

Demographic and Parental Family Determinants of Prostitution Among Iranian Female Sex Workers: A Case-Control Study

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Abstract

Background: One of the oldest social and health challenges to health is the global sex trading, which mainly involves young individuals. The issue has been dramatically worsening worldwide due to socio-economic and cultural changes. This study was conducted to determine the factors associated with prostitution among young Iranian sex workers.

Methods: This is a case-control study on 400 women including 200 prostitute women as the case group and 200 women randomly selected from the population as the control group. Women in the control group were frequency matched with the age and family physician of the women in the case group.

Results: Unlike forced marriage, the case group had lower odds of pre-marriage relationship with the spouse along with parent's consent when compared to forced marriage (OR remarriage relationship with family consent vs. forced marriage=0.05, 95% CI: 0.011, 0.25, $P<0.001$). Prostitution in individuals who reported friendship with a friend with high-risk behaviors during late childhood or adolescence was higher than those without such friendship (OR friend with risky behavior vs. without risky behavior friend=13.45, 95% CI: 4.07, 53.4, $P<0.001$). Also, cases had a lower odd of being under a tied parental control during childhood and adolescence (OR tied vs. no parental control=0.16, 95% CI: 0.04, 0.6, $P=0.008$). Finally, having single parent family was more common among the case group (OR single parent vs. nuclear family=6.33, 95% CI: 2.02, 21.78, $P=0.002$).

Conclusion: The current study revealed the importance of parent's involvement in the children's and adolescent's social and behavioral development and successful marriage in tendency toward prostitution. The other important factors that seem to considerably affect the tendency of the participants toward prostitution were having a girlfriend with risky behavior (having sexual relationship at younger age or stealing) and easy and uncontrolled access to private media during adolescence. Also, parents of prostitute women had a lower socio-economic status who had no or weak parental supervision during the participant's adolescence. Again, these factors are directly or indirectly affected by parental family functioning, highlighting the importance of parents' involvement in the development of their children. Most important factors reported in this study are modifiable, and designing effective parental training programs regarding supervising and supporting children is highly recommended.

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Introduction

One of the important social challenges in today's world is global sex trading which is expanding due to cultural changes, immigration, and economic crises.¹ Prostitution can be defined as accepting a sexual relationship in exchange for money or gift, life expenses, food, etc.² Although, by definition, prostitution also includes men and children (boys and girls), due to the far higher involvement of young women, the term prostitute is normally used for female prostitutes.³ Prostitution poses social, mental, and health-related risks to the providers and their clients. For example, unsafe sexual intercourse exposes both sides to a higher risk of many types of sexually transmitted infections including HIV and viral hepatitis.⁴ In addition, studies suggest that prostitutes are at a higher risk of violence and discrimination during their working life.⁵ In that regard, a report from Australia, among nearly 10,000 prostitute women, suggested that street prostitution was the most common and dangerous type of prostitution. However, it is suggested that most injuries and dangers to prostitute women take place in a private environment.⁶ Due to the importance of these issues, prostitutes are considered vulnerable members of society with a higher priority of receiving social and health protection services by social and health authorities.⁵

Although prostitution is illegal in many countries, evidence shows that prostitution is rising as a career in many parts of the world.^{7, 8} In addition, depending on the economic status, social policy, and other related factors, the determinants of prostitution seem significantly vary in different countries. For example, prostitution in women over 15 years of age is reported to be highly different among different countries and regions (e.g. African: 0.4%-4.3%, Asian: 0.2%-2.6%, and European: 0.1%-1.4% countries).⁹⁻¹¹

In Iran, prostitution is an illegal and punishable act and prostitutes use various places to work undercover (e.g. working on the streets and in private places) to prevent the legal consequences.¹² As a result of the hidden activities of prostitute women, no exact estimate on the population of prostitutes and their condition is available and our current knowledge is scarce. In Iran, prostitution is illegal, and the exact number of prostitutes is unknown due to the clandestine nature of the activity. However, various sources indicate an increase in prostitution in recent years.¹³ According to a study conducted in 2017, there were about 228,700 prostitutes in Iran,¹³ suggesting a constant and alarming rise in the prevalence of prostitution in Iran.¹⁴ As a result, controlling prostitution, as a social and health priority in Iran, needs the understanding of its contributing factors. Several Iranian studies have been published in that regard. For example, the results of studies in Iran suggested that unemployment and poverty were important reasons for prostitution.^{15, 16}

Substance use is another factor that is reported to be more common among prostitutes when compared to the population of women in Iran.^{17, 18} However, searching the existing evidence reveals that our knowledge about the determinants of prostitution among the Iranian population is scarce,¹⁹ and most published studies used descriptive designs with studying comparably very limited range of prostitution potential contributing factors. The aim of this study was to provide a better understanding of prostitution and investigate the factors influencing people's tendency to prostitution.

Methods

Settings

This is a case-control study on 400 women with 17-49 years of age in Shiraz, the capital of Fars province. Shiraz is a multicultural city with about 1560000 populations. In Shiraz, the "vulnerable women support center (VWSC)" was established under Shiraz University of Medical Sciences with three stations in different areas of the city. The center is responsible for providing high-risk women (including abused women and female sex workers) with free health and consulting services, including psychological consultation, health education and prevention, diagnosis, and treatment services for STIs. A significant number of prostitute women are registered with the center (the number of registered women is not to be announced publicly by the center). In addition, for respecting the privacy and safety of the women, any access to the women is allowed via the centers' staff only.

Ethical Approval

The study was reviewed and approved by the Shiraz University of Medical Sciences (SUMS) Local Ethics Committee with the code of IR.SUMS.REC.1398.564. Since the participants denied signing any form, verbal informed consent was obtained from all of them by their peer interviewers. Also, the study questionnaire was completed anonymously.

Selection of Cases

Due to being a hidden segment of the Iranian society (working in the sex industry is illegal in Iran and has serious legal consequences), there was no access to the study population; therefore, probability sampling was not applicable. As a result, snowball sampling was used to reach the FSWs in the capital of Fars province with the help of voluntary FSWs who were registered with vulnerable women's center (VWC) as peers to reach a more representative sample of FSWs. Being interviewed with their peers, the case participants were more confident about the anonymity and privacy of their responses to sensitive questions. After training voluntary FSWs with at least

mandatory education as interviewer, we reached the required number of participants and after obtaining verbal informed consent from the participants (to keep the anonymity of the participants), we interviewed the participants. Participants were included if they were female, were 17-49 years old, and had sexual intercourse in exchange for livelihood (i.e., money, goods, services, or drugs) with more than one client in the previous 12 months.¹³ Selection of participants and interview processes were conducted in Autumn 2019.

Selection of Controls

To maintain representativeness via probability sampling, the participants in the control group (n=200) were randomly selected from women who were registered with similar family physicians (health centers) of the women in the case group. The names of the control participants were randomly selected from a list of individuals registered with the pre-defined family physicians. The selected individuals were invited to their health center via a phone call and interviewed with a trained family nurse. The participant's family nurse, as the interviewer, helped the participants to be more confident about the privacy of information they provided. During the phone call, the individuals were invited to a routine checkup and introduced to the aims and procedure of the interview. Those who failed to be contacted or refused to come to the health center were replaced with the same selection procedure. The control and case participants were restricted to female sex and frequency-matched for age (± 4 years) and family physician. No effort was made to confirm that the participants in the control group were not providing sex for money. However, with regard to the very low estimated prevalence rate of prostitution in Iran provided by the previous studies,¹³ the authors expect no significant effect of misclassification bias on the results of the study.²⁰

Inclusion and Exclusion Criteria

Individuals younger than 17 and older than 49 years of age and those who had apparent physical deformities, disabilities, or mental retardation were excluded from the study sample.

Data Collection

A specially designed interview-administered questionnaire was made by the research team to collect the required data. The questionnaire was evaluated in terms of reliability (Cronbach's alpha, 92.3%), using data from a test-retest pilot study (n=20). All interviewers took part in training sessions before conducting interviews. The sessions included an introduction to the study and ethical considerations, the principles of interviewing, and practice and evaluation of the interviewers. The questionnaire consisted of two parts; the first part

contained demographic information (age, marital status, education, career, perceived economic status of parents, marital status, spouse's job if married, and the participant's parent's job and education). The second part of the questionnaire contained questions regarding family and behavioral factors during adolescence including the type of parental family, tension in the relationship between parental family members, strength of parental supervision, addiction among the family members, presence of a girlfriend with risky social (e.g. addiction or stealing) and sexual behavior, the source from which the individual first received sexual information, and media source for entertainment during adolescence. The participants also answered questions regarding alcohol and drug consumption, history of imprisonment, and how they married to their husbands. All factors were defined regarding the time before the cases started working as prostitutes.

Sample Size and Statistical Analysis

Based on the results of the pilot study, given the type one error at $\alpha < 0.05$ and power at 80%, and OR as small as 2 for the association of prostitution with the type of family, the estimated sample size required for the study was n=400 (200 cases and 200 women as controls). Data were analyzed using SPSS Statistics for Windows, version 20 (SPSS Inc., Chicago, Illinois, USA). Chi-square (Fisher exact test if required) and student-t tests were used to measure unadjusted associations. Multiple logistic regression was used to measure the adjusted associations of the study variables and prostitution.

Results

Characteristics of the Participants

Comparison of the demographic status of the participants showed that most of the participants in the case group were not living with a spouse (single, divorced, or widowed, 66% in comparison with 5% in the control group, $P < 0.001$). In addition, the level of education in the case-group was lower than the controls (56% not finished compulsory education in comparison with 14% in control group, $P < 0.001$). Most participants in the case-group were unemployed or did not have permanent jobs (80% in comparison with 44% in control group, $P < 0.001$). With regard to the financial status of the participants' parental family, participants in the case group were predominantly in lower social class (53% in comparison with 13% in the control group, $P < 0.001$). Similarly, fathers of the participants of the case-group were mainly unemployed or had temporal or part time jobs (53% in comparison with 33% in the control-group, $P < 0.001$). With regard to the education of the parents, the results suggested that in the case-group, fathers and mothers were more

Table 1: Demographic characteristics of the case and control groups

	Category	Case N(%)	Control N(%)	P value
Marital status	!Single	132(%66)	10(%5)	<0.001
	Married	68(%34)	190(%95)	
Education	High school	113(%56)	29(%14)	<0.001
	Diploma	74(%37)	69(%35)	
	University degree	13(%7)	102(%51)	
Job	Unemployed or part time job	161(%80)	89(%44)	<0.001
	Employed	39(%20)	111(%56)	
Husband's job	Unemployed or part time job	37(%19)	24(%12)	<0.001
	Employed	50(%25)	172(%86)	
	Single	113(%56)	4(%2)	
Parental family's financial status	Poor and very poor	106(%53)	27(%13)	<0.001
	Medium	74(%37)	83(%4)	
	Good and very good	20(%10)	90(%45)	
Father's job	Jobless or non-permanent job	106(%53)	66(%33)	<0.001
	Employed	94(%47)	134(%67)	
Father's education	Illiterate	69(%34)	28(%14)	<0.001
	Elementary	85(%43)	85(%42)	
	Diploma	18(%9)	37(%19)	
	University degree	28(%14)	50(%25)	
Mother's education	Illiterate	80(%40)	46(%23)	<0.001
	Elementary	91(%45)	98(%49)	
	Diploma	13(%7)	21(%11)	
	University degree	16(%8)	35(%17)	

!Including divorced and widowed

frequently illiterate (34% in comparison with 14% in the control group. No significant difference was observed in the participants' age (mean=33.38±7.93 in the case-group compared to the mean of 33.68±7.47 in the control-group, $P>0.05$) (Table 1). The lowest and highest age of the selected participants were 17 and 49 years, respectively. The distribution of the behavioral variables of the participants in the case and control groups are presented in Table 2.

Multivariable Analysis

The results of multiple logistic regression suggested that unemployed women had much higher odds of prostitution compared to those who were employed (OR unemployed vs. employed=6.94, 95% CI=2.61-20.53, $P<0.001$). Odds of prostitution was lower in individuals with a university degree than those with unfinished compulsory education (OR university degree vs. unfinished compulsory=0.08, 95% CI=0.01-0.33, $P<0.001$). Also, for individuals whose family had a good economic status, the odds of prostitution was much lower than ones who had low economic status (OR=0.08, 95% CI=0.02-0.30, $P<0.001$). The odds of prostitution in individuals who had no spouse was much higher than those who were living with their spouse (OR with spouse vs. without spouse=19.38, 95% CI=3.99-111.34, $P<0.001$). Similarly, the odds of prostitution among individuals who reported to have friends with risky behaviors was higher than those without such friends (OR high risk friend vs. no high risk friend=13.45, 95%

CI=4.07-53.4, $P<0.001$). Marrying with family force without the participant's consent was a powerful predictor of prostitution. For example, those who were in a pre-marriage relationship with family's consent had significantly lower odds of becoming a prostitute than those unwillingly married due to being forced by parents (OR unwillingly married vs. pre-marriage relationship with parent's consent=0.05, 95% CI=0.011-0.25, $P<0.001$). Also, the odds of prostitution among individuals who were under parental supervision was much lower than those with no parental supervision (OR tied parental supervision vs. no parental supervision=0.16, 95% CI=0.04-0.6, $P=0.008$). Compared to those with nuclear family (living with both parents), the odd having a single parent family during their adolescent was higher in the case group (OR single parent vs. both parents=6.33, 95% CI=2.02-21.78, $P=0.002$). Finally, women in the case group reported more unsupervised access to private media during their adolescent (OR private vs. public=6.33, 95% CI=2.02-21.78, $P=0.002$) (Table 3).

Discussion

Results of our study revealed significant statistical associations between several demographic and behavioral factors and prostitution. The results suggested that prostitute women mostly had no permanent job, and if they were employed, they had low-income careers. As a result, they use prostitution as a financially supporting job that provides better income for supplying their living costs.¹²

Table 2: Family function and behavioral characteristics of the case and control groups

	Group	Case N (%)	Control N (%)	P value
Type of family	Nuclear	74(%37)	152(%76)	<0.001
	No parent	63(%31)	24(%12)	
	Single parent	45(%32)	24(%12)	
Stressful family relationships	Not at all	35(%17)	74(%37)	<0.001
	Seldom	46(%23)	86(%43)	
	Very often	66(%33)	31(%15)	
	Always	53(%27)	9(%5)	<0.001
Parental supervision	Not at all	38(%19)	4(%2)	
	Seldom	60(%30)	21(%10)	
	Sometime	66(%33)	79(%40)	
	Always	36(%18)	96(%48)	<0.001
Addiction among family members	Yes	113(%57)	30(%15)	
	No	87(%43)	170(%85)	<0.001
Alcohol consumption	Yes	67(%34)	4(%2)	
	No	133(%66)	196(%98)	<0.001*
Illicit drug use	Yes	32(%16)	0(%0)	
	No	168(%84)	200(%100)	<0.001*
History of imprisonment	Yes	25(%13)	0(%0)	
	No	175(%87)	200(%100)	<0.001
Friends with risky behaviors	Yes	100(%50)	25(%12)	
	No	100(%50)	175(%88)	<0.001
Introduced to sexual issues by	School teacher	10(%5)	16(%8)	
	Friends and family	144(%72)	147(%73)	
	Satellite	32(%16)	7(%4)	
	Others	14(%7)	30(%15)	<0.001
Media source for entertainment	Tv network and movies	120(% 60)	183(%92)	
	Satellite	51(%26)	9(%4)	
	DVDs	29(%14)	8(%4)	<0.001
Married to husband with	Without relationship before marriage and family willing without my consent and	20(%10)	11(%5)	
	Relationship before marriage with family and my consent	25(%12)	117(%59)	
	Relationship before marriage and only my willing without family consent	23(%12)	58(%29)	
	Relationship before marriage without family consent	15(%8)	10(%5)	
	Not married	117(%58)	4(%2)	<0.001
Living with spouse	Yes	47 (23.5)	183 (91.5)	
	No	153 (76.5)	17 (8.5)	

*Calculated based on Fisher exact test

Based on a review study, being financially restraint or dependent raises the risk of prostitution among women.²¹ Similarly, findings from a study in the United States suggested that poverty and homelessness were associated with early prostitution. Accordingly, prostitute women who were living on streets or in shelters were more likely with limited education and less employment opportunities and entered prostitution at younger age.²²

As our study suggested, women with lower income and less educated parents were more likely to become a prostitute in later life. In line with the results of the current study, a cross-sectional study on Iranian prostitutes suggested that most of them were coming from families with low socio-economic status.²³ The reasons for observing such association are possibly the effect of neighborhood and family environment and friendship as well as the condition of living and

education of children.²⁴

In addition, our study results revealed that living with spouse (successful marriage) might prevent prostitution via supporting marriage. Similarly, another study suggested that the presence of spouse as a financial, emotional and social supporter was a strong family- related preventive factor for prostitution.²⁵

Another important family-related risk factor of prostitution in our study was parental forced marriage. Accordingly, pre-marriage dating with fiancé when the family is supporting the relationship is a powerful inversely associated factor for divorce and prostitution. We believe that a couple's approach to engagement is a good predictor of successful marriage and prostitution. In that regard, although no study on the same subject was found, a study reported that dating was a facultative factor for successful marriage.²⁶

Table 3: The association of the study variables and becoming a sex worker

Variable		(n=400)		
		OR*	95% CI	P
Job	Employed	1.00	-	-
	Jobless or non-permanent job	6.94	2.61,20.53	<0.001
Living with spouse	With spouse	1.00	-	-
	Single!	19.38	3.99,111.34	<0.001
Friends with risky behavior	No	1.00	-	-
	Yes	13.45	4.07,53.4	<0.001
I married to my husband with	Family willing without my consent	1.00	-	-
	Without family consent	0.19	0.04,0.83	0.03
	Relationship before marriage without family consent	0.29	0.04,1.78	0.18
	Relationship before marriage with family consent	0.05	0.011,0.25	<0.001
	Not married	0.37	0.03,3.85	0.39
Parental supervision	Not at all/ seldom	1.00	-	-
	Very often	0.16	0.04,0.6	0.008
	Always	0.30	0.08,1.02	0.05
Type of family	Nuclear	1.00	-	-
	Single parent	6.33	2.02,21.78	0.002
	No parent	3.51	1.01,12.7	0.04
Education	High school	1.00	-	-
	Diploma	0.48	0.16,1.34	0.16
	University degree	0.08	0.01,0.33	<0.001
Parental family financial status	Poor and very poor	1.00	-	-
	Medium	0.10	0.02,0.31	<0.001
	Good and very good	0.08	0.02,0.30	<0.001
Media source for entertainment	Public [^]	1.00	-	-
	Private ^{^^}	4.94	1.64,16.31	0.005

*The baseline model consisted of marital status, education, job, husband's job, parental family financial status, father's job ,father's education, mother's education, parental supervision, stressful family relationship, addiction among family members,alcohol consumption, illicit drug use ,history of imprisonment, girlfriend with risky behavior, how first introduced to sexual issues, media used for entertainment, how married, i.e. TV and cinema, [^]i.e. DVDs satellite and other private media; including divorced and widowed

According to the results of the present study, parental supervision on adolescent's friendship and behavior is an important prostitution-associated factor. This finding is also indirectly supported by some other studies by suggesting that parental supervision is a protective factor for preventing delinquent behaviors among adolescents.²⁷ According to the results of our study, prostitute women had a much lower odds of having both parents around compared to the control group. Again, the results of other studies suggest that both-parent families have better family relationship and social positions and their children have less risky behaviors²⁸ With regard to education, the results of our study suggested that achieving better education was a potentially powerful preventive factor for prostitution. Lower education has been introduced as a strong risk factor for prostitution in several studies from different regions²⁹⁻³¹ Studies suggested that those with lower education were significantly more prone to prostitution at younger age than well-educated individuals.²⁹ Also, the findings of a survey on prostitute women working on streets in the US suggested that these women had limited educational backgrounds and often had not completed high school.³⁰ It seems that more educated women have more opportunities to achieve better social status and job, factors which can affect prostitution. The results of the present study also revealed that

having a friend with risky behaviors was a very strong factor contributing to prostitution. The result is in accordance with those of other studies suggesting the type of friendship is a significant factor for delinquency among adolescents. Finally, the results of the present study suggested that access to unsupervised private media, such as satellite channels and DVDs, was a strong factor contributing to prostitution. This finding is supported by a study on media and sexual health.³²

Strengths and Limitations

Unlike many other studies on the same subject that predominantly used a cross-sectional design, our present study used a case-control design to measure the potential associations between several social and family-related factors and prostitution. As prostitution is illegal in Iran, the real population size of sex workers is unknown. Therefore, it was not possible to include all prostitute women in the sampling frame, and selection bias could not be ruled out in the current situation. Due to social and personal sensitivity of the research subject, no attempt was made to define whether the selected controls were prostitutes or not. Concerning the expected low prevalence of prostitution in most Muslim countries, misclassification of the participants in the control group is not believed to make any significant change in the results.

Conclusion

One of the most powerful predictors of prostitution among the participants of our study was the method of dating and marrying a husband. Providing young women and their parents with proper consultation can prevent dysfunctional families, divorces, and perhaps prostitution. Parental supervision regarding a child's social and friendship network and media usage may prevent many social and behavioral malalignments. Parents, if properly trained and prepared for parenting, can provide their children with a safe and productive family and friendship environment to achieve proper education and social status. Research on effective programs for training parents and adolescents is highly recommended.

Abbreviations

AIDS: acquired immunodeficiency syndrome
CI: confidence interval
OR: odds ratio
SVWSC: Shiraz Vulnerable Women Supporting Center

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Authors' Contribution

MF and FA co-designed the study and survey materials. FA were involved in data collection. MF did the interpretation and drafted the manuscript. HG was responsible for the design and statistical consultation. MD performed the statistical analysis. NMD was responsible for conducting the statistical analyses and making the revisions to the manuscript. All authors approved the final manuscript to be submitted and published.

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Conflicts of Interest

None declare.

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