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The Relation between the Type of Crime Committed and the Mental Health Status of the Female Prisoners in Urmia

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ABSTRACT

Background: The mental health of female prisoners as a high-risk group is very important. Evaluating their health needs has been neglected in most societies. The purpose of this research is to evaluate the relation between the type of crime committed and the mental health status of the female prisoners in Urmia province, Iran.

Methods: This descriptive-analytical study was conducted on 150 female prisoners in 2016. The standard questionnaire of general health with 28 questions and also a questionnaire including demographic information, the type of crime, and the conviction period were used in order to evaluate the mental health status. The collected information was analysed through $SPSS_{16}$ and by using Chi-square test, Fisher's exact test and one-way ANOVA.

Results: The results showed that 74% of the female prisoners were suspected to have mental disorder and the least of it was depression with 20.4 per cent being affected by it and the most severe mental disorder pertaining to social function with 78% being affected. Also, the prisoner who had committed murder or had been accomplices for murder, and those sentenced to death had the worst mental health. The statistical relation between mental health and the type of crime and the length of the sentence was significant and the odds ratio of mental disorders among women who were sentenced for murder and for being accomplices to murder was 2.4 times that of women who were convicted for crimes related to drugs.

Conclusion: Considering the poor mental health of female prisoners and its relationship with the severity of the crime and the conviction period, it is necessary to make policies to promote mental health in prisoners in order to promote the other aspects of prisoners' health and also to prevent the recurrence of crime after the discharge from prison.

Keywords: Mental Health, Female Prisoners, Type of Crime

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Introduction

The existence of people branded as offenders, convicted and imprisoned as a psychopathological group that is in need of special services, requires that public health practitioners pay more acute attention to them and try to improve their health and reform them.[1] The female prisoners are known to be a vulnerable group in the society, being a prisoner can have severe mental effects on them. The infractions of most of the female prisoners pertain to the disregard for social health and actions defined as crimes in the legal sense. As a result, their needs related to their mental health are usually neglected.[2]

Information obtained from World Bank studies shows that among the women in developing countries, depression disorders form 30% of the neuropsychiatric disabilities while this value is 12.6% among men.[3] This difference among men and women in the disadvantaged communities is more than this, which is consistent with the results of the evaluations conducted in Iran. Based on the conducted studies, the prevalence of mental disease, especially depression and anxiety, in Iranian women has been 2.5 times that of Iranian men.[4]

In the developing countries that include four-fifths of the world's population, non-communicable diseases such as mental illnesses have rapidly replaced infectious diseases and are the top causes of disabilities and premature deaths.[5] Knowing the causes related to anxiety, depression, social insecurity, and physical problems in women and necessary evaluation in order to reduce and remove the causes of the problem will prevent many familial troubles and its adverse effects on the children and families.[6]

Crime has a history as old as humanity and the issues related to the criminals and the prisoners, especially in relation to psychiatric problems, provide the background for this research while being one of the most challenging aspects of it.[7] It seems that the basis of the social problems, which leads individuals to commit a crime, has a close relation with individual personality directly or indirectly. Nowadays, the most important purpose of prison and judicial officials is correction and rehabilitation of the prisoners in order to reduce recidivism and return to prison. Some studies conducted in Iranian prisons show that approximately 87.5% of the prisons are suspected of having mental disorders.[8] It is stated that the main origin of a felony should be evaluated in morbid personal and social conditions of criminal and no unique theory can explain the various deviant behaviors.[9] The conducted studies indicate that the prevalence of mental disorders in the prisoner population is at a higher amount compared to the normal population. The prevalence of mental disorders among the convicts with criminal records in Greece showed 87.5% of them have had a mental disorder.[10] The number of female prisoners has increased 173% between 1992 and 2002, while the increase has been 50% among men.[11] Studies have indicated that the female prisoners suffer from mental diseases more than the male prisoners. In a research which had been conducted by Rimaz et al. (2016) in order to evaluate the mental health of the female prisoners, the results showed that the mental health of female prisoners is poor and the mildest disorder has been related to depression while the most severe disorder is related to anxiety and insomnia.[12] In another research, Fries et al. (2013) indicated that 20.1% of men and 24.8% of women in a Michigan prison had serious mental problems and in men, the negative symptoms were observed more while in women depression was more common.[13] Given that many of the women who are in prisons have mental problems, and most of their violations are generally disobedience from social health rules than commitment of legal crimes. However, it is unfortunate that the needs related to women's mental health are usually neglected.[14] Since women are an integral part of all sections in society, their role in society exposes them to a higher risk of mental problems. Due to limited research in this field, the purpose of the present

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study is to evaluate the relation between the type of crime and the mental health status of the female prisoners in Urmia.

Methods

This descriptive-analytical study was conducted on 150 female prisoners in 2016. The statistical population in the research comprise all female prisoners in the central prison of Urmia. The total number of the prisoners was 200 women, and out of them, 150 of them fulfilled the inclusion criteria and participated in the study. Confidentiality and anonymity were the ethical considerations of the research. After explaining the purpose of the research to the participants and having them satisfied with the information, the participants were made to fill in the questionnaires under the guidance of the questioner.

The data collection tool was a questionnaire including items on demographic characteristics and mental health. The standard questionnaire of mental health (GHQ-28) includes four subscales of physical, anxiety and insomnia, disorder in social function, and depression which evaluate a person's mental status with 28 questions; the scoring method of the mental health questionnaire is on a Likert scale and the scoring of each one of the questions is along four grades (0 - 3). The lower scores show the higher level of person's general health. The possible score can be between 0 and 84. Individuals with a score of 23 and lower were considered to be healthy. Those who obtained a score of 24 and higher were suspected to have a disorder. The four subscales were considered with the cut-off of 6, which means that people who obtained a score of 6 and lower in each one of the subscales were healthy and those who obtained higher than 6 were suspected to have a disorder in that subscale.[15] The questionnaire is one the world's most valid screening tests for psychological symptoms; its validity and reliability have been confirmed in internal studies of Molavi (2002) and Nazifi et al. (2014).[16, 17] The data obtained was analysed through $SPSS_{19}$ and Chi-square test, Fisher and logistic regression. The significance level was considered for the P-value = 0.05.

Results

The average age of the 150 female prisoners who participated in the study was 34.51(11.66). Among them, 59 prisoners (39.3%) were in the age group of over 35 years old, 89 prisoners (59.3%) were housewives, and the rest were employed. In the study population, 57 prisoners (38%) were illiterate or with elementary education, 80 prisoners (53.3%) were married, 80 prisoners (53.3%) had a history of chronic disease, and 76 prisoners (50.7%) had medium economic status (Table 1).

Evaluating the relation between the demographic information and mental health by Chi-square and Fisher tests showed that the score of mental disorders in criminal housewives is higher than in employed women and was significant statistically (P-value = 0.05). Also, the results showed that the female criminals who were married had better mental health status than the widows and single women and the difference was significant (P-value = 0.02). There was a significant statistical relation between the mental health status and economic status, thus, the prevalence of mental disorders in female criminals with low economic status was higher than in the others (P-value = 0.02). In other cases, the relation between the demographic variables and the mental health status of the women was not significant.

The findings of the study show that 74% of the female prisoners were suspected of having a mental disorder. Further in four aspects of mental health, the mildest and the severest mental disorders are respectively depression with 20.4% and social dysfunction with 78% (Table 2).

The relation between the type of crime and the length of the sentence on one hand and mental health on the other hand was evaluated through Fisher's exact test (Table 3). The results showed that the mental health status was significantly

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different, based on the type of crime and the level of the sentence (P-value < 0.05). Most of the mental health disorder was found in murderers or accomplices to murderers and the least mental health disorder was in thieves. Also, the women who were sentenced to execution have the poorest mental health.

The odds ratio of mental health in women who were sentenced to theft was 0.24 times lower than women who were sentenced to crimes related to drugs and also the odds ratio of the mental health in women who were sentenced to murder and complicity in murder was 2.4 times of women who sentenced to crimes related to drugs and was significant statistically (P-value = 0.001).

In continue evaluating the predicator variables of mental health, variables of age, job and education were entered the model as confounding variables. Results after adjustment of the mentioned variables showed the odds ratio of mental health in types of crimes was increased so that these variables to be considered as negative confounding variables in the way that mental health disorder in those who were sentenced to murder was increased from OR = 2.4 to OR = 3.7 when the confounding variables entered the model as well as the odds ratio increased in the other crimes (Table 4).

Table 1. The distribution of frequency and percentage of demographic characteristics of the female prisoners (n = 150)

Demographic information		Healthy n (%)	Suspected of disorder n (%)	Female prisoners n (%)
Age	Lower than 25	10 (34.5)	19 (65.5)	29 (19.3)
	25-30	10 (37)	17 (63)	27 (18)
	30-35	8 (22.9)	27 (77.1)	35 (23.4)
	Over 35	11 (18.6)	48 (81.4)	59 (39.3)
Education	Illiterate / Elementary	15 (26.3)	42 (73.7)	57 (38)
	Middle	13 (31.7)	28 (68.3)	41 (27.3)
	Diploma	7 (20.6)	27 (79.4)	34 (33.7)
	University	4 (22.2)	14 (77.8)	18 (12)
Job	housewives	14 (15.7)	75 (84.3)	89 (59.3)
	Out of house	21 (34.5)	40 (65.5)	61 (40.7)
Marital status	Single	6 (26.1)	17 (73.9)	23 (15.3)
	Married	31 (38)	49(62)	80 (53.3)
	Divorced / Widowed	7 (15.2)	40 (84.8)	47 (31.3)
History of chronic diseases	No	18 (22.5)	62 (77.5)	80 (53.3)
	Yes	21 (30)	49 (70)	70 (46.7)
Economic status	Good	9 (36)	16 (64)	25 (16.7)
	Medium	20 (26.3)	56 (73.7)	76 (50.7)
	Bad	10 (20.4)	39 (79.6)	49 (32.7)

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Table 2. The prevalence of mental disorders, their average of total scores and dimensions in the studied population (n = 150)

Mental health	Healthy N (%)	Suspected of disorder N (%)
Physical symptoms	45 (30)	105 (70)
Insomnia anxiety	40 (26.7)	110 (73.3)
Social function	32 (22)	117 (78)
Depression	39 (79.6)	10 (20.4)
Total mental health	39 (26)	111 (74)

Table 3. The relation between mental health and the level of sentence in female prisoners (n = 150)

Variables		Status of mental health		Fisher's exact test
		Suspected to disorder N (%)	Healthy N (%)	P-value
Type of crime	Drugs	68 (75.5)	22 (24.4)	0.01
	Theft	12 (63.1)	7 (36.9)	
	Scam	7 (70)	3 (30)	
	Murder and complicity in murder	15 (88.2)	2 (11.8)	
	Embezzlement	4 (66.6)	2 (33.4)	
	Other (extramarital affairs, extortion, kidnapping...)	6 (75)	2 (25)	
Level of sentence	1 to 5 years	27 (60)	18 (40)	0.04
	5 to 10 years	28 (73.7)	10 (26.3)	
	10 to 15 years	27 (79.4)	7 (20.6)	
	Life imprisonment	9 (75)	3 (25)	
	Execution	20 (95.2)	1 (4.8)	

Table 4. Predicator variables of mental health considering to type of crime by using logistic regression test

Independent variables	ß (regression coefficient)		S.E		OR (odds ratio)		P-value	
	Not adjusted	Adjusted	Not adjusted	Adjusted	Not adjusted	Adjusted	Not adjusted	Adjusted
Drugs	-	-	-	-	1	1	-	-
Theft	-1.44	-1.45	0.525	0.58	0.24	0.42	0.006	0.013
Scam	0.25	0.74	0.828	1.09	1.3	2.08	0.75	0.5
Murder and complicity in murder	0.88	1.63	0.792	0.91	2.4	3.7	0.001	0.001
Embezzlement	0.68	0.78	0.45	0.67	1.4	2.8	0.04	0.02
Other (extramarital affairs, extortion, kidnapping...)	-0.03	-0.42	0.85	1.01	0.97	0.99	0.8	0.6

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Discussion

The findings of the research show that the prevalence of mental disorders is 74%, with 70% of the participants having physical symptoms, 73.3% having insomnia and anxiety, 78% having social dysfunction and 20.4% suffering from depression, which shows the high amount of problems related to total mental health and its four aspects in the female prisoners. The studies indicate that problems related to mental health are high in female prisoners. In Iran, some studies conducted in prisons show that about 87.5% of the prisoners are suspected of having a type of mental disorder.[8] Prisons, due to certain features, are distinguished from other social and correcting environments. The word prison evokes a hard situation and difficulty which reminds one of a stressful and terrible environment. Living in an abnormal environment with features such as limited physical space, high walls, being kept unlike one's desire, losing freedom, lengthy absence from family and the community causes deep psychological pressures and damages that lead to a disruption in the prisoners' mental health.[1]

It seems that there is an absence of mental disorders before imprisonment. It occurs due to the exposure to the prison environment and the stresses imprisonment entails. Some evaluations have reported an outbreak of personality disorders, antisocial behavior or resonance of them to be related to a long stay in prison.[18]

In female prisoners who participated in this research, the average score of physical disorders was 8.94, of anxiety and insomnia was 9.32, social dysfunction was 10.35, and depression was 7.38. In the study by Rimaz et al. (2013), in an evaluation of mental health status of the female prisoners, the average scores of physical disorders was 8.48, anxiety and insomnia was 10.15, social function was 7.9, and depression was 7.13,[12] which is consistent with the present study for two physical and depression aspects. As it was observed, the most severe and the mildest mental disorders in female prisoners relate to social function and depression, respectively. It seems that the limitation on social interactions is the main cause behind the high amount of disorder relating to social function among the prisoners. In a study by Davoodi et al. (2015), the most severe of disorders in male prisoners was found to be related to social function.[19]

A study by Plug et al. (2017), which evaluated the female prisoners' health in all fields of quality of life (physical health, social role, emotional role, social function, mental health, energy, pain, total perception of general health, mental components), has shown a significant statistical difference compared to normal women. Also, the aspect of mental health was significantly different in the two groups, such that 78% of women who were in prisons have reported some grades of mental problems while this amount has been reported to be 15% in normal women.[11]

About the marital status, the results showed that for the female prisoners being married always leads to an improvement of mental health, which is consistent with the study by Sharif who had observed the high prevalence of mental disorders in widows and divorcees.[20] This is also consistent with the results of a study by Joutsenniemi in Finland, who had observed the high prevalence of mental disorders in people who live alone or are divorced.[21] One of the causes may be that the divorcees and the widows assume all responsibility alone and thus, have higher mental pressure.

Also, the results showed that there is a significant statistical relation between mental health and economic status, which is consistent with the results of Sadeghi et al. (2011) who had observed the high prevalence of mental disorders in women with low economic status,[22] and with also with Flasher et al. (2003) who had shown that the symptoms of depression are higher in women in Mexico who have low income.[23] However, this contradicts the study by Mahmoodi et al. (2017) conducted in Saqqez, Iran, which showed that the income of the parents has no relation with the mental health status of the

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offspring.[24] One of the reasons may be attributed the cultural differences in these societies.

The results of the studies by Noorbala et al. (2009)[15] and Sadeghi et al. (2011)[22] showed that the mental health of status of employed women is better than the housewives, which is consistent with the results of the present study. Therefore, skills training and creating jobs in the women's prisons, in addition to improving economic status, may lead to the improvement of health and eventually boost mental health by creating feelings of empowerment and being useful and honest.

Based on the results of the present research, the frequency of mental disorders is considerably high in the group of murder convicts and their odds ratio of suffering from mental disorders were higher than the other criminals, the difference being significant statistically. A number of studies have shown that killers have more sensitivity and vulnerability to stress, they have difficulty in controlling emotions, and have antisocial personalities.[25, 26] There is also an inverse relation between conviction period and level of mental health. Almasi et al. (2012), in a study about the mental health of the prisoners in Ilam, showed that the longer the conviction period the poorer is the mental health status.[27] Therefore, it seems that long-term sentence in prison causes the increase of mental pressure in prisoners and as a result, their mental health suffers and worsens.

The results of the present study show the high significance of mental health. Of course, it cannot exactly be said that poor mental health has made a person criminal or that imprisonment and the length of the sentence have affected all aspects of their health, such as mental health, and led to the worsening of female prisoners' mental health. Accurate studies are required to evaluate which one affects the other more. Anyway, these two factors are related to each other and seem to have a mutual effect on each other. Therefore, by promoting women's mental health, recidivism can be prevented. It is necessary to try and improve the mental health of the prisoners by evaluating the best methods and by identifying the high-risk groups in order to prevent or reduce repeated criminal offences.

One of the limitations of this study was that prisoners who suffered mental disorder (in the last month) were removed from the study. Also, the coordination with the organization of prisoners was difficult. However, the problem was solved by the efforts of the Islamic Azad University of Urmia. Another drawback is the fact that the questionnaires were filled by the questioner for illiterate women who couldn't fill them on their own.

Conclusion

The rehabilitation of the prisoners and returning a prisoner who doesn't have psychological problems to the family after the conviction period is over can be one of the most important ways of reducing crime and maintaining the family units. Paying attention to the most prevalent psychiatric disorders and identifying the way of helping these people during the conviction period make for a secure environment in prison. Guaranteed acceptance by the family, which prevents recidivism to a great extent, has high importance. Therefore, given that many prisoners have poor mental health, the necessity of using psychological services and psychiatric cares in prisons is emphasized.

Conflicts of Interest

The authors declare that there is no conflict of interest in this work.

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Authors' Contribution

Conceptualization, N.N. and M.A.Z.; Methodology, M.A.Z., M.G.G., and M.H.J.; Investigation, N.N. and M.A.Z.; Writing – Original Draft, N.N. and M.A.Z.; Writing – Review & Editing, N.N. and M.A.Z.; Funding Acquisition, M.A.Z., M.G.G., and M.H.J.; Resources, N.N. and M.A.Z.; Supervision, M.H.J. and M.A.Z.

References

1. Bermúdez EC, Mendoza MR, Ruiz ER, Durand-Smith AL, Hernández GS. Female depression and substance dependence in the Mexico City penitentiary system. Salud Mental. 2007;30(6):53.
2. Barnard A. Lesbians' constructions of depression. Health Care For Women International. 2009;30(5):373-89. http://doi.org/10.1080/07399330902785141
3. Olfson M, Marcus SC, Druss B, Elinson L, Tanielian T, Pincus HA. National trends in the outpatient treatment of depression. Jama. 2002;287(2):203-209.
4. Zareipour M, Sadeghi R, Bazvand E. Mental Health and its related factors in pregnant women in health centers of Kuhdasht. Journal of Health and Development. 2012;1(2):156-165. [Persian]
5. Douki S, Zineb SB, Nacef F, Halbreich U. Women's mental health in the Muslim world: Cultural, religious, and social issues. Journal of affective disorders. 2007;102(1):177-189. http://doi.org/10.1016/j.jad.2006.09.027
6. Zareipour M, EftekharArdabili H, Azam K, Movahed E. Study of mental health and its relationship with family welfare in pre-university students in Salmas City in 2010. Journal of Research Development in Nursing & Midwifery. 2012;9(1):84-93. [Persian]
7. Walmsley R. World prison population list. England: Home Office London, England; 10th ed. 2013. P:1-6.
8. Mazaheri M, Khalighi N, Raghibi M, Sarabandi H. Prevalence of personality disorders among female prisoners of Zahedan prison. Zahedan Journal of Research in Medical Sciences. 2011;13(3):46-49. [Persian]
9. Sotoudeh H. What is criminal psychology?. In: Sotoudeh H, Mirzaei B, Paazand A. Criminal psychology. 5th ed. Tehran: Avay-e-Nour; 2008. P:16-29. [Persian]
10. Gunn J, Maden A, Swinton M. Treatment needs of prisoners with psychiatric disorders. Bmj. 1991;303(6798):338-341.
11. Plugge E, Douglas N, Fitzpatrick R. The health of women in prison study findings. Available at: URL:http://www.birthcompanions.org.uk/ media/Public/Resources/Extpublications/1332511665Health_of_Women_in_Prison_Study.pdf. Accessed March 13, 2017.
12. Rimaz S, Ebrahimi Kalan M, Gharibzadeh S, et al. The mental health and its related factors in women prisoners. Rahavard Salamat Journal. 2016;1(2):1-15. [Persian]
13. Fries BE, Schmorrow A, Lang SW, et al. Symptoms and treatment of mental illness among prisoners: A study of Michigan state prisons. International journal of law and psychiatry. 2013;36(3):316-25. http://doi.org/10.1016/j.ijlp.2013.04.008
14. Rothblum ED. Depression among lesbians: An invisible and unresearched phenomenon. Journal of Gay & Lesbian Psychotherapy. 1990;1(3):67-87.
15. Noorbala A, Mohammad K. The validation of general health questionnaire-28 as a psychiatric screening tool. Hakim Research Journal. 2009;11(4):47-53. [Persian]
16. Molavi H. Validation, factor structure, and reliability of the Farsi version of General Health Questionnaire-28 on Irani students. Pakistan Journal of Psychological Research. 2002;17(3):87. [Persian]
17. Nazifi M, Mokarami H, Akbaritabar A, Faraji Kujerdi M, Tabrizi R, Rahi A. Reliability, Validity and factor structure of the Persian translation of General Health Questionnire (GHQ-28) in Hospitals of Kerman University of Medical Sciences. Journal of Fasa University of Medical Sciences. 2014;3(4):336-342. [Persian]

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[DOR: 20.1001.1.27832104.2017.1.1.3.9]

18. Chen Y-S, Lai Y-L, Lin C-Y. The impact of prison adjustment among women offenders: A Taiwanese perspective. The Prison Journal. 2014;94(1):7-29.
19. Davoodi Z, Ahmadi S. Comparison of mental disorders and adversity quotient in prisoners and non-prisoners in Shahrekord. Journal of Shahrekord University of Medical Sciences. 2015;17(2):76-83. [Persian]
20. Sharif F, Joulaei H, Kadivar M, Rajaeifard A. Mental health status and its related demographic variables of families referring to Shiraz health centers-2002. Armaghan Danesh. 2004;9(35):75-84. [Persian]
21. Joutsenniemi K, Martelin T, Martikainen P, Pirkola S, Koskinen S. Living arrangements and mental health in Finland. Journal of Epidemiology and Community Health. 2006;60(6):468-475.
22. Sadeghi R, Zareipour M, Akbari H, Khan Beygi M. Mental Health and associated factors amongst women referred to health care centers. Journal of Health And Care. 2011;13(4):1-9. [Persian]
23. Fleischer NL, Fernald LC, Hubbard AE. Depressive symptoms in low-income women in rural Mexico. Epidemiology. 2007;18(6):678-685. http://doi.org/10.1097/EDE.0b013e3181567fc5
24. Mahmoodi H, Golboni F, Nadrian H, Zareipour M, Shirzadi S, Gheshlagh RG. Mother-Father differences in postnatal psychological distress and its determinants in Iran. Open Access Macedonian Journal of Medical Sciences. 2017;5(1):91-96. http://doi.org/10.3889/oamjms.2017.009
25. Meloy J. Mental disorders and homicidal behavior in female subjects. Am J Psychiatry. 2000;152(8):1216-1218. http://doi.org/10.1176/ajp.152.8.1216
26. Emamhadi MA, Jalilvand M, Salehi M. Frequency of psychological disorders in male murderers. Social Welfare. 2006;5(20):153-162. [Persian]
27. Almasi M, Moradi GM. Mental Health of prisoners of Ilam's jails and its related factors. Strategic Studies security and social order. 2012;1(3):101-116. [Persian]

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