, PhD.
Postal address: Sexual and Reproductive Health Research Center, Nasibeh Nursing and Midwifery School, Mazandaran University of Medical Sciences, Sari, Iran
Tel: +98-1133368916
Fax: +98-1133368915
E-mail: s.khani@mazums.ac.ir; khanisog343@gmail.com

ORCID IDs of all the authors (If any):
Mrs. Zahra Barimani Aboksari: 0000-0003-1327-3000
Dr. Jila Ganji: 0000-0003-2931-5113
Dr. Nouraddin Mousavinasab: 0000-0002-0631-4233
Mrs. Maedeh Rezaei: 0000-0001-9250-6399
Dr. Soghra Khani: 0000-0001-6958-8234

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Abstract

Context: Sexual education is not taught to most of the children. This can bring about negative effects on different dimensions of one's sexual health. However, talking to children constantly but briefly can have positive effects on their relationships and sexual health. Therefore, this study aimed at reviewing different types of educational intervention related to the sexual health of children under 12.

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 (ZB and MR) searched articles related to children's sexual health up to December 2018.

Results: Findings were categorized into 4 levels: 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. 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 interventions included in this study.

Keywords: Sex Education, Sexual Education, Sexual training, Children

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 important 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. This dimension of health can be defined differently in different periods of life and the need for it is also different. For instance, sexual health in children means providing safe privacy to prevent sexual abuse and provide them with normal sexual growth and development (1). Since sexual incentive and behavior is instinctive, throughout life it is affected by environmental factors if not directed and appropriately trained. This may lead to some problems and threaten the mental and physical health of the person. Therefore, parents and teachers can provide them with sexual knowledge as they are growing up because sexual training along with teaching the values, norms, and controlling skills result in the prevention of early, high risk, and unprotected sexual activities and guarantee the individual's health in the present and future (2-4).

Sexual education is not taught to most of the children, and this can bring about negative effects on different dimensions of one's sexual health. Girls may receive some information about menstruation by their mothers, while it doesn't occur for boys. Talking to children constantly but briefly can have positive effects on their relationships and sexual health (5). It should be emphasized that if children and teenagers cannot get appropriate answers for their questions and needs, they refer to their peers and improper sources. Therefore, providing them with proper information and giving appropriate 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 preparation such as decision-making skill, refusal skill, body safety rule, and sexual abuse prevention for their sexual life. This makes them vulnerable to rape, sexual abuse, unwanted pregnancy, and sexually transmitted diseases (9, 10). Child Sexual Abuse (CSA) puts them 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). The most essential service providers for sexual training to children, families, and society are primary school teachers. 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, there is a need to empower their relationship with parents as well as receiving training about children's sexual

health (13). Parents and caregivers, as the primary educators, can play an important role in protecting children's sexual health (14, 15), though it can be influenced by some factors such as lack of sufficient knowledge, skill 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 intervention program 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 led to an increase in their knowledge and attitude score (18).

Similarly, other studies demonstrated that instructing parents in children 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 disorder. Some other interventions appear to be effective, though they are 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 intervention related to the sexual health of children under 12. 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 (ZB and MR) searched articles related to children's sexual health up to December 2018. Articles included based on the subject of the study (sexual health of children under 12), study design (experimental, semi-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 (ZB and MR).

3. Results

Findings were categorized into 4 levels:

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.

3-1. Children-focused interventions:

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

3-1-1. Sexuality education coaching program

One study had worked on 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 twenty-one 5^{th}- and 6^{th}-grade students in primary school during 10 sessions. Instruments such as activity paper, proverb card, vulgar belief card, worrying box, video, sonogram, children's story book, embryo album activity paper, task, sentence card, and textbook were used. The results of this study indicated that peer-led sexual education led to the promotion of sexual knowledge and attitude in children (26).

3-1-2. 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 2^{nd} and 3^{rd}-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 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 led to promotion in the knowledge related to not-safe touch in children (P Value<.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 feeling, 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 related to sexual abuse in students (24).

3-1-3. Body image

In an educational intervention, concepts such as valuing diversity in appearance, respecting one's own unique appearance, managing appearance-related teasing, and developing resilience to peer pressure and media in relation to appearance were instructed. The content was presented through brainstorming, class discussion, small group work, pair work, role-playing, and watching movies to 9- and 10-year-old children 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).

3-1-4. Decrease in gender-typed remarks

A 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.) 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 aging 5 to 10 years took part. The intervention had effects on enhancing the confrontation ability of the children with sexist remarks and decreased the gender-typed attitudes leading to a better atmosphere at school (27).

3-2. 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 conducted the research on parents with 2- to 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 Baznef model (28), sexual education program for mothers(30, 31), and a theoretical-based, client-center, multi-method program for kids (29) (Table 2).

3-2-1. Sexual abuse prevention

A study instructed parents with children of 6 to 12 years old 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 didn't have any effects on their attitude. Probably it was because of cultural issues and concerns about the consequences of sex education to children (19).

3-2-2. Upbringing and children sexual health

Six studies instructed upbringing and children sexual health to parents. The average sample size of these studies was 71.16 participants. 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 at least 90 and at most 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).

3-3. Children- and parents-focused interventions

The target groups of 4 studies were 4th, 5th, and 6th-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).

3-3-1. Prevention and decreasing the risk of HIV/AIDS

Out of three studies dealing with teaching prevention and decreasing 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 8 (32) and 12 ninety-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 condom, family key variables including decision-making skills, family relationship, 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).

3-3-2. 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. CDs were sent to the families in 3 phases with 12-week intervals during 6 months. The results indicated that saving sex for later was a promising intervention for sexual abstinence during adolescence (33).

Table 1: Children-Focused Interventions Promoting under 12 Years Children's Sexual Health

First Author	Publication Year	Country/ States/ Cities	Type of Intervention	Intervention Methods	Target Group	Outcome	Number/ Duration of Sessions	Sample Size (Experimental group/Control group)	Intervention Content	Summary Results
Im, Young lim (26)	2014	Korea/ S city	Sexuality education coaching program	**Group coaching**: Activity paper, proverb card, vulgar belief card, worrying box, apron of our body, video, sonogram, children's story book, embryo album activity paper, task, sentence card, textbook **Individual coaching**: Improvement of social technology, leaflet	Elementary School Students (fifth and sixth grades)	Sex-related Knowledge and Attitude of Students	10 sessions in the three weeks	21/ 23	**Group coaching**: Sexual knowledge (sexual differentiation, pornography, communication), Sexual attitude (sexual concept, relationship, physical development, sexual psychological development, sexual health, value of life, sexual violence) **Individual coaching**: Changes in adolescent period, prevention of pornography, prevention of sexual violence, communication, sexual violence of peers, wet dream, menses, relationship	Significantly improvement in sex-related knowledge and attitudes
Mary L. Pulido (23)	2015	USA/ New York City	School-based child sexual abuse prevention program, Safe Touches	Interactive workshop, role-play, age appropriate activity book on body safety	Second- and third-grade students at 6 public elementary schools	Knowledge of inappropriate touch	A 50-minute Interactive workshop	492	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	Significantly improvement in knowledge of inappropriate touch
Shin-	2017	Korea	Child sexual abuse	Lecture, active approaches such as	Fifth-grade elementary	Students' competence	Over 6 weeks	39/ 50	(1) concept of CSA, (2) ''good'' and ''bad'' feelings, (3) identifying unsafe	Increase in students' self-

Jeong Kim (24)			prevention education program	roleplaying, modeling, group discussion, and quiz gaming	school students	in terms of knowledge and self-protective behaviors	(once a week) each session lasted for 40 min		situations, (4) coping skills, (5) responding in an appropriate way, and (6) actions to take when sexual abuse has occurred.	protective behaviors
Emma Halliwell (25)	2016	UK (south-west of England)	Body image in the primary school	Brainstorming exercises, class discussion, small group work, work In pairs, game playing, role play, and viewing film clips	Girls and boys aged 9 and 10 years from four primary schools	Children's body satisfaction	A set of six, one hour lessons	144	Valuing diversity in appearance, celebrating one's own unique appearance, managing appearance related teasing, and developing resilience to media and peer pressures about appearance	Sustained improvement in girls' body esteem
Lindsay M. Lamb (27)	2009	South west United States	A school-wide program designed to reduce children's gender-typed remarks	**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	Elementary-school children aged 5–10 years	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	Six 20-minute lessons	153	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 in (e.g., "Boys sit over here and girls sit over there").	Significantly increase in children's challenges/ Decreases in gender typing of others among girls

Table 2: Parents -Focused Interventions Promoting under 12 Years Children's Sexual Health

First Author	Publication Year	Country/ States/ Cities	Type of Intervention	Intervention Methods	Target Group	Outcome	Number/ Duration of Sessions	Sample Size (Experimental group/Control group)	Intervention Content	Summary Results
Khanjari S. (19)	2017	Iran/ Aligudarz	Child sexual abuse prevention education	Questions and answers, group discussion, lecture, educational film, brochures and booklet	Parents with children aged 6 to 12 years	Knowledge, attitudes and practices of parents	Four (60 minutes) sessions	50/ 50	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	Increase in knowledge and practice of the parents
Khosro Rashid (20)	2016	Iran/ Oromie	Child sexual training	Lecture, discussion, educational film	Parents with children aged 2 to 12 years	Parents' sexual knowledge and their sense of competence	Seven (90 minutes) sessions	15 / 15 (pairs)	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)	Increase in parents' knowledge and sense of competence
Jeno Martin (18)	2018	Iran/ Tehran	Pre-school children's sex education specially for the mothers	Lectures, question and answer, and Group discussion	Mothers of pre-school children	Knowledge and attitudes of mothers of pre-school children	Two 2-h sessions	40/ 40	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	Improve in knowledge and attitudes
Hashemi Bakhshi, SH (28)	2018	Iran/ Tehran	Educational intervention on the BAZNEF model	-	Mothers of children aged 5-6	Mother's skill about sexual care of their children	-	96	-	Effective on mother's attitude, subjective norms, behavioral

										intention and behavior about sexual care of their children
Lee, Eun Mi (30)	2013	Korea/ G city	Maternal sexuality education program	PPT, picture books, pictures, exam papers about consciousness on gender equality, O/X quiz, video clips, smart phone, role-playing	Mothers of preschoolers	Knowledge of sex, attitude toward sex, and parent-efficacy on child sexuality education	4 sessions	27/ 28	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	Effective in improving knowledge, attitude, and parent-efficacy
Lee, Eun Mi (29)	2017	Korea/ G city	A theoretical-based, client-centered, multi-method children's sex education program	Lecture, group activity, role play & quiz	Parents of lower elementary grade students	Sexual knowledge, gender role attitude, parent efficacy for child's sex education, and marital consistency	5-week (5-session)	28/ 30	Correct perception of sexuality, need for child sex education, child's sexual development stage, pregnancy and childbirth, incorrect sexual information in the media, distorted sexual culture, prevention of sexual violence, child sexual abuse and harm imposed, necessity of gender equality & practical methods, gender role attitudes	Significant improvement in sexual knowledge, gender role attitudes, parent efficacy for child's sex education, and marital consistency
Katayun MobrEdi (31)	2018	Iran	Sexual education program	Lecture followed by questions and answers and group discussions, two short educational movies	Preschoolers' mothers	Knowledge and Attitude of Mothers	4 educational sessions (one and hour a half) in 4 weeks, one session per week	39/ 39	Importance of children's sexual education, the role of parents (especially mothers) in sexual education, the appropriate age of 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	Influence in knowledge and attitud

Table 3: Children and parents -Focused Interventions Promoting under 12 Years Children's Sexual Health

First Author	Publication Year	Country/ States/ Cities	Type of Intervention	Intervention Methods	Target Group	Outcome	Number/ Duration of Sessions	Sample Size (Experimental group/Control group)	Intervention Content	Summary Results
Jie Gong (17)	2009	Bahamas	HIV/AIDS prevention intervention program	**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	Sixth-grade youth and their parents attending 15 government elementary schools	Sexual risk and protection knowledge, perceptions, intentions, and behavior among Bahamian sixth-grade youth	**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	1360	**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 protection of the environment **GFI**: Framework and skills to develop and reach future educational and career goals for parents	Resulted in and Sustained protective changes on HIV/AIDS knowledge, sexual perceptions, and condom use intention
Bonita Stanton (32)	2016	Bahamas	HIV risk reduction	**FOYC and BFOOY**: Guided by protection motivation theory, interactive discussions, role-plays, games, etc **CImPACT and GFI**: Video filmed, role play and discussion	Grade-6 & 10 students and their parents	Impacts of an evidence-based HIV risk-reduction intervention delivered in pre-adolescence (grade-6), mid-adolescence	**FOYC and BFOOY**: 8-session	3924	**FOYC and BFOOY**: Knowledge and skills regarding sexual-risk avoidance, decision-making, importance of communication style **CImPACT and GFI**: 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	Resulted in increased consistent condom-use, abstinence/protected sex, condom-use skills and parent-child communication about sex/ Lasting benefits

						(grade-10) or both and the benefit of adding a parental component to an intervention delivered to high school students				regarding condom-use skills and self-efficacy
MARY MCKERNAN MCKAY (34)	2004	USA	CHAMP (Chicago HIV prevention and Adolescent Mental health Project) Family Program	Multi-family group discussion, separate parent and child-only groups, family practice activity in a multifamily group format, (discussions, structured activities and games)	4th and 5th grades youth and their families	Family communication, family decision-making, and family-level influences hypothesized to be related to later adolescent HIV risk	A 12-week pre/posttest intervention/Each program meeting, lasting approximately 90 minutes	324/ 315	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	Significant changes in key family-level variables in the following domains: family decision making; HIV/AIDS; and communication comfort regarding sensitive topics
Lydia O'Donnell (33)	2005	USA/ New York City	Saving Sex for Later/ A parent education program	Three audio CDs	Families with fifth- and sixth-grade students in seven New York City schools	Parenting practices promotion and young adolescents' behaviors	The three CDs were mailed to intervention family homes over six months—one CD about every 10 weeks	846 (families)	Importance of sustaining positive parenting practices and to acknowledge that youths change physically, emotionally and socially as the year progresses	promote youths' sexual abstinence

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

3- 4. The Impact of culture and religion

Sexual education programs vary across countries due to the existence of diverse culture and religion. 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. Majority of adolescents do not have access to reproductive health information and services. However, in a few countries, such as Tunisia, Morocco, Yemen, and Turkey, gender and fertility issues have been 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 knowledge and attitudes of school health care providers. Thus, despite all the limitations, appropriate intervention can be effective in improving outcomes.

4. Conclusions

It can be concluded that intervention in the domain of children’s sexual health leads to improvement in knowledge, attitude, and behavior of both children and parents. Since children are able to learn the related concepts and skills and parents, as the first instructors, play an important 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 intervention related to sexual health of children under 12, while previous studies did not consider it. On the other hand, the limitation of this study was lack of searching the humanities and psychiatric databases.

The findings of this study are helpful in providing counseling and education by pediatrician, psychiatrists, psychologists, and counselors. The results can also be used to design and implement educational programs for families, teachers, and health care providers.

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Ethical Considerations

- **Compliance with ethical guidelines:**

  Ethical considerations and general standards for publication, including avoiding plagiarism, fabrication, data construction, data falsification, and the simultaneous subdivision of an article in several journals, were fully respected by the authors. This study was approved by the Research Council and Ethical Committee of Mazandaran University of Medical Sciences (Code: IR.MAZUMS.REC.1398.5199).

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- **Conflict of Interests:** The authors declare no conflict of interest.

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