Predictors of physical and verbal aggression in preschoolers

Original Article

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Abstract

Background: childhood aggression, particularly in preschoolers, is one of the most common behavioral problems throughout the world. Therefore, it is important to identify the predictors of this problem. This study was conducted to determine the predictors of physical and verbal aggression in preschoolers.

Methods: This descriptive cross-sectional study was conducted on preschoolers in Rasht in 2013. Study samples included 614, 5 to 7 year-old children who were selected by two-stage cluster sampling of preschool centers under the supervision of Education and Welfare organization of Rasht. Data collection tool included two questionnaires. The scale aggression in preschool children was used to measure the aggression and the questionnaire consisted of 3 parts (individual, familial, social and economic) was used to examine the factors related to the aggression. Then the data was analyzed by PSS software version 21, using descriptive and analytical statics.

Results: The average score of verbal and physical aggression and also individual, familial and socioeconomic factors related to them were calculated. ($p<0.05$) Multiple linear aggression model results showed that individual and familial factors- including the type of preschool center (public or private), father's level of education, parents arguing in the presence of their children and corporal punishments by parents- were the main predictors of the aggression.

Conclusions: According to the results of the study, it seems that individual and familial factors are the main predictors of physical and verbal aggression in children. Therefore, the special attention must be paid to these two factors for preventing.

Keywords: Aggression, Risk Factors, Preschool Child, Predictors

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Introduction

Childhood aggression, especially in recent years, is a major health problem in all around the world [1]. Aggression is a behavior with the aim of hurting the living creatures that tries to avoid the damage [2, 3]. Aggression varies based on form and function. Based on form, it can be direct or indirect. The direct form includes verbal and physical aggression. The indirect form which includes physical attack-free acts such as gossiping, ostracizing and sabotaging is the relationships among people with the same age [1]. Verbal aggression is the use of hostile words to insult threaten and scare others or to make them angry. Verbal aggression often includes threads and gestures and is usually followed by Physical aggression [2]. Physical aggression often includes direct contact with involved people [4]. Since pre-school-year-old children go to pre-school centers and start to participate in extensive interactions with peers, aggression becomes an important issue [5]. The tenseness of the environment of the schools is the main reason of aggression in this age. In fact, children use different compatible mechanism such as aggression for responding to the tenseness[6]. Aggression could typically be diagnosed in pre-school years.

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In case of lack of early diagnosis, the problems could occur in different forms in adolescence such as: conducting disorders, attention deficiency, deliquesce, discontent in social interactions with peer and other forms of mental problems [7]. Thus diagnosis of aggressive behavior in children through the use of play patterns and interactions with the peers in pre-school environments is very essential [6]**.** In this regard, child nurses with the participation of parents, educators and psychologists play the major roles in the early diagnosis, prevention and intervention of aggression in children [1, 8].

Prevention of children aggression is one of the most stressful issues on facing the today's societies. In this context, it seems necessary to identify the risk factors of such aggression [9]. There are different theories and assumptions about the risk factors for aggression. As Wong believes thatbiological , socio-cultural and familial factors, including the ability to control emotions, genetic factors, individual characteristics (such as age, sex, level of education, etc), peer influence, exposure to violence, media violence, parenting styles, parental stress and family dysfunction, which are effective on the creation of aggression [6, 10]. In the study of Amin and colleagues, it was found that aggression would increase with the increase of age, order of birth and being a male. Most of the aggressive children were also born by employed mothers with less academic education [1].

Based on the results of the above studies, predictors of aggression need to be explained so that appropriate actions could be taken in order to prevent this annoying phenomenon of social [8, 11]. Based on these facts and considering the fact that the most common form of direct aggression contains verbal and physical aggression, we've decided to do a research with the aim of determining the predictor of the physical and verbal aggression among preschoolers.

Methods

This descriptive cross-sectional study was conducted on preschoolers in Rasht in 2013. Study sample includes 614 children in the age of 5 to 7, who were selected using two-stage cluster sampling of preschool centers under the supervision of Education and Welfare organization in Rasht. The selection criteria were the age of 5 to 7, normal mental ability and no history of psychiatric problems for both children and their parents. Sampling was started in November 2013 and lasted for about one and a half month. Data collection tools included two questionnaires. Aggression scale in preschoolers was a standard questionnaire of 43questionswith the scale rate of 0to4, designed by Vahedi et al.'s for the first time to assess the preschoolers' aggression in 2008. The reliability and validity of the scale were also evaluated in this study [12]. This scale was completed by the respective coaches. If child's score in each area of physical and verbal was two standard deviations above the average of that area, the child was aggressive in that area.

The aggression predictor questionnaire was completed by parents after obtaining a written consent and reassuring them that the way they answered the questions would not affect the way their children were taken care. This questionnaire was a researcher-made questionnaire which was planned for this study and consisted 3 parts: demographic questions (age, sex, type of school, etc), Family specifications (age, educational level and occupation of the parents, verbal and physical punishment of children by the parents and others, verbal and physical conflicts between parents in the presence of the children, etc) and socio-economic factors (stressful events for the child since last year, average daily time that the child watches, type of housing and housing ownership status and the average income of the family, etc).

In order to determine the validity of the data collecting tools, validity content method was used. After completing and collecting the questionnaires, data were given to SPSS version 21, and were analyzed by descriptive and inferential statics. Multiple linear regression method was used to determine the significant predictors.

Results

In this study, physical and verbal aggression was studied in preschoolers and their predictors. Results show that the average score of aggression is (4.5±7.5) (8.1%) in the verbal area and (2.3±4.3) (4.5%) in the physical area, respectively.

Mean and standard deviation of individual, familial and socio-economic variables related to children's physical and verbal aggression were also calculated. The results of this study indicate that the type of preschool center is one of the factors associated with verbal and physical aggression in children. Based on this study, the mean score of verbal ($p<0.003$) and physical ($p<0.001$) aggression of children enrolled in public preschools was higher. So, children in public

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preschools have mean score of (5.6±7.3) in verbal area and (3.2±4.3) in physical area. Meanwhile, the children in private preschools have the mean score of (3.5±6.7) in verbal area and (1.7±4) in physical area. The results illustrated that the mean score of aggression was higher in children whose fathers had lower educational level. It also showed that when the frequency of parental verbal argument and conflicts in the presence of children and corporal punishment of children by parents and others increased, the score gets higher (Table 1).

The mean and standard deviation of socio-economic variables related to children's physical and verbal aggression were calculated. Results of the study shows that the type of housing is one of the socio-economic factors associated with both type of aggression. Based on the results, children living in villas have the higher mean score of ($p<0.02$) in verbal area and ($p<0.05$) in physical area. So, they have the score of (2±3.9) in physical aggression and (3.6±6.7) in verbal aggression. Meanwhile children living in apartments have the mean score of verbal and physical aggression (5.2±7.5) and (2.7±4.8), respectively.

In this study, multiple linear regression analysis was used to determine which factors of aggression plays the main role in predicting the verbal and physical aggression in children. Thus, the variables related to the verbal and physical areas in significant level of ($p<0.05$) in multiple reviews were entered into the regression model and were analyzed. The result of the analysis shows that some individual and familial factors can significantly explain the verbal and physical aggression but the socio-economic factors do not play a significant role. (Tables 2 and 3)

According to table 2, among factors which are relevant to the study, these four variables: verbal conflict in the presence of children ($p<0.009$), educational level of the father ($p<0.01$), the type of the preschool (public or private) ($p<0.001$) and corporal punishment of children by parents or others ($p<0.03$) are the relevant predicting factors of verbal aggression in children. Therefore, when the intensity of verbal conflicts between parents in the presence of their children increases, the aggression gets more in children.

The information in table 2 also represents that the children, whose fathers have higher educational level, have lower verbal aggression score. Averagely, children of fathers with higher educational level have 1 verbal aggression score lower than those with less educational level (CI95%:-1. 9-(-0.2)). The results of the study also showed that children in private preschools were less aggressive than those in public preschools in terms of verbal area. The average verbal aggression score was 2.8 degrees less in private preschools than in public schools (CI95%:-4.5-(-1.2)).

The results indicated that when the corporal punishment increased, the verbal aggression score got higher. As one unit was increased in corporal punishment, the verbal aggression increased 0.8 units (CI95%:0.4-1.5). According to table 3, among all related factors which have been studied, four factors of corporal punishment ($p<0.02$), the type of preschool center ($p<0.0001$), the level of the father's education ($p<0.006$) and the conflicts between parents in the presence of their children ($p<0.03$) are the ones related to the prediction of physical aggression in children. While the severity of the corporal punishments is increased by parents and others, the physical aggression will be increased, too. (One unit increase in the severity of punishment equals 0.5 unit increase in aggression) (CI95%:0.08-1.01)

This table also shows that children in private preschools have less aggression compared to children in public preschools. Children in private preschools have 2 average score of verbal aggression which is less than that in public schools (CI95%:-3-(-1)). The information in table 3 shows that children whose fathers have higher educational level, have a lower average score of aggression (on average 0.7) than children who have uneducated fathers (CI95%:-1.2-(-0.2)).

Results indicate that by the increase of the intensity of conflicts between parents in the presence of their children, the physical aggression in children will also be increased. If one unit is increased in the intensity of the conflicts, children aggression will be increased 0.4 units. (CI95%-0.03-0.9)

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Table 1: mean and standard deviation of family variables predict physical and verbal aggression in children

Family factors \ Aggression areas		verbal		physical	
		Mean	SD	Mean	SD
father educational level	illiterate	7	10.4	5.3	9.2
	under diploma	5	8.1	2.7	4.9
	diploma	4.8	7.5	2.6	4.8
	academic	2.5	4.5	1.1	2
P		0.006		0.003	
corporal punishment of children by parents and others	not at all	3.2	6.1	1.6	3.3
	seldom	4.5	7.2	2.5	4.5
	once per month	3.5	5.8	1.7	3.2
	once per week	6.7	9.2	3.2	4.2
	most days	9.6	9.9	5.8	8.5
P		0.01		0.006	
parental verbal conflictin the presence of children	not at all	2.7	5.5	1.5	3.3
	seldom	4.2	7.2	2.2	4.3
	once per month	4.5	4.8	2.5	3.5
	once per week	9.8	11	5.7	8
	most days	8	7.9	3.7	3.6
P		0.0001		0.002	

Table2: regression coefficient predictors of verbal aggression in the samples

Model	regression coefficient B	standard error	significance level	confidence interval B 95%	
				Lower limit	Lower limit
unknown factors impact of study	3.7	1.2	0.002	1.4	6.1
corporal punishment of children	0.5	0.2	0.02	0.08	1
Type of preschool center	-2	0.5	0.0001	-3	-1
Education of the father	-0.7	0.2	0.006	-1.2	-0.2
parental verbal conflict in	0.4	0.2	0.03	0.03	0.9

Table 3: regression coefficient predictors of physical aggression in the samples

Model	regression coefficient B	standard error	significance level	confidence interval B 95%	
				Lower limit	upper limit
unknown factors impact of study	6	2	0.003	2	9.9
parental verbal conflict in	0.9	0.3	0.009	0.2	1.7
Education of the father	-1	0.4	0.01	-1.9	-0.2
Type of preschool center	-2.8	0.8	0.001	-4.5	-1.2
corporal punishment of children	0.8	0.3	0.03	0.04	1.6

Discussion

Children aggression is a major worldwide health problem, particularly in recent years [1]. Experts consider different predictors effective in the development of the aggression which can be affected by individual and familial factors. In the present study, individual and familial factors are known as main predictors of verbal and physical aggression in children. Indicators associated with these factors included the type of preschool, education of the father, parents conflicting in the presence of their children and corporal punishment.

About the factor of the type of preschools, the results show that children in private preschools noticeably have a lower score in physical and verbal aggression comparing to children in public preschools. In this regard, in the research of Khodam et al.'s. in Gorgan, similar results were obtained that educating in public schools could raise the chance of development of behavioral problems -such as aggression- one and a half times, compared to private schools [13].

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According to this research, educating in public schools, for reasons such as the large number of students, less training and lack of welfare facilities and supervision, could increase the risk of behavioral problems.

About the variable of fathers' educational level, the results suggested that the mean aggression score in children whose fathers were educated was less than others. The results of Torshizi et al.'s study, which was conducted in Birjand, were different and there was no noticeable relation between fathers' educational level and aggression in their children [14]. According to this research, as the fathers get more educated they know how to deal with children and how to pay attention to their psycho-social needs better. Thus, the incidence of behavioral problems can be prevented.

About the variable of parental verbal conflict in the presence of their children, the results show that if the frequency of this variable is increased, their children's mean score in physical and verbal aggression will be increased, too. In this regard, Cummings et al.'s conducted a study in which it was concluded that if the children are exposed to destructive and negative parental conflict, the aggressive behavior in them will be increased and it also causes the externalized behavior problems in children [15]. According to this research parents are the most important behavioral pattern for their children. Children learn how to communicate and interact with others by imitating their parents. When this behavioral pattern is in the form of verbal aggression with loud voices and screaming, the children also learn such interaction.

About the corporal punishment variable, the results represent that if the punishment is increased, the mean aggression score in children will also be increased.In this regard, Ghasemi et al.'s in a study which was conducted in schools in Khoramabad, found that behavioral problems such as physical and verbal aggression in children who had been physically punished by their parents or others were significantly higher than those who had not been punished [16]. Taylor et al.'s launched a study which aimed to examine the association between the corporal punishment (CP) in 3-year-old children and the subsequent aggression among those children in twenty big cities in the U.S.A. Frequent use of corporal punishment and children's aggressive behavior in the age of 3 to 5, a host of key demographic features and potential confounding factors-including maternal child physical maltreatment, psychological maltreatment and neglect, intimate partner aggression victimization, stress, depression, use of substances and abortion- were assessed. The results indicated that frequent use of CP (i.e. mother's use of spanking more than twice in the previous month) at the age of 3, even by considering the aggression at the age of 3 and controlling the confounding factors and key demographic factors, will increase the risk of aggression in children at the age of 5 [17].

According to this study, the corporal punishment means provide an aggression pattern for the child. In fact, children by observing their parents' actions learn that aggression is an appropriate mean to manage the stress and frustration. After being beaten by older people around them, children learn how to use their power against younger people and think everything can be solved in this way.

According to the results of the studies it seems that the individual and familial factors are the main predictors of physical and verbal aggression in children. Therefore, the special attention must be paid to these two factors by concentrating of families in order to prevent the aggression.

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Conflict of interest: Psychological status of parents and educators at the time of completing the questionnaire may affect how to answer the questions which is out of the hands of researcher.

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