

Research Paper

Assessment of the Burden and Causes of Mortality in Compulsory Residential Drug Treatment Centers Under the Supervision of State Welfare Organization



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ABSTRACT

Objectives The residential addiction treatment centers in Iran are to some extent successful in the treatment of drug addicts and psychotropic substance users, but reports on high prevalence of mortality in residential treatment centers are a matter of concern and should be investigated. The current study aimed at investigating the causes of mortality in residential addiction treatment centers in Iran.

Methods The current descriptive retrospective study was conducted on a population including all mortalities in all middle and long-term residential addiction treatment centers from 2011 to 2016. The data were collected through two questionnaires. The first questionnaire elicited data about the residential addiction treatment centers and the second questionnaire elicited the data related to mortality cases. The residential addiction treatment centers completed questionnaires based on the secondary information from the patients' reports. Data analysis was performed using SPSS version 19.

Results Overall, during the five years of the study period, 107 people died in the residential addiction treatment centers from which their reports were received. The proportion of deaths among the subjects sentenced to residential treatment centers related to Article 16 of addiction amendment (47 per 100000 individuals) was higher than the ratio of deaths among the ones voluntarily referred to normal residential addiction treatment centers (21 per 100000 individuals). The average time of occurrence of death after admission to residential addiction treatment at the centers was 11 days. Cardiovascular disease and substance overdose/withdrawal were reported as the most important causes of death among drug addicts under treatment in the residential addiction treatment centers.

Conclusion The total number of deaths in residential addiction treatment centers increased from 2011 to the year 2015, and the mortality level was higher among the ones sentenced to residential treatment centers related to Article 16 addiction amendment. Most of the deaths could be prevented with timely and effective measures.

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Extended Abstract

1. Introduction

The death rate among individuals with drug abuse disorder is higher than general population due to direct and indirect harms related to drug abuse. United Nations Office on Drugs and Crime reported that half of the total deaths in the age group 15 to 64 years can be attributed to drug abuse. Just in the year 2014, 207400 individuals died due to drug abuse disorder worldwide and this number was 3056 cases in 2012. The scientific evidence shows that individuals with drug abuse disorder live 13.8 years less than the general population. Death among drug abusers occurs due to different reasons such as substance overdose/withdrawal, suicide, and road accidents. In addition, the chances of death due to infection disease such as HIV/AIDS, hepatitis B and C are much higher among individuals injecting drugs.

Over the last two decades, many residential drug treatment centers were established in Iran in order to tackle high demand of drug abuse disorder treatment in cases that there is no indication for outpatient drug addiction treatment, also there are many compulsory residential drug treatment centers. Recently, there were some reports on high level of mortality in such centers. The Deputy of Prevention and Treatment of Addiction office in the State Welfare Organization reported the occurrence of 39 deaths in residential drug addiction treatment centers just in 2012. As there are no accurate and published reports on mortality rate and cause of deaths in these centers, the current study aimed at investigating the rate and causes of mortality among those in recovery in residential addiction treatment centers in Iran.

2. Methods

The current retrospective study was conducted using data of the total mortalities from 2011 to 2016 in all middle and long-term residential addiction treatment centers in Iran using the registry data of these centers. The data were collected through two questionnaires, the first questionnaire elicited data related to the residential addiction treatment centers and the second questionnaire elicited data related to mortality cases. The questionnaires were designed based on the filed study, the review of literature, and the existing regulation and guidelines for these centers. The questionnaires were sent to the officer in charge of monitoring residential addiction treatment centers in the welfare organizations in 31 provinces and through them to the entire 1141 residential treatment centers around Iran. The residential addiction

treatment centers completed questionnaires based on the secondary information in the deceased patients' reports. The inclusion criteria were all cases of mortality due to any cause even due to accident in residential treatment centers (whether death occurred in residential treatment centers or after transferring from residential addiction treatment centers) in the years 2011 to 2016, in the residential treatment centers. The cases in which mortality occurred one month or more after discharge from residential treatment centers were excluded from the study. The data were collected during three months from May to September 2017. Data analysis was performed using Statistical Package for the Social Sciences (SPSS) software version 19 and using descriptive data analysis such as frequency and percentage, mean, and standard deviation.

3. Results

Totally, data were collected from 25 out of 31 provinces and 371 centers. Overall, during the five years of the study period (2011-2016), 107 people died in the residential addiction treatment centers. The highest mortality rates were in Tehran (14.0%), East Azarbaijan (11.2%), and Kerman (7.5%), respectively. The proportion of deaths among the subjects sentenced to residential treatment centers under Article 16 addiction amendment (47 per 100000 individuals) was higher than the ratio of deaths among the subjects voluntarily referred to residential addiction treatment centers (21 per 100000 individuals). The average time gap between admission to residential addiction treatment centers and occurrence of death was 11 days and at least half of the cases died during the first five days of admission to the residential treatment centers. The number of deaths increased from 2011 to 2016 in residential treatment centers.

The data related to mortality information was available for 107 cases. Totally, 91.6% of cases were male and the majority of them (78.3%) had not finished high school. More than half of the cases (50.5%) were married and 73.8% were unemployed. Nearly one fifth of subjects (17.5%) were homeless. The mean age of the cases was 39 years at the time of death and most of the mortality cases occurred in the age group of 21 to 35 years. Substance overdose/withdrawal and cardiovascular disease were reported as the most important causes of deaths. Heroin (27.3%), crystal (21.8%), methadone (13.8%), and opium (14.5%) were the main drug of abuse. Medical screening was reported for 76.9% of cases at the admission time. No physical health problems were reported in nearly two-thirds of the cases (70.4%), and no mental problems history in 91.1%.

4. Discussion

The result of the current study showed that mortality rate among mandatory residential of treatment centers under article 16 addiction amendment was 13 times more than the total mortality rate among the ones referred to residential treatment centers, which could be due to the worse condition of the centers compared to that of the voluntarily treatment centers. Also, the current study showed that the total number of deaths increased by eight times during the previous five years. The study findings showed that 91.6% of deaths occurred among males that could be due to the higher population of male subjects among the target group and lack of enough female residential treatment centers in Iran. The average age of death was 39 years, which was 30 years below the life expectancy in Iran (74.77 years).

According to the current study, the two main causes of death were cardiovascular disease and substance overdose. Cardiovascular related death can occur as a result of withdrawal from drugs without medical supervision and substance overdose usually occurs when these patients swallow a large amount of drugs to hide them from the police at the time of arrest or to use them later in these centers. The finding that the average time of death was 11 days after registration and half of the cases occurred in the first five days showed that the mortality in residential treatment centers occurred during detoxification period; therefore medically supervised detoxification should be done in all these centers. Although the results of the current study cannot be generalized to the whole country due to under reporting, the current study showed that the total number of deaths in residential addiction treatment centers increased during 2011 to 2016 and mortality rates of the subjects referred to residential addiction treatment centers were high; most of these deaths could be prevented with timely and effective measures.

Ethical Considerations

Compliance with ethical guidelines

As this study used anonymous secondary data, there is no need for code of ethical guideline.

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Authors contributions

Conceptualization, methodology: all authors; Investigation: Mohsen Roshanpajouh, Roksana Mirkazemi, Hassan Asadi; Writing: Roksana Mirkazemi, Bitra Hedayati; Review and editing: Mohsen Roshanpajouh, Hassan Asadi; Funding acquisition: Mohsen Roshanpajouh; Supervision: Mohsen Roshanpajouh, Roksana Mirkazemi.

Conflict of interest

The authors declared no conflict of interests.

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