Programme of Family Medicine Ministry of Health
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Prevalence and determinants of bullying phenomenon

among male intermediate school students in Taif

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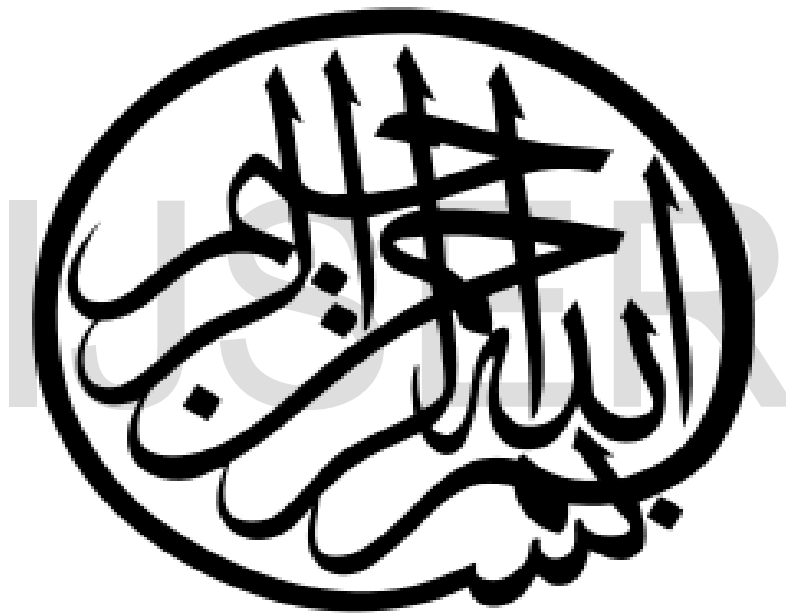
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List of abbreviations

Abbreviation	Description
OBVQ	Olweus Bully/Victim Questionnaire
AOR	Adjusted odds ratio
KSA	Kingdom of Saudi Arabia
χ^2	Chi-square
SPSS	Statistical Package for Social Sciences

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ABSTRACT:

BACKGROUND: Bullying at school is well known; however, it is increasing over recent years increase in the number of news on bullying events at school in mass media.

OBJECTIVES: To assess the prevalence of the bullying phenomenon among the students in governmental and private intermediate school in Taif city, Kingdom of Saudi Arabia (KSA).

SUBJECTS AND METHODS: A cross sectional study design was adopted including a representative sample of male students enrolled in intermediate schools in Taif city (governmental and private) during the school year 2017-2018 G. A self-administrated Arabic questionnaire was used for collecting data. It includes two main parts: socio-demographic and personal characteristics of the participants and the Arabic version[15] of the Revised Olweus Bully/Victim Questionnaire (OBVQ) to assess bullying behaviour among students.

RESULTS: Three hundred and fifty of were included in the study. Their age ranged between 12 and 17 years with a mean of 14.2 (±) SD of 1.1 years. More than half of the students were not involved in bullying behaviour whereas 6.9% of them

were bullies, 24.3% were victims whereas 17.7% were both bullies and victims. Students enrolled in governmental schools, in the 2nd grade, smokers, those living in rural places, having moderate number of close friends, whose mothers were lo educated, their fathers working in private sector or retired, and students having bronchial asthma, visual problems and congenital abnormities were more likely to be involved in bullying behaviour than their counterparts.

CONCLUSIONS: A considerable proportion of male students enrolled in intermediate schools in Taif city were involved in bullying behaviour.

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Chapter I
Introduction

I.   INTRODUCTION

I.1 Background

Bullying is a physical or psychological way of dealing with people aggressively with the intent of showing one's strength, which makes the victim feel weak and indirectly respect the bullies[1]. Therefore, bullying is a negative attitude which changes other people into victims and may lead to illness and discomfort to others[1].

Bullying at school is well known; however it is increasing over recent years increase in the number of news on bullying events at school in mass media [2-4]. Although bullying at schools is considered a normal part of childhood behaviour[5]. Some studies considered it a big problem that can seriously impacts the student`s well-being[6-8]. Also, it attracts the attention of teachers, parents and students[9].

Bullying is categorized into two kinds; direct and indirect. Direct bullying (or physical bullying) includes physical aggression in the form of kicking, hitting, punching, threatening, slapping, pushing, pulling, or pinching to produce harms/injuries or even death to the victim. Indirect bullying (mental bullying)

which impacts the victim in emotional and psychological ways. This form of bullying is serious one despite it receives less mass media attention[10].

In the United States, it has been reported that every day 160,000 students are afraid to go to school for fear of bullying [11]. Also, some researchers reported that bullying can affect a student's future life[12]. In Malaysia, several examples have been reported regarding very serious impacts that can result from bullying at schools[13].

Bullying is a multi-faceted behaviour, including individual characteristics of students involved in bullying when they have families that promote violence, teachers who ignore bullying, schools that have negative environment and students who socialize with friends who bully. Therefore, bulling prevention program should address these elements to minimize bullying in schools[14].

I.2 Rationale

Bullying at schools is an international phenomenon with adverse behavioral, emotional, and social effects in addition to interruption of the teaching and learning process.

Up to the researcher's knowledge, this phenomenon was not studied in Taif

Region.

I.3 Aim of the study:

To assess the prevalence of the bullying phenomenon among the students in

governmental and private intermediate school in Taif city, Kingdom of Saudi

Arabia (KSA).

I.4 Specific objectives

1. To estimate the prevalence of bullying among governmental and private

   intermediate school students in Taif city, KSA

2. To identify the determinants of bullying among governmental and private

   intermediate school students in Taif city, KSA

Chapter II
LITERATURE REVIEW

II.   LITERATURE REVIEW

The following is briefing of the most related studies published in the last two decades. None of them was conducted in Saudi Arabia.

Abdulsalam et al (2017) carried out a cross-sectional study to estimate the prevalence as well as determine the associated factors of bullying among grades seven and eight middle school students in Kuwait. They utilized the Revised Olweus Bully/Victim Questionnaire to measure different forms of bullying, after its Arabic language validation. Prevalence of bullying was 30.2%; 3.5% bullies, 18.9% victims, and 7.8% bully victims. Physically disabled students, those with one or both non-Kuwaiti parents and children with divorced/widowed parents were more likely to be victims. Current smoking prevailed among both victims and bullies. School performance was better among victims than bullies Logistic regression showed that male gender (adjusted odds ration "AOR" = 1.671), grade 8 student (AOR = 1.650), and student with physical disabilities (AOR= 1.675), were significantly associated with bullying behavior [15].

Salleh and Zainal (2014) conducted a case study in one secondary school in Kuala Lumpur, Malaysia to collect in depth information about bullying factors in a school with a relatively serious case of bullying. In depth interviews were carried out with 20 students, the researchers concluded that bullying factors included aspects of the students personalities such as irritability, ego, revenge, fun, in addition to the influence of others and elements of racism [16].

Nursel et al (2013) investigated through a cross-sectional study the prevalence, types and places of bullying behaviour among a sample of high school children in Bursa, Turkey. Majority of the students (96.7%) were involved in bullying behaviours as aggressors or victims. Male students were nearly 8.4 times more likely to be involved in bullying behaviour compared with female students[17].

Gofin and Avitzour (2012) estimated the prevalence of both traditional and internet bullying their association with the personal, family, and school environment characteristics of victims and perpetrators among students aged between 12 and14 years in 35 high schools in Jerusalem Hebrew and Arab educational system. The prevalence of perpetrators of traditional and internet bullying were 28% and 8.9 %, respectively whereas The prevalence of victims of

traditional and internet bullying were 44.9% and 14.4 %, respectively. Boys, students with poor social skills and those who had poor communication with their parents were more likely to be traditional bullies. Boys and girls were equally likely to be internet bullies. Victims of traditional bullying felt helpless, and victims of traditional and internet bullying find school to be a frightening place. Victims of traditional and Internet bullying feel fear in school [18].

Kepenekci and Cinkir (2006) examined different forms of bullying among high school students in Ankara, Turkey. A self-administered questionnaire developed by the authors was utilized to examine the students' perceptions of bullying in schools. Everyone reported having been bullied. Almost one third of them (33.5%) had been bullied verbally, whereas 35.5%, 28.3% and 15.6% of them had been bullied physically, emotionally, and sexually, respectively at least once during the academic year. Boys experienced more physical and verbal bullying than girls (p <0.001). About one-third of the students stated that they did not get any help in coping with bullying. The main reason for bullying was pretending to be strong (43.1%). Students of both genders reported negative views about the consequences of bullying on them including poor social adjustment, low psychological well-being and psychological distress [19].

Kim et al (2004) conducted a cross-sectional study to evaluate the prevalence and demographic characteristics of victims, perpetrators, and victim perpetrators in a Korean middle school students` sample. The overall prevalence of bullying was 40%; 14% victims, 17% perpetrators and 9% victim-perpetrators. The most common subtypes of bullying were exclusion (23%), verbal abuse (22%), physical abuse (16%), and coercion (20%). Boys were more commonly involved in all types of bullying. The prevalence of bullying was greater in students on non-intact families and those with either high or low socioeconomic status [20].

Chapter III
METHODOLOGY

III.   METHADOLOGY:

III.1 The study area

Taif is a located in the Makkah Province, Kingdom of Saudi Arabia. It has an estimated population of 1,281,613 according to 2011 census.[21]Taif city has 113 intermediate schools for boys (93 governmental and 20 private). These schools include 20934 students (18539 in governmental and 2395 in private schools), according to general directorate of education in Taif. The study was carried out in both governmental and private schools

III.2 -Study design:

A cross sectional study design was adopted.

III.3 Study population:

Male students enrolled in intermediate schools in Taif city (governmental and private) during the school year 2017-2018 G, who were present at the time of the study conduction and willing to participate in it constituted the study population of this study.

 Inclusion criteria:

- Male intermediate students.

- All nationalities

Exclusion criteria:

- Students who were not present at the time of conducting the study or not
  willing to participate.

III.4 -Sampling:

-Sample size:

Assuming that, from the literature review of the same subject, the prevalence of bullying among male intermediate school boys as 30.2% according to study conducted in Kuwait, 2017 to assess bullying among middle school students [15] Setting the confidence level of 95% and sample error of 5%, using the Raosoft sample size calculator program, the sample size calculation was 319 students. In order to compensate for drop out, the sample size was increased to 350 students (309 from governmental schools and 41 from private schools).

-Sampling technique:

Multistage random sampling technique was adopted. In the first stage, two regions from the four geographical regions of Taif city were selected by simple random technique. In the second stage, two schools were selected randomly by simple random methods, in addition to one private school to represent all Taif. Thus, 5 schools were recruited. In the third stage, one class representing each level was selected from each school yielding a total of 15 classes. Students were selected randomly from these classes till the required sample size was reached.

III.5 Data collection Tool:

A self-administrated Arabic questionnaire was used for collecting data. It has a cover letter to clarify the objectives of the study and the assurance of confidentiality.

It includes two main parts:

The first part: Included socio-demographic and personal characteristics of the participants (age, nationality, parental nationality, education, job and current marital status, residence, smoking, number of close friends, and medical problems).

In the second part: Bullying was assessed using the validated Arabic version[15] of the Revised Olweus Bully/Victim Questionnaire (OBVQ), which is a self-report instrument composed of 23 items about bullying (bully scale) and 23 items about victimization (victim scale). Each item concerned with a different behaviour, and the student were asked to determine the frequency with which this behavior occurred over the past year[22]. Participants selected a response to each of the 23 items using a 5-point scale (1 = never; 2 = once or twice; 3 = 2 or 3 times a month; 4 =about once a week; 5 = several times a week) was kept and

the cut-off of 3 was utilized to categorize each type of bullying as 1) (bullies): involved in bullying others only, 2) (victims): involved in being bullied only, 3) (bully victims):involved in both bullying others and being bullied and 4) not involved at all in any of the various forms of bullying [23].

In the present study, we utilized the standard cut-off recommended by Solberg and Olweus to classify bullies and victims as follows: At least 2 or 3 times a month for the two target questions "How often have you take part in bullying other students at school during the last year" and "How often have you been bullied at school during the last year"[23].

III.6 Data collection technique:

The researcher visited the schools after getting approval from the Ministry of education and explained the purpose of the study to headmaster and concerned teachers. Self-administrated questionnaires were distributed on selected students under teachers` supervision and collected after half an hour. The data collection was implemented at regular day working hours during the class time according to each school over 5 weeks period. Each questionnaire took between 15 to 20 minutes to be filled.

III.7 Variables:

<u>Dependent variables</u>

- Bullying with its four types

<u>Independent variables:</u>

- Age.

- Nationality.

- Parental nationality

- Parental marital status

- Parental education

- Parental job

- Smoking

- Residence

- Medical problems

III.8 Data entry and analysis:

- The data were verified by hand then coded and entered to a personal computer.

- Using SPSS software statistical program version 22.

- Significance was determined at p value < 0.05.

- Continuous variables were presented as means and standard deviation.

- Categorical variables were presented as frequencies and percentages.

- Bivariate analysis of bullying types to independent variables were done by using chi-square test (χ^2)

- Age as a continuous variable was tested for distribution by Kolmogorov-smirnov test and was found abnormally distributed (p<0.001), therefore non-parametric Kruskal-Wallis test was applied to compare age between different groups of bullying.

III.9 Pilot study:

A pilot study was conducted in a randomly selected class, not included in the final study to test if questionnaire is understandable and acceptable. After achieving its aims, the collected questionnaires from this class were omitted from the main study.

II I.10 Ethical considerations:

- Approval from the Regional Research and Ethics committee was obtained.

- Acceptance of the education director in Taif city was requested.

- Permission of the involved school headmasters was obtained

- Permission to utilize the Arabic version of the questionnaire was asked from the corresponding author.

- Consent was obtained from all students

- All collected data were kept confidential.

III.11 Budget

Self-funded

Chapter IV
RESULTS

IV.   RESULTS:

Personal characteristics

Three hundred and fifty of were included in the study. Their age ranged between 12 and 17 years with a mean of 14.2 (±) SD of 1.1 years. The other personal characteristics are presented in table 1. Most of them (88.3%) were recruited from governmental schools. First and third grades students represent 40% and 43.4% of the students, respectively. Saudis represent 89.7% of students. Both parents were Saudis among 88.6% of the participants. Parents of the majority of students were currently married (94.3%). About two-thirds of their mothers (62.6%) and fathers (66%) were university graduated or above. Slightly less than half of their mothers (46.3%) were working and 42.6% of their fathers were governmental employees. Majority of them (95.7%) were living in cities.

Prevalence of smoking among the male intermediate school students participated in the study was 8.6% as seen in figure 1.

Regarding number of students` close friends, 65.7% of them had more than 5 whereas 11.7% had less than 3 close friends. Figure 2

Table 1: Personal characteristics of the male intermediate school students in

Taif

Variables	Categories	Frequency	Percentage
School grade	First	140	40.0
	Second	58	16.6
	Third	152	43.4
Type of school	Governmental	309	88.3
	Private	41	11.7
Nationality	Saudi	314	89.7
	Non-Saudi	36	10.3
Parental nationality	Both Saudi	310	88.6
	One of them Saudi	5	1.4
	Both non-Saudi	35	10.0
Current marital status	Married	330	94.3
	Divorced	12	3.4
	One of them died	8	2.3
Maternal educational level	Below secondary school	63	18.0
	Secondary school	68	19.4
	University/above	219	62.6
Paternal educational level	Below secondary school	65	18.6
	Secondary school	54	15.4
	University/above	231	66.0
Maternal job	House wife	188	53.7
	Working	162	46.3
Paternal job	Governmental employee	149	42.6
	Private sector employee	22	6.3
	Military	53	15.1
	Business/trading	28	8.0
	Retired	75	21.4
	Others	23	6.6
Residence	City	335	95.7
	Village	15	4.3
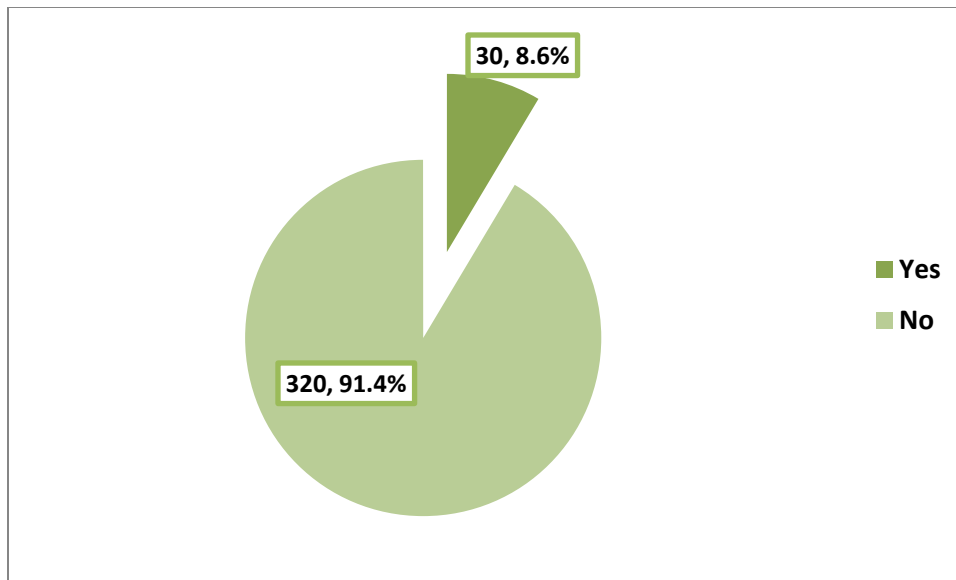
Figure 1: Prevalence of smoking among the male intermediate school students
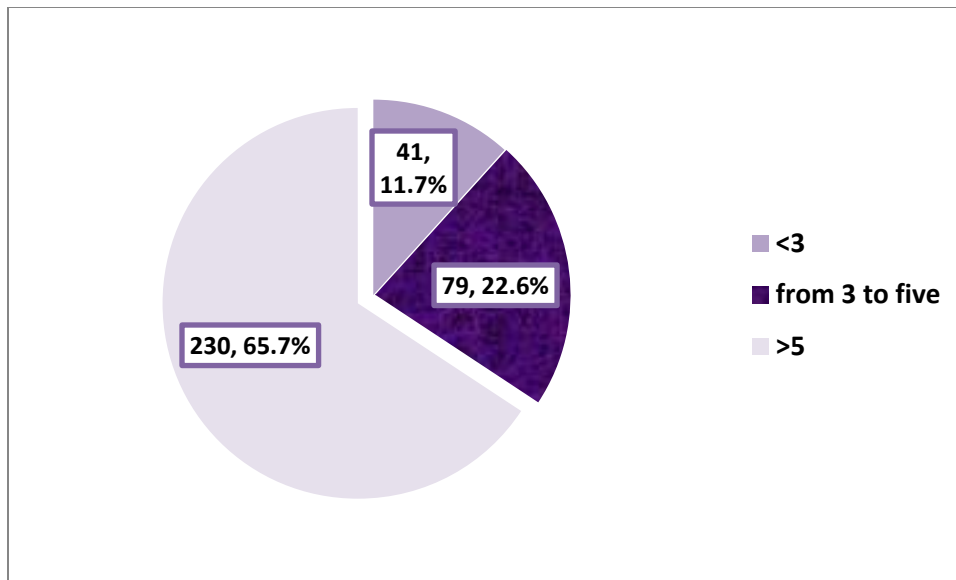
in Taif

Figure 2: Number of close friends among the male intermediate school students

in Taif.

Medical history

It is clear from figure 3 that 42.3% of the students had at least one medical problem. The commonest reported medical problems among students were obesity and visual problems (16.3% for each), followed by dermatologic problems (6%) and bronchial asthma (5.1%).
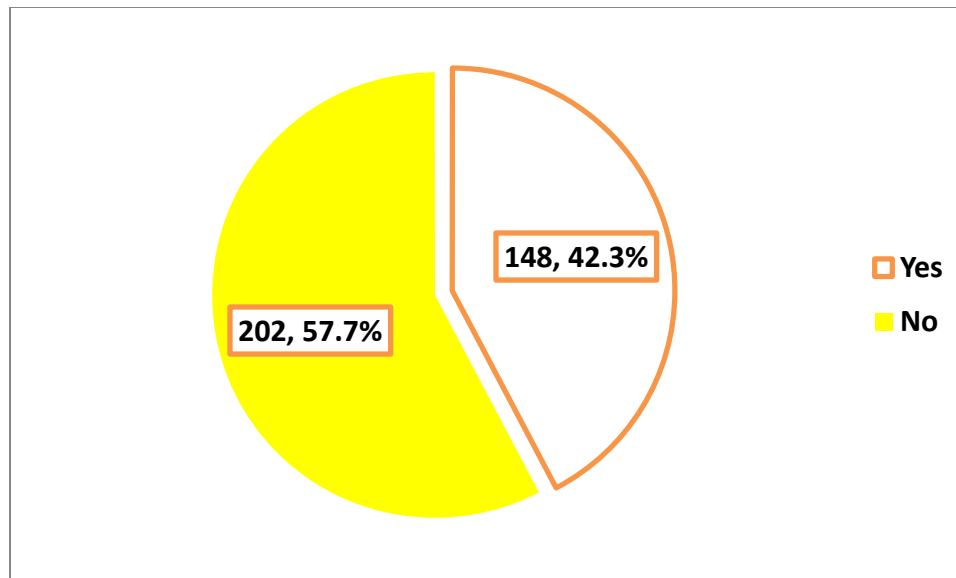
Figure 3: Overall history of medical problems among the male intermediate school students in Taif.
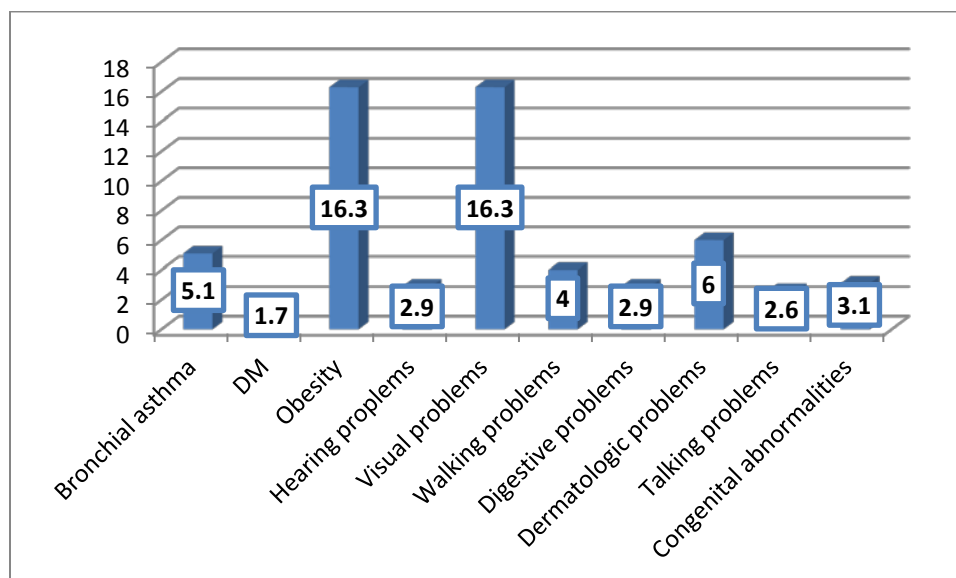
Figure 4: Medical problems among the male intermediate school students in Taif

Prevalence of bullying

As shown in figure 5, 6.9% of the students were bullies, 24.3% were victims whereas 17.7% were both bullies and victims. More than half of the students were not involved in bullying behaviour.
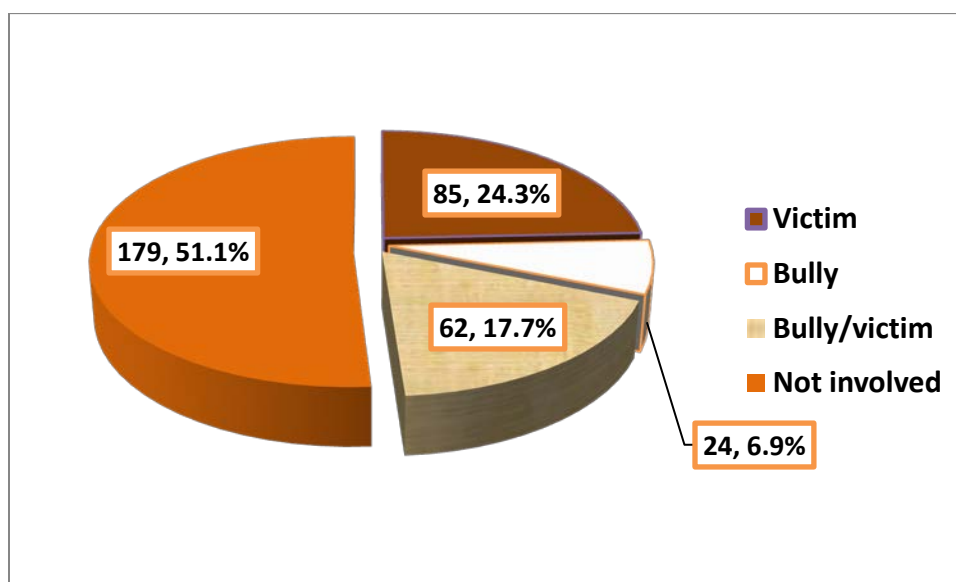
Figure 5: Prevalence of bullying behaviour among the male intermediate school students in Taif

Factors associated with bullying behaviour

-Personal characteristics

-Age: As illustrated in table 2, student`s age was not significantly associated with bulling behaviour, although older students were more likely to be both bullies and victims (median age=15 years).

Table 2: Association between age and bullying behaviour among the male intermediate school students in Taif

Age in years	Bullying behaviour			
	Victim N=85	Bully N=24	Bully/victim N=62	Not involved N=179
IQR	13-15	13.25-15	14-15	13-15
Median	14	14	15	14

| Mean rank | 166.17 | 170.42 | 200.89 | 171.82 |

IQR: Interquartile range   p value (Kruskal-Wallis test)= 0.147

-School grade: Table 3 shows that 15.5% of second grade students compared to 5% and 5.3% of those of first and third grades, respectively were bullies. On the other hand, 30% of students of first grade were victims compared to 15.5% and 22.4% of those in the second and third grades. Overall, the association between school grade and bullying behaviour was statistically significant, p=0.002.

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Table 3: Association between school grade and bullying behaviour among the male intermediate school students in Taif

School grade	Bullying behaviour			
	Victim	Bully	Bully/victim	Not involved
	N=85	N=24	N=62	N=179
	N (%)	N (%)	N (%)	N (%)

First (n=140)	42 (30.0)	7 (5.0)	17 (12.1)	74 (52.9)
Second (n=58)	9 (15.5)	9 (15.5)	17 (29.3)	23 (39.7)
Third (n=152)	34 (22.4)	8 (5.3)	28 (18.4)	82 (53.9)

χ^2=20.27, p=0.002

-Type of school: It is realized from table 4 that all students enrolled in private schools were not involved in bullying behaviour whereas 55.3% of those enrolled in governmental schools were involved in bullying behaviour, p <0.001

Table 4: Association between type of school and bullying behaviour among the male intermediate school students in Taif

Type of school	Bullying behaviour			
	Victim N=85 N (%)	Bully N=24 N (%)	Bully/victim N=62 N (%)	Not involved N=179 N (%)
Governmental (n=309)	85 (27.5)	24 (7.8)	62 (20.1)	138 (44.7)

Private (n=41)	0 (0.0)	0 (0.0)	0 (0.0)	41 (100)

χ^2=44.37, p<0.001

-Nationality: Table 5 shows that student`s nationality was not significantly

associated with bullying behaviour.

Table 5: Association between nationality and bullying behaviour among the

male intermediate school students in Taif

Nationality	Bullying behaviour			
	Victim N=85 N (%)	Bully N=24 N (%)	Bully/victim N=62 N (%)	Not involved N=179 N (%)
Saudi (n=314)	74 (23.6)	23 (7.3)	59 (18.8)	158 (50.3)
Non-Saudi (n=36)	11 (30.6)	1 (2.8)	3 (8.3)	21 (58.3)

χ^2=4.02, p=0.259

-Parental nationality: Table 6 demonstrates that student`s parental nationality was not significantly associated with their bullying behaviour.

Table 6: Association between parental nationality and bullying behaviour among the male intermediate school students in Taif

Parental nationality	Bullying behaviour			
	Victim N=85 N (%)	Bully N=24 N (%)	Bully/victim N=62 N (%)	Not involved N=179 N (%)
Both Saudi (n=310)	72 (23.2)	23 (7.4)	59 (19.0)	156 (50.3)
One of them Saudi (n=5)	3 (60.0)	0 (0.0)	0 (0.0)	2 (40.0)
Both non-Saudi (n=35)	10 (28.5)	1 (2.9)	3 (8.6)	21 (60.0)

χ^2=7.88, p=0.247

-Current Parental marital status: Although, students whose parents were divorced were more likely to be bullies compared to those whose parents were currently married (16.7% versus 6.7%) and also were more likely to be bullies and victims (41.6% versus 16.4%), the differences were not statistically significant.

Table 7: Association between current parental marital status and bullying behaviour among the male intermediate school students in Taif

Current parental marital status	Bullying behaviour			
	Victim N=85 N (%)	Bully N=24 N (%)	Bully/victim N=62 N (%)	Not involved N=179 N (%)
Married (n=330)	80 (24.2)	22 (6.7)	54 (16.4)	174 (52.7)
Divorced (n=12)	3 (25.0)	2 (16.7)	5 (41.6)	2 (16.7)
One of them died (n=8)	2 (25.0)	0 (0.0)	3 (37.5)	3 (37.5)

χ^2=11.49, p=0.074

-Maternal educational level: Table 8 realizes that 40.7% of students whose mothers were below secondary school educated compared to 47% of those whose mothers were university or above educated and 63.2%of students whose mothers were secondary school educated were involved in bullying behaviour and this was borderline statistically significant, p=0.053.

Table 8: Association between maternal educational level and bullying behaviour among the male intermediate school students in Taif

Maternal educational level	Bullying behaviour			
	Victim N=85 N (%)	Bully N=24 N (%)	Bully/victim N=62 N (%)	Not involved N=179 N (%)
Below secondary school (n=63)	15 (23.8)	2 (3.2)	8 (12.7)	38 (60.3)
Secondary school (n=68)	25 (36.8)	6 (8.8)	12 (17.6)	25 (36.8)
University/above (n=219)	45 (20.5)	16 (7.3)	42 (19.2)	116 (53.0)

χ^2=12.41, p=0.053

-Paternal educational level: Table 9 demonstrates that student`s parental educational level was not significantly associated with their bullying behaviour.

Table 9: Association between paternal educational level and bullying behaviour among the male intermediate school students in Taif

Paternal educational level	Bullying behaviour			
	Victim N=85 N (%)	Bully N=24 N (%)	Bully/victim N=62 N (%)	Not involved N=179 N (%)
Below secondary school (n=65)	13 (20.0)	5 (7.7)	14 (21.5)	33 (50.8)
Secondary school (n=54)	12 (22.2)	3 (5.6)	9 (16.7)	30 (55.6)
University/above (n=231)	60 (26.0)	16 (6.9)	39 (16.9)	116 (50.2)

χ^2=1.97, p=0.923

-Maternal Job: Table 10 shows that student`s maternal job was not significantly

associated with their bullying behaviour.

Table 10: Association between maternal job and bullying behaviour among the

male intermediate school students in Taif

Maternal job	Bullying behaviour			
	Victim N=85 N (%)	Bully N=24 N (%)	Bully/victim N=62 N (%)	Not involved N=179 N (%)
House wife (n=188)	51 (27.1)	14 (7.4)	26 (13.8)	97 (51.6)
Working (n=162)	34 (21.0)	10 (6.2)	36 (22.2)	82 (50.6)

χ^2=5.03, p=0.169

-Paternal Job: Almost two-thirds (63.6%) of students whose fathers were working in private sector compared to 43%, 49.1% and 26.1% of students whose fathers were working as governmental employees, military persons and others, respectively were involved in bullying behaviour. This difference was statistically significant, p=0.047

Table 11: Association between paternal job and bullying behaviour among the male intermediate school students in Taif

Paternal job	Bullying behaviour			
	Victim N=85 N (%)	Bully N=24 N (%)	Bully/victim N=62 N (%)	Not involved N=179 N (%)
Governmental employee (n=149)	34 (22.9)	9 (6.0)	21 (14.1)	85 (57.0)
Private sector employee (n=22)	9 (40.9)	1 (4.5)	4 (18.2)	8 (36.4)
Military (n=53)	10 (18.9)	6 (11.3)	10 (18.9)	27 (50.9)
Business/trading (n=28)	10 (35.7)	2 (7.1)	4 (14.3)	12 (42.9)
Retired (n=75)	17 (22.7)	6 (8.0)	22 (29.3)	30 (40.0)
Others (n=23)	5 (21.7)	0 (0.0)	1 (4.3)	17 (73.9)

χ^2=25.25, p=0.047

-Residence: Majority of students live in villages (80%) compared to 47.5% of those live in cities were involved in bulling behaviour. This difference was statistically significant, p<0.001. Table 12

Table 12: Association between residence and bullying behaviour among the male intermediate school students in Taif

Residence	Bullying behaviour			
	Victim N=85 N (%)	Bully N=24 N (%)	Bully/victim N=62 N (%)	Not involved N=179 N (%)
City (n=335)	83 (24.8)	24 (7.2)	52 (15.5)	176 (52.5)
Village (n=15)	2 (13.3)	0 (0.0)	10 (66.7)	3 (20.0)

χ^2=26.02, p<0.001

-Smoking: Majority of smokers (76.7%) compared to 41.7% of non smokers were involved in bullying behaviour as observed in table 13. The difference was statistically significant, p<0.001.

Table 13: Association between smoking and bullying behaviour among the male intermediate school students in Taif

Smoking	Bullying behaviour			
	Victim N=85 N (%)	Bully N=24 N (%)	Bully/victim N=62 N (%)	Not involved N=179 N (%)
Smoker (n=30)	5 (16.7)	1 (3.3)	17 (56.7)	7 (23.3)
Non-smoker (n=320)	80 (25.0)	23 (7.2)	45 (14.1)	172 (58.3)

χ^2=34.45, p<0.001

-Number of close friends: Students who have less number (<3) or more number (>5) of close friends were more likely to be not involved in bullying behaviour compared to those having moderate number of close friends (3-5) (56.1% and 53.5% versus 41.8%, respectively), p=0.047.

Table 14: Association between number of close friends and bullying behaviour among the male intermediate school students in Taif

Number of close friends	Bullying behaviour			
	Victim N=85 N (%)	Bully N=24 N (%)	Bully/victim N=62 N (%)	Not involved N=179 N (%)
<3 (n=41)	10 (24.4)	0 (0.0)	8 (19.5)	23 (56.1)
3-5 (n=79)	21 (26.6)	11 (13.9)	14 (17.7)	33 (41.8)
>5 (n=230)	54 (23.5)	13 (5.7)	40 (17.3)	123 (53.5)

χ^2=12.75, p=0.047

-Medical history: From table 15, the following are concluded:

-44.4% of students with bronchial asthma were bullies and victims compared to 16.3% of those without bronchial asthma and also 7.2% of students without bronchial asthma compared to none of those with bronchial asthma were bullies, p=0.008

-43.9% of students with visual problems compared to 20.5% of students without visual problems were victims of bullying, p=0.002.

-63.6% of students with congenital anomalies were bullies and victims compared to 16.2% of those without congenital anomalies and also 7.1% of students without congenital anomalies compared to none of those with congenital anomalies were bullies, p=0.001

-Overall presence of medical problems, diabetes mellitus, obesity, hearing problems, walking problems, digestive problems, skin problems and talking problems were not significantly associated with bullying behaviour.

Table 15: Association between medical history and bullying behaviour among the male intermediate school students in Taif

Medical history	Bullying behaviour				p-value*
	Victim N=85 N (%)	Bully N=24 N (%)	Bully/victim N=62 N (%)	Not involved N=179 N (%)	
Overall medical problems Yes (n=148) No (n=202)	 41 (27.7) 44 (21.8)	 8 (5.4) 16 (7.9)	 32 (21.6) 30 (14.9)	 67 (45.3) 112 (55.4)	 0.114
Bronchial asthma Yes (n=18) No (n=332)	 1 (5.6) 84 (25.3)	 0 (0.0) 24 (7.2)	 8 (44.4) 54 (16.3)	 9 (50.0) 170 (51.2)	 0.008
Diabetes mellitus Yes (n=6) No (n=344)	 4 (66.7) 81 (23.5)	 0 (0.0) 24 (7.0)	 0 (0.0) 62 (18.0)	 2 (33.3) 177 (51.5)	 0.094
Obesity Yes (n=57) No (n=293)	 8 (14.0) 77 (26.3)	 4 (7.0) 20 (6.8)	 16 (28.1) 46 (15.7)	 29 (50.9) 150 (51.2)	 0.070
Hearing problems Yes (n=10) No (n=340)	 5 (50.0) 80 (23.5)	 1 (10.0) 23 (6.8)	 1 (10.0) 61 (17.9)	 3 (30.0) 176 (51.8)	 0.241
Visual problems Yes (n=57) No (n=293)	 25 (43.9) 60 (20.5)	 2 (3.5) 22 (7.5)	 9 (15.8) 53 (18.1)	 21 (36.8) 158 (53.9)	 0.002
Walking problems Yes (n=14) No (n=336)	 3 (21.4) 82 (24.4)	 1 (7.1) 23 (6.8)	 2 (14.3) 60 (17.9)	 8 (57.1) 171 (50.9)	 0.969
Digestive problems Yes (n=10) No (n=340)	 2 (20.0) 83 (24.4)	 1 (10.0 23 (6.8))	 4 (40.0) 58 (17.1)	 3 (30.0) 176 (51.8)	 0.260
Dermatologic problems Yes (n=21) No (n=329)	 4 (19.0) 81 (24.6)	 2 (9.5) 22 (6.7)	 8 (38.1) 54 (16.4)	 7 (33.3) 172 (52.3)	 0.069
Talking problems Yes (n=9) No (n=341)	 1 (11.1) 84 (24.8)	 1 (11.1) 24 (6.9)	 1 (11.1) 61 (17.9)	 6 (66.7) 173 (50.7)	 0.667
Congenital abnormalities Yes (n=11) No (n=339)	 1 (9.1) 84 (24.8)	 0 (0.0) 24 (7.1)	 7 (63.6) 55 (16.2)	 3 (27.3) 176 (51.9)	 0.001

* Chi-square test

Chapter V
DISCUSSION

V.   DISCUSSION:

Bullying behaviour among school students is not a new phenomenon. Although several strategies were tried to control the problem, it still exists and even increasing [16]. School should be a safe and secure place for students however, this is not the case in majority of schools all over the world as many students are involved in bullying behaviour [24]. Saudi Arabia is not an exception in this regards, therefore this study was carried out to explore the magnitude and determinants of the bullying phenomenon among the students in governmental and private intermediate school in Taif city.

In the current study, 48.9% of male students enrolled in intermediate schools were involved in bullying behaviour; 24.3% as victims, 6.9% as bullies and 17.7 as both bullies and victim. In a recent similar study carried out among grades seven and eight middle school students in Kuwait using the same tool, the prevalence of bullying was 30.2%; 3.5% bullies, 18.9% victims, and 7.8% bully victims [15]. In Turkey, 96.7% of sample of high school children were involved in bullying behaviours as aggressors or victims [17]. In a Korean middle school students` sample, the overall prevalence of bullying was 40%; 14% victims, 17% bullies and 9% victim-bullies [20]. In Jerusalem Hebrew and Arab educational

system, the prevalence of bullying was 28% and the prevalence of victims was 44.9% [18]. in USA, among grade 6 to 10 students, almost one third were involved in bullying behaviour [25]. Also, Modecki et al in a meta-analysis reported an average of 30% of school children involved in bullying behaviour [26]. The difference in figures reported from different studies could be due to different tools used to identify bullying behaviour as well as different cultures and students` background.

The high prevalence of involvement of students in bullying observed in this study as well as in other studies carried out among intermediate school students could be partially due to the fact that bullying behaviors tend to peak duringearly adolescence and then decrease, usually starting from 8th grade (3rd year of intermediate school) [6, 27, 28].

In this study, students with bronchial asthma were more significantly likely to be both bullies and victims and students with congenital abnormalities or visual disorders were more likely to be involved in bullying behaviours. In addition, although not reaching a significant level, students with diabetes were more likely to be victims while those with obesity or skin problems were more likely to be

both bullies and victims. In another study carried out in Kuwait among intermediate school students, students with physical disabilities (walking problems, asthmatics, obese, hearing problems, visual problems, digestive problems or diabetes) were vulnerable to being bullied by other students [15].

In the current study, smoker students were more involved in bullying behaviour. This finding agrees with what has been reported from an Italian study among middle and secondary schools who revealed that bullying behavior is associated with smoking [29].

In the present study, students whose fathers were working in private sector, business/trading or retired were more likely than their counterparts to be involved in bullying behaviour. The association between fathers` occupation and bullying behavioue was also observed in another study carried out in Turkey [30].

This study revealed that students living in villages were more involved in bullying behavioue than those living in cities. Similarly, in a Turkish study, students living in rural areas were 1.5 times more frequently bullied than those living in cities [30].

In the present study, lower level of maternal educated was borderline significantly associated with students` involvement in bullying behaviour. The same has been observed in a study carried out in Turkey among high school students [30].

In this study, although Saudi students and those whose parents were Saudis were more likely to be exposed to bullying, this was not significant. However, in Kuwait[15] and European countries (England and Germany)[31], the nationality either of the student or of parents had an important role of being a victim. This could be attributed to the fact that Non-national students and those whose one or both parents were non-nationals represent a minority in schools which could explain that they have being more susceptible to victimization.

Although not significant, the present survey showed that students with divorced parents were more likely to be involved in bullying bahaviour. The same has been reported by others [15, 20] and explained by exposure of this group of students to a sort of social isolation and stressful environment making them more vulnerable to bullying behaviour.

The finding that students of governmental schools were significantly more likely to be involved in bullying bhaviour compared to those of private school in this survey could be resulted from the fact that governmental schools have a larger number of students, of relatively lower socio-economic class compared to private schools

This study has some limitations. First of all, the inclusion of only male students because of cultural background could affect the generalizability of results. The cross-sectional design adopted in this study could confirm association and not causality between dependent and independent variables. The relaying only of students` self-reporting could increase the chance of bias.

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Chapter VI
CONCLUSION

VI.   CONCLUSION

A considerable proportion of male students enrolled in intermediate schools in Taif city were involved in bullying behaviour. Students enrolled in governmental schools, in the 2nd grade, smokers, those living in rural places, having moderate number of close friends, whose mothers were lo educated, their fathers working in private sector or retired, and students having bronchial asthma, visual problems and congenital abnormities were more likely to be involved in bullying behaviour than their counterparts.

Chapter VII
RECOMMENDATIONS

VII.   RECOMMENDATIONS

1. An intervention program against bullying behaviour should be initiated at schools, including teachers, parents and authorities to understand the real situation of the problem and putting effective solutions. All these elements should interact together effectively.

2. Schools should involve students in various useful activities such as sports and arts to shorten the free time which could be utilized in bullying bahaviour.

3. In the family, parents should be a model for shaping the personality of individual students.

4. Social workers at schools should have a role through direct talking to students involved in bullying behavior to understand the reasons behaving this behaviour.

5. Further research is recommended on a larger scale and including also school girls to help decision makers to design and implement a comprehensive program against bullying at schools.

Chapter VIII
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VIII   REFERENCES:

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Appendices

APPENDIX 1: The questionnaire