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Research Article

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Impact of Media Violence on Aggressive and Criminal Behavior of Young Population in Taif City, Saudi Arabia

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ABSTRACT

Young population including children and adolescents, represents more than a quarter of the world's population during the stage of human development, and risk-taking and violent behaviors are prevailing among this group of people. There are a lot of factors which increase the rate of aggression and violence such as being male, low level of parents' education and occupation, living in urban and/or slum areas, exposure to the violence within the family, and changes in the behaviour of any family member. In addition, violence prevalence in television, videogames and movies has been considered among the factors mentioned as causing aggressive behavior among young people. This study was aimed to determine the possible associations between watching aggression on media, and playing violent videogames from one side, and the aggressive behavior of children of mothers attending pediatric outpatient clinics, Prince Mansour hospital in Taif city, on the other. A cross sectional study was used, and it was implemented in Prince Mansour Military Hospital, (PMMH) in Taif. There were 341 participants in this study, and the systematic random sampling technique was used in selecting the sample. The tools were consisted of three parts : the first one was the demographic data, the second was the history of watching TV and playing videogames, and the third was a questionaire including 51 questions which addressed the children's different types of behaviors including aggression. The main results revealed statistically significant differences between aggression and age, sex, education and occupation of parents (p-value is 0.035., 0.015, 0.010 and 026. respectively). Also, the results illustrated that there was a significant association between high and extremely high risk of aggression and playing videogames.

Key words: *Young Population, Violence, Aggression, Aggression Prevalence in Television, Videogames and Movies.*

INTRODUCTION

Young population including children and adolescents represents more than a quarter of the world's population. Despite their importance as the future generation of nations, they often receive less attention concerning their health compared to the other age groups [1]. During this stage of human development, risk-taking and violent behaviors are prevalent [2, 3]. There are a lot of factors which increase the rate of aggression/violence such as being male, low level of parents' education and occupation, living in urban/slum areas, exposure to violence within the family, and changes in behaviour of any family members [4].

In addition, violence prevalence in television, videogames and movies have been considered among the factors mentioned as causing aggressive behavior among young people. The relationship between media violence and aggressive behavior has been extensively studied worldwide [5, 6]. Mitrofan et al. [7] carried out a study to investigate the possible association between watching aggression in media, and the children`s aggressive behavior. The results showed that the participants had clinically significant aggression of different types and frequency.

It was evident that the exposure to violent media produces more aggressive behavior, and develops more attitude towards using aggression to resolve conflicts especially in young people [8]. Coyne [9] in his study, investigated the longitudinal associations between seeing relational aggression on TV, and the consequent aggressive behavior among the adolescents. The results revealed that watching relational aggression on TV was longitudinally associated with future relational aggression.

Overt aggression in TV programs and videogames is of two categories, it may be physical or non-physical, the latter including verbal (e.g. saying hurtful things), symbolic (i.e., attempting to hurt an individual in a non-verbal manner) and object (e.g. hitting an object) aggression [10]. Anderson, et al. [11] in their study revealed that the exposure to violent videogames is a causal risk factor to increase aggressive behavior, aggressive cognition, aggressive affect and decrease empathy and prosocial behavior. Moreover, Gentile et al. [12] reported that children who watch media violence early in the school year, were reported to get high scores in verbally aggressive behavior, relationally aggressive behavior, and physically aggressive behavior. On the other hand, they reported that prosocial behavior was decreased later, in the school year.

Therefore, young people were needed to participate in the interventional primary care program which plays an important role in modifying the children's behavior and attitude. Aragon Neely et al. [13] in their study, supported that they conducted a randomized controlled trial among the parents of the children (2-12 years-old) to determine if brief interventional primary care program, either through video or handout can influence the children's habit of viewing media and exposure to violence. The results revealed that comparing with the primary control group, the parents in the video intervention group were more likely to report a change in their children's media viewing habits, and a change in their children's exposure to violence.

Aim of the study :

This study was aimed to investigate the possible associations between watching aggression in media, and playing violent videogames from one side, and the aggressive behavior of the children of mothers attending pediatric outpatient clinics, Prince Mansour hospital in Taif city, Saudi Arabia.

MATRIALS AND METHODS

Study design :

This study was a cross sectional study.

The Study setting :

The study was implemented in Prince Mansour Military Hospital, (PMMH) in Taif, in the western region of Saudi Arabia. The hospital had 210 beds. Moreover, there were three pediatric clinics (walk-in) operated five days a week, opened from 7 :30 am-12.00 in the morning and 1 :00 pm – 4 :00 pm in the afternoon.

Sample size :

The sample size was 341 participants.

The formula used with 95% was CI n = (1.96)2 *p (1-p) / d2

The researchers increased the sample size to 375 (10%) to compensate any none or incomplete responses.

Sampling technique :

Systematic random sampling technique was adopted to select the study population from the hospital.

Study population and selection criteria :

The target population was mothers who were attending the pediatric clinics with their children at Prince Mansour military hospital in Taif, and accepted the invitation to participate in the study.

Inclusion criteria :

The mothers attending pediatric clinics at Prince Mansour military hospital during the time of study, their index children of both genders aged between 4 and 12 years, and not limited with an especial nationality (all nationalities) and at communicating with arabic speakers, were included in the study.

Exclusion criteria :

Illiterate (i.e. those who cannot read and write independently), mothers whose children aged below 4 years, and non-Arabic speakers were excluded from the study.

Tools used :

A Self-administered, validated and reliable Arabic questionnaire was utilized. It was composed of three main parts :

Part I :

Demographic data of the target population which included the age, gender, nationality, monthly income, maternal and parental education level and occupation, was used.

Part II :

The history of watching TV and playing videogames was determined using a questionnaire (including 11 questions).

Part III :

A questionnaire which was consisted of 51questions addressing different behaviors of the children including aggression. A validated and reliable Arabic translation [4] of the validated and reliable screening questionnaire which was developed by the Mentor Research Institute was utilized for this part of the study [9].

The scores were assigned to the participants` responses. Then, the total score was computed for every participant.

The 1st 18 questions were accredited with score 1

The next 19 questions were accredited with score 5

The next 5 questions were accredited with score 10

The next 5 questions were accredited with score 15

The next 4 questions were accredited with score 20

The total score then was classified into four risk levels as follows [14]

- A score ≤16 was considered as a low risk of aggression
- A score ranged between 17 and 32 was considered as a moderate risk of aggression
- A score ranged between 33 and 84 was considered as a high risk of aggression
- A score ≥ 85 was considered as an extremely high risk for aggression

The researcher recruited 3 female interns to help him in collecting the data, and he trained them how to interview the participants.

Pilot study

Before commencing the main study, a pilot study was conducted on 35 mothers (10% of sample size) from those attending Prince Mansour military hospital to test the feasibility of the study in particular sampling technique, clarity of the questionnaire and the average time needed for its completion.

Data entry and statistical analysis :

Data analysis was done utilizing SPSS, version 22 software. Descriptive statistics were applied in the form of frequency, percentage for categorical variables, mean and standard deviation for continuous variables. Chi-square test was utilized to measure the relationship between categorical variables. A p-value less than 0.05 was considered statistically significant.

Ethical considerations

The approval of the regional Research and Ethics committee at Al-Hada Armed Forces hospital, Taif Region was obtained.

An invitation for participation in this study was added in the questionnaire.

Willing to participate in the study by filling the study questionnaire was considered as a consent.

Confidentiality of the data was assured.

RESULTS

The personal characteristics of the children/adolescents were estimated, and the results were recorded in Table (1). From the data, it could be noticed that the total number was 375 participants, and their age ranged between 4 to 12 years. The age of 44.2% of them ranged between 6 to 9 years, the age of about 28.3% of them ranged between 10 to 12 years, and also the age of 27.5% of them ranged from 4 to 5 years. Slightly more than half of them were females (52.5%) followed by males (47.5%), and the majority of the included children were Saudis (94.4%). The family income ranged between 5001 to 10000 SR/monthly among 41.1%, and the family income ranged between 10001 to 15000 SR/monthly among 28.5%, whereas it exceeded 15000 SR/month among 9.9% of the participants. The percentage of maternal and paternal educational levels as no education, elementary school, international school, high school, diploma and bachelor and above were 8.0, 5.9, 10.9, 26.7, 9.6 and 38.7% ; respectively for maternal, whereas, the data on paternal education showed 2.1, 4.3, 15.2, 43.2 5.0 and 27.2% ; respectively. Most of the participants' mothers were housewives (70.4%), the mothers of 20.5% of them were teachers, meanwhile the mothers of 9.1% of them had other jobs. Almost half of the participants' fathers (49.9%) worked in military, followed by 17.6% who were governmental employees, 15.5% were retired, 7.7% were in business/trading and other jobs, the residual 1.6% did not have a job.

Table 1 : Personal characteristics of the children/adolescents

	Number	Percent
Age (years)		
4-5	103	27.5
6-9	166	44.2
10-12	106	28.3
Gender		
Male	178	47.5
Female	197	52.5
Nationality		
Saudi	354	94.4
Non-Saudi	21	5.6
Family income (SR/month)		
<5000	77	20.5
5001-10000	154	41.1
10001-15000	107	28.5
>15000	37	9.9
Maternal educational level		
Not educated	30	8.0
Elementary school	22	5.9
Intermediate school	41	10.9
High school	101	26.9
Diploma	36	9.6
Bachelor/above	145	38.7
Maternal Job		
House wife	264	70.4
Teacher	77	20.5
Other jobs	34	9.1
Paternal educational level		
Not educated	8	2.1
Elementary school	16	4.3
Intermediate school	57	15.2
High school	162	43.2
Diploma	30	8.0
Bachelor/above	102	27.2
Paternal Job		
Not working	6	1.6
Governmental job	66	17.6
Military job	187	49.9
Business/trading	29	7.7
Retired	58	15.5
Others	29	7.7

As shown in Table (2) and Figure (1), the majority of the practicing children (80%) were playing videogames. And, about half of the children (46.4%) were practicing videogames every day, followed by the children playing a few days, and twice a week with the percentages of 23.7 and 15.3%, respectively. The average duration of playing videogames each time ranged between one to three hours among 52.7% of the participants. Almost two-third of the children (67.5%) had one of their family members playing video games, and one third of the children were playing video games with themselves. The most frequent instruments used in playing videogames were I pad (38.7%), mobile phones (32.3%), and play station (19%). Slightly more than half of the participants (51%) were playing videogames with their friends. Regarding the nature of the played videogames, 46.7% were stirring and adventure, 18% were sports, and 14.3% were violence.

Table 2 : Details of playing videogames among the children

	Number	Percent
The frequency of playing videogames		
<Once/month	19	6.3
<Once/week	22	7.3
Twice/week	46	15.3
Every few days	71	23.7
Every day	142	46.4

The average duration of playing videogames each time (hours)		
<1	74	24.6
1-3	158	52.7
4-5	39	13.0
>5	29	9.7
Having other family members (siblings/parents) playing videogames		
No	122	32.5
Brothers	157	41.9
Sisters	56	14.9
Parents	40	10.7
Instruments used for playing videogames		
Computer	15	5.0
X-Box	15	5.0
Play station	57	19.0
Mobile phone	97	32.3
Ipad	116	38.7
Children playing alone or with others		
With friends	39	13.0
Alone	108	36.0
Both	153	51.0
The nature of videogames often played		
Violence	43	14.3
Sports	54	18.0
Stirring and adventure	140	46.7
Others	63	21.0

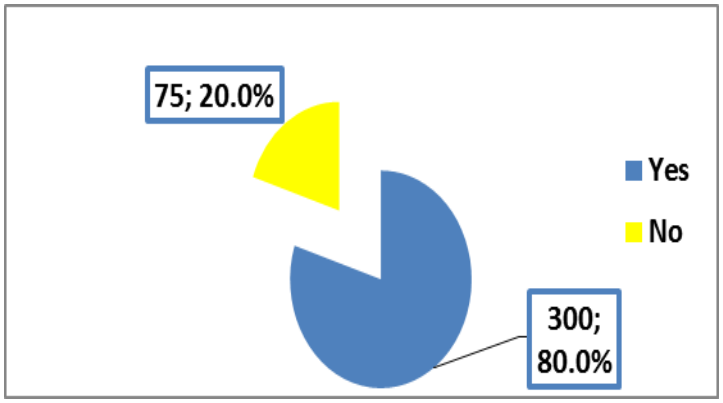

Figure 1 : Frequency of playing videogames among children

The association between the personal characteristics of the children and the risk of aggression was evaluated. The results are reported in Table (3). From the resultants, it could be noticed that there was a statistically significant difference between aggression and the age, sex, education and occupation of the parents (p-value was 0.035, 0.015, 0.010 and 026, respectively). While, the children's nationality, family income, maternal education and job, were not significantly associated with the risk of aggression (P-value was 0.068, 0.168, 0.288, and 0.422 ; respectively). Moreover, the risk of aggression for the children showed that the children from 6 to 9, with the family income of between 5001-10000 (SR/month), maternal education level of bachelor/above, maternal job as a housewife, and paternal job as a military officer were highely at risk of aggression.

Table 3 : Association between personal characteristics of children and the risk of aggression

	Risk for aggression				p-value
	Low N=121 N (%)	Moderate N=64 N (%)	High N=133 N (%)	Extremely high N=57 N (%)	
Age (years)					
4-5 (n=103)	44 (42.7)	20 (19.4)	32 (31.1)	7 (6.8)	
6-9 (n=166)	45 (27.1)	27 (16.3)	65 (39.2)	29 (17.5)	
10-12 (n=106)	32 (30.2)	17 (16.0)	36 (34.0)	21 (19.8)	0.035

Gender					
Male (n=178)	48 (25.8)	29 (16.3)	67 (37.6)	36 (20.2)	
Female (n=197)	75 (38.1)	35 (17.8)	66 (33.5)	21 (10.7)	0.015
Nationality					
Saudi (n=354)	116 (32.8)	56 (15.8)	128 (36.2)	54 (15.3)	
Non-Saudi (n=21)	5 (23.8)	8 (38.1)	5 (23.8)	3 (14.3)	0.068
Family.income (SR/month)					
<5000 (n=77)	24 (31.2)	16 (20.8)	32 (41.6)	5 (6.5)	
5001-10000 (n=154)	50 (32.5)	22 (14.3)	50 (32.5)	32 (20.8)	
10001-15000 (n=107)	39 (36.4)	19 (17.8)	36 (33.6)	13 (12.1)	
>15000 (n=37)	8 (21.6)	7 (18.9)	15 (40.5)	7 (18.9)	0.168
Maternal education					
Not educated (n=30)	9 (30.0)	4 (13.3)	12 (40.0)	5 (16.7)	
Elementary school (n=22)	5 (22.7)	6 (27.3)	8 (36.4)	3 (13.6)	
Intermediate school (n=41)	4 (34.1)	7 (17.1)	16 (39.0)	4 (9.8)	
High school (n=101)	34 (33.7)	21 (20.8)	26 (25.7)	20 (19.8)	
Diploma (n=36)	10 (27.8)	5 (13.9)	20 (55.6)	1 (2.8)	
Bachelor/above (n=145)	49 (33.8)	21 (14.5)	51 (35.2)	24 (16.6)	0.288
Maternal Job					
House wife (n=262)	82 (31.1)	52 (19.7)	93 (35.2)	37 (14.0)	
Teacher (n=77)	29 (37.7)	7 (9.1)	28 (36.4)	13 (16.9)	
Other jobs (n=34)	10 (29.4)	5 (14.7)	12 (35.3)	7 (20.6)	0.422
Paternal education					
Not educated (n=8)	1 (12.5)	0 (0.0)	4 (50.0)	3 (37.5)	
Elementary school (n=16)	5 (31.3)	3 (18.8)	5 (31.3)	3 (18.8)	
Intermediate school (n=57)	19 (33.3)	7 (12.3)	21 (36.8)	10 (17.5)	
High school (n=162)	64 (39.5)	26 (16.0)	58 (35.8)	14 (8.6)	
Diploma (n=30)	2 (6.7)	4 (13.3)	16 (53.3)	8 (26.7)	
Bachelor/above (n=102)	30 (29.4)	24 (23.5)	29 (28.4)	19 (18.6)	0.010
Paternal Job					
Not working (n=6)	0 (0.0)	0 (0.0)	4 (66.7)	2 (33.3)	
Governmental job (n=66)	18 (27.3)	13 (19.7)	20 (30.3)	15 (22.7)	
Military job (n=187)	66 (35.3)	28 (15.0)	68 (36.4)	25 (13.4)	
Business/trading (n=29)	6 (20.7)	10 (34.5)	8 (24.6)	5 (17.2)	
Retired (n=58)	26 (44.8)	7 (12.1)	18 (31.0)	7 (12.1)	
Others (n=29)	5 (17.2)	6 (20.7)	15 (51.7)	3 (10.3)	0.026

As illustrated in Table (4), there was a significant association between the high and extremely high risk of aggression and playing videogames, having other family members playing videogames, particularly brothers, the nature of videogames often played, the frequency of playing videogames, the average duration each time, and the instruments used in playing videogames. While playing alone or with others was not significantly associated with the risk of aggression among the children (p-value was 0.394). Moreover, the results of the risk of aggression in the children showed that the children playing video games every day, with the average duration of playing videogames each time between 1 to 3 hours, having other family members (siblings/ parents) playing with them, using Ipad for playing videogames, and playing stirring/adventure video games were at high risk of aggression. The results shown in Table (4) was parallel with the results in Table (3).

Table 4 : The association between playing videogames and risk of aggression among the children

	Risk for aggression				p-value
	Low N=121 N (%)	Moderate N=64 N (%)	High N=133 N (%)	Extremely high N=57 N (%)	
Playing videogames					
Yes (n=300)	80 (26.7)	50 (19.4)	117 (39.0)	53 (17.7)	
No (n=75)	41 (54.7)	14 (18.7)	16 (21.3)	4 (5.3)	<0.001
Frequency of playing videogames					
<Once/month (n=19)	7 (36.8)	4 (21.1)	8 (42.1)	0 (0.0)	
<Once/week (n=22)	7 (31.8)	4 (18.2)	7 (31.8)	4 (18.2)	
Twice/week (n=46)	16 (34.8)	6 (13.0)	18 (39.1)	6 (13.0)	
Every few days (n=71)	22 (31.0)	11 (15.5)	24 (33.8)	14 (19.7)	0.460
Every day (n=142)	28 (19.7)	25 (17.6)	60 (42.3)	29 (20.4)	
Average duration of playing videogames each time (hours)					

<1 (n=74) 1-3 (n=158) 4-5 (n=39) >5 (n=29)	25 (33.8) 41 (25.9) 8 (20.5) 6 (20.7)	10 (13.5) 27 (17.1) 5 (12.8) 8 (27.6)	31 (41.9) 65 (41.1) 13 (33.3) 8 (27.6)	8 (10.8) 25 (15.8) 13 (33.3) 7 (24.1)	0.084
Having other family members (siblings/parents) playing videogames No (n=122) Brothers (n=157) Sisters (n=56) Parents (n=40)	37 (30.3) 52 (33.1) 18 (32.1) 14 (35.0)	24 (19.7) 21 (13.4) 8 (14.3) 11 (27.5)	47 (38.5) 48 (30.6) 24 (42.9) 14 (35.0)	14 (11.5) 36 (22.9) 6 (10.7) 1 (2.5)	0.023
Instruments used for playing videogames Computer (n=15) X-Box (n=15) Play station (n=57) Mobile phone (n=97) Ipad (n=116)	3 (20.0) 3 (20.0) 14 (24.6) 31 (32.0) 29 (25.0)	2 (13.3) 2 (13.3) 8 (14.0) 16 (16.5) 22 (19.0)	8 (53.3) 6 (40.0) 18 (31.6) 32 (33.0) 53 (45.7)	2 (13.3) 4 (26.7) 17 (29.8) 18 (18.6) 12 (10.3)	0.213
Children playing alone or with others With friends (n=39) Alone (n=108) Both (n=153)	10 (25.6) 26 (24.1) 44 (28.8)	6 (15.4) 13 (12.0) 31 (20.3)	15 (38.5) 45 (41.7) 57 (37.3)	8 (20.5) 24 (22.2) 21 (13.7)	0.394
Nature of videogames often played Violence (n=43) Sports (n=54) Stirring/adventure (n=140) Others (n=63)	7 (16.3) 20 (37.0) 27 (19.3) 26 (41.3)	4 (9.3) 9 (16.7) 28 (20.0) 9 (14.3)	14 (32.6) 20 (37.0) 57 (40.7) 26 (41.3)	18 (41.9) 5 (9.3) 28 (20.0) 2 (3.2)	<0.001

The preferred leisure activities among the children such as watching TV, playing sports, playing videogames and others were estimated and the risk of aggression among the children were recorded, as shown in Table (5). From the results, it could be noticed that although the extremely high risk of aggression was more observed among the children who preferred playing videogames as a leisure activity than other activities, the association between the preferred leisure activities and the risk of aggression was not statistically significant (P-value is 0.122). Moreover, the significant increase in the risk of aggression was observed among the children through watching TV followed by playing video games.

Table 5 : Association between the preferred leisure activities and the risk of aggression among the children

Preferred leisure activities among children	Risk for aggression				p-value
	Low N=121 N (%)	Moderate N=64 N (%)	High N=133 N (%)	Extremely high N=57 N (%)	
Watching TV (n=238) Practicing sport (n=24) Playing videogames (n=53) Others (n=60)	74 (31.1) 7 (29.2) 15 (28.3) 25 (41.7)	41 (17.2) 4 (16.7) 5 (9.4) 14 (23.3)	90 (37.8) 8 (33.3) 19 (35.8) 16 (26.7)	33 (13.9) 5 (20.8) 14 (26.4) 5 (8.3)	0.122

Table (6) shows that the association between the frequency of watching TV and the risk of aggression among the children was statistically significant ; as 25% of those watching TV twice/week and 44.4% of those watching TV <once/week expressed the extremely high risk of aggression, p=0.011. Almost one quarter (23.7%) of the children who preferred stirring/adventure TV programs compared to 4% of those who preferred music programs were at the extremely high risk of aggression, p=0.002. These results from Table (6) were parallel with the above mentioned results.

Table 6 : The association between watching TV and the risk of aggression among the children

	Risk for aggression				p-value
	Low N=121 N (%)	Moderate N=64 N (%)	High N=133 N (%)	Extremely high N=57 N (%)	

Frequency of watching TV among children					
Never (n=8)	3 (37.5)	0 (0.0)	5 (62.5)	0 (0.0)	
<Once/month (n=10)	0 (0.0)	2 (20.0)	4 (40.0)	4 (40.0)	
<Once/week (n=9)	2 (22.2)	2 (22.2)	1 (11.1)	4 (44.4)	
Twice/week (n=24)	5 (20.8)	3 (12.5)	10 (41.7)	6 (25.0)	
Every few days (n=85)	37 (43.5)	9 (10.6)	26 (30.6)	13 (15.3)	
Every day (n=239)	74 (31.0)	48 (21.0)	87 (36.4)	30 (12.6)	0.011
Preferred TV programs by children					
Stirring/adventure (n=156)	36 (23.1)	28 (17.9)	55 (35.3)	37 (23.7)	
Comedy (n=31)	16 (51.6)	8 (25.8)	5 (16.1)	2 (6.5)	
Documentary (n=15)	6 (40.0)	3 (20.0)	4 (26.7)	2 (13.3)	
Music (n=25)	15 (60.0)	3 (12.0)	6 (24.0)	1 (4.0)	
Drama (n=66)	23 (34.8)	9 (13.6)	25 (37.9)	9 (13.6)	.002
Sports (n=19)	6 (31.6)	2 (10.5)	7 (36.8)	4 (21.1)	
Others (n=55)	16 (29.1)	11 (20.0)	26 (47.3)	2 (3.6)	

Table (7) explains that the two thirds (66.7%) of the children who slept 1-3 hours at night compared to 14% of those who slept 6-8 hours and 14.4% of those who slept >8 hours at night were at the extremely high risk of aggression. However, the difference was not statistically significant as the p-value was 0.080.

Table 7 : The association between duration of night sleeping and the risk of aggression among the children

Duration of sleeping (hours) at night among the children	Risk for aggression				p-value
	Low N=121 N (%)	Moderate N=64 N (%)	High N=133 N (%)	Extremely high N=57 N (%)	
1-3 (n=6)	0 (0.0)	1 (16.7)	1 (16.7)	4 (66.7)	
4-5 (n=79)	23 (29.1)	11 (13.9)	33 (41.8)	12 (15.2)	
6-8 (n=179)	62 (34.6)	32 (17.9)	60 (33.5)	25 (14.0)	
>8 (n=111)	36 (32.4)	20 (18.0)	39 (35.1)	16 (14.4)	0.080

DISCUSSION

There was a lack of consensus regarding the influence of media violence on the aggressive behavior of young people in different research studies around the world [15]. Therefore, this study was carried out to investigate the possible associations between watching aggression on media and playing violent videogames from one side and the aggressive behavior of children in Taif city, Kingdom of Saudi Arabia, on the other.

In the present study, playing videogames particularly violent games and watching stirring and adventure TV programs were significantly associated with excessive risk of aggression among the children. In a meta-analysis published by Sherry [16] it was suggested that violent content of videogames had a smaller effect on aggression than what has been found with television violence on aggression, and this effect was positively associated with the type of violent game, and negatively related to the time spent playing the games. In addition, Funk et al. [17] concluded that exposure to the violent video games was associated with the low empathy, and exposure to both the violent video games and movies was associated with stronger violence attitudes among fourth and fifth grades school children. Anderson et al. [18] in their longitudinal study confirmed that playing violent videogames is a significant risk factor for later physically aggressive behavior in both high- (United States) and low- (Japan) violence cultures, which means that these violent videogames have influence on young people's aggressive behavior across very different cultures. The higher risk rates of aggression in this study were found among the children aged between 10-12 years. In a study carried out in Egypt (2014) [4], the highest risk of aggression was noticed among the children aged between 11 to 14 years. Finding a reason to justify this, needs further study ; but it could be attributed to the fact that children of this age have accumulated more experiences in the last few years because they have seen the worldwide violence on media, and it also has been suggested that children at this age (10-14 years) tend to express violence more than those older or younger [19]. Generally speaking, the risk for aggressive behaviors might show an increase if no measures are taken to address the situation by the relevant local authorities.

The influence of socio-demographic characteristics of the parents on the risk of aggression among children was evidenced in this study by the significant association between the lack of education and job by fathers and higher risk for aggression among children. Similar results were reported from other studies [4, 20, 21]. The reported higher

risk rates of aggressive behavior among male more than female children in this study were similar to other reports from USA [22, 23] and Egypt [4]. This was most probably due to the more exposure of males to violence than females.

In this study, the frequency of watching TV, particularly stirring/adventure programs was associated with higher risk for aggression among the children. In the USA, watching age-inappropriate programmes among primary school children was rare as it has been reported that they mainly watch positive, family friendly programmes to escape the reality of sometimes violent home lives [9, 24]. Barkhuus [25] reported that the contents of the TV programs were more important than the time sepent on watching TV in influencing children`s aggression. In the present study, watching stirring and adventure TV programs was associated with more likely aggression, whereas watching music had the reverse effect.

CONCLUSION

This study highlighted the high risks for aggression among children in Taif. This high risk was more prominent among children aged between 10 and 12 years, males, of lower socio-economic status manifested by low education and lack of job by fathers, exposed to media violence in the form of playing violent videogames and watching stirring/adventure TV programs. The contents of the media programs were more important than the frequency of exposure of children to them.

Recommendations

Pay more attention to playing sports, arts and changing the attitude of the children.

Activate the role of the schools and media in reducing the factors that have been shown to increase the risk of aggression among children.

Further study including children and adolescents attending schools would be more representative than the population in this study who were recruited from one health care facility.

Investigating the details of family aggression that can have a major role in children’s aggression beside the exposure to violent media as it is not the only risk factor for aggression, but it is one of the most important factors, is also needed.

Training program for family on how to deal with the media and how to control its effects on children is required, too

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