

## Factors Associated with Addiction in Children in Kerman City

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### ABSTRACT

**Introduction:** Addiction is one of the major crises in the world which has many victims and imposes serious damage on the family and society, especially among children who are the most vulnerable social stratum. The aim of this study was to determine the possible causes of drug addiction among children in Kerman.

**Methods:** This case-control study was conducted as a qualitative study. Ninety children aged 6 to 16 years were enrolled. The case group included 30 addicted children supported by the Welfare Organization. The control group included two groups of 30 children, one selected from the Welfare Organization and the other from across the city. All participants were male and groups were matched for age. Then, the probable causes of addiction were compared between these two groups. Data were analyzed by using SPSS22 and by chi-square tests and logistic regression.

**Results:** The mean age of children was  $10.8 \pm 2.4$  in the case group,  $11.4 \pm 1.8$  in the park control and  $12.8 \pm 1.5$  in the welfare center control group. All participants were male. The results revealed that there were significant statistical differences between the addicted and non-addicted children in regard to parent's religious beliefs, parent imprisonment, history of addiction in families, visiting the park alone and parental employment.

**Conclusion:** Strengthening religious beliefs of parents, teaching life skills to children and their parents, parental control on children, tracking and monitoring the peers; and promoting collaborations between the policymakers, the Welfare Organization, the Municipality, the Universities of Medical Sciences and the Police Force can help to reduce and control addiction among children.

**Key words:** Addiction, Predisposing Factors, Child, Case-Control Study.

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### Introduction

Currently, the crisis of drugs and addiction is one of the major crises in the world which has many victims <sup>(1)</sup>. Drug abuse seriously affects families, communities and, especially children who are the most vulnerable social group <sup>(2)</sup>. The increasing trend of drug abuse in today's world is in such a way that Loading says; if we exclude food, there is no substance like drugs on earth that could be so easily entered into the life of nations <sup>(2)</sup>.

It looks like the special geographic situation of Iran and its neighboring countries that are among the world centers of drug production has accelerated drug abuse and, consequently the age of drug abuse initiation has decreased dramatically in Iran <sup>(3)</sup>. The United Nations defines addiction as an acute or chronic poisoning which is extremely harmful to individuals and communities and happens through abuse of natural or synthetic drugs <sup>(3)</sup>.

Drug addiction has three important features; a sense to continue using and finding drugs in any possible way, an intense desire to increase the amount of drug abuse, and mental and physical dependence on their adverse effects <sup>(3)</sup>. Newborns, infants and young children are considered the main victims of drug abuse, because they get involved in addiction without their own will and as a result of the ignorance of their guardians <sup>(4)</sup>. It is also well-documented that addiction breaks apart the individual's personality and family foundation. Moreover, addiction is enumerated as a factor that seriously affects people's social life and the entire society. Drug abuse damages a healthy society and imposes a social crisis on human societies <sup>(1)</sup>. In addition to the damaging physical and mental consequences of addiction in children, the resulting social consequences on children are very dramatic as well; as these children are supposed to make up the future workforce <sup>(5)</sup>. The promotion of psychosocial and social health in societies is dependent on empowering children; and since drug abuse is a long process, preventive actions and measures should be initiated early before children go to school <sup>(3)</sup>.

Based on research, the consequences of maternal addiction include low birth weight, and preterm birth <sup>(5)</sup>. Children aged less than 12 years are more affected by parental substance abuse <sup>(5)</sup>. In this respect, studies have shown that children living in addicted families are more prone to drug abuse <sup>(3)</sup>. Unfortunately, the statistical agencies, planning organizations and other institutions have paid little attention to the sensitivity of drug addiction in children in Iran; and have not registered much data in this regard <sup>(1)</sup>. Hajli et al. reviewed the attitude of people about the causes of drug abuse in Iran, and indicated that bad friends, addicted family members, a living place contaminated with drugs, unemployment and parent's divorce are among the main causes of drug addiction in adults <sup>(6)</sup>. A study about the causes of drug abuse among addicts of Khorramabad, in Iran also revealed that low self-esteem, consequent failures in life, observing drug abuse among family members, economic inequity, unemployment, lack of job opportunities, insistence from friends and peers, relieving pain and physical illness, pleasure in taking drugs, and a positive attitude towards drugs are among the causes of addiction in adults <sup>(7)</sup>. In Zanjan, Iran; the causes and risk factors of addiction were fake friends, pleasure-seeking, economic poverty in families, cultural poverty, poor family structure, unemployment, and physical pain <sup>(5)</sup>.

In these previous studies, researchers have addressed the prevalence of addiction among adults. However, little research has been published regarding addiction in children. Hopefully, the results from this study may contribute to the planning of effective ways to support vulnerable children and prevent children's addiction. This study can also provide valuable information to the authorities to develop lifesaving prevention programs. Therefore, the aim of this study was to determine the possible causes of drug addiction among children supported by the Welfare Organization of Kerman.

## Methods

In this case control study, cases were children living at the welfare centers of Kerman city, Iran. According to a study carried out by Hajli et al. in 2010 in Iran, the prevalence of addiction among the parents in the addicted group and the general society was estimated to be about 82 and 11%, respectively. Therefore, the adequate sample size in each group was estimated to be only 9 individuals in each group. However, in this study, 30 children were recruited in each group.

In this study, the case group were addicted children aged 6 - 16 years that were living in the Welfare Centers and entered the study through simple random sampling. For this means, a list of all eligible addicted children was prepared and then, a sample of 30 addicted children was randomly selected from them.

The control group was chosen from two different locations. One group of children was chosen from the non-addicted children living at the Welfare Centers that were randomly selected in a similar way and included in the study. The second control group were non-addicted children residing near the Welfare Center. These children were found in the neighborhood park by convenience sampling and they agreed to answer our questions.

All participants were male and groups were matched in terms of age. Then, the frequency of possible risk-factors which were obtained from a previous qualitative study conducted by the authors of the present study<sup>(8)</sup>, was compared between the two groups.

$$n = \left[ \frac{1.96\sqrt{2 \times 0.465 \times 0.535} + 1.28\sqrt{0.82 \times 0.18 + 0.11 \times 0.89}}{0.71^2} \right]^2 = 9$$

The codes resulting from this qualitative research were used in a quantitative checklist to compare the probable factors related to addiction in children. The checklist contained 46 questions with two Yes / No choices. The questions can be seen in Table 1. The researcher initially tried to

gain the trust and cooperation of the children, then he asked the questions from the checklist and the children answered.

In this study, children were not pressurized to complete the checklist. Actually, they could refuse to complete the checklist whenever they desired. Also, the privacy and confidentiality of information as well as anonymity of children was observed in completing the checklist.

In the present study, the dependent variable was presence or absence of addiction in children. The independent variables which were categorized as Yes/No answers, were also binary qualitative variables. After the completion of data collection, the data were entered into the SPSS22. The relationships between variables were assessed using the chi-square tests and crude Odds Ratios with 95% confidence interval.

## Results

The mean age of children was  $10.8 \pm 2.4$  in the case group,  $11.4 \pm 1.8$  in the park control and  $12.8 \pm 1.5$  in the Welfare center control group. There was no significant difference in age between the case and the park ( $p=0.294$ ) or welfare control ( $p=0.069$ ) groups. All the participants were male.

The results of statistical analysis using the chi-square test and crude odds ratios comparing the addicted children with non-addictive children found in the neighboring park, indicated that variables such as prayer of the father, prayer of the mother, mother's employment, parents' imprisonment, the presence of an addicted family member and going to the park alone were related to childhood addiction. Also, comparison between the case group and the Welfare center control group indicated that prayer of the father, father's life status, father's imprisonment, allocating pocket money and the presence of an addicted family member and going to the park alone were significantly different among the two groups. (Table 1)

**Table 1.** The crude odds ratios comparing the case with the control group from the City Park and Welfare Center

| Question                             | Answer | Case Group         |  | Crude odds ratios | P-value | Control Group 2 (Welfare Center) |             | Crude odds ratios | P-value |
|--------------------------------------|--------|--------------------|--|-------------------|---------|----------------------------------|-------------|-------------------|---------|
|                                      |        | Number (%)<br>N=30 | Control Group 1 (the city)<br>Number (%)<br>N=30 |                   |         | Number (%)<br>N=30               |             |                   |         |
| 1) Is your father alive?             | Yes    | 23 (79.3%)         | 27(93.1%)  | Ref               | 0.14    | 15(50%)                          | Ref         | 0.022             |         |
|                                      | No     | 6 (20.7%)          | 2 (9.6)  | 3.52              |         | 15(50%)                          | 3.83        |                   |         |
|                                      |        |                    |  | (0.647-19.16)     |         |                                  |             | (1.21-12.09)      |         |
| 2) Is your mother alive?             | Yes    | 26 (86.7%)         | 28(93.3%)  | Ref               | 0.39    | 21(80%)                          | Ref         | 0.12              |         |
|                                      | No     | 4 (13.3%)          | 2(6.7%)  | 2.15              |         | 9(20%)                           | 2.78        |                   |         |
|                                      |        |                    |  | (0.363-12.76)     |         |                                  |             | (0.75-10.33)      |         |
| 3) Is your father illiterate?        | Yes    | 11 (37.9%)         | 11(37.9%)  | Ref               | 1       | 9(31%)                           | Ref         | 0.58              |         |
|                                      | No     | 18 (62.1%)         | 18(62.1%)  | 1                 |         | 20(69%)                          | 1.35        |                   |         |
|                                      |        |                    |  | (0.346-2.88)      |         |                                  |             | (0.458-4.02)      |         |
| 4) Did your father go to school?     | Yes    | 18 (62.1%)         | 11(37.9%)  | Ref               | 0.07    | 15(57.1%)                        | Ref         | 0.42              |         |
|                                      | No     | 11 (37.9%)         | 18(62.1%)  | 0.37              |         | 14(42.9%)                        | 1.52        |                   |         |
|                                      |        |                    |  | (0.129-1.07)      |         |                                  |             | (0.537-4.34)      |         |
| 5) Did your father go to university? | Yes    | 0 (0)              | 5(17.2%)   | Ref               | 0.052   | 4(13.8%)                         | Ref         | 0.11              |         |
|                                      | No     | 29 (100%)          | 24(82.8%)  | 0.82              |         | 25(86.2%)                        | 1.16        |                   |         |
|                                      |        |                    |  | (0.701-0.977)     |         |                                  |             | (1.003-1.34)      |         |
| 6) Is your mother illiterate?        | Yes    | 10 (34.5%)         | 9(30%)   | Ref               | 0.71    | 9(30%)                           | Ref         | 0.71              |         |
|                                      | No     | 19 (65.5%)         | 21(70%)  | 0.81              |         | 21(70%)                          | 1.22        |                   |         |
|                                      |        |                    |  | (0.273-2.43)      |         |                                  |             | (0.411-3.66)      |         |
| 7) Did your mother go to school?     | Yes    | 19 (65.5%)         | 18(60%)  | Ref               | 0.66    | 17(56.7%)                        | Ref         | 0.48              |         |
|                                      | No     | 10 (34.5%)         | 12(40%)  | 0.78              |         | 13(43.3%)                        | 1.45        |                   |         |
|                                      |        |                    |  | (0.274-2.27)      |         |                                  |             | (0.507-4.16)      |         |
| 8) Did your mother go to university? | Yes    | 1 (3.4%)           | 1(3.3%)  | Ref               | 0.98    | 2(6.7%)                          | Ref         | 0.58              |         |
|                                      | No     | 28(96.6%)          | 29(96.7%)  | 0.96              |         | 28(93.3%)                        | 0.50        |                   |         |
|                                      |        |                    |  | (0.058-16.19)     |         |                                  |             | (0.043-5.83)      |         |
| 9) Did your father care about you?   | Yes    | 18(64.3%)          | 24(80%)  | Ref               | 0.18    | 20(66.7%)                        | Ref         | 0.84              |         |
|                                      | No     | 10(35.7%)          | 6(20%)   | 2.22              |         | 10(33.3%)                        | 0.90        |                   |         |
|                                      |        |                    |  | (0.681-7.24)      |         |                                  |             | (0.305-2.65)      |         |
| 10) Did your mother care about you?  | Yes    | 20(69%)            | 25(83.3%)  | Ref               | 0.2     | 22(75.9%)                        | Ref         | 0.55              |         |
|                                      | No     | 9(31%)             | 5(16.7%)   | 2.25              |         | 17(24.1%)                        | 0.70        |                   |         |
|                                      |        |                    |  | (0.650-7.78)      |         |                                  |             | (0.222-2.25)      |         |
| 11) Did your father love you?        | Yes    | 24(82.8%)          | 27(90%)  | Ref               | 0.42    | 22(73.3%)                        | Ref         | 0.38              |         |
|                                      | No     | 5(17.2%)           | 3(10%)   | 1.87              |         | 8(26.7%)                         | 1.74        |                   |         |
|                                      |        |                    |  | (0.405-8.68)      |         |                                  |             | (0.496-6.14)      |         |
| 12) Did your mother love you?        | Yes    | 26(89.7%)          | 29(96.7%)  | Ref               | 0.3     | 24(82.8%)                        | Ref         | 0.45              |         |
|                                      | No     | 3(10.3%)           | 1(3.3%)  | 3.34              |         | 5(17.2%)                         | 1.80        |                   |         |
|                                      |        |                    |  | (0.327-34.19)     |         |                                  |             | (0.389-8.38)      |         |
| 13) Did your father pray?            | Yes    | 17(58.6%)          | 30(100%)   | Ref               | <0.001  | 9(30%)                           | Ref         | 0.029             |         |
|                                      | No     | 12(41.4%)          | 0(0)   | 1.70              |         | 21(70%)                          | 3.30        |                   |         |
|                                      |        |                    |  | (1.25-2.31)       |         |                                  |             | (1.12-9.68)       |         |
| 14) Did your mother pray?            | Yes    | 20(71.4%)          | 30(100%)   | Ref               | 0.002   | 14(46.7%)                        | Ref         | 0.059             |         |
|                                      | No     | 8(28.6%)           | 0(0)   | 1.40              |         | 16(53.3%)                        | 2.85(0.961- |                   |         |

|  |     |           |           |                |        |           |                   |       |
|--|-----|-----------|-----------|----------------|--------|-----------|-------------------|-------|
|  |     |           |           | (1.10-1.77)    |        |           | 8.49)             |       |
| 15) Did your father take you to the park and recreation? | Yes | 21(72.4%) | 23(79.3%) | Ref            | 0.54   | 12(40%)   | Ref               | 0.31  |
|  | No  | 8(27.6%)  | 6(20.7%)  | 1.46           |        | 13(43.3%) | 1.75              |       |
|  |     |           |           | (0.434 - 4.91) |        |           | (0.586-5.22)      |       |
| 16) Did your mother take you to the park and recreation? | Yes | 19(63.3%) | 15(50%)   | Ref            | 0.29   | 13(43.3%) | Ref               |       |
|  | No  | 11(36.7%) | 15(50%)   | 0.57           |        | 17(56.7%) | 2.25(0.802-6.36)  | 0.12  |
|  |     |           |           | (0.206-1.62)   |        |           |                   |       |
| 17) Did your father work to earn money?                  | Yes | 21(72.4%) | 21(70%)   | Ref            | 0.83   | 15(50%)   | Ref               |       |
|  | No  | 8(27.6%)  | 9(30%)    | 0.88           |        | 15(50%)   | 2.62(0.888-7.76)  | 0.08  |
|  |     |           |           | (0.288-2.74)   |        |           |                   |       |
| 18) Did your mother work to earn money?                  | Yes | 16(53.3%) | 3(10%)    | Ref            | <0.001 | 13(43.3%) | Ref               |       |
|  | No  | 14(46.7%) | 27(90%)   | 0.09           |        | 17(56.7%) | 1.49(0.540-4.13)  | 0.43  |
|  |     |           |           | (0.024-.391)   |        |           |                   |       |
| 19) Has your father ever been imprisoned?                | No  | 19(67.9%) | 3(10%)    | Ref            | <0.001 | 12(40%)   | Ref               |       |
|  | Yes | 9(32.1%)  | 27(90%)   | 3.09           |        | 18(60%)   | 3.16(1.07-9.30)   | 0.034 |
|  |     |           |           | (1.029-9.019)  |        |           |                   |       |
| 20) Has your mother ever been imprisoned?                | No  | 8(26.7%)  | 0(0)      | Ref            | 0.005  | 5(16.7%)  | Ref               |       |
|  | Yes | 22(73.3%) | 30(100%)  | 2.14           |        | 25(83.3%) | 2.06(1.31-6.38)   | 0.35  |
|  |     |           |           | (1.29-6.802)   |        |           |                   |       |
| 21) Did your neighbors abuse drugs?                      | Yes | 11(40.7%) | 7(25%)    | Ref            | 0.21   | 12(40%)   | Ref               |       |
|  | No  | 16(59.3%) | 21(75%)   | 0.48           |        | 18(60%)   | 1.03(0.357-2.97)  | 0.95  |
|  |     |           |           | (0.154-1.53)   |        |           |                   |       |
| 22) Did your parents argue with each other?              | Yes | 11(37.9%) | 8(26.6%)  | Ref            | 0.35   | 19(63.3%) | Ref               |       |
|  | No  | 18(62.1%) | 22(73.3%) | 0.59           |        | 11(36.7%) | 0.35(0.123-1.01)  | 0.054 |
|  |     |           |           | (0.197-1.79)   |        |           |                   |       |
| 23) Did you have good clothing?                          | Yes | 25(83.3%) | 24(80%)   | Ref            | 0.73   | 18(60%)   | Ref               |       |
|  | No  | 5(16.7%)  | 6(20%)    | 0.80           |        | 12(40%)   | 3.33(0.998-11.13) | 0.052 |
|  |     |           |           | (0.215-2.97)   |        |           |                   |       |
| 24) Did your father give you drugs?                      | Yes | 0(0)      | 0(0)      | -----          | -----  | 0(0)      | -----             |       |
|  | No  | 30(100%)  | 30(100%)  | -----          |        | 30(100%)  | -----             | ----- |
| 25) Did your mother give you drugs?                      | Yes | 1(3.3%)   | 0(0)      | Ref            | 1      | 1(3.3%)   | Ref               |       |
|  | No  | 29(96.7%) | 30(100%)  | 1.03           |        | 29(96.7%) | 1.000(0.06-16.76) | 1     |
|  |     |           |           | (0.968-1.10)   |        |           |                   |       |
| 26) Did your guardian give you pocket money?             | Yes | 25(83.3%) | 28(93.3%) | Ref            | 0.24   | 17(56.7%) | Ref               |       |
|  | No  | 5(16.7%)  | 2(6.7%)   | 2.80           |        | 13(43.3%) | 3.82(1.15-12.71)  | 0.029 |
|  |     |           |           | (0.498-15.73)  |        |           |                   |       |
| 27) Did you have   | Yes | 5(16.7%)  | 1(3.3%)   | Ref            | 0.11   | 4(13.3%)  | Ref               |       |

## The Probable Causes Of Addiction

|  |     |           |           |                       |        |           |                   |       |
|--|-----|-----------|-----------|-----------------------|--------|-----------|-------------------|-------|
| addicted friends and peers?  | No  | 25(83.3%) | 29(96.7%) | 0.17<br>(0.019-1.57)  |        | 26(86.7%) | 1.30(0.313-5.40)  | 0.71  |
| 28) Did your peers offer you to take drugs?                              | Yes | 4(13.3%)  | 0(0)      | Ref                   | 0.11   | 2(6.7%)   | Ref               |       |
|  | No  | 26(86.7%) | 30(100%)  | 1.15<br>(1.003-1.32)  |        | 28(93.3%) | 2.15(0.363-12.76) | 0.039 |
| 29) Did you have any addicted classmates or friends in school?           | Yes | 2(7.1%)   | 0(0)      | Ref                   | 0.22   | 2(7.1%)   | Ref               |       |
|  | No  | 26(92.2%) | 30(100%)  | 1.07<br>(0.972-1.19)  |        | 26(92.2%) | 1.000(0.131-7.64) | 1     |
| 30) Was your family poor?  | Yes | 12(40%)   | 9(30%)    | Ref                   | 0.41   | 19(63.3%) | Ref               |       |
|  | No  | 18(60%)   | 21(70%)   | 0.64<br>(0.221-1.87)  |        | 11(36.7%) | 0.38(0.136-1.09)  | 0.07  |
| 31) If someone offered you drugs, would you dare to say "no"?            | Yes | 23(76.7%) | 26(86.7%) | Ref                   | 0.32   | 26(86.7%) | Ref               |       |
|  | No  | 7(23.3%)  | 4(13.3%)  | 1.97<br>(0.513-7.63)  |        | 4(13.3%)  | 0.50(0.131-1.95)  | 0.32  |
| 32) Did you have a personal computer at home?                            | Yes | 8(26.7%)  | 10(33.3%) | Ref                   | 0.57   | 7(23.3%)  | Ref               |       |
|  | No  | 22(73.3%) | 20(66.7%) | 1.37<br>(0.453-4.17)  |        | 23(76.7%) | 1.19(0.37-3.85)   | 0.76  |
| 33) Did your guardian force you to go for begging?                       | Yes | 3(10%)    | 0(0)      | Ref                   | 0.23   | 1(3.3%)   | Ref               |       |
|  | No  | 27(90%)   | 30(100%)  | 1.11<br>(0.986-1.25)  |        | 29(96.7%) | 3.22(0.316-32.88) | 0.32  |
| 34) Did you have good food at home to eat?                               | Yes | 26(86.7%) | 26(86.7%) | Ref                   | 1      | 23(76.7%) | Ref               |       |
|  | No  | 4(13.3%)  | 4(13.3%)  | 1.000<br>(0.226-4.43) |        | 7(23.3%)  | 1.97(0.513-7.63)  | 0.32  |
| 35) Did your teacher pay attention to you?                               | Yes | 25(89.3%) | 27(93.1%) | Ref                   | 0.61   | 27(96.4%) | Ref               |       |
|  | No  | 3(10.7%)  | 2(6.9%)   | 1.62<br>(0.250-10.51) |        | 1(3.6%)   | 0.30(0.030-3.16)  | 0.32  |
| 36) Did your teacher talk with you about bad drugs and getting addicted? | Yes | 22(78.6%) | 23(73.9%) | Ref                   | 0.94   | 26(92.9%) | Ref               |       |
|  | No  | 6(21.4%)  | 6(20.7%)  | 1.04<br>(0.293-3.73)  |        | 2(7.1%)   | 0.28(0.052-1.54)  | 0.14  |
| 37) Did you live in a crowded house?                                     | Yes | 0(0)      | 0(0)      | ----                  | ----   | 0(0)      | ----              |       |
|  | No  | 30(100%)  | 30(100%)  | ----                  |        | 30(100%)  | ----              | ----- |
| 38) Did you have an addicted family member?                              | No  | 21(70%)   | 1(3.3%)   | Ref                   | <0.001 | 12(40%)   | Ref               |       |
|  | Yes | 9(30%)    | 29(96.7%) | 2.70<br>(1.08-9.82)   |        | 18(60%)   | 3.50(1.20-10.19)  | 0.02  |
| 39) If you wanted  | Yes | 4(13.3%)  | 0(0)      | Ref                   | 0.11   | 3(10%)    | Ref               |       |

|   |     |           |           |                       |       |           |                   |       |
|---|-----|-----------|-----------|-----------------------|-------|-----------|-------------------|-------|
| to find drugs, would it be easy to find drugs?  | No  | 26(86.7%) | 30(100%)  | 1.15<br>(1.003-1.32)  |       | 17(90%)   | 1.38(0.282-6.76)  | 0.68  |
| 40) Did you work on the streets?  | Yes | 4(13.3%)  | 6(20%)    | Ref                   | 0.49  | 3(10%)    | Ref               |       |
|   | No  | 26(86.7%) | 24(80%)   | 1.62<br>(0.408-6.46)  |       | 27(90%)   | 1.38(0.282-6.79)  | 0.68  |
| 41) Among the people whom you got familiar with on the streets, did anyone offer you to take drugs? | Yes | 0(0)      | 3(10%)    | Ref                   | 0.23  | 0(0)      | -----             |       |
|   | No  | 30(100%)  | 27(90%)   | 0.90<br>(0.799-1.01)  |       | 30(100%)  | -----             | ----- |
| 42) Did you go to the park alone?   | No  | 6(20%)    | 16(53.3%) | Ref                   | 0.007 | 15(50%)   | Ref               |       |
|   | Yes | 24(80%)   | 14(46.7%) | 4.57<br>(1.45-14.38)  |       | 15(50%)   | 4.80(1.50-14.769) | 0.018 |
| 43) Among the people whom you got familiar with in the park, did anybody offer you drugs?           | Yes | 2(6.7%)   | 1(3.3%)   | Ref                   | 0.56  | 1(3.3%)   | Ref               |       |
|   | No  | 28(93.3%) | 29(96.7%) | 0.48<br>(0.041-5.62)  |       | 29(96.7%) | 2.07(0.178-24.14) | 0.56  |
| 44) Did you have a good home?   | Yes | 24(82.8%) | 26(86.7%) | Ref                   | 0.67  | 24(80%)   | Ref               |       |
|   | No  | 5(17.2%)  | 4(13.3%)  | 1.35<br>(0.325-5.64)  |       | 6(20%)    | 1.20(0.322-4.46)  | 0.78  |
| 45) Did you have a good room?   | Yes | 10(23.3%) | 16(53.3%) | Ref                   | 0.12  | 7(23.3%)  | Ref               |       |
|   | No  | 20(66.7%) | 14(46.7)  | 2.28<br>(0.804-6.49)  |       | 23(76.7%) | 1.64(0.527-5.12)  | 0.39  |
| 46) Did you have good toys to play with?  | Yes | 18(60%)   | 18(60%)   | Ref                   | 1     | 11(63.3%) | Ref               |       |
|   | No  | 12(40%)   | 12(40%)   | 1.000<br>(0.356-2.80) |       | 19(36.7%) | 0.86(0.306-2.46)  | 0.79  |

## Discussion

The findings of this study showed that economic, social, cultural, religious and family factors can affect addiction in children. The results established that children who had strong religious beliefs were less likely to become addicted. The results of other studies conducted in Iran and Algeria also suggested that religious beliefs played an important role in the prevention of addiction in adults. Accordingly, strengthening the family's religious beliefs, such as praying, especially among the parents can be effective in preventing addiction among children<sup>(5, 9, 10)</sup>.

In the present study, children whose parents had not been imprisoned, suffered less from addiction. This might be due to this fact that the parents were present in the family and, thus, they would pay more attention to their children and children felt more emotional support. However, we did not find any other study on this subject.

In this study, children who had lost their parents showed higher rates of addiction. Evidently, live parents usually can fulfill the financial and spiritual needs of their children, and provide love, respect and understanding for their children and other family members. Thus, the absence of a

father or mother will have a great impact on family members, especially young children. Another point is that children learn their behavior from modeling the interactions of their parents and other family members and friends. As a result, if a mother or father dies, the child may turn towards the outer environment to fill this gap and, subsequently, fall into the trap of addiction. In other words, a child who suffers from parental loss might want to be on their own and feel helpless and as a result, turn towards drugs to compensate for the absence of his/her parents. Haghshenas investigated the causes and motivators of addiction and its effects on the families of addicted people in Mazandaran province and found that the death of a father or mother could be considered as one of the risk factors for addiction <sup>(3)</sup>.

As this study showed, another factor that drags children towards addiction is disputes among parents. Several studies conducted in Iran and foreign countries have indicated that addiction in children was related to parental divorce <sup>(5, 3)</sup>.

Stress and family pressures and inattention to children were among the other factors related to children's addiction in this study. Studies that have compared families with addicted and non-addicted members have shown that most children who stayed safe from addiction were those individuals who lived away from any family pressure or stress. As stated by other researchers, drug abuse does not occur in isolation and often familial factors are involved in this phenomenon, such that many addicts believed that their family was the main cause of their addiction <sup>(5)</sup>. Mazloman has stated that family plays a direct role in the formation of the social-psychological personality of individuals and therefore the family plays a vital role in tendency toward addiction <sup>(5)</sup>. The results of our study also showed that most factors related to the family are involved in childhood addiction.

Based on the results of this study, children who had an addicted family member were at a higher risk of addiction. This is probably due to role modeling and the existence of a close interaction between the child and his/her family members. The

presence of an addicted person in the family can pave the way for a child to abuse drugs and become addicted. Researchers have stated that if the elderly family member is addicted, this abnormal behavior would get accepted by others as normal and it would drag children towards addiction <sup>(5)</sup>. Ashraf and Moradi studied the social and economic factors contributing to drug addiction among patients hospitalized in the Vanak Hospital, Tehran and found that a large percentage of the participants turned towards drugs due to the presence of an addicted person in their family. These people directly blamed one of their family members for their addiction <sup>(3)</sup>.

The present study also suggested that parent's educational level could play a role in preventing addiction among children. In Dadgaran's study in Iran, less educated and uneducated parents were more likely to have addicted children <sup>(5)</sup>. Also in other studies conducted in Iran, the low level of parental education (under junior high school) <sup>(11)</sup> and semi-literate or illiterate parents were the most important factors contributing to drug abuse (Haghshenas, 2008). Other research has suggested that lower parental educational and knowledge and low awareness about the harms of drugs can lead young adults towards addiction <sup>(3)</sup>.

The findings of this study showed that family poverty was also related to addiction in children. It is evident that children living in poor families whom cannot buy or rent a decent home and are therefore forced to live in slums surrounding big cities are more at risk of addiction. Besides, the food and clothing conditions are inappropriate for these children and consequently, many children are forced into begging and other wrong doings in order to gain the necessities of life. These children might get abused by criminals and fall into addiction. Other studies conducted in Iran have also showed that poverty was the main cause of tendency to drugs <sup>(5, 9)</sup>.

The results of this study reveal that non-addicted children represented more life skills. Perhaps, a child who has learnt life skills, such as making the right decision, ability to respond positively and



thinking before acting can react better to events such as peer pressure.

The results of the present study indicated that easy access to drugs can play a significant role in leading children to drug abuse. Thus, when these children encounter challenges in life, because of easy access, they easily turn to drug abuse in order to fulfill their emotional despair or leisure time. The main causes of tendency to drugs in Khaf city, Iran was also reported to be the ease of access to drugs<sup>(11)</sup>.

The presence of an addicted peer was another factor that contributed to addiction in children. Other studies conducted among Iranian adults have also showed a significant relationship between fake friends and tendency towards addiction<sup>(3, 5, 10, 12)</sup>.

This study had several limitations. Addicted girls were not included in this study. The reason was the decline of the Welfare Organization of Kerman province. Therefore, the obtained results could not be generalized to girls. The other limitation was that the park control group was chosen by convenient sampling and we were not able to conduct random sampling. However, a major strength of this study is that no previous study has addressed the issue of drug addiction in children before.

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## Conclusion

The findings of this study show that a set of economic, social, cultural, religious and family factors can affect addiction in children. Strengthening religious beliefs, increasing parental awareness and education, reducing the level of family stress and disputes, and increasing parental supervision should be undertaken to effectively reduce and prevent addiction in children.

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## Conflict of Interest

The authors declare that they have no conflicts of interest.

## Informed consent

This study was approved by the Ethics Committee of Kerman University of Medical Sciences. Informed consent was obtained from all individual participants included in the study.

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