

REVIEW ARTICLE

Contributing Factors to High-Risk Sexual Behaviors among Iranian Adolescent Girls: A Systematic Review

Zainab Alimoradi¹, PhD candidate; Nourossadat Kariman¹, PhD; Masoumeh Simbar², PhD; Fazlollah Ahmadi³, PhD

¹Department of Midwifery and Reproductive Health, Shahid Beheshti University of Medical Sciences, Tehran, Iran;

²Midwifery and Reproductive Research Center, Department of Midwifery and Reproductive Health, Shahid Beheshti University of Medical Sciences, Tehran, Iran;

³Department of Nursing, Tarbiat Modares University, Tehran, Iran

Corresponding author:

Nourossadat Kariman, PhD; Department of Midwifery and Reproductive Health, Shahid Beheshti University of Medical Sciences, Niayesh Crossroad, Vali-Asr Avenue, Postal code:19857-17443, Tehran, Iran

Tel: +98 21 88655366; Fax: +98 21 88202521; Email: n_kariman@sbmu.ac.ir

Received: 28 April 2016 Revised: 16 July 2016 Accepted: 19 July 2016

ABSTRACT

Background: Adolescence is a period of overwhelming changes and challenges, which expose the adolescents to high-risk behaviors. Risky sexual relationship is one of these behaviors that entails physical risks and psychosocial harms. Various factors have been recognized to shape sexual behaviors in adolescents. This paper is an attempt to investigate the factors contributing to high-risk sexual behaviors in Iranian adolescent girls.

Methods: A literature review of the research published by Iranian authors, in Farsi or English language in local and foreign journals, was conducted using PubMed, Science Direct, Scopus, Scientific Information Database (SID), IranMedex, IranDoc, and Google Scholar. The search in each database included all the years covered at that time using keywords such as “sexual, adolescents, and Iran”, and continued using other keywords such as “sexual behavior, high-risk behavior, sexual risk and reproductive behavior” individually and in combination

Results: Sixteen published articles were identified. Factors contributing to high-risk sexual behaviors in girls can be divided into four general groups including personal, family, peer, school and community.

Conclusion: Regarding the identified risk and protective factors, appropriate individual, family and school-based interventions can be designed and implemented to strengthen protective factors. While individual and family factors are considered more in research, factors related to peers, school and community have received less attention. Since social values, beliefs and norms are important factors in formation of sexual behaviors, further research regarding these factors is suggested.

KEYWORDS: Adolescent, unsafe sex, reproductive health, risk factors, Iran

Please cite this article as: Alimoradi Z, Kariman N, Simbar M, Ahmadi F. Contributing Factors to High-Risk Sexual Behaviors among Iranian Adolescent Girls: A Systematic Review. IJCBNM. 2017;5(1):2-12.

INTRODUCTION

Adolescence is a fundamental period which steers future in a girl's life, and leaves a direct effect on her future family and children.¹ Because of the dual role of girls in the health of community and future generations as being a girl now and a mother tomorrow, investment in providing health for this age group is one of the main routes to realization of millennium development goals.² In a report on the status of the world's children, the United Nations' Children's Fund (UNICEF) refers to adolescence as an opportunity in which focusing on adolescents' development (especially girls) and respect for their rights can hasten and strengthen the fight against poverty, inequality and sexual discrimination.³

Approximately, seventeen percent of the world's population and 16.34% of Iran's population are in adolescence period or ten to nineteen years age group.^{3,4} Half of the adolescent population are girls. Considering the characteristics of puberty in girls, physical and mental conditions in this period, and their essential reproductive role, it can be argued that the health of adolescent girls has special importance.²

As a transitional period from childhood to adulthood, adolescence is the beginning of physical, mental and social developments that will affect functioning in adulthood.¹ This period is full of changes and challenges, also development and opportunities.⁵ Adolescents are particularly exposed to high-risk behaviors,⁵ and many of such behaviors are founded in this period, which will affect their future health and well-being.⁶ Because of selfishness and lack of proper understanding of consequences, adolescence is considered an important stage to start high-risk behaviors.⁷ High-risk behaviors can have detrimental effects on adolescents' development and health, or can impede their future success and development.⁸ Engagement in sexual relationships is a high-risk behavior that can be accompanied by physical and psychosocial harms.^{5,9} High-risk sexual behavior puts people at risk for sexually transmitted

infections (STIs) including Human Immunodeficiency Virus (HIV), unplanned pregnancy, and being in a sexual relationship before being mature enough to know what makes a healthy relationship.¹⁰ Adolescents' physical, cognitive and emotional immaturity, compared to adults, can increase the risk and severity of their reproductive and sexual adverse consequences.¹¹

Examples of high-risk sexual behavior are unprotected intercourse without condom use, unprotected mouth-to-genital contact, starting sexual activity at a young age, having multiple sex partners, having a high-risk partner (one who has multiple sex partners or other risk factors), and having unprotected anal sex or a partner who does.¹⁰

Almost 47% of adolescents worldwide have sexual experiences, and 6% experience their first sexual encounter before the age of 13 years.⁵ In Iran, there is evidence of high-risk sexual behaviors among adolescents,¹² and prevalence of sexual relationships in teenage boys and girls has been reported from 12.8% to 20%.¹³⁻¹⁵

Lack of physical, cognitive, and emotional maturity in adolescents compared to adults can lead to further risks and severity of harmful sexual and reproductive consequences for them.¹¹ In many developing countries, adolescents are at serious risk of STIs, HIV and unwanted pregnancies,¹⁶ such that 15-19 year-old adolescents make up for almost half of the 19 million new cases of STIs every year,⁵ and half of new HIV cases in the world happen in 15-24 year-old adolescents.¹⁷ The majority of Acquired Immunodeficiency Syndrome (AIDS) victims have contracted the disease in their adolescence,¹⁸ because a large proportion of the adolescents' population has high-risk behaviors that expose them to risk of infection.¹⁹

Adolescents' sexual behaviors are affected by various factors. Better understanding of these factors is essential to development of more effective interventions and policies.²⁰ Unfortunately, due to historical, cultural, legal and religious prohibitions, sex has been

a taboo in Iran.²¹ For this reason, research on sexual issues encounter many problems and thus little research has been done in this area.²² Systematic review of the present studies can help the researchers and policy makers to synthesize available literature and identify what is known and where future work is needed.²³ According to comprehensive review of published articles, no relevant systematic review was found. Since there was no review of factors contributing to sexual risky behaviors of Iranian adolescent girls, the present study was conducted to assess the factors affecting incidence of high-risk sexual behaviors in Iranian adolescent girls through review and classification of Iranian articles' results. The results are hoped to be used as the basis for development of health policies and design of proper studies and interventions to promote reproductive health in adolescent girls.

MATERIALS AND METHODS

Search Methods

The Matrix Method by Garrard (2011) was used to conduct the review. This method was developed to facilitate the systematic comparison of studies on a specific topic and is both a structure and a process for systematically reviewing literature. The structure is divided into the following four sections: (1) paper trail: systematic literature search; (2) documents section: organizing documents for the review; (3) review matrix: abstracting each document; and (4) synthesis: writing the review of the literature.²⁴

In the present study, for the first step a paper trail was set up, which included possible search terms for the literature review and a list of databases to be used in the search. The results for each search term were recorded and the title and abstract of each citation was read to determine if it was relevant for the study's topic, and if so it was secured. Secondly (the documents section), all papers included in the review were sorted into chronological order from the oldest to the most recent and read through. In the third step, a review matrix was

constructed with topics found in the literature. Thereafter, each paper was again carefully read and analyzed based on these topics, and notes were made for each study falling under a specific topic. In the final step, a synthesis was made that included all the discovered topics.

Search Strategy and Study Selection

The initial search was conducted from April to June 2015. Following procedures outlined above,²⁴ seven databases including PubMed, Science Direct, Scopus, Scientific Information Database (SID), IranMedex, IranDoc, and Google Scholar were used to conduct the literature search. The search in each database included all the years covered at that time using keywords such as "sexual, adolescents, and Iran", and continued using other keywords such as "sexual behavior, high-risk behavior, sexual risk and reproductive behavior" individually and in combination. Studies were included in this review if: (a) they were original research articles with qualitative or quantitative approach; (b) they were written in Persian or English language; (c) they were published in a peer reviewed local or foreign journal; (d) they had focused on Iranian adolescents; (e) they had participants of fifteen to nineteen year olds as target age group with specified result of this group if in combination with other age groups; and (f) they investigated factors contributing to high-risk sexual behaviors in female adolescents separately or together with other high-risk behaviors. (g) Also, among studies which had both adolescent girls and boys as target groups, those which presented separate results for different sexes were included in the review. Studies were excluded from this review if: (a) they were other forms of articles including review articles, letter to editor...; (b) study participants were not adolescents; and (c) they didn't report specific result of adolescents age group when they were one of target groups of study. Also, the reference lists of the searched studies were reviewed for additional publications.

Initially, a total of 1560 articles were found. The electronic search yielded 124 abstracts

from the PubMed, 5 from the Science Direct, 193 from the Scopus, 150 from the IranMedex, 21 from the IranDoc, 654 from the SID, and 413 from the Google Scholar. Sixty nine articles were excluded due to duplication, and the 1491 remaining articles were screened according to review of titles and abstracts. In this stage, 1406 articles were excluded due to lack of relevance to study question. The search yielded 85 articles for review of full text and compatibility with study criteria. Ultimately, 16 publications met the inclusion criteria and represented the final sample. Four papers were qualitative studies, while others had cross-sectional design. Figure 1 presents preferred reporting items for systematic reviews and meta-analysis (Prisma) flow chart diagram for selection of studies.

After selecting the studies, a review matrix was prepared to abstract each document. For this purpose, studies were coded using a pre-formulated rating sheet according to the following characteristics: title of study, author's name, year published, research type (qualitative, quantitative), location of the study, age of participants (age range or mean), sample size, gender (male, female, both), setting (e.g. high school, community), and the main findings related to the study question. Quality appraisal of selected studies was examined using strengthening the reporting of observational studies in epidemiology (STORBE) checklist.

RESULTS

Study Characteristics

The studies were published from 2002 till

2015 with most conducted in Tehran (n=9). The majority of studies were conducted using quantitative method of cross-sectional studies (N=10) and the remaining six studies had qualitative method. All quantitative studies used a survey method to collect data except one of them which reviewed 350 cases of sexual deviance. Methodology employed in qualitative studies involved both focus groups and in-depth semi-structured interviews. The qualitative studies employed between 20^{22,25} to 247²⁶ participants and sample sizes for the quantitative studies ranged from 200 to 2400. Most studies included both males and females; however, one of the quantitative studies and all of qualitative ones focused exclusively on females.

Factors Contributing to High-Risk Sexual Behaviors

The final synthesis was conducted on 16 articles with eligible criteria. The results obtained from relevant articles can be divided and reviewed in four general groups of factors including personal, family, peers, school and community.

Personal factors. Adolescence is a critical period for incidence of sexual risk behaviors. Age is one of the reported personal factors related to high risk behaviors. Nasiri reported that from 350 cases of sexual deviance, fifty eight percent were women in the age group 14 to 19 years.²⁷ High risk sexual behaviors increase with age among adolescents. A cross-sectional study in Tehran showed a significant increase in the incidence of unsafe sexual

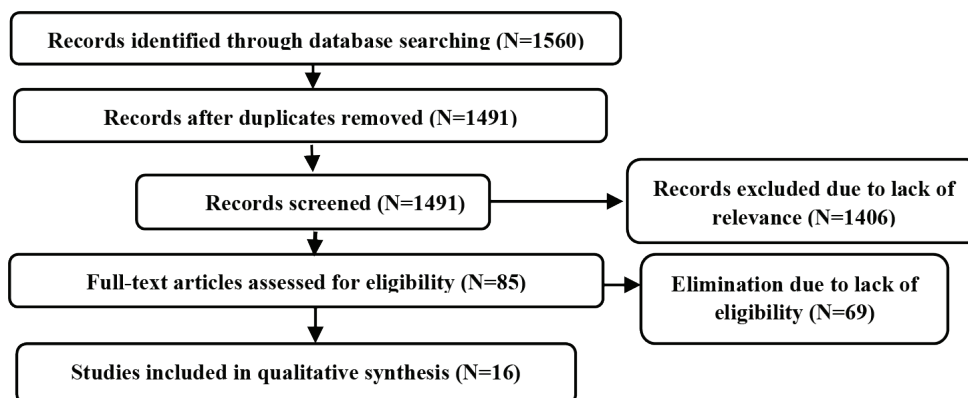


Figure 1: Prisma flow diagram

behavior among adolescents by increasing age.¹⁵ Also, a significant correlation in the opposite direction was reported between the youth's sex taboo and their age.²¹

Gender is the other reported personal factor which influences the adolescents' risky sexual behaviors. But there is inconsistency in the results of studies on the relationship between gender and risky sexual relationship. Soleimani Nia did not observe a significant difference between high school male and female students regarding unsafe sexual relations.¹⁵ However, in other studies, boys had higher sexual risk taking²⁸ and more positive attitudes toward unsafe sex than girls.¹³ Moreover, women accepted unsafe sex as sexual taboo in the community significantly more than men.²¹

Engagement in professional sport activity is another personal feature which was considered in only one study. Results showed that teenagers who were active in sports had higher levels of sexual risk taking. The average propensity to friendship with the opposite sex and tendency to sexual behavior and relationship was significantly higher among those who spent more time in exercise than those who took less exercise. There was no significant difference in sexual risk-taking among members of group sports' teams or individual athletes. Athletes who participated in the training camps had significantly higher sexual risk taking than others.²⁹

Prediction of adolescents' risk behaviors on the basis of positive and negative mental health was reviewed by Soleimani Nia. Negative predictors of mental health including physical problems, anxiety, social dysfunction, and depression were examined. The result showed a positive correlation between negative indicators of mental health and risky behavior. Among the negative indicators of mental health, anxiety and health problems had the highest correlation with risky behavior in teens. Also, positive predictors of mental health including autonomy, environmental mastery, positive interpersonal relations, having purpose in life,

self-acceptance, and personal growth were examined. Positive indicators of mental health showed a negative correlation between these indices and the risky behavior. This means that increase of positive indicators' score of mental health was associated with reduced risk of high-risk behavior.¹⁵

Other reported personal factors with significant relationship with incidence of high risk sexual behaviors were study in the field of human sciences, engagement in other high-risk behaviors such as alcohol use,²⁸ educational level,²¹ lack of proper sexual knowledge and attitude, and improper sexual information sources.^{26,30}

Family factors. Factors related to family are studied in two main groups of family structure and family function. Results have shown that factors related to family structure include intact family structures, having parents who are not addicted or not involved in high-risk behaviors^{22,25} were important factors in preventing risky sexual behaviors among adolescents. Also, in a cross-sectional study, there was no significant association between a single parent family (no father) and early sexual relationships.³¹

In two qualitative research, various aspects of family functions including the freedom versus control, persuasion versus obligation, warmth against indifference, intimacy in relations of family members with each other, responsibility and cooperation of family members and methods resolving family problems according to two methods of persuasion and obligation were different in two groups of adolescents with mild and severe risky behaviors.^{22,25} Gender differences were also seen regarding the family functions. Warm relations with acceptance as well as having a positive and effective model for girls and effective control for boys serve as protective factors.²⁵ In another cross-sectional study, fulfilling adolescent's needs for attachment to family, having good relation within family and support from family, adolescent's self-esteem and approval in the family were reported as effective factors in

protecting female adolescents from sexual deviance.³² Authoritarian parenting style showed lower adolescents' risk taking while negligent parenting style was associated with higher adolescents' risk taking.³³ Parental monitoring as another family function was reported to be an influential predictor of adolescents' sexual high risk behaviors. Moreover, girls reported significantly more parental monitoring than boys.¹³

In this section, having mothers with academic education (due to becoming employed and increased time of children loneliness at home and also becoming more permissive and less bound to religion) and low family income were other factors related to family which were associated significantly with high-risk sexual behaviors in adolescents.²⁸

Peer factors. Peer influence on Iranian adolescent sexual risk-taking was considered merely in three studies. The results of sex deviance cases in Babol had shown that peer influence, poverty and economic constraints were the factors affecting the incidence of rape and sex deviance crime. Also for adolescent girls, open relations with the opposite sex was the affecting factor for rape and sex deviance crime.²⁷ Investigation of the co-occurrence of risky behaviors among high school adolescents in Tehran revealed that the part of sexual risk taking variance among adolescents could be found in relation with friendship with opposite sex.²⁸ Affiliation to deviant peers was the other factor studied in relation to high-risk sexual behaviors in adolescents. Result of a cross-sectional study in Tehran showed that girls had significantly less affiliation to deviant peers.¹³

School and community-related factors. Factors related to school were studied just in one study and revealed that external control over the students' actions and social opportunities provided for them to meet their needs for connectedness, relationships, and approval at school are effective factors in girls to protect them from deviant sexual behaviors (32). Influence of cultural and social changes

in the community^{21,26,30} as other effective factors on adolescents' sexual risk taking were mentioned in three studies.

DISCUSSION

Articles frequently showed a wide range of personal, peers, family and social factors affecting adolescents' sexual decision making.³⁴⁻³⁶ In Iran, few studies have been conducted on factors affecting high-risk sexual behaviors in adolescent girls. However, the results showed that some personal factors such as age, male gender, and other personal factors mentioned above can increase high-risk sexual behaviors in adolescents. In this regard, the results of this review concur with those of foreign articles and also some Iranian articles conducted on youth population. A significant relationship between age and sexual relationships was reported, such that sexual relationships at 21 years of age was 3.7 times greater than at 18 years of age.³⁷ According to the World Health Organization report on the risk factors and protective factors in reproductive and sexual health in adolescents in developing countries, older age and male gender, and use of alcohol and drugs are among personal risk factors in adolescents' sexual relationships.³⁸ In a systematic review, boys were reported to have more pre-marital sexual relationships than girls. A possible reason for this may be due to girls' unwillingness to admit having sexual relationships because of the gender differences and social double standards that punishes girls but has a more liberal attitude toward boys' sexual relationships.³⁹ Other studies have also reported relationships between age, personal attitudes,⁴⁰ depression,⁴¹ drug abuse, continued school education,⁴² low self-esteem, alcohol use,⁴³ positive expectations in life⁴⁴ and high risk sexual behaviors in girls.

As an environment for adolescents' growth and development, family can be an important source of protective and risk factors. Household size, birth spacing, dependence on parents, parenting styles, domestic violence, psychiatric diseases in the family, and single parent family are among

influential family factors in reproductive and sexual health of adolescents.^{38,39} Various studies have demonstrated the relationship between adolescents' high-risk sexual behaviors and parenting styles;⁴⁵ parent-adolescent relationship;^{42,45} parental supervision;^{20,45} family structure and living with one or both parents;⁴⁶ supervision by an adult;⁴⁷ dependence on family, family support, and family trust;⁴⁸ adolescent's perception of parents' relationship⁴⁹ and his/her dependence on father, mother, friends and school;⁴¹ poverty;^{44,50} and attitude of family toward sex.⁴⁰ For example, a systematic review from Sturgeon showed that adolescents from intact family structures tend to delay sexual initiation until a significantly older age; are less likely to have ever had sexual intercourse; have had on average fewer sexual partners; are less likely to report a sexually transmitted disease; and are less likely to have ever experienced a pregnancy or live birth when compared to their peers from non-intact families.⁵¹ Consistent with the results of foreign studies, this review showed that intact family structure is a protective factor from adolescents' high risk sexual behavior.^{22,25,31}

About other aspects of family factors, this review showed that authoritarian parenting style,³³ warm and receptive relation among parents and adolescents,^{22,25} fulfilling adolescent's self-esteem and approval in the family are effective factors in protecting female adolescents from sexual deviance.³² Consistent with this results, Borawski showed that parents' confidence acts as a protective factor against sexual activity, alcohol and marijuana consumption for teenage girls,⁴⁸ but inconsistent results were reported by Huebner and Howell which found no direct effect for parenting style on the level of adolescents' sexual risk-taking.⁴⁵ Also, in a systematic review, greater high-risk sexual relationships in adolescents experiencing no permanent residence, living away from family, especially in boarding schools, and unstable relationship between parents.³⁹

The influence of peers' sexual behaviors

on adolescents is an accepted fact,^{52,53} and at the core of this fact is close friends' sexual behavior influencing adolescent's perception. Studies have shown a positive relationship between adolescent's perception of peers' sexual behaviors and their sexual experiences. This may be due to the fact that people with sexual relationships prefer to have friends with similar attitudes and values, and perhaps this behavior is due to peer pressure³⁹ or motivation by friends.⁴⁴ Furthermore, discussion with peers about sexual and reproductive issues has been reported as a risk factor for having sexual relationships.³⁸ In a recent study, boys evidence greater susceptibility to social pressure regarding sexual behavior than girls.⁵⁴ The few studies conducted in Iran on the subject also confirm the fact that adolescents influenced by their peers and belonging to a deviant peer group is associated with increased high-risk sexual behaviors in adolescents.¹³

According to systematic reviews and also analytical reports by WHO on the effect of community and school factors on sexual relationships in adolescent girls, there are insufficient numbers of studies on the subject.^{38,39,55} Among reviewed studies, only one study had considered the influence of factors related to school on adolescents' sexual risk taking. It showed the protective effect of school connectedness and its external monitoring on the girls' sexual deviance.³² Since adolescents' sexual behaviors are shaped according to social knowledge, attitude, values, beliefs and norms, attention to adolescents' views and scrutinizing social factors affecting sexual decisions in this group is vital.⁵⁶ Due to rare studies regarding community factors that shape adolescents reproductive and sexual behaviors, further studies are needed in this area.

To the best of our knowledge, this is the first systematic review of contributing factors to high-risk sexual behaviors among Iranian adolescent girls, so it can be considered as a guide to design and implement further research in this field.

LIMITATIONS

There were several limitations to the present study which should be considered. First, the search strategy may not have captured all of the relevant articles. As studies on people's views tend to be dispersed across a range of bibliographic databases and other search sources, choice of database influences the coverage of potential journal papers to be included.⁵⁷ In this regard, this review employed common databases in which Iranian articles most possibly have been indexed. Further, the terminology utilized in the search strategy may not have been sufficiently broad to capture all published research on the factors contributing to adolescents' high risk sexual behaviors. However, this must be balanced against the feasibility of processing the results of an over-inclusive search strategy. Hand searching of reference lists was done to search for possible further papers not captured in the database searches. A final limitation of the search strategy was that for practical reasons only published literature was sourced; however, it seems unlikely that publication status would be a substantial source of bias in the current context.

CONCLUSION

Review of the existing results is remarkable in two aspects. First, regarding the identified risk and protective, appropriate individual, family or school-based interventions can be designed and implemented to strengthen protective factors, for example designing proper sexual education at school level, providing reliable information resources for teens, empowering parents on how to engage with their teenage children, adolescents' sexual education needs, and parent's educational task in the field. Second, due to less attention to some of contributing factors in formation of high-risk behavior at peer, school and community level, it seems better to give more attention to these factors in future research.

Conflict of Interest: None declared.

REFERENCES

- 1 Shahhosseini Z, Simbar M, Ramezankhani A. Female Adolescents Health-Information Needs: A Qualitative Study. *J Mazand Univ Med Sci.* 2011;21:82-5. [In Persian]
- 2 Jaskiewicz M. An integrative review of the health care needs for female adolescent. *The Journal for Nurse Practitioners.* 2009;5:274-83.
- 3 United Nations Children's Fund. Adolescence An Age of Opportunity (The State of The World's Children 2011). In: Fund UNCs, editor. Manasquan: Hattress Press; 2011.
- 4 Nourolah T, Ghaemi Z, Goodarzi HM, et al. 2011 National Census of Population and Housing The Technical Report. Tehran, (Iran): Statistical Center of Iran, 2013.
- 5 Maria Rosario deGuzman, Bosch K. High-Risk Behaviors in Youth. USA: University of Nebraska; 2014. [cited 26 November 2014]. Available from: <http://extensionpublications.unl.edu/assets/pdf/g1715.pdf>
- 6 Jackson CA, Henderson M, Frank JW, Haw SJ. An overview of prevention of multiple risk behaviour in adolescence and young adulthood. *Journal of Public Health.* 2012;34:31-40.
- 7 Kloep M, Güney N, Cok F, Simsek OF. Motives for risk-taking in adolescence: A cross-cultural study. *Journal of Adolescence.* 2009;32:135-51.
- 8 DiClemente RJ, Hansen WB, Ponton LE. Handbook of adolescent health risk behavior. New York: Springer Science & Business Media; 2013.
- 9 Division of Adolescent and School Health, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. Sexual Risk Behaviors: HIV, STD & Teen Pregnancy Prevention. USA: CDC; 2016. [cited 9 June 2016]. Available from: <http://www.cdc.gov/healthyouth/sexualbehaviors/>

- 10 Blahd WH, O'Connor HM. High-Risk Sexual Behaviour. British Columbia: HealthLink BC; 2015. [cited 9 June 2016]. Available from: <http://www.healthlinkbc.ca/healthtopics/content.asp?hwid=tw9064>
- 11 Wells E. Addressing adolescent sexual and reproductive health in a complex world. *Outlook*. 2013;30:1-8.
- 12 Hamzehgardeshi Z. Adolescent risk behaviors and strategies for improving the most common high-risk behaviors: A mixed methods explanatory sequential study [thesis]. Tehran (Iran): Tehran University of Medical Science; 2012.
- 13 Ahmadi K, Khodadadi Sangdeh J, Aminimanesh S, et al. The role of parental monitoring and affiliation with deviant peers in adolescents' sexual risk taking: toward an interactional model. *Int J High Risk Behav Addict*. 2013;2:22-7.
- 14 Grammaroudi GR, Makarem J, Alavi SS, Abbasi Z. Health related risk behaviors among high school students in Tehran, Iran. *Payesh*. 2010;9:13-19. [In Persian]
- 15 Soliemaninia L, Jazayeri A, Mohammadkhani P. Role of mental health on occurrence of high risk behavior among adolescents. *Social Welfare Quarterly*. 2006;5:75-90. [In Persian]
- 16 Speizer IS, Magnani RJ, Colvin CE. The effectiveness of adolescent reproductive health interventions in developing countries: a review of the evidence. *J Adolesc Health*. 2003;33:324-48.
- 17 United Nations Development Programme. *Population and HIV/AIDS 2005*. New York: United Nations, Department of Economic and Social Affairs, Population Division; 2005.
- 18 Mahajan P, Sharma N. Awareness Level of Adolescent Girls Regarding HIV/AIDS (A Comparative Study Of Rural And Urban Areas Of Jammu). *J Hum Ecol*. 2005;17:313-14.
- 19 Blanchett WJ. Sexual Risk Behaviors of Young Adults With LD And The Need For HIV/AIDS Education. *Remedial and Special Education*. 2000;21:336-45.
- 20 Wight D, Williamson L, Henderson M. Parental influences on young people's sexual behaviour: A longitudinal analysis. *Journal of Adolescence*. 2006;29:473-94.
- 21 Tanhaei HA, Ghasemi Z, Asadollahi S. Sexual taboo and its' affection factors (a case study of the youth in tehran). *Quarterly The Sociology of the Youth Studies*. 2013;3:9-22. [In Persian]
- 22 Nikmanesh Z, Khosravi Z, Kazemi Y. The role of family's development and function in Adolescent Sexual Behavior. *Journal of Education Psychology Studies*. 2008;5:89-111. [In Persian]
- 23 Blum RW, Mmari KN. Risk and protective factors affecting adolescent reproductive health in developing countries report. Switzerland: WHO Department of Population and Family Health Sciences; 2005.
- 24 Garrard J. *Health sciences literature review made easy: The Matrix Method*. 3rd ed. USA: Jones & Bartlett Publishers; 2011.
- 25 Khosravi Z, KiaManesh A, Banijamali SS, Nikmanesh Z. Qualitative study of the role of the family in adolescents' risky behavior. *Quarterly Journal of Psychological Studies*. 2008;3:45-68. [In Persian]
- 26 Nagamabadi KM, Babazadeh R, Shariati M, Mosavi SA. Iranian adolescent girls and reproductive health information and services: a qualitative study. *Iranian Journal of Obstetrics, Gynecology & Infertility*. 2014;17:9-18. [In Persian]
- 27 Nasiri M. Sexual Devience, causes and bases. *Social Welfare*. 2002;2:187-220.
- 28 ZadehMohammadi A, AhmadAbadi Z. The co-occurrence of risky behaviors among high school adolescents in Tehran. *Journal of Family Research*. 2008;4:87-100. [In Persian]
- 29 Ahmadabadi Z, ZadehMohammadi A. The effect of exercise on sexual risk taking among high school students in Tehran. *Motor Behavior (Research on Sport Science)*. 2012;4:45-62. [In Persian]
- 30 Latifnejad R, Javadnoori M, Hassanpoor

- M, et al. Importance of sexual health education for adolescent girls in Iran: a qualitative study. *Iranian Journal of Obstetrics, Gynecology & Infertility*. 2012;15:7-17. [In Persian]
- 31 Mahdavi MS, Mirsardo T. The impact of lack of father on family: sociological study of effect of the death of father on social pathology adolescents. *Journal of Human Sciences*. 2002;(35):210-38. [In Persian]
- 32 Aminian A, SeyedMirzayi SM. A sociological study of base factors of family and school in the tendency of teenage girls toward sexually deviant behavior and addiction. *Journal of Family Research*. 2010;6:313-34. [In Persian]
- 33 ZadehMohammadi A, AhmadAbadi Z. Risk-taking behaviors among adolescents: the strategies to prediction crimes commitment. *Journal of Family Research*. 2009;5:467-85. [In Persian]
- 34 World Health Organization. *Broadening the horizon: Balancing protection and risk for adolescents*. Geneva, Switzerland: Department of Child and Adolescent Health and Development Family and Community Health; 2001.
- 35 Pilgrim NA, Blum RW. Protective and risk factors associated with adolescent sexual and reproductive health in the English-speaking Caribbean: a literature review. *J Adolesc Health*. 2012;50:5-23.
- 36 Kirby D. *Emerging answers: Research findings on programs to reduce teen pregnancy and sexually transmitted diseases*. Washington, DC: National Campaign to Prevent Teenage Pregnancy; 2007.
- 37 Vakilian K, Mousavi SA, Keramat A. Estimation of sexual behavior in the 18-to-24-years-old Iranian youth based on a crosswise model study. *BMC Research Notes*. 2014;7:28.
- 38 Blum R, Mmari K. Risk and Protective Factors Affecting Adolescent Reproductive Health in Developing Countries: an analysis of adolescent sexual and reproductive health literature from around the world. Geneva, Switzerland: World Health Organization; 2004.
- 39 Mmari K, Blum RW. Risk and protective factors that affect adolescent reproductive health in developing countries: A structured literature review. *Global Public Health*. 2009;4:350-66.
- 40 Akers AY, Gold MA, Bost JE, et al. Variation in sexual behaviors in a cohort of adolescent females: the role of personal, perceived peer, and perceived family attitudes. *Journal of Adolescent Health*. 2011;48:87-93.
- 41 Rink E, Tricker R, Harvey SM. Onset of sexual intercourse among female adolescents: the influence of perceptions, depression, and ecological factors. *Journal of Adolescent Health*. 2007;41:398-406.
- 42 Madkour AS, Farhat T, Halpern CT, et al. Early adolescent sexual initiation as a problem behavior: a comparative study of five nations. *The Journal of Adolescent Health*. 2010;47:389-98.
- 43 Ronis ST, O'Sullivan LF. A longitudinal analysis of predictors of male and female adolescents' transitions to intimate sexual behavior. *Journal of Adolescent Health*. 2011;49:321-3.
- 44 Cubbin C, Brindis CD, Jain S, et al. Neighborhood poverty, aspirations and expectations, and initiation of sex. *Journal of Adolescent Health*. 2010;47:399-406.
- 45 Huebner AJ, Howell LW. Examining the relationship between adolescent sexual risk-taking and perceptions of monitoring, communication, and parenting styles. *Journal of Adolescent Health*. 2003;33:71-8.
- 46 Miller BC. Family influences on adolescent sexual and contraceptive behavior. *Journal of Sex Research*. 2002;39:22-6.
- 47 Cohen DA, Farley TA, Taylor SN, et al. When and where do youths have sex? The potential role of adult supervision. *Pediatrics*. 2002;110:e66.
- 48 Borawski EA, Ievers-Landis CE, Lovegreen LD, Trapl ES. Parental monitoring, negotiated unsupervised time,

- and parental trust: The role of perceived parenting practices in adolescent health risk behaviors. *Journal of Adolescent Health*. 2003;33:60-70.
- 49 Cruz G, Laguna E, Raymundo C. Family influences on the lifestyle of Filipino youth. Honolulu: East-West Center Working Papers; 2001.
- 50 Haydon AA, Herring AH, Prinstein MJ, Halpern CT. Beyond age at first sex: patterns of emerging sexual behavior in adolescence and young adulthood. *Journal of Adolescent Health*. 2012;50:456-63.
- 51 Sturgeon SW. The relationship between family structure and adolescent sexual activity. Washington, DC: The Heritage Foundation; 2008 .
- 52 Kirby D, Lepore G, Ryan J. Sexual risk and protective factors: factors affecting teen sexual behaviour, pregnancy, childbearing, and sexually transmitted diseases. Washington, DC: National Campaign to Prevent Teen Pregnancy; 2005.
- 53 Makiwane M, Mokomane Z. South Africa youths' higher-risk sexual behaviour: an eco-developmental analysis. *African Journal of AIDS Research*. 2010;9:17-24.
- 54 Widman L, Choukas-Bradley S, Helms SW, Prinstein MJ. Adolescent Susceptibility to Peer Influence in Sexual Situations. *Journal of Adolescent Health*. 2016;58:323-9.
- 55 Mmari K, Sabherwal S. A review of risk and protective factors for adolescent sexual and reproductive health in developing countries: an update. *Journal of Adolescent Health*. 2013;53:562-72.
- 56 Fantasia HC. Late adolescents' perceptions of factors that influenced their sexual decision making: A narrative inquiry [thesis]. Michigan, Ann Arbor: Boston College; 2009.
- 57 Stansfield C, Kavanagh J, Rees R, et al. The selection of search sources influences the findings of a systematic review of people's views: a case study in public health. *BMC Medical Research Methodology*. 2012;12:55.