



Original Article

Prevalence of aggressive behaviors among the general population of Mashhad-Iran, 2014

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Abstract

Introduction: Anger and aggression are associated to many personal and social outcomes and physical adverse effects. The aggressive behaviors also affected academic and job achievements. This study aimed to assess aggressive behaviors and their predictors in general population of Mashhad, Iran, 2014.

Materials and Methods: In this descriptive cross-sectional study, a total number of 656 people in Mashhad city (the second biggest city of Iran) were assessed. The survey was done using the Buss-Perry Aggression Questionnaire in the public spaces across the city. Data were analyzed using descriptive statistics, t-test, Mann-Whitney U test, and linear regression by SPSS 11.5 software.

Results: The mean ages in women and men were 27.68±10.54 years and 29.83±12.72 years respectively. Mean scores were 23.37 and 22.17 for physical, 12.3 and 13.15 for verbal, 17.31 and 15.99 for anger, and 19.57 and 18.06 for hostility domains among men and women respectively. There was a significant difference between men and women in mean scores of all domains of aggressive behaviors ($P<0.05$). Among demographic variables, age, marital status, history of divorce, infertility, physical illnesses, history of driving fines, history of incarceration, and alcohol abuse were important predictors of various domains of aggressive behaviors.

Conclusion: Aggressive behaviors in physical, anger and hostility domains were statistically higher among men while the score of verbal aggressive behavior was higher in women.

Keywords: Aggressive behaviors, Anger, Hostility, Prevalence

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Introduction

Aggression might be presented with violence and agonistic behavior of verbal or physical types (1). Not only violence has been associated with adverse individual and social outcomes, but also fear of violence has been linked to impaired health status (2,3). For instance, coronary heart disease, tachycardia, hypertension, and atherosclerosis have been linked to violence and stress arousal, which are consequences of aggressive behaviors (4,5). Moreover, several studies have linked unhealthy anger management behaviors to unfavorable outcomes and suggested healthy anger management

such as controlling anger through discussion. These strategies are associated with health benefits, such as lower blood pressure, lower body mass index, and better glycemic control (6).

According to World Health Organization (WHO), violence among the most important causes of disability adjusted life years lost (7). High-risk driving behaviors and intimate partner violence are more prevalent in aggressive people (8,9). Aggressive behaviors are also related to occupational and educational success (10). Behavioral problems such as drinking and smoking in early ages are reportedly linked to aggressive behaviors (11).

The issue has been increasingly under attention in recent years and has become a major social health problem. Therefore, the present study was aimed to assess aggressive behaviors among general population of Mashhad in 2014.

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Materials and Methods

In this cross-sectional study, we surveyed 656 people in Mashhad, Iran. Mashhad is the second largest city in Iran with an approximate population of 2,772,287 (2011 population census). Buss-Perry Aggression Questionnaire was used to collect data. The questionnaire evaluates aggression in four aspects of physical (9 questions), verbal (5 questions), anger (7 questions), and hostility (8 questions), in which the participants can rank certain statements along a 5 point continuum from "extremely uncharacteristic of me" to "extremely characteristic of me". We used Persian version of the questionnaire, which has been proved valid and reliable (12).

Demographic information and basic characteristics such as age, sex, academic degree, job status, history of smoking, drug abuse, alcohol consumption, and history of driving fines were asked in a separate questionnaire. The questionnaires were distributed between residents of Mashhad city by referring to random parking lots and public places. Over 656 questionnaires were completed by participants who gave oral informed consent.

SPSS 11.5 software (SPSS Inc., Chicago, Illinois, USA) was used for statistical analyses. Standard descriptive statistics, chi-square test, Kolmogorov-Smirnov test, t-test, and Mann-Whitney test were applied. All tests were 2-tailed, and *P* values below 0.05 were considered significant.

Results

The mean age was 27.68 ± 10.54 years in women and 29.83 ± 12.72 years in men, with the minimum age of 9 and maximum of 77 years. Overall, 29 (4%) of men and 15 (2%) women were jobless, 12 (1%) of men and 7 (1%) women were labor workers, 83 (12%) of men and 74 (11%) of women were official employees, 79 (12%) of men and 114 (17%) of women were student, 141 (21%) of men and 35 (5%) of women were self-employed, and 51 (7%) of woman were housewife. There was a significant difference between men and woman regarding age, occupational status, smoking, alcohol use, drug abuse, history of incarceration, history of traffic accidents, and history of driving fines. Details of the demographic characteristics are shown in Table 1.

There were significant differences between men and woman in 6 questions of physical domain of aggression, 2 of verbal, 4 of anger and 4 of hostility domain (Table 2).

Age, history of driving fines, physical illnesses, and divorce were significant predictors for physical domain of aggression. To predict verbal domain, age, history of incarceration, physical illness and alcohol abuse were predictive variables. For anger domain, age, infertility, and alcohol abuse and for hostility, marital status, and infertility were significant predictors. Details are shown in Table 3.

Table 1. Socio-demographic characteristics of study participants

		Male (percent)	Female (percent)	<i>P</i>
Age		29.83 (53.6%)	27.68 (46.2%)	0.02
Education	Less than high school diploma	39 (11.2%)	51 (17%)	0.42
	Diploma	117 (33.6%)	80 (26.7%)	
	More than high school diploma	192 (55.2%)	169 (56.3%)	
Occupation	Jobless	112	140	<0.001
		232	156	
Residential place	Rural	330 (97.9%)	284 (97.6%)	0.76
	Urban	7 (2.1%)	6 (2.1%)	
Number of child				0.37
Religious	Muslim	339 (98.5%)	294 (99.7%)	0.11
Income				0.16
Housing	Proprietary	206 (64.6%)	199 (71.1%)	0.08
	Leased	113 (35.4%)	81 (28.9%)	
Marital status	Single	181 (52.8%)	157 (52.5%)	0.48
	Married	160 (46.6%)	132 (44.1%)	
		2 (0.6%)	10 (3.3%)	
History of physical disease		50	19	0.001
History of infertility		5 (2.2%)	3 (1.6%)	0.66
Smokers		101 (29.2%)	8 (2.8%)	0.001
Number of cigar				0.43
Alcohol abusers		66 (19.5%)	9 (3.2%)	<0.001
Drug abuses		19 (5.7%)	1 (0.4%)	0.001
History of divorce		7 (2.3%)	8 (3%)	0.59
History of divorce in parents		18 (5.6%)	10 (3.6%)	0.23
History of incarceration		11 (3.3%)	1 (0.4%)	0.005

Traffic accident history ¹	None	196 (60.5%)	206 (83.1%)	<0.001
	One time	70 (21.6%)	32 (12.9%)	
	Two time and more than two time	58 (17.9%)	10 (4%)	
History of driving fines ²	None	159 (49.4%)	189 (78.1%)	<0.001
	One time	67 (20.8%)	30 (12.4%)	
	Two time and more than two time	96 (29.8%)	23 (9.5%)	
Forensic medical center		25 (7.3%)	11 (3.9%)	0.13

1: adjusted r^2 : 0.237, 2: adjusted r^2 : 0.214

Table 2. Participants' scores for four dimensions of aggression

Domain	Question	Male	Female	P
Physical	Occasionally I cannot control the urge to strike another person.	1.85	1.61	0.01
	If I have to resort to violence to protect my rights, I will.	2.16	1.77	<0.001
	There are people who pushed me so far that we came to blows.	2.04	1.81	0.01
	I can think of no god reason forever hitting a person.	2.58	2.82	0.02
	Given enough provocation, I may hit another person.	3.68	3.5	0.09
	If somebody hits me, I hit back.	3.1	3.19	0.46
	I get into fights a little more than the average person does.	1.76	1.8	0.62
	I have threatened people I know.	2.92	3.18	0.03
Total	I have become so mad that I have broken things.	3.25	2.44	<0.001
		23.37	22.17	0.015
verbal	I tell my friends openly when I disagree with them.	3.15	3.11	0.03
	I often find myself disagreeing with people.	2.48	3.08	<0.001
	When people annoy me, I may tell them what I think of them.	2.44	2.57	0.48
	I cannot help getting into arguments when people disagree with me.	1.64	1.6	0.62
Total	My friends say that I am somewhat argumentative.	2.69	2.73	0.72
		12.3	13.15	0.027
anger	I flare up quickly but get over it quickly.	2.58	2.61	0.76
	When frustrated, I let my irritation show.	2.92	3.22	0.01
	I sometimes feel like a powder keg ready to explode.	2.93	2.37	<0.001
	I am an even-tempered person.	1.83	1.7	0.19
	Some of my friends think I am a hothead.	2.24	2.06	0.12
	Sometimes I fly off the handle for no good reason.	2.73	2.39	0.003
Total	I have trouble controlling my temper.	2.08	1.66	<0.001
		17.31	15.99	0.008
hostility	I am sometimes eaten up with jealousy.	2.16	2.01	0.17
	At times, I feel I have gotten a raw deal out of life.	2.3	2.13	0.14
	Other people always seem to get the breaks.	3.12	3.23	0.4
	I wonder why sometimes I feel so bitter about things.	2.27	2.03	0.02
	I know that "friends" talk about me behind my back.	1.76	1.54	0.02
	I am suspicious of overly friendly strangers.	2.57	2.17	0.001
	I sometimes feel that people are laughing at me behind me back.	2.21	1.82	0.001
	When people are especially nice, I wonder what they want.	3.19	3.09	0.39
Total		19.57	18.06	0.001

Table 3. Regression coefficients on indicators of aggression to the variable characteristics of participants

		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
Physical ¹	(Constant)	22.393	1.83		12.236	<.001
	Age	-.133	.044	.268	-2.979	.004
	Physical illness	2.884	1.186	.216	2.432	.017
	Alcohol use	3.382	1.868	.165	1.81	.073
	Divorce	5.983	2.487	.211	2.406	.018
Verbal ²	History of driving fines	1.405	.456	.281	3.08	.003
	(Constant)	17.659	2.350		7.513	.001
	Marital status	-3.625	1.936	-.171	-1.873	.064
	Age	-.063	.031	.198	-2.077	.041
	Gender	-1.231	.698	-.167	-1.764	.081
	History of incarceration	-7.531	3.638	-.207	-2.07	.041
Anger ³	Physical illness	2.639	.845	.292	3.124	.002
	Alcohol use	6.118	1.518	.402	4.029	<.001
	(Constant)	21.489	1.968		10.921	<.001
	infertility	11.396	5.570	.170	2.046	.043
	Age	-.205	.059	-.354	-3.471	.001
	Alcohol use	10.775	2.057	.438	5.237	<.001
	Number of child	.847	.506	.172	1.675	.097

Hostility ⁴	(Constant)	27.260	3.391		8.04	.001
	Marital status	-10.344	3.404	-.29	-3.039	.003
	Infertility	14.011	5.814	.229	2.410	.018
	Traffic accident history	1.074	.625	.164	1.716	.089

1: adjusted r^2 :0.237, 2: adjusted r^2 :0.214, 3: adjusted r^2 :0.279, 4: adjusted r^2 : 0.119

Discussion

Aggressive behaviors, usually accompanied by violence and intentional injuries, are important public health problems. They impose high burdens on community through medical costs and worker's loss of productivity (13).

In this study, smoking, alcohol use and drug abuse, as well as history of traffic accident, driving fines, and incarceration were significantly different between men and women. Buss-Perry Aggression Questionnaire revealed mean scores of physical, verbal, anger, and hostility domains to be 23.37 and 22.17, 12.3 and 13.15, 17.31 and 15.99, and 19.57 and 18.06 among men and women, respectively.

Our results showed that generally, risky behaviors are more common among men. The theory of social representations of aggression carried out by Archer and Haigh emphasized on gender differences in the expression of aggression and stated that physical and verbal aggression is more obvious among men than women (14). History of driving fines in two past years was predictor of physical domain of aggression. Björklund observed a positive relationship between the amount of driver irritation and frequency of aggressive actions and concluded that male drivers are more likely to act aggressively than female drivers are; on the other hand, female drivers tended to become more irritated. This finding reveals that expression of aggressive behaviors may lead to irritation of other drivers (15). The observed difference between men and women on physical domain of aggression is concordant with previous researches (1). However, Archer et al. in a meta-analysis showed physical intimate partner violence to be slightly more likely among women. They went on to state that frequency and variety of forms of physical aggression were both higher among women, but men were more likely to impose an injury. This review also reveals that more than a half of injured victims were female (16).

A nationwide survey of 6,159 American college students showed that about 81% of men inflicted or received verbal aggression at least once, while the comparable figure for women was 87-88%. However, no difference was found regarding ethnicity, family income, and institutional features (17). Tapper and Boulton in a study showed that instrumental aggression is more frequent among boys, while girls chose more indirect methods to

express their aggression (referred to 18).

In this study age, history of divorce, physical illnesses and driving fines were predictors of physical domain of aggression. In a study that surveyed 108 Swedish children, significantly higher levels of hostility and aggression were seen among children of divorce in comparison with children of quality marriage (19).

Yoshikawa and Hirokazu in a review showed the effects of early family support and education on chronic delinquency and its risks. They concluded that exhaustive family support in company with early education might raise long-term prevention through short-term protective modalities on multiple risks. Family support is associated with effects on family risks and early education related to child risks as well. Both components are necessary to control multiple risks and later reductions in delinquency (20).

Boles studied the relationship between substance abuse and violence and reported high frequency of alcohol and illicit drugs abuse in both offenders and victims in many violent events (21). The psychopharmacodynamics of stimulants, such as amphetamines and cocaine could play an inducing role in violent behaviors. This complex relationship is affected by many individual and environmental factors (22). Many studies have explained the causal role of alcohol in aggression (23). White and colleagues in a prospective longitudinal study observed that prevalence of alcohol use is equal in both genders. However, prevalence of aggressive behavior and alcohol-related aggression is lower in women, compared with men. The results showed that excessive alcohol use is correlated with early or proximal aggressive behavior and alcohol-related aggression, while those levels of alcohol use are not remarkably associated with later or distal aggressive behavior. On the other hand, early aggressive and antisocial behaviors can be predictors of later alcohol-related problems (24).

Age, infertility, and alcohol abuse were predictors of anger domain, while marital status and infertility were predictors of hostility domain in this survey. The level of aggression stays somewhat steady throughout the person's life. Highly aggressive people have worse outcomes in life and achievements across their lifetime. Those who were more aggressive in early adulthood were also

problematic in some fields in their future life (25). In a study on emotional distress of infertile woman in Japan, hostility scores were significantly higher in infertile woman, compared with pregnant woman (26).

In the present study, age is the predictive factor for physical, verbal and anger domain of aggression. Archer et al. in a meta-analytic review of sex differences in aggression found males and females of all ages to present direct, especially physical, aggression more than other types. Their results demonstrated a peak between 20 and 30 years for presentation of aggressive behaviors. However, they observed no sex differences for anger domain. They have also indicated that indirect aggression in females is seen in their later childhood and adolescence, while males' aggressive behaviors are seen in later ages and are more costly for the society (7).

We did our best to collect a representative sample of residents of Mashhad; however, designs that are more accurate are needed to confirm the results.

Future longitudinal studies warrant better understanding of the causal factors of aggressive behavior in our society. We tried to optimize the response rate of this study via face-to-face interviews. However, the sensitive nature of some questions may lead to lower reliable responses. Cultural reasons could play an important role as well. We suggest future studies with bigger sample size, which was one of our limitations. Further Future studies on specific cultural, ethnic and religious minorities can be useful.

Conclusion

In general, aggressive behaviors in physical, anger and hostility domains were statistically higher among men, while the scores of verbal aggressive behaviors were higher in women. In addition, age, marital status, history of divorce, infertility, physical illnesses, history of driving fines, incarceration, and alcohol abuse were predictors of different domains of aggressive behaviors.

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