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The online version of this article can be found at
http://ebcj.mums.ac.ir/article_9163.html

Evidence Based Care Journal 2017 07:59 originally published online 01 July 2017
DOI: 10.22038/EBCJ.2017.25048.1556

**Online ISSN: 2008-370X**

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Evidence Based Care Journal

Review Article

OPEN ACCESS JOURNALS

# Inhibitors and Facilitators of Unwanted Adolescent Pregnancy in Iran and the World: A Review

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**Received**: 18/07/2017
**Accepted**: 16/08/2017

Evidence Based Care Journal, 7 (2): 59-70

**Abstract**

**Background:** Approximately 16 million adolescent girls aged 15 to 19 years and 1 million teenage girls less than 15 years of age become pregnant worldwide annually, and the majority of these pregnancies are unintended. Unwanted adolescent pregnancy coupled with impaired and inadequate physical and mental health can lead to slow progression of the community and the short- and long-term negative consequences.

**Aim:** This study aimed to investigate the inhibitors and facilitators of unwanted adolescent pregnancy in Iran and across the globe.

**Method:** The current narrative review was conducted using the keywords of "pregnancy", "unwanted", and "adolescent" in both Persian and English articles published from 2000 to 2016. The searched databases included Google Scholar, PubMed, Elsevier, Scopus, ProQuest, Irandoc, Scientific Information Database (SID), and Magiran.

**Results:** Twenty-nine articles related to the study objectives were selected. Our investigations indicated that the inhibitors of unwanted adolescent pregnancy could be classified into four main categories of abstinence, religious beliefs, adolescent employment program, and parent-adolescent relationship. Further, the facilitators of unwanted adolescent pregnancy were categorized into eight categories of pornography on the Internet and media, peer pressure, lack of knowledge and information, drug and alcohol abuse, violence, adherence to fashion in clothing, economic and income status and family structure.

**Implications for Practice:** The findings of this review revealed that more studies were conducted to explore the facilitators of unwanted adolescent pregnancy in comparison with inhibitors. Shortage of knowledge and information among adolescents plays a major role in unwanted adolescent pregnancy. However, a definitive judgment on the contribution of each factor to unwanted adolescent pregnancy requires further in-depth studies.

**Keywords:** Adolescents, Inhibitors, Facilitators, Sexual relations, Unwanted pregnancy

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## Introduction

Adolescents account for approximately 1.2 billion of the world's population (1). Adolescence is a transitional stage from childhood to adulthood. According to some international organizations, adolescents are the young people aged between 10 and 19 years (2). Adolescence is an important period for the formation of personal identity and sexual orientation (3). Numerous unhealthy and high-risk behaviors occur in adolescence, resulting in short- and long-term undesirable consequences for adolescents, their families, and society (4). Some of the high-risk behaviors during adolescence include smoking, alcohol consumption, and unsafe sexual relations (5). New emotions emerge during adolescence; friends and peers become more significant, and the interest in the opposite sex heightens during this period (6-8).

More than half of the youth in the world begin their sexual activity during adolescence (9). According to the World Health Organization (WHO) statistics, about 16 million adolescent girls aged 15 to 19 years and 1 million teenage girls less than 15 years of age become pregnant worldwide annually (10). According to the same organization in 2016, annually almost 21 million teenage girls aged 15 to 19 years become pregnant in developing countries, about 49% of which are unintended (11). Mulugeta et al. (2014) showed that 30.8% of adolescent girls in Kenya had sex before marriage, one quarter (24.4%) of whom had unwanted pregnancy, 89% had abortion experience, and 11% had childbirth (12). The fertility rate for adolescents in China was 9 per 1000 births in 2012. Annually, more than 10 million self-induced abortions occur in China, 20-30% of which are among unmarried teenage girls (13).

Unwanted adolescent pregnancy is associated with negative individual, economic, and social effects (14). Pregnancy and childbirth impose physiological strains to the mother's body, which in turn, may lead to disease development or increased predisposition to various disorders and complications, such as anemia, preeclampsia, low birth weight, neonatal malformations, dystocia, cesarean section, increased maternal and child mortality, and abortion (15). Unwanted adolescent pregnancy undermines emotional mother-child bond and increases aggressive behavior towards adolescents (16). Adolescent pregnancies give rise to undesirable social outcomes in the domains of education, job development, poverty rate, and social exclusion (17, 18); they also impose a significant financial burden to societies, such that about $10.9 million per year is spent for this issue (19).

Another issue in adolescence is the change in psychological needs; in fact, adolescence is one of the most challenging periods in terms of mental health (20). According to Erikson's theory of psychosocial development, adolescents from the age of 12 years suffer from a psychosocial crisis termed as "identity versus confusion", which if remained unrecognized and unsatisfied, might play a role in the occurrence of unwanted pregnancy (6).

Given that adolescents are the most vulnerable age group to high-risk behaviors, any disorder or inadequate physical and mental health can contribute to slow progression of the community. On the other hand, adolescent health impairments may have negative long-term consequences for the health of the entire community (21). Therefore, recognizing the reasons for exposure of adolescents to the risk of unwanted pregnancy and the factors leading to facilitating or preventing unwanted adolescent pregnancy can help reduce the rate of unwanted pregnancy. Counseling with adolescents regarding unwanted pregnancy, as well as may predispose health care providers for more effective and expeditious action in this area. Therefore, this review was conducted to explore the inhibitors and facilitators of unwanted adolescent pregnancy in Iran and the world.

## Methods

In this narrative review, all the authors searched the Google Scholar, PubMed, Elsevier, Scopus, ProQuest, Irandoc, Scientific Information Database (SID), and Magiran databases using the keywords of "pregnancy", "unwanted", and "adolescent" in both Persian and English and in the form of possible combinations to retrieve the relevant articles published from 2000 to 2016. In addition to articles, the WHO publications regarding unwanted adolescent pregnancy were also reviewed.

After the search, all the replicates were first excluded, and then the titles and abstracts of the articles were scanned. Next, the full text of the remaining articles was read to omit the unrelated articles. The relevant articles (both quantitative and qualitative articles) were included in the process. The remaining articles that met the inclusion criteria were chosen and confirmed qualitatively by all the authors. The main inclusion criteria were documentations related to unwanted pregnancy and

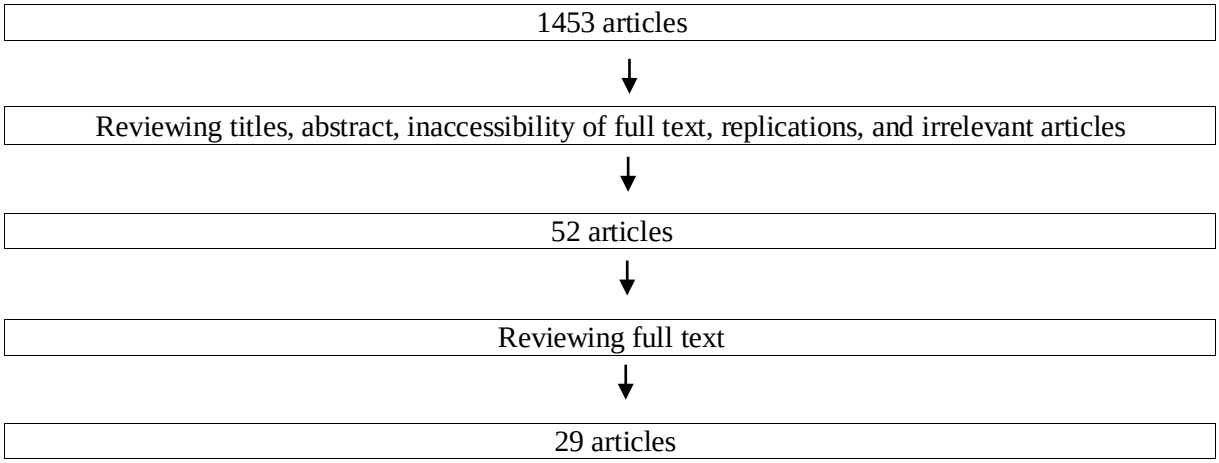


**Figure 1. The article selection flowchart**

adolescents in English or Persian and accessibility of full text of the articles. In general, our search rendered 1453 articles, and eventually 29 articles and documents were selected based on the inclusion criteria. Figure 1 illustrates the article selection procedure.

## Results

According to the findings of the review, the factors associated with unwanted adolescent pregnancy were expressed in two main categories of inhibitors and facilitators (Table 1).

**Table 1. A review of studies in Iran and across the globe**

| Authors/ year | Objectives | Type of study | Intervention group | Findings |
|---|---|---|---|---|
| Izugbara (2015) | Socio-demographic risk factors for unintended pregnancy among unmarried adolescent Nigerian girls | Survey | 6591 girls aged 15-19 years | There is a significant relationship between the age and sex of the head of household and the risk of unwanted pregnancy in unmarried adolescent girls. |
| Moni et al. (2013) | Pregnancy among unmarried adolescents and young adults | Case-control | 163 students | Lack of parental control, family conflicts, and poor intra-family relationship are significant predictors of unmarried adolescent pregnancy |
| Osaikhuwuomwan et al. (2013) | Adolescents' perspective regarding adolescent pregnancy, sexuality and contraception | Cross-sectional | 362 adolescent girls | Peer education and access to information without judgment are useful tools for empowering adolescents and changing their perceptions/behaviors regarding pregnancy. |
| Ramakuela et al (2016) | Views of teenagers on termination of pregnancy at Muyexe high school in Mopani District, Limpopo Province, South Africa | Qualitative | 25 girls aged 15–19 years | The majority of adolescents had pregnancy stigma, fear of parents and friends, and school dropout. |
| Melvin et al. (2009) | Pregnancy stigmatization and coping strategies of adolescent mothers in two societies of Yoruba, Southwest Nigeria | Qualitative | 48 mothers | Adequate social resources are required to clarify the negative burden of adolescent pregnancy in response to adverse events such as pregnancy stigma. |

**Continuation of Table 1.**

| | | | | |
|---|---|---|---|---|
| Richter et al. (2005) | Perceptions of rural teenagers on teenage pregnancy | Qualitative | 32 teenagers | The three main causes of adolescent pregnancy are related to attitude, awareness, and contraception. |
| Stanger-Hall et al. (2011) | Determination of the reasons for requiring comprehensive sex education in the US | Descriptive | 1000 girls aged 15-19 years | Self-control training alone is ineffective in the prevention of pregnancy. |
| Novella et al. (2015) | The unforeseen benefits of job training on teenage pregnancy | Trial | 564 girls aged 16-19 years | The job-training programs reduce the probability of adolescent pregnancy by 8%. |
| McCree et al. (2003) | Religiosity and risky sexual behavior in African-American adolescent females | Descriptive | 1130 adolescent girls | There is a positive relationship between religiosity and sexual behaviors, attitudes toward sex, and ability to negotiate safer sex. |
| Francisco et al. (2016) | Tobacco and alcohol use in adolescents with unplanned pregnancies | Cross-sectional | 785 adolescents aged 13-19 years | Socializing with friends who smoke and/or consume alcoholic beverages constitutes the most important risk factor for substance use among adolescents with unplanned pregnancies. |
| Winters et al. (2012) | Black teenage pregnancy: a dynamic social problem | Descriptive survey | 1580 girls aged 15-19 years | Pregnancy rate was higher in single-parent adolescents compared with adolescents living with both parents. |
| Lambani et al. (2015) | Poverty causes teenage pregnancy in Thulamela Municipality | Qualitative | 10 teenage girls | Participants stated that poverty (80%) is a major cause of adolescent pregnancy. |
| Akella et al. (2015) | Determining the effect of social and cultural factors on adolescent pregnancy | Qualitative | Teenage girls | Empirical analysis shows a direct relationship between poverty, education, and culture of adolescents and the occurrence of adolescent pregnancy. |
| Faisal-Cury et al. (2017) | Assessing the association between planned pregnancy and years of education among low-income Brazilian adolescents | Cohort | 168 teenage girls | Lower educational levels can be observed in low-income pregnant teenage girls. |
| Cabezón et al. (2005) | Adolescent pregnancy prevention: An abstinence-centered randomized controlled intervention in a Chilean public high school | Cohort | 168 adolescent girls | The risk of unwanted adolescent pregnancy was significantly lowered following sex education program by focusing on self-control. |
| Manlove et al. (2006) | The role of parent religiosity in teens' transitions to sex and contraception | Longitudinal | 8984 adolescents aged 12-16 years | The parental religious activities are related to later timing of sexual initiation. |

**Continuation of Table 1.**

| | | | | |
|---|---|---|---|---|
| Amoran et al. (2012) | A comparative analysis of predictors of teenage pregnancy and its prevention in a rural town in Western Nigeria | Cross-sectional | 225 adolescents | Occupation in an organization protects adolescents against pregnancy when they are increasingly exposed to early pregnancy. |
| Nguyen et al. (2016) | Prevalence and factors associated with teen pregnancy in vietnam: results from two national surveys | Surveying | 2325 adolescent girls | The use of Internet significantly increases the incidence of adolescent pregnancy. |
| Chandra et al. (2008) | Determining the role of watching sex on television in predicting teen pregnancy | Longitudinal | - | Exposure to sexual content on television predicted teen pregnancy. |
| Gyan et al. (2013) | Determining the effects of teenage pregnancy on the educational attainment of girls at Chorkor, a suburb of Accra | Qualitative | 55 students | Peer pressure is one of the main causes of adolescent pregnancy. |
| Costa et al. (2014) | Evaluation of contraception knowledge, attitudes and practices of adolescents at risk of pregnancy in Northeastern Brazil | Cross-sectional | 570 adolescents | The awareness about the use of contraceptive methods is limited. |
| Mushwana et al. (2015) | Study of factors influencing the adolescent pregnancy rate in the greater Giyani Municipality, Limpopo Province–South Africa | Descriptive | 147 adolescent girls | Variables such as inadequate sexual knowledge (61%), attitude towards sexual intercourse (58.9%), and peer pressure (56.3%) are effective in increasing pregnancy rates. |
| Ramathuba et al. (2012) | Assessment of knowledge, attitudes and practice of secondary school girls in preventing pregnancy | Qualitative | 273 adolescent girls | Fear of parental reaction to contraceptives, poor contraception training, and lack of counseling in this regard were the main reasons of failure to use contraceptives. |
| Salas-Wright et al. (2015) | Studying the role of substance use and teen pregnancy in the United States | Surveying | 97850 adolescents | Pregnant adolescents were significantly more experienced in the use of drugs, hashish, and alcohol. |
| Panova et al. (2016) | Detection of factors associated with unwanted pregnancy among adolescents in Russia | Cross-sectional | 145 adolescent girls | Alcohol consumption is directly related to adolescent pregnancy and pregnant adolescents prefer to use stronger alcoholic beverages. |

**Continuation of Table 1.**

| | | | | |
|---|---|---|---|---|
| Christofides et al. (2014) | Determination of risk factors for unplanned and unwanted teenage pregnancies occurring over two years of follow-up among a cohort of young South African women | Cohort | 922 adolescent girls aged 15-18 years | Teenage girls who experienced physical violence were more likely to have unwanted pregnancy. |
| Anand et al. (2016) | Intimate partner violence and unintended pregnancy among adolescent and young adult married women in south asia | Cross-sectional | 9788 Indians, 934 Bangladeshis and 574 women aged 15-24 years | The first sexual intercourse of adolescents occurred by force and coercion, and then they voluntarily entered into sexual relations. |
| Lederman et al. (2008) | The role of parent-adolescent relationship education (PARE): Program delivery to reduce risks for adolescent pregnancy and STDs | Trial | 192 high school girls together with their parents in Texas | Programs on contraception and increasing self-control of teenagers significantly increase their knowledge about preventing and improving resistance to stress during sex. |

***Inhibitors***

***1- Abstinence***

Abstinence is sexual inhibition due to moral, religious, legal, and health reasons, which is considered as one of the inhibitors of high-risk sexual relations and their associated outcomes (22). The findings of a study by Stanger-Hall et al. (2011) across 48 states in the USA showed that the abstinence education alone, as a governmental policy, was ineffective in adolescent pregnancy prevention and suggested including sex and sexual diseases education into the high school biology courses to lower the rate of adolescent pregnancy. Abstinence education along with education on sexual activity and sexually transmitted diseases had a greater effect on reducing fertility and birth rates compared to the abstinence education alone (22). The results of a study by Cabezón et al. (2005) demonstrated that the risk of unwanted adolescent pregnancy had diminished following sex education by focusing on abstinence (23).

***2- Religious beliefs***

Religious beliefs are of the key factors inhibiting high-risk sexual activity and its consequences. McCree et al. (2003) reported that religious adolescents had a higher self-efficacy in their relationships. These adolescents began to have sex in older ages and chose only one sexual partner. Moreover, these adolescents refused high-risk sexual relationships and had a more positive attitude toward the use of contraceptive methods (24). Manlove et al. (2006) indicated that parental religious activities were related to later timing of sexual initiation, suggesting an important dimension of family that can improve reproductive health outcomes in children. However, they reported no relationship between family religiosity and improved contraceptives use (25).

***3- Adolescent employment program***

One of the inhibitors of high-risk behaviors and pregnancy is the employment of adolescents. The results of Novella et al. (2015) highlighted that employment programs and the focus on professional skills training for adolescent girls aged 16-19 had a positive effect on reducing fertility rate and improving their occupational status (26). The results of Amoran et al. (2012) showed that employment in an organization protects adolescents against pregnancy when they are increasingly exposed to early pregnancy (27).

***4- Parent-adolescent relationship***

Effective parent-adolescent relationship is one of the factors inhibiting unwanted adolescent pregnancy. Parental rules and control can enhance knowledge and resistance in adolescents at times of pressure for having sex. The study by Lederman et al. (2008) underscored the important role of the Parent-Adolescent Relationship Education (PARE) program in diminishing adolescent pregnancies. Strengthening family bonds and increasing sex education contributed to preventing unwanted pregnancy (28). The results of Moni et al. (2013) in a study on unmarried teenage girls in India presented that lack of parental control, family conflicts, and poor intra-family relationships were significant predictors of unmarried adolescent pregnancy (29).

***Facilitators***

***1- Pornography on the Internet and media***

Increased Internet access and watching romantic and pornographic movies are some of the causes of unwanted adolescent pregnancy. Nguyen et al. (2016) showed that the use of Internet was significantly associated with the incidence of pregnancy in adolescents (30). Meddinus et al. (2007) found that pornography (misleading sexually explicit images) is one of the factors influencing adolescent pregnancy (31). In a study by Thobejane in 2015 on adolescent pregnancy, it was found that about 80% of adolescents blamed the media for their pregnancy as they spent most of their time watching pornographic movies (32). Chandra et al. (2008) found that exposure to sexual contents on television predicted teen pregnancy. Further, adolescents exposed to high levels of sexual content on television (90th percentile) were twice as likely to experience pregnancy in the subsequent 3 years, compared to teens with lower levels of exposure (10th percentile) (33).

***2- Peer pressure***

During adolescence, friends and peers become more significant as part of the identity of adolescents is formed in the peer group. Thus, peer pressure is one of the factors affecting adolescent unwanted pregnancy. Thobejane in 2015 examined the factors influencing adolescent pregnancy in South Africa, they revealed that many adolescents are affected by their peers in the early reproductive age (32). Gyan et al. (2013) examined 55 students from Ghana and found peer pressure as one of the main causes of adolescent pregnancy (34). Osaikhuwuomwan et al. (2013) pinpointed that peer pressure in 71.8% of cases was the reason for unwanted adolescent pregnancy (35).

***3- Lack of knowledge and information***

The lack of awareness of adolescents regarding their reproductive system, sexual health, and contraceptive methods could result in unwanted pregnancy and its related consequences. Lack of adequate knowledge and information on contraceptive methods and physiology of pregnancy were some of the causes of unwanted adolescent pregnancy.

***3-1- Contraceptive methods***

Costa et al. (2013) stated that limited awareness and negative attitude of adolescents towards the use of contraceptives pose them to a higher risk of pregnancy (36). Richter et al. (2015) reported that misconceptions about contraception are still evident in many adolescents. They also reported that adolescents' awareness regarding contraceptive methods was low (37). Mushwana et al. (2015) determined the factors affecting adolescent pregnancy in South Africa. In a study of 147 teenage girls, they noted that there is a shortage of health services (6). Ramathuba et al. (2012) expressed that many adolescents have no information on contraceptive methods, intrauterine contraceptive devices, and female condoms. Fear of parental reaction to the use of contraceptives, poor contraception education, and lack of counseling in this regard were identified as the main causes of non-use of contraceptives (38).

***3-2- Physiology of pregnancy***

Mushwana et al. (2015) reported that about 61% of cases found insufficient sexual information to be the reason for heightened pregnancy rates (6). Richter et al. (2015) ascribed that limited knowledge of adolescents was associated with unwanted pregnancy, and misconceptions about sex are still evident in many adolescents. Their results also showed that adolescents had meager knowledge on

the physiology of pregnancy and contraception and that they were misled easily by their sexual partners (37).

***4- Drug and alcohol abuse***

The rate of abusing drugs, alcohol, tobacco, marijuana, or other substances was higher in adolescents with unwanted pregnancy. In a study by Francisco et al (2016), the prevalence rates of smoking and alcohol consumption were respectively 21.2% and 41.5% in adolescents with unwanted pregnancy; 57.4% of them used cigarettes and 77.5% consumed alcohol at home. About 80.3% of adolescents with unwanted pregnancy had friends who smoked and 90.6% had friends who consumed alcoholic beverages. The friends who smoke or use alcoholic drinks are pivotal risk factors for substance abuse in adolescents with unwanted pregnancies (39). Salas-Wright et al. (2015) exhibited that pregnant adolescents had significantly more experience of abusing drugs, such as hashish, and alcohol (40). Panova et al. (2016) found a direct relationship between alcohol consumption and adolescent pregnancy and reported that pregnant adolescents preferred to consume stronger alcoholic beverages (41).

***5- Violence***

Violence during sexual intercourse was one of the facilitators of unwanted adolescent pregnancy. Christofides et al. (2014) stated that unwanted pregnancy was more evident in teenage girls experiencing physical violence (42). Anand et al. (2016) found that the first sexual intercourse of some adolescents occurs by force and coercion and then adolescents voluntarily enter sex activities (43).

***6- Fashion in clothing***

Mashau et al. (2011) stated that increased rate of premarital sex is one of the causes of elevated rate of unwanted adolescent pregnancy, and adherence to fashion in clothing is one of the effective factors in premarital sex (44).

***7- Family structure***

Poor family structure plays a facilitating role in unwanted adolescent pregnancy. Single-parent families with broken or damaged structure experience numerous challenges. In these families, poor support and inadequate supervision lead the teenager to high-risk behaviors, such as unsafe sexual behavior (45, 46). Izugbara in 2015 showed that there is often more access to health services and emergency health services in families where adolescents live with both parents; as a result, the rate of unwanted adolescent pregnancy in these families is lower. In addition, the age and gender of heads of families are effective factors in unwanted adolescent pregnancy. This phenomenon is less likely to be observed in households where a woman is the head of the family. Moreover, the prevalence of unwanted pregnancy in adolescent girls from families with older heads is lower compared to younger families (47). Winters et al. (2012) demonstrated that adolescent pregnancies were more common in single-parent families compared to adolescents living with both parents (48).

***8- Economic and income status***

Poverty and low income are direct and indirect facilitators of unwanted adolescent pregnancy. Lambani et al. (2015) argued that poverty is responsible for 80% of unwanted adolescent pregnancies (49). Akella et al. (2015) drew a direct relationship between teenage pregnancy and poverty (50). In a cohort study by Faisal-Cury et al. (2017) in Sao Paulo, Brazil, the results showed that pregnancy in low-income girls was associated with low educational levels (51).

**Discussion**

The present review was conducted to explore the inhibitors and facilitators of unwanted pregnancy in Iran and across the globe. In sum, the results of studies on inhibitors suggested that parental behaviors and lifestyle, parent-adolescent relationship, and reinforced family interactions in the field of sexual education lead to increased adolescent contraception knowledge and improvement of resistance against pressure to sex (28). Adolescent pregnancy was often linked with unemployment and low

income. The pregnant adolescents have lower education because of school dropout, which increases the likelihood of poverty.

Adolescent mothers usually belong to poor families, and their children are more likely to become pregnant when they become adolescents, and their children will also be poor in the future, and this cycle of poverty will be repeated in future generations (52). Religious beliefs are one of the most important factors preventing social deviation. However, religion forms identities and affects values and relationships. Religion prohibits any premarital sex and lays down specific moral rules for abstinence (24, 25). Adolescent girls and boys may be exposed to harms such as unwanted pregnancy, sexually transmitted diseases, and sexual assault; thus, religions prohibit any premarital sex (22). In the present age, the gap between maturity and marriage has broadened with lowered puberty age and increased age of marriage. Within this period, sexuality is potent, thereby increasing the likelihood of premarital sex (9). The incidence of sexual relations among adolescents and premarital sex give rise to challenges such as unwanted pregnancy (5, 9, 24).

Abstinence plays a major role in preventing unwanted adolescent pregnancy. Abstinence is the power of sexual inhibition. Abstinence prevents high-risk sexual relationships due to moral, religious, legal, and health reasons, resulting in lower adolescent pregnancies (22). Job training in adolescents is another significant factor in preventing unwanted adolescent pregnancy. The focus on professional skills training for adolescent girls has positive effects for reducing reproduction rate (26, 27).

Some facilitators of unwanted adolescent pregnancy include screening pornography on the Internet and media, peer pressure, lack of knowledge and information regarding contraception and the physiology of pregnancy, drug and alcohol abuse, violence, and fashion in clothing.

Pornography on the Internet and media is one of the facilitators of unwanted adolescent pregnancy.

Recent advances in information technology have changed the attitudes of adolescents toward sexuality. Most of the sexual messages are exchanged using information technology, through text or video messages and social networks, which put adolescents at risk of early sexual activity and unwanted pregnancy. Nowadays, the available portable electronic devices allow adolescents to have prompt and easy access to any information. Moreover, the increase in access to the Internet by adolescents has increased the opportunities for learning about sexual issues and has led to the growth of unrealistic sexual values and beliefs, as well as increased sexually aggressive behaviors and sexual violence (53, 54). Adolescents are able to listen to music, watch TV, and have online chat simultaneously. Uncontrolled surfing on the Internet facilitates screening of online pornography. The Internet, therefore, imposes serious harms to adolescent lifestyles, as some adolescents bombarded by pornography tend to experience and practice these movements in their real life (44). The adolescents using pornography have lower levels of social and emotional integration and are more prone towards delinquency and behavioral problems; further, symptoms of depression are more prevalent among them. The overuse of the Internet has isolated people from societies, real communication, and social interactions; this problem has dominated the lives of individuals, leading to loneliness and eventually depression (54).

Peer pressure is another facilitators of unwanted adolescent pregnancy. During adolescence, friends and peers become more significant. Part of the adolescent identity is formed in peer groups. Peer groups influence adolescents in areas such as smoking, alcohol abuse, and unsafe sexual relationships. In peer groups, adolescents who have no premarital sex are thought to be stupid, spoiled, and disgusting; therefore, as soon as possible, the adolescents seek sexual intercourse that poses them at risk of unwanted pregnancy (7, 55, 56).

Insufficient knowledge is another facilitator of unwanted adolescent pregnancy. If adolescents become aware of their reproductive system, sexual health, and contraceptive methods, they can prevent unwanted pregnancy and sexually transmitted diseases (22). In adolescence, physical and mental changes lead to curiosity about sexual intercourse. Drug and alcohol abuse in adolescents predispose them toward unwanted pregnancy. The adolescents abusing drugs, alcohol, tobacco, marijuana, or other substances are at higher risk of unwanted pregnancy (57). Girls addicted to heroin usually become prostitutes to pay for their substances, which exposes them to unwanted pregnancy (52).

The strength of this study was examining the results of various studies (both qualitative and quantitative), and the limitation of this study was the lack of access to studies in other languages (except for Persian and English).

**Implications for Practice**

The findings of this review revealed that more studies were conducted to investigate facilitators of unwanted adolescent pregnancy in comparison to inhibitors. The lack of sufficient knowledge and information in adolescents plays a major role in unwanted adolescent pregnancy. However, a definitive judgment on the contribution of each factor to unwanted adolescent pregnancy requires further detailed studies. The results of this review are applicable in policymaking, planning, and formulating strategies and programs to empower and change the behaviors of adolescents and strengthen the inhibitors and prevent the facilitators of unwanted adolescent pregnancy. Additionally, these findings might be used in the area of the attitude and method of controlling the challenges of reproductive and sexual health of adolescents in accordance with the existing culture. We recommend performing a more extensive review without restricting the language in search of studies related to this issue to determine the contribution of each factor to unwanted adolescent pregnancy.

**Acknowledgments**

This article was derived from a research project approved by the Obstetrics and Reproductive Health Research Center with the ethical code of IR.SBMU.PHNM.1396.795. Hereby, the authors appreciate the cooperation and assistance of the officials of school of Nursing and Midwifery, library and computer ward at Shahid Beheshti University of Medical Sciences, as well as the Obstetrics and Reproductive Health Research Center.

**Conflict of interest**

The authors declare no conflicts of interest.

## References

1. Hamilton BE, Martin JA, Osterman MJ, Curtin SC. Births: final data for 2014. Hyattsville, MD: National Center for Health Statistics; 2015.
2. Diop NJ, Bathidja H, Touré ID, Dieng T, Mané B, RamaRao S, et al. Improving the reproductive health of adolescents in Senegal. Washington, DC: Frontiers Reproductive Health Program; 2004.
3. Rotheram-Borus MJ, Miller S, Koopman C, Haignere C, Selfridge C. Adolescents living safely: AIDS awareness, attitudes, and actions. New York: HIV Center for Clinical and Behavioral Studies; 2002.
4. Roy S, Roy S, Rangari K. Comprehensive health care including sexual and reproductive health of adolescents and youths is of vital importance to the nation. Health Popul Perspect Issues. 2007;30(4):243-67.
5. Bahrami N, Simbar M, Soleimani MA. Sexual health challenges of adolescents in Iran: a review article. J Sch Public Health Instit Public Health Res. 2013;10(4):1-16.
6. Mushwana L, Monareng L, Richter S, Muller H. Factors influencing the adolescent pregnancy rate in the greater Giyani Municipality, Limpopo Province–South Africa. Int J Africa Nurs Sci. 2015;2:10-8.
7. Gouws E, Kruger N, Kruger S, Snyman D. The adolescent. New Hampshire, US: Heinemann; 2008.
8. Shaffer DR, Kipp K. Developmental psychology: childhood and adolescence. Massachusetts: Cengage Learning; 2013.
9. Mirzaii Najmabadi K, Babazadeh R, Shariati M, Mosavi SA. Iranian adolescent girls and sexual and reproductive health information and services: a qualitative study. Iran J Obstet Gynecol Infertil. 2014;17(92):9-18 (Persian).
10. World Health Organization. Adolescent pregnancy: factsheet NO 364. Geneva: World Health Organization; 2014.
11. World Health Organization. Family planning evidence brief: reducing early and unintended pregnancies among adolescents. Geneva: World Health Organization; 2017.
12. Mulugeta Y, Berhane Y. Factors associated with pre-marital sexual debut among unmarried high school female students in bahir Dar town, Ethiopia: cross-sectional study. Reprod Health. 2014;11(1):40.
13. Mu Y. Reducing unintended teen pregnancy in China: collaboration between government,

schools and aid centres. Sweden: Centre for East and South-East Asian Studies, Lund University; 2015.
14. Hoffman S. Counting it up: the public costs of teen childbearing. Washington, DC: National Campaign to Prevent Teen and Unplanned Pregnancy; 2011.
15. Bahadoran P, Amini R, Amini Y, Jafarpour M, Hematian A. Social, economical and health outcomes of pregnancy in young adults: a review article. Sci J Ilam Univ Med Sci. 2014;22(3):34-40 (Persian).
16. Goossens G, Kadji C, Delvenne V. Teenage pregnancy: a psychopathological risk for mothers and babies. Psychiatr Danub. 2015;27(1):499-503.
17. Domenico DM, Jones KH. Adolescent pregnancy in America: causes and responses. J Vocat Special Needs Educ. 2007;30(1):4-12.
18. Jolly M, Sebire N, Harris J, Robinson S, Regan L. Obstetric risks of pregnancy in women less than 18 years old. Obstet Gynecol. 2000;96(6):962-6.
19. Hoffman S. Counting it up: the public costs of teen childbearing. Washington, DC: National Campaign to Prevent Teen and Unplanned Pregnancy; 2011.
20. Zendehtalab HR. The effect of a program designed based on Precede-Proceed model on adolescents' mental health and their parents' participation. Evid Based Care. 2012;2(1):45-54 (Persian).
21. Soleimaninia L, Jazayeri AR, Mohamad KP. The role of positive and negative mental health in adolescent's health risk behaviors. Soc Welfare. 2006;5(19):75-90 (Persian).
22. Stanger-Hall KF, Hall DW. Abstinence-only education and teen pregnancy rates: why we need comprehensive sex education in the US. PLoS One. 2011;6(10):e24658.
23. Cabezón C, Vigil P, Rojas l, Leiva M, Riquelme R, Aranda W, et al. Adolescent pregnancy prevention: An abstinence-centered randomized controlled intervention in a Chilean public high school. J Adolesc Health. 2005;36(1):64-9.
24. McCree DH, Wingood GM, DiClemente R, Davies S, Harrington KF. Religiosity and risky sexual behavior in African-American adolescent females. J Adolesc Health. 2003;33(1):2-8.
25. Manlove JS, Terry-Humen E, Ikramullah EN, Moore KA. The role of parent religiosity in teens' transitions to sex and contraception. J Adolesc Health. 2006;39(4):578-87.
26. Novella R, Ripani L. Are you (not) expecting? The unforeseen benefits of job training on teenage pregnancy. IZA J Labor Dev. 2016;5(1):19.
27. Amoran OE. A comparative analysis of predictors of teenage pregnancy and its prevention in a rural town in Western Nigeria. Int J Equity Health. 2012;11:37.
28. Lederman RP, Chan W, Roberts-Gray C. Parent-adolescent relationship education (PARE): program delivery to reduce risks for adolescent pregnancy and STDs. Behav Med. 2008;33(4):137-43.
29. Moni SA, Nair M, Devi RS. Pregnancy among unmarried adolescents and young adults. J Obstet Gynecol India. 2013;63(1):49-54.
30. Nguyen H, Shiu C, Farber N. Prevalence and factors associated with teen pregnancy in vietnam: results from two national surveys. Societies. 2016;6(2):17.
31. Meddinus UV, Johnson TC. Factor of associated with unwanted pregnancy. New York: American Pregnancy Association; 2007. P. 15.
32. Thobejane TD. Factors contributing to teenage pregnancy in South Africa: the case of Matjitjileng Village. J Sociol Soc Anthropol. 2015;62(2):273-7.
33. Chandra A, Martino SC, Collins RL, Elliott MN, Berry SH, Kanouse DE, et al. Does watching sex on television predict teen pregnancy? Findings from a national longitudinal survey of youth. Pediatrics. 2008;122(5):1047-54.
34. Gyan C. The effects of teenage pregnancy on the educational attainment of girls at Chorkor, a suburb of Accra. J Educ Soc Res. 2013;3(3):53.
35. Osaikhuwuomwan JA, Osemwenkha AP. Adolescents' perspective regarding adolescent pregnancy, sexuality and contraception. Asian Pacific J Reprod. 2013;2(1):58-62.
36. Costa GP, Costa GP, de Paula Farias M, de Araújo AC. Contraception knowledge, attitudes and practices of adolescents at risk of pregnancy in Northeastern Brazil. Open J Obstet Gynecol. 2014;4(6):300.
37. Richter MS, Mlambo G. Perceptions of rural teenagers on teenage pregnancy. Health SA

Gesondheid. 2005;10(2):61-9.
38. Ramathuba DU, Khoza LB, Netshikweta ML. Knowledge, attitudes and practice of secondary school girls towards contraception in Limpopo Province. Curationis. 2012;35(1):45.
39. Francisco VN, Carlos VR, Eliza VR, Octelina CR, Maria II. Tobacco and alcohol use in adolescents with unplanned pregnancies: relation with family structure, tobacco and alcohol use at home and by friends. Afr Health Sci. 2016;16(1):27-35.
40. Salas-Wright CP, Vaughn MG, Ugalde J, Todic J. Substance use and teen pregnancy in the United States: evidence from the NSDUH 2002–2012. Addict Behav. 2015;45:218-25.
41. Panova OV, Kulikov AM, Berchtold A, Suris JC. Factors associated with unwanted pregnancy among adolescents in Russia. J Pediatr Adolesc Gynecol. 2016;29(5):501-5.
42. Christofides NJ, Jewkes RK, Dunkle KL, McCarty F, Jama Shai N, Nduna M, et al. Risk factors for unplanned and unwanted teenage pregnancies occurring over two years of follow-up among a cohort of young South African women. Global Health Action. 2014;7:23719.
43. Anand E, Unisa S, Singh J. Intimate partner violence and unintended pregnancy among adolescent and young adult married women in south Asia. J Biosoc Sci. 2017;49(2):206-21.
44. Mashau TD. Cohabitation and premarital sex amongst Christian youth in South Africa today: a missional reflection. HTS Theol Stud. 2011;67(2):1-7.
45. Dargahi S, Ayadi N, shakarami M, Ghasemzade A. Relationship between parental monitoring and companionship with delinquent peers in high risk behaviors of single-parent adolescents. J Health Breeze. 2014;4(2):1-8 (Persian).
46. Zarei E. Relationship between parent child– rearing practices and high risk behavior on basis of cloninger's scale. SSU J. 2010;18(3):220-4.
47. Izugbara C. Socio-demographic risk factors for unintended pregnancy among unmarried adolescent Nigerian girls: research. South Afr Fam Pract. 2015;57(2):121-5.
48. Winters LI, Winters PC. Black teenage pregnancy: a dynamic social problem. SAGE Open. 2012;2(1):2158244012436563.
49. Lambani MN. Poverty the cause of teenage pregnancy in thulamela municipality. South Africa: Department of English, University of Venda; 2015.
50. Akella D, Jordan M. Impact of social and cultural factors on teenage pregnancy. J Health Disparit Res Pract. 2014;8(1):3.
51. Faisal-Cury A, Tabb KM, Niciunovas G, Cunningham C, Menezes PR, Huang H. Lower education among low-income Brazilian adolescent females is associated with planned pregnancies. Int J Womens Health. 2017;9:43.
52. Simbar M. Adolescent reproductive health. Tehran: Golban Nashr; 2014 (Persian).
53. Livingstone S, Görzig A. When adolescents receive sexual messages on the internet: explaining experiences of risk and harm. Comput Hum Behav. 2014;33:8-15.
54. Owens EW, Behun RJ, Manning JC, Reid RC. The impact of internet pornography on adolescents: a review of the research. Sex Addict Compulsivity. 2012;19(1-2):99-122.
55. Mwaba K, Naidoo P. Sexual practices, attitudes toward premarital sex and condom use among a sample of South African university students. Soc Behav Personal Int J. 2005;33(7):651-6.
56. Parvizi S, Ahmadi F. Adolescence health and friendships, a Qualitative study. Feyz J Kashan Univ Med Sci. 2007;10(4):46-51 (Persian).
57. Connery HS, Albright BB, Rodolico JM. Adolescent substance use and unplanned pregnancy: strategies for risk reduction. Obstet Gynecol Clin North Am. 2014;41(2):191-203.