Effect of anger management education on mental health and aggression of prisoner women

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ABSTRACT

Background and Purpose: “Uncontrolled anger” threatens the compatible and health of people as serious risk. The effects of weaknesses and shortcomings in the management of anger, from personal distress and destruction interpersonal relationships beyond and linked to the public health problems, lack of compromises, and aggressive behavior adverse outcomes. This study investigates the effects of anger management education on mental health and aggression of prisoner women in Isfahan.

Materials and Methods: The single-group quasi-experimental (pretest, posttest) by prisoner women in the central prison of Isfahan was done. Multi-stage random sampling method was used. Initially, 165 women were selected randomly and completed the Buss and Perry Aggression Questionnaire and the General Health Questionnaire-28, and among these, those with scores >78 (the cut point) in aggression scale was selected and among them 70 were randomly selected. In the next step, interventions in four 90 min training sessions were conducted. Posttest was performed within 1-month after the intervention. Data were analyzed using SPSS-20 software.

Results: Data analysis showed that anger management training was effective in reducing aggression ($P < 0.001$) and also had a positive effect on mental health ($P < 0.001$).

Conclusion: According to the importance of aggression in consistency and individual and collective health and according to findings, presented educational programs on anger management is essential for female prisoners.

Key words: Aggression, anger management, anger, mental health, prisoner
disturb his/her interpersonal relationships.\cite{6} If this strong emotion is not properly harnessed, can prevent global success and severely threaten optimal functioning of individuals, groups and communities.\cite{7} Statistics indicates that in the last few decades, anger and aggression have increased and considerable empirical evidence has demonstrated the negative effects of anger in human relationships.\cite{8} Anger damaged the economy too, for example, the antisocial behavior and rage are implications and consequences of anger.\cite{9} Anger related with physical health problems, particularly cardiovascular disorders.\cite{10} Well as anger is associated with depression, drug dependence, alcohol abuse, suicide, back pain, atherosclerosis, cardiovascular disease, development of atrial fibrillation, hypertension and lipid-lowering ability and readiness, and reduce the feeling of well-being.\cite{9} According to the World Health Organization, each year 5.1 million people lose their lives due to violence.\cite{11} Anger and aggression is a major problem in today’s world, it was reported that a quarter of the US population, experience some kind of anger in their lifetime. In most cases of this disorder in the individual, not only reduces the amount of his personal and social adjustment, but also security and family mental health and other social groups suffer from problems. In some cases, anger would be the harassment and intimidation of members of the legal community, thus leads to involvement of the individual with the law references and criminal.\cite{12}

In the 20th century, crimes have taken serious forms, according to the United Nations during the 1980–1986 annual average increase of 5% on the crime rate in the world.\cite{13} More than 10.2 million people are held in penal institutions throughout the world, frequently as pretrial detainees/remand prisoners or as sentenced prisoners. Almost half of these are in the United States (2.24 m), Russia (0.68 m) or China (1.64 m sentenced prisoners).\cite{14} In our country, according to the latest statistics, there are far more than 217,000 prisoners, evaluate the mental health of them as individuals at high risk is very important.\cite{14}

Issues of criminals and prisoners, especially its association with psychiatric problems are one of the most challenging and the most active areas of research. Mazaheri et al. study among female prisoners of Zahedan prison indicated that prevalence of personality disorders was 95%. Antisocial personality disorder with about 86.2% prevalence was the most common disorder. Drug dependence and sadistic aggressive personality with 60% and 56.2% prevalence, respectively, were in next places.\cite{15}

Fotiadou et al. study among Greek male prisoners revealed that mental disorder was diagnosed in 78.7% prisoners. The main diagnoses were: Anxiety disorder, (37.5%); major depression, (27.5%); antisocial personality disorder, (37.5%); alcohol dependence, (26.3%) and opiate dependence (27.5%) and schizophrenic or bipolar disorder (11.2%).\cite{16}

O’Connor et al. study among 541 teenagers 13–18 years in the United States offenders indicated that rates of internalizing problems in offender teenagers is twice that of other teenagers. Prisoners suffering from mental health problems not only are more committed violation in prison and as result is added to the length of their sentence, but also they are more likely to be victims of violence, abuse and harassment of other prisoners.\cite{17} The results of a systematic review of psychiatric surveys of people in general prison population in Western countries indicate that the risks of having serious psychiatric disorders are considerably higher in prisoners than in the general population.\cite{18}

Likewise, studies, for instance, have shown that prisoner’s women compared to prisoner’s men more suffer from personality disorders and mental disorders.\cite{19} Because of the negative impacts of anger, numerous researchers wanted to find solutions and ways to control and management of anger.\cite{20}

Reviewing the educational programs for anger management, demonstrates the effectiveness of intervention programs for different groups.\cite{21,22} Furthermore, anger management interventions with offenders and prisoners, particularly violent offenders, have been performed. However, the evidence for the effectiveness of intervention with serious offenders is sparse. For instance, a brief anger management intervention with experimental and control groups of young male offenders was down, significant improvements observed in the experimental group and no change observed in the control group.\cite{23}

Howells study is revealed that in which offenders receiving anger management were compared with waiting list controls on a range of dependent measures. In general, the degree of pretreatment/posttreatment change was small and experimental versus control differences were not statistically significant.\cite{24}

As mentioned earlier crimes statistics and as result the number of women prisoners is increasing, however, few studies performed in this regard. According to crucial role of anger management training on physical and mental health, this study investigated the effects of anger management training on mental health and violence among women prisoners in Isfahan.

**MATERIALS AND METHODS**

This research was a quasi-experimental (pretest-posttest) study. Target population consisted of women prisoners in the central prison of Isfahan. Participants were selected by multi-stage random sampling. Initially randomized 165 women with regard to the inclusion and exclusion criteria were chosen and completed Buss and Perry Aggression and Mental Health questionnaire. Then, those who were achieved score higher than 78 (cut-off) in the Buss and Perry Aggression scale were selected (n = 70). In the next phase, intervention in four sessions (75–90 min) was conducted. Education teaching methods were lectures, questions and
answers and discussion group. 1 month after the last training session,[23] posttest was performed (Buss and Perry Aggression Questionnaire the General Health Questionnaire [GHQ-28] were completed) five women did not posttest. Data analysis by IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp. software and paired t-test, Pearson correlation, ANOVA analysis was used.

**Educational intervention**

- **Session I:** Familiarity with participants, communication with them, trust them, explain the objectives of the program, definition of anger and aggression, anger expression and characteristics of mistakes anger expression and its consequences
- **Session II:** Introduction to causes of anger Introduction to the rage symptoms (physical, behavioral, emotional and cognitive symptoms) and describe the overall changes to the arousal of anger, thinking about identify similarities and differences between their own and others’ experiences of anger, identify and specifying the actions or words of others that may make them angry to detect events which creates rage and discuss the outcomes
- **Session III:** Introduction to anger management programs, introduction the effect of negative thoughts on the experience of anger, identify negative thoughts and replace them with positive thoughts, introduction the effect of relaxation, exercises, deep breathing, and problem-solving strategies to anger management
- **Session IV:** The effects of anger on family relationships and mental health, anger impacts on the quality of interaction with family, reviewing and summarizing the previous contents and relaxation exercise.

**Instruments**

**Buss and Perry Aggression Questionnaire**

This 29-item questionnaire measures of a general aggression and four factors (subscales), hostility (8 items), physical aggression (9 questions), verbal aggression (5 items), and anger (7 items) was formed.

Subjects in response to each item choose one of the options: (0) Very high (2) high (3) low (4) very low (5) Never. Items 24 and 29 will be reverse scored. Range of general aggression scores and four factors are: General aggression 29–145 (minimum score of 29 and a maximum score of 145), hostility 8–40, physical aggression 9–45, verbal aggression 5–25, and anger 7–35.

Psychometric analysis has shown that the internal consistency was desirable. Furthermore, several studies have confirmed its validity.[26,27] This questionnaire was standardized in Iran, and its validity and reliability have been confirmed.[28]

**General Health Questionnaire**

The questionnaire consisted of 28 items and has four sub-scales including: Somatization, anxiety, insomnia, social dysfunction, and depression, each sub-scales have seven questions. The total score is obtained by the sum of the four sub-scales scores.

Subjects responded to each question as one of the options: (0) Not at all, (1) As usual, (2) Almost more than usual, (3) More than usual. The items 1, 15, 17, 18, 19, 20, 21 will be reverse scored.

Psychometric properties of GHQ-28 in Iranian population were accessed. Factor analysis revealed that the four factors which are the basics in this questionnaire have a high internal consistency. The calculated optimal clinical cut-off point for screening general health in Iranian population was 24 which ensure optimal psychometric indices. Coefficients of criterion validity, structural validity, and reliability showed that GHQ-28 is one of the most valid instruments for screening general health.[29]

Furthermore, the demographic characteristics of women (age, education, marital status, number of children) were considered.

**Ethical considerations**

All procedures were performed with the permission of the Isfahan University of Medical Sciences. Before performing the test, aims of the study were explained to the participants, and they were ensured about confidentiality of the information and were emphasized that the questionnaires will be anonymously.

**RESULTS**

The mean age of participants was 27 years (standard deviation [SD] =8.03). And the mean number of children was 2 children (SD = 0.93).

In terms of education, 18.5% were finished elementary school, 29.2% were finished guidance school and 33.8% were finished high school and 18.5% had a college education. In terms of marital status 35.4% were single 38.5% were married, and 21.5% were divorced and 4.6% were widowed.

The results of the comparison of scores in term of aggression before and after intervention are shown in Table 1, and in term of mental health before and after intervention are reported in Table 2.

| Table 1: Comparison of mean scores of aggression before and 1-month after intervention |
|-------------------------------|----------------|----------|-----------------|
| Variable                      | Stage          | Mean ± SD| Paired t-test result |
| Hostility                     | Before         | 58.5 ± 15.65 | P < 0.001 |
|                               | After          | 40.4 ± 20.02 |               |
| Physical aggression           | Before         | 48.9 ± 16.87 | P < 0.001 |
|                               | After          | 27.5 ± 18.30 |               |
| Verbal aggression             | Before         | 52.2 ± 17.09 | P < 0.001 |
|                               | After          | 37.4 ± 19.14 |               |
| Anger                         | Before         | 65.1 ± 15.33 | P < 0.001 |
|                               | After          | 43.7 ± 21.21 |               |
| General aggression            | Before         | 56.0 ± 11.54 | P < 0.001 |
|                               | After          | 36.7 ± 16.19 |               |

SD=Standard deviation
According to Pearson correlation test, there was a weak inverse correlation between age and aggression ($r = -0.23$, $P < 0.05$). Furthermore, Pearson correlation test revealed that there were no significant relationships between number of children and aggression, as well as mental health and between age and mental health. Spearman correlation test results showed that there was no significant relationship between education and aggressiveness as well as mental health.

According to ANOVA test, there were no significant differences between marital status and aggression, as well as mental health.

**DISCUSSION**

This study examined the effect of anger management education on mental health and aggression among prisoner women in Isfahan.

The data revealed that anger management training was effective to reduce self-report aggression. The mean scores of general aggression and its factors (hostility, physical aggression, verbal aggression, and anger) significantly were decreased one month after intervention.

As well, after anger management training women's mental health was promoted. The mean scores of GHQ-28 in all dimensions significantly were decreased.

The findings were consistent with some previous studies. One reason for this inconsistency could be the small size of their sample ($n = 15$). Consistent with Motlagh et al. study among adolescents in the present study, there was no significant relationship between ages of the respondents and general aggression. This finding also inconsistent with the study of Lakeh and Khalatbari this inconsistency may be due to differences between subjects in two studies.

Furthermore, the findings of this study were inconsistent with some previous studies, for instance, would be pointed out to Watt’s et al. study among violent offenders.

One of the reasons for inconsistency results with the present study could be due to gender inmates. Women prisoners are more likely than men prisoners to embrace training program and more influence by training. Another reason could be the mismatch specific cultural issues.

This study had limitations one of the most notably of them was a lack of a control group. Likewise, lack of classification of the audience according to the education, crime type, age, and history of incarceration can be mentioned as another limitation.

As conclusion, anger management intervention can have a positive effect on mental health and reduce aggression among prisoners. Anger management education can prevent the occurrence of negative and damaging consequences of aggression. Anger management training, enabling prisoners to effectively solve problems in their lives and do not use aggressive behavior in their interactions with others.

It is suggested that in future studies, the effects of anger management intervention compared with the control group.
It is recommended that the impact of trained educators about communication skills special for prisoners compare with other educators. In general, it is recommended further studies at prisons of the country perform anger management training in order to improve the mental health of women prisoners.

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Conflicts of interest
There are no conflicts of interest.

REFERENCES
1. Shakibayi F, Dust MT, Shahrvir Z, Asari SH. Anger management group therapy with cognitive behavioral approach in adolescents institution. New Cogn Sci 2004;6:59-66.
2. Thomas SP. Assessing and intervening with anger disorders. Nurs Clin North Am 1998;33:121-33.
3. Del Vecchio T, O’Leary KD. Effectiveness of anger treatments for specific anger problems: A meta-analytic review. Clin Psychol Rev 2004;24:15-34.
4. Naveedy A, Borjali A. Effects of an anger management training on anger self-regulation skills among high school boys. Psychol Res 2008;10:58.
5. Mehrizi MA, Tahmassian K, Konesh AK. The impact of anger management training on anger self-regulation skills and parent – Adolescent Conflicts in Female Adolescents of Junior High (Guidance) Schools in Tehran. J Fam Res 2010;6:393-404.
6. Naveedy A. The efficacy of anger management training on general health. J Psychol 2009;12:414-25.
7. Shokohiyyekta M, Zamani N, Asayesh SJ. Follow the efficacy of cognitive-behavioral training on anger control in the teachers of mentally retarded children. New Thoughts Educ 2012;7:16-29.
8. Shokohiyyekta M, Behpajuh A, Banab BG, Zamani N, Parand A. Effects of anger management skills training on anger control mentally retarded and slow learner students mothers. Res Except Child 2009;8:358-69.
9. Rezayi SA, Izadi A. Effects of anger management training on mental health nursing students in nursing and midwifery school in orumiyeh. J Nurs Midwifery Sch Orumiyeh 2012;10:502-6.
10. Rasouli F. The Impact of Anger Control Training on Resiliency in Adolescents with Addiction Preparation. Research on Addiction. 2011;4(16):7-24.
11. Ghaffary F, Poorghaznein T. The relationship of severity premenstrual syndrome with anger in adolescent girls. Archive of STD. Iran J Obstet Gynecol Infertil 2005;9:53-9.
12. Roostaei A, Aboulghesami S, Momahmadi Arya A, Saedi S. A Comparison effect of training the anger management and medicine cure on aggression in prisoners. New Find Psychol 2011;6:19-31.
13. Banifateme H, Raoof ZB. Social factors that influence the crime rate among women offenders in prison of orumite. Sociol Stud 2008;1:1-24.
14. Walmsey R. World prison population list. International Centre for Prison Studies Kings College London, School of Law. Available from: http://www.prisonstudies.org/publications/list/40-world-prison-population-list-8th-edition.html. [Last retrieved on 2012 Jan 16].
15. Mazaheri M, Khaliighi N, Rahghabi M, Sarabandi H. Prevalence of personality disorders among female prisoners of Zahedian prison. J Res Zahedian Med Sci Univ 2011;13:46-9.
16. Fotiadou M, Livaditis M, Manou I, Kaniotou E, Xenitidis K. Prevalence of mental disorders and deliberate self-harm in Greek male prisoners. Int J Law Psychiatry 2006;29:68-73.
17. O’Connor FW, Lovell D, Brown L. Implementing residential treatment for prison inmates with mental illness. Arch Psychiatr Nurs 2002;16:232-8.
18. Fazel S, Danesh J. Serious mental disorder in 23000 prisoners: A systematic review of 62 surveys. Lancet 2002;359:545-50.
19. Medlicott D. Women in Prison. Handbook on Prisons. WILLAN publishing 2007. p. 245-67.
20. Forgays DG, Forgays DK, Spielberger CD. Factor structure of the State-Trait Anger Expression Inventory. J Pers Assess 1997;69:497-507.
21. Sanders MR, Pidgeon AM, Gravestock F, Connors MD, Brown S, Young RW. Does parental attributional retraining and anger management enhance the effects of the Triple P-Positive Parenting Program with parents at risk of child maltreatment? Behav Ther 2004;35:513-35.
22. Feindler EL, Marriot SA, Ivata M. Group anger control training for junior high school delinquents. Cogn Ther Res 1984;8:299-311.
23. Ireland JL. Anger management therapy with young male offenders: An outcome evaluation of treatment outcomes. Agress Behav 2004;30:174-85.
24. Howells K, Day A, Williamson P, Bubner S, Jauncey S, Parker A, et al. Brief anger management programs with offenders: Outcomes and predictors of change. J Forens Psychiatry Psychol 2005;16:296-311.
25. Shirzadi S, Shojaeizadeh D, Taghdishi M, Hossein F, Doshmanig F. Determine the effect of group discussion as a educational method on promoting the knowldeg of teen girls concerning uberty health who live in welfare Boarding Centers in Tehran. Rising Health 2013;12:178-88.
26. Vigil-Colet A, Lorenzo-Seva U, Codorniu-Raga MJ, Morales F. Factor structure of the Buss-Perry aggression questionnaire in different samples and languages. Agress Behav 2005;31:601-8.
27. Bryant FB, Smith BD. Refining the architecture of aggression: A measurement model for the Buss–Perry Aggression Questionnaire. J Res Pers 2001;35:138-67.
28. Samani S. Study of reliability and validity of the Buss and Perry’s Aggression Questionnaire. Iran J Psychiatry Clin Psychol 2008;13:359-65.
29. Ebrahimi A, Molavi H, Moosavi G, Bornanamesh A,Yaghobi M. Psychometric properties and factor structure of general health questionnaire 28 (GHQ-28) in Iranian psychiatric patients. Behav Sci Res 2007;5:5-12.
30. Eamon KC, Munchua MM, Reddon JR. Effectiveness of an anger management program for women inmates. J Offender Rehabil 2001;34:45-60.
31. Holbrook MI. Anger management training in prison inmates. Psychol Rep 1997;81:623-6.
32. Watt BD, Howells K, McMurran M, Lloyd-Bostock S. Skills training for aggression control: Evaluation of an anger management programme for violent offenders. Leg Criminol Psychol 1999;4:285-300.
33. Karimi H, Hemmati Sabet A, Haghighi M, Ahmadpanah M, Beigy HM. Comparing the effectiveness of group anger management and communication skills training on aggression of marijuana addicted prisoners. J Res Behav Sci 2013;11:129-38.
34. Hunter D, Hughes GV. Anger management in the prison: An evaluation; Anger Management Program Outcomes. Correct Res Forum 1993;5:3-9.
35. Kennedy SM. Anger Management Training with Adult Prisoners. Canada: University of Ottawa; 1990.
36. Lakeh MB, Khalatbari J. Efficacy of anger management teaching on anger self-regulation and impulsivity in mothers of elementary school boy students in Rasht. J Nurs Midwifery Sch Guilan 2010;20:1-9.
37. Motlagh FZ, Ahmadi Jouybari T, Jallilian F, Mirzea Alavijeh M, Aghaei A, Karimzade Shirzadi K. The Prevalence and Factors Associated with Aggression among Adolescences of Yasuj, Iran. J Health Syst Res 2013;9:12.