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General Mental Health and Aggression in Female Prisoners in Isfahan

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Abstract

Aim: This study was performed to investigate the general mental health and aggression in female prisoners in Isfahan with the aim of determining whether the scores of aggression and general mental health differ according to selected demographic characteristics.

Methods: This cross-sectional, descriptive correlational study was performed in the central prison of Isfahan. Regarding the inclusion and exclusion criteria, 170 female prisoners were selected and completed the study self-administered questionnaires including Buss–Perry Aggression Questionnaire (BPAQ)and General Health Questionnaire (GHQ-28) as well as demographic information. Data were analyzed by SPSS20.

Findings: Five questionnaires were excluded due to deficiencies. Finally, 165 valid completed questionnaires were prepared for the analysis. According to the traditional ranking and cut-off point of 22 for GHQ-28 scores, prevalence of suspected psychological disorders among participants was 87.9%. ANOVA test results showed significant differences between the GHQ-28 scores of participants with different characteristics. Females under 20 years old ($P \leq .001$), single females ($p=.015$), and those who had no children ($p=.021$) reported higher scores in general mental health (higher values in the scale indicate more psychological symptoms) Likewise, there were significant differences between the BPAQ scores of participants with different characteristics ($P \leq .001$).

Conclusion: Younger and single female prisoners and those who had no children were suffering from lower mental health and more aggression. The present study emphasizes on the necessity of psychological assistance and support to improve mental health of these groups of female prisoners.

Keywords: Aggression, Prisoners, Mental health, Female

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Introduction

Anger and aggression have become an important concern in recent years in the developed communities [1]. Aggression is a universally experienced emotion, influencing reproduction through inter- and intra-specific effects in ways that return life-history approaches of species [1]. Though anger and aggression are commonly used as synonyms for one another, it is imperative to note the difference between them. Anger is an emotional state comprising of the foundation of malice and aggression. While aggression is a visible behavior, which is done with the aim of damage or harm to others [2]. Aggression has three parts: physical aggression, verbal aggression and hostility, and adversely affects both adaptation and human health. If this strong emotion is not properly harnessed, it can prevent global success, and severely threaten optimal functioning of individuals, groups and communities [3]. While aggression does not necessarily lead to anti-social behaviors, numerous studies demonstrated that it is a major contributor to offending behavior as well as a main management concern for prison administrators [4].

As a worldwide human emotion, probably main variables, which might have an impact upon aggression, have been the subject of numerous investigations. One of the variables that may be related with aggression is mental health. The drive for better understanding the probable link between mental health status and aggression and aggressive behavior has produced considerable research [5, 6].

Therefore, the study of aggression among prisoners as a group with specific characteristics is particularly important. However, in most countries, the prison population has grown in recent years [7]. More than 10.2 million people are held in penal institutions throughout the world, frequently as pre-trial detainees/remand prisoners or as sentenced prisoners. Almost half of the sentenced prisoners are in the United States (2.24m), Russia (0.68m) or China (1.64m) [8]. Likewise in Iran, the prison population has grown in recent years; according to the latest statistics, there are far more than 217,000 prisoners in this country [8].

Previous studies demonstrated that mental health disorders among prisoners have consistently exceeded the rates of such disorders in the general population. Also mental health disorder rate among female prisoners is significantly higher than in community women [9]. While the mental health of prisoners in the developed countries has well been studied [7], less studies have been done in the developing countries such as Iran. Furthermore, although there is a consensus that mental health problems are more common among female prisoners than

their male counterparts [4], previous studies on aggression mostly used male participants, and thus do not give an accurate picture of aggression and its relation with mental health in females.

The aim of this study was to investigate the relationship between general mental health and aggression in female prisoners in Isfahan, Iran.

Materials and Methods

This cross-sectional, descriptive analytical study was done in 2014 on a target population consisting of female prisoners in the central prison of Isfahan. The total number of female prisoners was 400, and with regard to the inclusion and inclusion criteria, 170 females were selected as the participants who completed the study self-administered questionnaires. Inclusion criteria were: the ability to read and write, at least one year remaining term of sentence, and tendency for participating in the study. The only inclusion criterion was to respond to the any of the questionnaires incompletely. Five questionnaires were excluded due to deficiencies. Finally, 165 valid completed questionnaires were prepared for the analysis.

Data were gathered with three questionnaires including: 1) Demographic items (age, marital status, education and number of children), 2) Buss–Perry Aggression Questionnaire, and 3) General Health Questionnaire.

Buss–Perry Aggression Questionnaire (BPAQ)is a self-reported questionnaire that contains 29 items, and has four subscales: physical aggression (9-items), verbal aggression (5-items), anger and hostility (7-items). The subjects in response to each item chose one of the options: 1) *very high*, 2) *high*, 3) *low*, 4) *very low*, and 5) *never*. The range of general aggression scores and four subscales was: general aggregation (29-145), hostility (8-40), physical aggression (9-45), verbal aggression (5-25), and anger (7-35).

Psychometric analysis showed that the internal consistency was desirable. Furthermore, several studies have confirmed its validity [10]. This questionnaire was used in several studies with different populations such as prisoner populations [11]. The psychometric properties of a Persian translation of the BPAQ were investigated, and it was revealed that the Persian version of BPAQ met the psychometric standards, and appeared to be a promising measure of aggression in Iranian population [12]. The reliability coefficients of the BPAQ obtained in the present study were as 0.71, 0.79, 0.72 and 0.79 for Physical Aggression (PA), Verbal Aggression (VA), Anger (ANG), and Hostility (HOS), respectively.

General Health Questionnaire (GHQ‐28): As a measure of current mental health developed by Goldberg in the 1970's, it has been widely used in different settings and different cultures

[13]. This questionnaire has also been used in prison settings in previous studies [14]. The Persian version of the GHQ-28 was used to measure general mental distress. Studies on the validation of the GHQ–28 in Iran revealed that its Persian version enjoys a good structural characteristic, and is a reliable and valid instrument that can be used for measuring psychological well-being in Iran [15]. This questionnaire has four main factors: a) somatic symptoms, b) anxiety and insomnia, c) social dysfunction, and d) depression. The participants were asked to indicate whether they had recently experienced a range of common symptoms of distress, which were rated on a 4-point response scale (e.g., *not at all* to *much more than usual*). The total score is obtained by the sum of the four sub-scale scores. Higher scores on the GHQ reflect greater levels of psychological distress. The calculated optimal clinical cut-off point for screening general health in Iranian population was 24, which ensures optimal psychometric indices. Also the demographic characteristics (age, education, marital status, and number of children) were considered.

The study was approved by both the prison and the university Ethics Committees. Before performing the study, the researcher introduced and explained the objectives and aims of the study to the participants. She confirmed that all participation would be voluntary, and confidentiality would be respected. The participants were provided with a written consent form to sign and confirm their consent to participate. The researcher answered their concerns and questions. Data were analyzed by SPSS-20 software. One way analysis of variance (ANOVA) was performed for statistical analysis to compare aggression scores across some related demographic characteristics of the participants. Correlation between general mental health and aggression scores was tested by Spearman's test. Probability value of 0.05 for significance was used.

Results

All participants were Iranian female prisoners recruited from the central prison in Isfahan over two weeks. The youngest participant was 16 years of age, the oldest was 54 (M= 32.36, SD= 8.52 years). Demographic characteristics of the participants are detailed in Table 1. According to the traditional ranking and cut off point of 24 for GHQ-28 scores [16], prevalence of suspected psychological disorders among the participants was 87.9%. Correlations between the general mental health factors and physical aggression, verbal aggression, anger and hostility, and total score of aggression were tested by performing bivariate correlations. Correlations between the general mental health factors ranged from 21 to 0/78, and the results are presented in Table 2. One way analysis of

variance (ANOVA) was conducted for each subscale of aggression across some related demographic characteristics of the participants (Table 3). Also the ANOVA was conducted for the total score of general mental health across age, education, marital status and number of children in female prisoners. The findings showed that there were significant differences between the participants with different characteristics. Females under 30 years old (P<.001), single females (P<.05), and those who had no child (P<.05) reported higher scores in general mental health (higher values in the scale indicate more psychological symptoms).

Table 1: Demographic characteristics of female prisoners

Variable		(N)	(%)
Age (years)			
	Under 20	17	11.5
	20-30	46	31.1
	31-40	62	41.9
	Higher 41	23	15.5
Education			
	Elementary	35	23.8
	Secondary	42	28.6
	High school	42	28.6
	Academic	28	19
Marital status			
	Single	36	25
	Married	71	49.3
	Divorced	31	21.5
	Widowed	6	4.2
Number of children			
	0	60	36.4
	1-2	75	45.4
	3-4	23	13.9
	≤5	7	4.2

Table 2: Correlations between general mental health factors and physical aggression, verbal aggression, anger, hostility, and total score of aggression

	Somatic symptoms	**Anxiety and insomnia**	**Social dysfunction**	**Depression**	**PA**	**VA**	**ANG**	**HOS**	**AGG**
Somatic symptoms	-								
Anxiety and insomnia	.75**	-							
Social dysfunction	.25**	.21**	-						
depression	.62**	.63**	.23**	-					
PA	.34**	.30**	.13	.51**	-				
VA	.22**	.24**	.02	.32**	.62**	-			
ANG	.48**	.46**	.30**	.55**	.69**	.57**	-		
HOS	.34**	.34**	.16*	.53**	.66**	.49**	.67**	-	
AGG	.43**	.43**	.20*	.58**	.90**	.72**	.87**	.85**	-

PA = Physical aggression, VA = Verbal aggression, ANG = Anger, HOS = Hostility, AGG = Total score of aggression

Table 3: Comparison of scores of aggression across demographic variables in female prisoners

	N	PA	VA	ANG	HOS
		Mean±SD	Mean± SD	Mean± SD	Mean± SD
Age					
≤ 20	17	27.4±6.69	15±2.58	24.4±5.99	26±5.54
20-30	46	25.9±6.98	16.5±3.57	24.6±5.39	25.8±6.42
31-40	62	18.48±7.64	13.4±3.66	19.9±6.37	20.9±6.13
≥41	23	14.6±6.13	12.6±3.58	18.3±6.27	20.4±5.87
P-value (F)		P≤.001 (20.31)	P= .004 (4.72)	P≤.001 (8.81)	P≤.001 (8.01)
Marital status					
Single	35	25.2±8.28	15.6±3.17	25.6±4.89	25.8±6.95
Married	66	20.1±8.47	13.6±4.08	20.7±6.94	21.8±6.61
Divorced	28	20.3±7.31	13.5±2.86	20.3±5.99	22.3±5.85
Widowed	6	16±8.13	13.5±2.07	20.6±5.71	23±3.38
P-value (F)		P=.01 (3.91)	P= .035 (2.95)	P≤.001 (5.79)	P= .031 (3.05)
Number of children					
0	60	22±8.91	15.1±3.28	22.7±6.72	23.4±7.61
1-2	75	20±8.48	13.8±3.7	20.8±6.49	22±6.25
3-4	23	18±7.24	12.19±3.55	19.4±6.12	20.8±6.32
≤5	7	14±5.5	12.1±1.86	16.2±6.87	19.4±6.37
P-value (F)		P=.067 (2.34)	P=.004 (4.56)	P=.031 (3.02)	P=.257 (1.30)

**p≤.001 (2-tailed),*p≤.05 (2-tailed)

Discussion

This study was conducted to evaluate the mental health and aggression in female prisoners. The findings revealed that prevalence of suspected psychological disorders among the participants was 87.9%. This result is consistent with a previous report in Iran. Mazaheri et al.'s study indicated that prevalence of personality disorders among the female prisoners of Zahedan prison was 95% [17]. High levels of psychological disorders have constantly been recognized in both male and female prisoner populations in different countries. For instance, Rana's study among women prisoners of Pakistan revealed that 71% of women prisoners reported mental distress [18]. Various studies have shown that at least half of male prisoners and up to three quarters of female prisoners reported symptoms of mental health conditions [19]. In Reingle's study on 18 185 prisoners from the nationally representative 2004 Survey of Inmates in State and Federal Correctional Facilities, as well as the 2004 Survey of Inmates in Federal Correctional Facilities, about 26% of the prisoners were diagnosed with a mental health condition [9].

The results of correlations demonstrated that there were moderate to moderately strong relationships between four sub-scales of the Buss–Perry Aggression Questionnaire. Consistent with these findings, the results of Lee and Egan's study among Southeast Asian female prisoners showed that four sub-scales

of the Buss and Perry Aggression Questionnaire had moderate to moderately strong relationships with one another [20]. These findings reveal that the four sub-scales are closely related to the latent variable of aggression.

Likewise, there were significant relationships between the four factors of the general health questionnaire. In a study by Andersen and colleagues among prison population, there was a high correlation between all factors of GHQ_28 and the total scale (0/82–0/87) [14]. In addition, there were significant correlations between the four sub-scales of aggression and somatic symptoms, anxiety and insomnia, and depression. It can be concluded that there is a significant association between aggression and general mental health. Thus to manage anger and aggression in prison, paying due attention to the mental health of prisoners is necessary.

Aggression comparison by age indicated that the physical aggression, verbal aggression, anger and hostility scores were significantly higher among the younger females. This finding is are consistent with the report of Lakeh and Khalatbari [21]. However, it is inconsistent with the study of Motlagh et al. among adolescents [22]; this inconsistency may be due to differences between subjects in the two studies. Aggression comparison by marital status designated that in all aggression sub-scales, the scores were significantly higher among the single females. In comparison with others, single females had the highest score of aggression. This result may be due to differences in the age of female prisoners as married women are often older, and aggression scores in older females are significantly lower than in younger females. A previous research revealed that relationship between marital status and aggression is varying across cultures and by gender [23, 24]. Bernards (2013) systematically examined the relationship between marital status and physical partner aggression by gender across 19 countries (Argentina, Australia, Belize, Brazil, Canada, Costa Rica, the Czech Republic, India, Isle of Man, Japan, Kazakhstan, New Zealand, Nicaragua, Nigeria, Peru, Uganda, United Kingdom, USA, and Uruguay) The results showed that single status was associated with higher risk of aggression in some countries and with lower risk in some others, reflecting possible cultural differences in risk of aggression for different marital statuses [23]. Cultural differences in women issues are very important in Islamic countries like Iran. Douki's study describes some of these issues such as marriage and fertility, which are significantly affecting on the mental health of females. It further mentions that in Islamic societies, one of the main aims of parents is still encouraging their daughters to marry as soon as possible [25].

Obviously it appears that unmarried or single women experience worse emotions and are more prone to aggression. Aggression scores among women without children are significantly higher than in women with children. Parallel to the increasing number of children, aggression score of women aggression decreases. Douki found that women in many Muslim cultures such as Iran are measured by their ability to bear children [25]. Lower aggression scores among women with children probably could be because of their self-worth feeling and maternal compassion. Further researches are needed to understand the influence the number of children on women aggression. One of the aims of the present study was to determine whether the score of general mental health differs according to age, education, marital status and number of children. Inconsistent with Noorbala, the highest scores of GHQ-28 were observed in the women under 20 years [26]. One of the reasons for this inconsistency could be due to different type of participants in the two studies. Noorbala's study was done among women in the general population. Inconsistent with previous study [27], comparison of general mental health in terms of education indicated that the mental health of women with primary education was better than that of other women. One of the reasons for this inconsistency could be cultural differences between communities. In recent years, the level of women's education has dramatically increased in Iran, and parallel to this increase in their literacy rate, the level of their expectations has also increased [28].

While the traditional cultural context cannot meet these expectations, the higher expectations could lead to a decrease in mental health. Furthermore, it is possible that women with higher education have a better understanding of the environment and their emotional states, and as a result, respond more accurately to the questions of GHQ-28 compared to women with low education. The current study results also revealed that married women's general mental health was significantly better than that of other women. Numerous studies recognize that marital status affects significantly individual's physical and mental health [29]. Consistent with the present study, Hsu's study indicated that married people tend to have better psychological well-being, including less depression, greater self-acceptance, and positive relations with others [24]. Contrary to traditional perception that women prisoners with children show more concern for their children, similar to aggression, parallel to increasing number of children, women's mental health status had increase. The findings of this study are inconsistent with the results of Bayati [30], indicating a positive role for children in

promoting mental health and reducing aggression and hostility in women.

Numerous limitations and difficulties were seen during conducting the present research in the prison setting. This study was limited to the central prison of Isfahan, and had participants from a small group of female prisoners; so generalization of the results is compromised. For a more strong evaluation and generalization, further research must be done with more participants from different prisons. However, since previous studies have mentioned that standard psychometric questionnaires such as BPAQ were effective in evaluating self-reported aggression [20], it is better that further research use both observational and self-report measures when analyzing aggression in prisoners. Lastly, due to the security reasons as well as prison regulations and circumstances, offense and incarceration history, type of crime, and duration of sentence were not investigated in this research; thus future research could investigate the relation of these variables and aggression in female prisoners.

Conclusion

In general, younger women, single women and those who had no child were suffering from lower mental health and more aggression. It is suggested that future studies compare the relationship between the number of children, marital status and educational level with the rate of aggression and mental health in female prisoners and community females in Iran. The present study emphasizes on necessity of psychological assistance and support for the improvement of females prisoners' mental health.

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Competing interests

Authors have declared that no competing interests.

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