

## Association between Aggressive Behaviors, Life Satisfaction, Self-rated Health and Counseling with Family Members among Children and Adolescents: The CASPIAN- IV Study

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### Abstract

**Background:** Aggressive behaviors are common in the pediatric age and counseling with parents should be one of the main preventive and therapeutic strategies. This study aimed to assess the relationship between the frequency of aggressive behaviors, life satisfaction (LS) and self-rated health (SRH) and counseling with family members and friends in a representative sample of Iranian children and adolescents. **Materials and Methods:** In this nationwide study, 14,880 school students, aged 6-18 years, were selected by cluster and stratified multi-stage sampling method from 30 provinces in Iran. The World Health Organization Global School-based Health Survey questionnaire (WHO-GSHS) was used. Mental disorders were assessed through the WHO-GSHS questionnaire that consisted of worthless, anger, anxiety, insomnia, confusion, depression, and worried. **Results:** Overall, 13,486 students (49.2% girls) with mean (standard deviation [SD]) age of 12.47(3.36) years participated in the study. The prevalence of physical fight, victim, and bully was lower in children and adolescents who consulted with their father compared to those who did not consult ( $P < 0.05$ ). Physical fight and bully were less prevalent in children and adolescents who consulted with their mother and friends compared to those who did not consult ( $P < 0.001$ ). Also, the prevalence of LS and SRH "good" was also lower in children and adolescents who share their problem with their father or mother compared to those who did not consult ( $P < 0.001$ ). **Conclusion:** Counseling with family members was associated with low physical fight, low bully, good sexual and reproductive health (SRH) and LS. So, children and adolescents should be encouraged to consult with their parents about their problems.

**Key Words:** Adolescents, Aggression, Children, Life Satisfaction, Self-rated Health.

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## 1- INTRODUCTION

Mental health and social well-being, especially in children and adolescents, become one of the most important priorities in health researches that led to considerable growth in related research evidences (1-3). Based on the results of investigations age groups of children and adolescents, every 3 to 4 person have an experiences of psychiatric disorders and about 10% are exposed to serious emotional disorders (3-5). Mental disorders have more adverse long-term associations with several health and social outcomes such as higher alcohol and tobacco use, unwanted pregnancy, school drop out and offending behaviours (6). At least 50% of chronic mental problems rooted in late childhood and early adolescence (7). Although, most attention is focused on the physical problems research has been shown that the incidence and reverse out comes of mental problems are more than physical diseases (8-10).

These complex situation mostly developed under the interaction of known and unknown factors that could be categorized as individual characteristics and family context (10). The main factors that are associated with the first category are gender, race, age, physical age, nutritional habits, birth weight, past medical history, alcohol consumption, medications, infectious and chronic non-infectious diseases, and environmental contamination. Parents' educational level, socio-economical status, occupation, size of family, social welfare, situation of mental and physical health of parents proposed as the main important factors that act as family context (6,11-16). The high prevalence of such disorders in teens has increased the importance of problem (17-20). Violent behaviors as a major part of behavioral disorders, with considerable increasing trends, become a serious problem, of most of communities (21-23). The age ranges for these disorders follow

decreasing patterns and in most of the times it can be seen along with other mental disorders (23, 24). Life satisfaction (LS) and self-rated health, assess different dimensions of individuals' own health that show some non-biomedical factors of general well-being framed by individual, familial and social dimentions (25-27). Despite of the importance and priority of these fields, there are limmited practical investigation on SRH and LS for some sub-groups of population that could be used for evidence base interventional programs for behavioral problems and their consequences (7,10,16).

Consider above, present study aimed to assess the relationship between the frequency of aggressive behaviors, LS, SRH and counseling with family members in a representative sample of Iranian children and adolescents, Iran.

## 2- MATERIALS AND METHODS

### 2-1. Study Design and Population

This nationwide study was conducted in 2011-2012 as the fourth national survey of a school-based surveillance program entitled the Childhood and Adolescence Surveillance and Prevention of Adult Non-communicable disease (CASPIAN-IV) study. We have previously reported the methodology of this study (28), and here we explain the methods related to the current paper.

### 2-2. Sampling Method

The study population consisted of elementary, secondary, and high-school students from rural and urban areas of 30 provinces in Iran. They were selected by multistage, cluster sampling method from 30 provinces of the country (48 clusters with 10 students in each province). Stratification was performed in each province according to the residence area (urban, rural), and school grade (elementary, middle- and high school) proportional to size and with equal sex

ratio; i.e. in each province, the number of boys and girls were the same and the ratios in urban and rural areas were proportionate to the population of students in each area. In this way, the number of samples in rural, urban areas and in each school grade was divided proportionally to the population of students in each grade. Cluster sampling with equal clusters was used in each province to reach the sample size of interest. The clusters were determined at the level of schools, containing 10 samples in each cluster. The sample size was determined according to the cluster sampling method; the maximum sample size which could give a good estimate of all risk factors of interest was selected. Thus, the sample size was calculated as 480 subjects in each province, therefore 48 clusters of 10 subjects were selected in each province. Overall, 14,880 students were selected by multistage sampling from 30 provinces in Iran.

### 2-3. Measuring tools

The questionnaire of the World Health Organization- Global School-based Student Health Survey (WHO-GSHS) was used to assess aggressive behaviors, LS, SRH and counseling with family members. The reliability and validity of the Persian version of questionnaire was approved in the previous studies (29, 30). Demographic information, on age, gender, residence area, family based characteristics, living with parents, parental level of education, possessing a family private car, type of home and, gathered through interview with students.

To assess the socio-economic status (SES), we used principle component analysis (PCA) variables including parents' education, parents' job, possessing private car, school type (public/private), type of home (private/rental) and having personal computer in home, and summarized them in one main component SES (31).

The aggressive behaviors included in the questionnaire consisted of physical fight, victim, and bully which were assessed by following questions:

**Physical fight:** during the past 12 months, how many times you had physical fight? (Response options were likert scale from 1= 0 time to 5= 4 times or more).

**Victim:** during the past 3 months, how many times you got bullied at school? (Response options were likert scale from 1= 0 time to 5= 4 times or more).

**Bully:** during the past 3 months, how many times you bully at school? (Response options were were likert scale from 1= 0 time to 5= 4 times or more).

For each behavior, more than 1 time was considered as having that behavior.

LS was assessed through a single item. Subjects were asked to indicate their degree of life satisfaction by using a tenth-point scale from 1= very dissatisfied to 10 = very satisfied. Fewer than 6 responses were aligned to not satisfy and responses of equal and upper 6 were defined as a satisfied. SRH was assessed through a single item, "how would you describe your general state of health?"; the categories of response were "perfect", "good", "bad," and "very bad". For statistical analysis, "perfect and good" responses were considered as "good SRH". Moreover, the preference of participant in consulting with father, mother, and sister/brother and friends were asked for further analyses.

### 2-4. Inclusion and exclusion criteria

Having Iranian nationality (Iranian identification identity card) was only inclusion criteria of study. Exclusion criteria in these surveys included having a chronic disease, history of chronic medication consumption, and being on a special diet. Student with full missing data were excluded from statistical analysis.

## 2-5. Ethical considerations

The study was reviewed and approved by ethical committees of Isfahan and Tehran University of Medical Sciences. The process of sampling and examination began after explaining the project to the students and their parents. Participation in the study was voluntary. Written informed consent, and verbal consent, were obtained from parents and students, respectively.

## 2-6. Data analyses

Continuous variables are presented as mean  $\pm$  SD, and categorical data as number (percent). Categorical data were analyzed by Chi square test. Univariate and multivariate logistic regression model was fitted to evaluate the association of aggressive behaviors and consultation with family members. In multivariate analysis, the variables of age, gender, living area, living with parents and SES were adjusted in the model. Statistical analysis was done by the StataCorp. 2011 (Stata Statistical Software: Release 12. College Station, TX: StataCorp LP. Package) by using the survey (cluster) analysis design. P-value of less than 0.05 was considered as statistically significant.

## 3- RESULTS

The participation rate of this survey was 90.6%, and participants consisted of 13,486 students (49.2% girls). They had a mean (SD) age of 12.47 (3.36) years without significant difference between boys [12.36 (3.40) and girls (12.58 (3.32)]. A total of 75.6% of students were from urban and 24.4% were from rural areas and 46%, 25.9%, and 28.1% were in elementary, secondary and high school levels, respectively. Overall, 84.6% of boys and 84.1% of girls shared their problems with their mother and 56.1% of boys and 42.2% of girls shared their problems with their father. In addition, 45.6% of boys and 44.8% of girls shared their problems with their brother or

sister. Furthermore, 60.4% of boys and 66.0% of girls share their problems with their friends. **Table.1** (please see the end of paper) shows association between aggressive behaviors and counseling with each of family members, including father, mother, sister and brother, as well as with friends. In both genders, physical fight was less prevalent in children and adolescents who consult with their father and mother compared with those who did not consult ( $P < 0.001$ ). Also, in both genders victim was less prevalent in children and adolescents who consult with their father compared with those who did not consult ( $P < 0.05$ ). In addition, victim was less prevalent in girls who consult with their mother compared with those who did not consult ( $P < 0.001$ ). However, it was not statistically significant in boys ( $P > 0.05$ ). Bully was less prevalent in children and adolescents who consult with their father, mother and friends compared with those who did not consult ( $P < 0.001$ ).

The frequency of LS was higher in children and adolescents who consult with their father or mother compared with those who did not consult ( $P < 0.001$ ). The frequency of LS was also higher in girls who consult with their sisters or brothers compared with those who did not consult ( $P < 0.05$ ). However, it was not statistically significant in boys ( $P > 0.05$ ). Good sexual and reproductive health (SRH) was more prevalent in children and adolescents who consult with their father or mother compared with those who did not consult ( $P < 0.001$ ). SRH "good" was also associated with counseling with friends only in girls ( $P < 0.001$ ), but not in boys ( $P > 0.05$ ).

The Odds ratio [95% confidence interval (CI)] of aggressive behaviors, LS and good SRH with consultation with family members in logistic regression models have been revealed in **Table.2** (please see the end of paper). There was a significant decreased odds of all of studied aggressive

behaviors in children and adolescents who consulted with their father and mother compared with those who did not consult ( $P < 0.05$ ). Also, there was a significant increased odds of LS and good SRH in children and adolescents who consulted with their father and mother compared with those who did not consult ( $P < 0.05$ ).

#### 4- DISCUSSION

Findings of present study showed that adolescents who share their problems with their father, mother, or friends, compared those who did not consult, had a lower prevalence of all kinds of violent behaviors including; physical fight, victim, and bully.

These results consistent with previous studies that shown behavioral disorders are less common in those who have the support of families, especially parents. Furthermore, consult with family members and friends reduces the prevalence of behavioral disorders (7, 10-16, 32).

This is revealed that higher socio-economic status of family, more attention to children and educational levels of parents could be affect as preventive factors (33-36). Regarding the finding the probable related factors, studies show that, more than 2 hours per day, screen time engaging (watching TV, working on a computer, playing video games) are associated with incidence, persistence and exacerbation of violent behaviors in children and adolescents (21-24). Therefore, considerations and supervising of these contexts can greatly reduce the prevalence of violent behavior in children and adolescents (37-38). In the fields of prevention and control, on time diagnosis of behavioral disorders in one of the other important point for effectiveness of interventions (37-40). Another effective strategy is recognition of abused or neglected children, formulates more effective coping strategies and mobilizes required resources (41). For an effective prevention, the case by case study

approaches should be followed in processes of screening, diagnosis, treatment and all protective interventions (36, 42). LS was similarly more prevalent in those who consulted with their father, mother, or friends. This study shows that SRH "good" was higher in children and adolescents who share problems with their father or mother. This findings has been confirmed by several studies (44-46). Also, results of an international study show that supportive communication with parents can moderates the negative effects of electronic media use on LS during adolescence (47). The present study was also found that SRH is better among children who share his/her problem with their father and mothers. These findings is also confirmed by Vingilis et al. who revealed that adolescents' SRH are framed by social and familial factors (48). Some studies have also been presented mentioned association, too (49,50).

Finally it should be said that; large sample size and generalizability, as well as assessing the association of consultation by each family members or friends, and by behavioral disorders are the strengths of the current study. We have presented the results in detail and by each family member and friends, as well as by the type of behavioral disorder. However, to confirm the results of the present study, more longitudinal studies in Iranian children and adolescents are warranted.

#### 5- CONCLUSIONS

Counseling with family members was associated with low physical fight low bully, high SRH and LS. So, children and adolescents should be encouraged to consult with their parents about their problems. Parents should also offer their children an opportunity to express their views and wishes about their problems. To confirm the results of the present study, more longitudinal studies in Iranian children and adolescents are warranted.

**6- CONFLICT OF INTEREST:** None.

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**Table-1:** Association of aggressive behaviors, life satisfaction and self rated health with consultation with family members according to gender: the CASPIAN- IV study

Variables	Consulted with							
	Father		Mother		Sister/brother		Friends	
	Yes	No	Yes	No	Yes	No	Yes	No
<b>Girl</b>								
Physical fight	751(27.43)	1283(34.1)	1639(29.72)	406(38.89)	866(30.55)	1115(31.88)	1350(31.68)	667(30.46)
P-value	<0.001		<0.001		0.2		0.3	
Victim	609(22.19)	1033(27.43)	1330(24.09)	323(30.88)	707(24.89)	890(25.42)	1077(25.25)	544(24.79)
P-value	<0.001		<0.001		0.6		0.7	
Bully	303(11.07)	628(16.73)	731(13.29)	207(19.81)	403(14.2)	507(14.53)	651(15.3)	272(12.43)
P-value	<0.001		<0.001		0.7		<0.005	
LS	2408(87.98)	2802(74.58)	4593(83.36)	667(63.77)	2305(81.33)	2767(79.17)	3358(78.81)	1811(82.85)
P-value	<0.001		<0.001		<0.05		<0.005	
Good SRH	2315(84.86)	2822(75.27)	4449(80.96)	740(70.95)	2264(80.17)	2735(78.39)	3359(79.07)	1737(79.53)
P-value	<0.001		<0.001		<0.05		0.6	
<b>Boy</b>								
Physical fight	1732 (45.9)	1530 (52.0)	2706 (47.3)	558 (54.2)	1407 (47.78)	1727 (49.4)	2015(50-68)	1202 (46.18)
P-value	<0.001		<0.001		0.2		<0.001	
Victim	1058 (28)	929 (31.52)	1680 (29.3)	315 (30.58)	833 (28.28)	1075 (30.65)	1166 (29.27)	789 (30.28)
P-value	<0.005		0.4		<0.05		0.4	

Relationship between Aggressive Behaviors and Counseling with Family Members among Children

Bully	687 (18.24)	702 (23.93)	1137 (19.92)	254 (24.8)	627 (21.36)	703 (20.12)	872 (21.94)	496 (19.14)
P-value	<0.001		<0.005		0.2		<0.05	
LS	3188(84.65)	2159 (73.26)	4647 (81.23)	726 (70.62)	2360 (80.14)	2766 (78.94)	3144 (79.03)	2087 (80.15)
P-value	<0.001		<0.001		0.2		0.3	
Good SRH	3151 (83.76)	2250 (76.56)	4665 (81.67)	764 (74.39)	2384 (81.14)	2796 (79.98)	3198 (80.49)	2088 (80.46)
P-value	<0.001		<0.001		0.2		0.9	
SRH: Self-rated health; LS: Life satisfaction.								
Data are presented as n (%).								

**Table-2:** Odds ratio (95% CI) of aggressive behaviors, life satisfaction and self rated health with consultation with family members in logistic regression model

Variables	Consulted with				
	Model	Father	Mother	Sister/brother	Friends
Physical fight	Model I	0.85 (0.78-0.92)*	0.72 (0.65-0.80)*	0.94(0.87-1.02)	1.08(0.99-1.17)
	Model II	0.74(0.68-0.81)*	0.72(0.64-0.80)*	0.90(0.83-0.97) *	1.12(1.02-1.22)
Victim	Model I	0.83(0.76-0.90)*	0.82(0.73-0.91)*	0.93(0.85-1.01)	0.97(0.88-1.06)
	Model II	0.77(0.70-0.84)*	0.78(0.70-0.88) *	0.95(0.86-1.04)	1.00(0.91-1.10)
Bully	Model I	0.72(0.65-0.79)*	0.69(0.61-0.78)*	1.03(0.93-1.14)	1.18(1.106-1.31)*
	Model II	0.68(0.61-0.76)*	0.73(0.64-0.83) *	0.99(0.89-1.10)	1.13(1.01_1.27)*
LS	Model I	2.16(1.96-2.38) *	2.26(2.02-2.53)*	1.10(1.01-1.21) *	0.85(0.77-0.94) *
	Model II	1.94(1.76-2.15) *	1.89(1.68-2.14)*	1.29(1.17-1.43)*	0.99(0.89-1.10)
Good SRH	Model I	1.70(1.55-1.85) *	1.63(1.46-1.83) *	1.09(1.01-1.19) *	0.98(0.89-1.07)
	Model II	1.52(1.38-1.67)*	1.43(1.27-1.61)*	1.21(1.10-1.34)*	1.09(0.98-1.20)
SRH: Self-rated health; LS: Life satisfaction; Model I: Crude model; Model II: Adjusted for age, gender, living area, living with parent, SES(socio-economic status). *Statistically significant.					