



Is AIDS related to social determinants of health in Iran? A systematic review

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Abstract

Introduction: AIDS is a global challenge. By looking deeper into the nature of AIDS and its transmission, it can be concluded that AIDS is a social phenomenon rather than a completely biological disease and the results of studies show a significant relationship between the risk of HIV infection and some underlying factors such as demographic, social, economic and cultural factors. Today, these structural and social factors are known as social determinants of health (SDH). The current systematic study aimed to identify SDH related to AIDS in Iran, in order to adopt appropriate strategies to prevent AIDS in Iran.

Methods: All studies in Persian or English focusing on the relationship between societal health and AIDS conducted in Iran were systematically reviewed from PubMed, Scopus, Embase, Web of Science and internal databases (IranMedex, SID and Magiran) by December 2018. In order to evaluate the quality of the articles, the STORBE checklist was used and, after reviewing the articles, finally, out of a total of 964 articles, 18 papers were selected to enter into the study.

Results: In this systematic review, 12 articles were performed on people at risk for AIDS, while 6 articles were conducted on patients with positive HIV/AIDS. Based on the WHO model, the determinants of social well-being in this study were structural determinants of health; (gender, educational level, occupational status, income and housing) and intermediate determinants of health (marital status, high-risk behaviors, awareness, attitude about AIDS, social support status, access to the Internet and satellite, and history of child sexual abuse).

Conclusion: The main risk factors for HIV infection in Iran (intravenous opium and unsafe sexual intercourse) were related to social, economic and behavioral factors. Therefore, it is essential to consider SDH as the key factors in the emergence and control of AIDS by health policy-makers and relevant authorities for the prevention of AIDS.

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Introduction

The number of people with AIDS has reached 36.9 million worldwide (1). Although many scientific advances have been improved in the field of AIDS diagnosis, the disease has not been fully controlled in all countries since the spread of AIDS in the Middle East, North Africa, Eastern Europe and Central Asia is rising and still a serious threat to humanity (2). The number of people infected with the AIDS virus in Iran has reached to 75 700 (3). In our country, the first wave of the disease began with imported contaminated blood products. The first reported case of HIV infection in 1987 was a 6-year-old child with hemophilia who received infectious by transfusion. After that, the second wave of AIDS began through intravenous (IV) drug use (4). The assessment of the information system in recent years shows the gradual change in the pattern of transmission from IV drug use to sexual transmission (5, 6).

Key point

Social, economic and behavioral factors are the main risk factors for HIV infection in Iran.

The distribution pattern varies in each country and even in different regions of a country because of vulnerable groups (7). A more in-depth look at the nature of AIDS indicates that AIDS is more of a social phenomenon than a purely biological disease (8). AIDS is an infectious disease, with high transmission power and astronomical economic burden, which is associated with an increase in unprotected families, widows, poverty, death, loss of social image and human rights abuses, prostitution, violence, crime, unemployment and hunger (9). Nowadays, there is strong scientific evidence that social factors such as poverty, discrimination, unemployment, gender

inequality, marginalization, immigration, health literacy, social protection, and marginalization have a much greater role in biologic factors in the epidemic and control of AIDS. In the absence of consideration of the concept of determinants of health, it cannot be expected that only by providing health care can control and treat AIDS (10,11). Social determinants of health (SDH) in many ways are the cause of AIDS (12).

In Iran and many other countries, HIV and AIDS prevention strategies focus on the pathology of the disease and generally on the control of transmission of the virus, while less attention to effective cultural, social and economic factors had been paid (13). Therefore, for comprehensive study of the SDH on AIDS and in different groups of society, a systematic review was done.

Methods

All descriptive studies were reviewed in Persian or English conducted in Iran to examine the relationship between social factors and AIDS. Since the number of articles in this area was limited, no time limit was applied for selecting articles. All the evaluation steps of the papers for inclusion in the study were conducted separately by the two independent researchers and in cases where there was a controversy between the selections of articles by the two evaluators, all three authors of the reviewer decided on that paper. The final decision was made based on the agreement of three evaluators.

Search strategy

The selection process of the articles included several steps. First, social determinant of health, socio-economic status, demographic factors, combined with the terms Iran, HIV, AIDS in English-language search bases of EMBASE, Web of Science (Clarivate Analytics), PubMed, Scopus and Iranian search database including Iran-Doc, Iran-Medex, SID and Magiran were systematically searched. All English and Persian articles were reviewed without limitation in the time. The last search was completed in December 2018, and the search results were saved in the Endnote software. In the next step, duplicate articles were deleted by Endnote software. Then, by studying the titles and abstracts of articles, articles related to the topic were identified and entered into the study. In this regard, if there was doubt about the relevance of the article, the entire article was studied for inclusion in the study. In the meantime, qualitative articles were removed from all selected papers (Figure 1).

Quality assessment

Since the selected articles are descriptive for inclusion in the study, the Strengthening the Reporting of Observational studies in Epidemiology (STORBE) checklist was used to assess the quality of the articles (15). Based on this checklist, the title, abstract, article introduction, methods of study (number of samples, sampling method and data collection method), errors and statistical methods for analyzing the

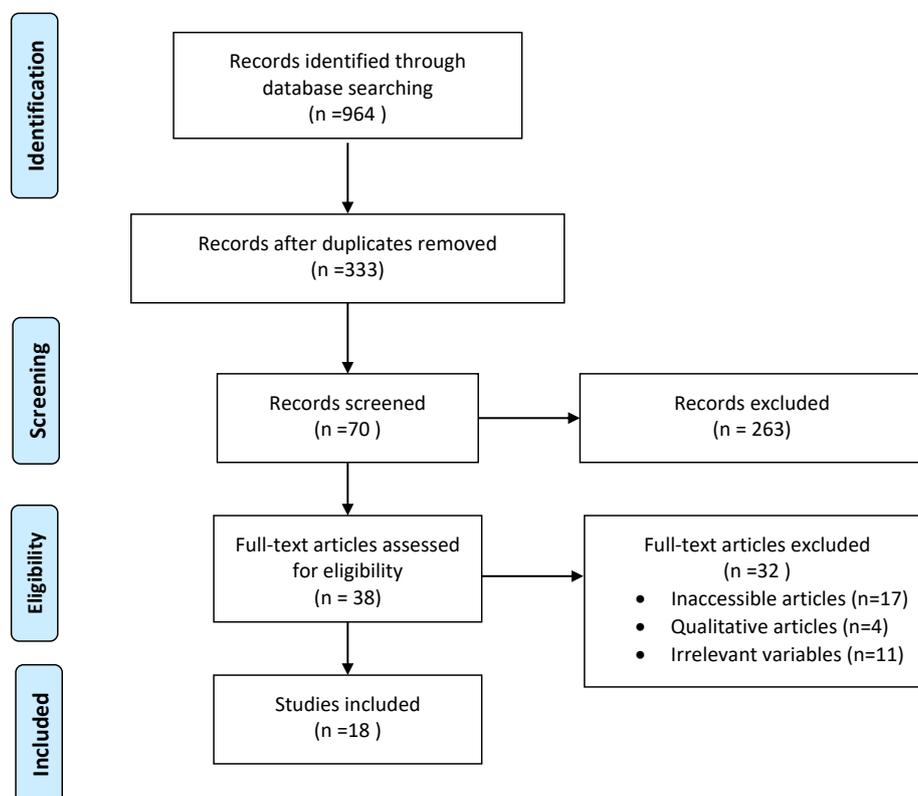


Figure 1. The process of final article selection.

results of the research were studied. According to the criteria in this checklist, the quality of each article was a score from 0 to 20, and the larger number was a sign of a better quality of the article (Table 1). The articles with a score less than 12 were excluded.

Data extraction

The data from the articles based on the time and place of the study, the studied community, and the studied social determinants in the article, and the determination of the relationship between these factors and the incidence and control of the disease, were categorized and extracted (online Supplementary file 1, Table S1).

Results

Of 964 articles obtained from search databases, 631 articles were due to the repeatability of the study, 263 articles due to inadequate relevance of title and abstract, and 32 articles in the full article review phase due to the inappropriate relation between variables, the research community and the method of work and 18 articles in the stage of evaluation of the quality assessment were excluded from the study. In total, after completing the review process, 18 articles were selected to enter the study.

The study populations of the 12 articles were people at risk for AIDS, such as prisoners, IV drug users, sex workers, and those who have unsafe and high-risk relationships (non-marital), in which the relationship between SDH and the infection with AIDS was discussed in these people (16-27). The study populations of the 6 articles were people with positive AIDS or HIV, in which the relationship between SDH and disease control (their quality of life, their sense of responsibility towards the community about their disease and the level of exposure and disclosure of their disease to their relatives as well as high-risk behaviors was discussed)

(28-33). Based on the WHO model, the social determinant of health in these articles includes structural determinants (gender, educational level, occupational status, income and housing) and intermediate determinants (marital status, high-risk behaviors, awareness, attitude towards AIDS, social support status, access to the Internet and satellite and the history of sexual abuse during childhood). Seven articles on "gender factor", 11 articles on the degree of education, 9 articles on "the status of jobs and income", 3 articles on housing status, 10 articles on marital status, 7 articles on "high-risk behaviors", and 9 articles on "supporting status social", 5 articles on "awareness, attitude of AIDS", and 2 articles on "the history of sexual abuse in childhood" have been studied. The age range of the subjects was 30 to 35 years. The largest number of studies was conducted in Tehran with seven studies, two studies in Shiraz and ten other studies in, Sanandaj, Saravan, Islam-Shahr, Astara, Khorramabad cities, and Kermanshah and Golestan provinces, respectively. A summary of the results of the studies was presented (Table 2).

Discussion

The results of the present study showed that the existence of gender inequalities in the society causes women at higher risk of AIDS (20,31,32). Gender norms and interactions that cause the female to be subverted in terms of social and economic power is an important factor in the greater vulnerability of women regarding health and HIV infection (34,35). According to a study by Lotfi et al in Iran, 71.43% of female participants believed that the role of sex is quite masculine and believe that preference is given to meet the sexual needs of male, and this will reduce the self-efficacy of women in dialogue to use condoms in their male sexual partners (19). According to the program of the World Population and Development Conference (1994) in

Table 1. Quality assessment of final studies included in this systematic review

First author	Title and abstract	Introduction	Methods	Results	Discussion	Total score
Rezazadeh et al	1	2	7	5	3	18
Bagheri et al	1	1	4	5	3	14
Rahmani et al	1	2	5	4	2	15
Etamad et al	1	2	7	5	4	19
Behmanesh et al	1	2	8	5	4	20
Masoodi et al	1	2	4	3	2	12
Lotfi et al	1	2	8	5	4	20
Assari et al	1	2	4	5	4	16
Rezaeian et al	1	2	4	5	3	15
Shokoohi et al	1	2	8	5	4	20
Ramezani et al	1	2	7	5	4	19
Navadeh et al	1	2	8	5	4	20
Noorozi et al	1	2	7	5	4	19
Shoshtari et al	1	2	7	5	4	19
Zandmomen et al	1	2	8	5	4	20
Haseli et al	1	2	4	4	3	14
Noroozi et al	1	2	7	5	3	18
Alinaghi et al	1	2	6	5	4	18

Table 2. Summary results of studies

Author	Purpose	Result
Rezazade et al (16)	Family characteristics of people with high-risk sexual behaviors	Residential situations, job, living conditions, parents' living status, history of abuse by family members and intimacy in the family had a significant negative relationship with risky sexual behaviors.
Bagheri et al (28)	Risk Factors in Patients with HIV	AIDS was related to gender, unemployment, education, unsafe sex, imprisonment and injection.
Rahmani et al (17)	Risk factors for HIV infection in homeless people	HIV infection in homeless people was related to gender, education, marital status, imprisonment, history of drug use, family characteristics (relationship with family and friends, family support).
Etemad et al (18)	Knowledge and attitude of people with positive HIV	People with negative HIV had a higher level of education than those with positive HIV. Unemployment rates and lower income levels were higher in positive HIV.
Behmanesh et al (29)	Association between QOL with HIV	Finding revealed a positive correlation between income, education, social support and QOL.
Masoodi et al (30)	Social support in people with HIV/AIDS	Social support is effective in the use of condom in sexual relations.
Lotfi et al (19)	Condom use among women at risk of HIV	Condom use can be predicted using knowledge, attitude and social support variables.
Assari et al (20)	Syringe sharing among IDUs	Syringe sharing in the past 6 months was lower among IDUs who were male.
Rezaeian et al (21)	SDH and female self-reported HIV testing	Knowledge of HIV, household wealth, education and job was associated with self-report HIV testing.
Shokoohi et al (22)	Prevalence of HIV testing	HIV testing site had a significantly higher chance of having a recent HIV test result.
Ramezani et al (23)	HIV and STIs Knowledge and risk factors	Accesses to satellite, internet and HIV knowledge were related with pre/extra Marital sex
Navade et al (24)	Prevalence of HIV among prisoners	There were significant associations between HIV prevalence with drug injection and tattooing.
Noroozi et al (25)	Dual HIV risk among people who inject drug	Regular visit to needle, syringe programs (NSPs) reduced odd of Dual HIV risk (HDR) to half.
Shoshtari et al (31)	Disclosure of HIV status among PLWH	Gender and functional support variable are significant predictors for disclosure.
Zand Momen et al (32)	HIV risk behavior in HIV+ patients in Tehran	Gender, education and marital status were predictors of risk behavior in development HIV.
Haseli et al (33)	Quality of life (QOL) in HIV patients	QOL was determined by employment status, marital status, and history of drug abuse.
Ali Naghi et al (26)	Prevalence of HIV infection in male prisoners	Duration of imprisonment, injection drug use, needle sharing were risk factors.
Noroozi et al (27)	HIV testing uptake among PWID in Tehran	Recent HIV testing was related to level of education, living status, income, length of injecting.

Cairo, the responsible behavior of men plays an essential role in achieving pregnancy health and combating AIDS, while men's participation and support in AIDS prevention programs, not only have a positive effect on the health of women, but also on men's health too (36).

In other words, in AIDS prevention programs, men must be considered as a key factor in emergencies, while with the participation of men and the presence of couples in HIV prevention programs and interventions, it can be expected to protect against HIV (37). According to the results of this study, the rate of AIDS in the unemployed was higher than those employed (16,18,20). The quality of life of employed people with AIDS was better than the unemployed group (33). Additionally, the risk of high-risk behaviors (injection with common syringes and unprotected sex) are more likely to be found in the unemployed than in the employed people (20,21,25).

Rezazadeh et al in their study showed that the incidence of AIDS in women with high-risk behaviors living in rent houses was much higher than women living in a private home (16). Also, Noroozi et al revealed that the level of high-risk behaviors in homeless IV drug users was higher than the group had shelter (25).

This relationship is probably due to the negative impact of homelessness on sexual behavior, which means that homeless people may exchange sex with food (25). In this study, marital status was observed as a deterrent effect on the incidence of HIV/AIDS risk behaviors, and the low-quality of life in people with AIDS (18,20,25,28,32). This could be due to marital couples' commitment to sexual relations within the marriage and to avoid relationships outside the marriage framework. Psychological support of the family, especially the spouse, plays an important role in improving the quality of life of people with AIDS (33).

The results of this study showed that the level of knowledge and attitude of people with high-risk behaviors and those with AIDS was unpleasant about the disease and its transmission (18, 19, 21-23). Young people should be aware of the dangers of prison environment, addiction and sexual relations. Therefore, the training of sexual relationships and the risks of drug addiction and the risks of attending prison, as well as training important health issues in the field of high-risk behaviors are necessary for young people. In this study, the important and special role of the family as an inhibitor of high-risk behaviors is mentioned (16,17).

The results of the study by Rezazadeh et al, also showed that family conditions such as parent relationships, lack of mother, history of sexual abuse during childhood, low level of intimacy among family members and living with friends, exposed people to high-risk sexual behaviors (16). Lack of family support, especially mothers from children and lack of proper communication with them in the field of sexual education, is one of the factors influencing the development of high-risk sexual behaviors (19).

AIDS is an infectious disease, which its social dilemma and its process of prevention and treatment happens in the community (38). The social support of people at risk for AIDS and those suffering from the disease, and easy and free access to AIDS prevention services, is one of these concerns (8). The results of the recent study also support this finding (19,21,22,25). The World Health Organization believes that the integration of reproductive and sexual health services for the prevention and treatment of AIDS is a useful strategy for controlling AIDS and promotion of people's accessibility to AIDS prevention services (39). This action is also helpful to reduce social stigma associated with AIDS, while people with AIDS do not have to go to isolated communities to receive their health care services (40).

Conclusion

While Iranian national AIDS programs focus on at-risk groups and harm reduction strategies, it is imperative that SDH should be paid more attention to prevention of AIDS in Iran.

Authors' contribution

Study concept and design: VY, MF and ZT. Search strategy: MFF and MN. Extraction of data: ZAS and MFF. Interpretation of data: MN and MFF. Draft of the manuscript: MFF and VY. Final revision: MFF and ZAS. Study supervision: MFF and ZT.

Conflicts of interest

There is no conflict of interest in this review study.

Ethical considerations

Ethical issues (including plagiarism, data fabrication, double publication) have been completely observed by the authors.

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Supplementary Materials

Supplementary file 1 contains Table S1.

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