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A retrospective study with ICAST-R (ispcan child abuse screening tools-retrospective) questionnaire for determination of child abuse in first year medical students in Turkish population

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ABSTRACT

Child Abuse and Neglect (CAN) is an important problem both in Turkey and worldwide. Unfortunately, we still don't have enough and reliable data on this important subject. In this study, we aimed to investigate the prevalence of childhood maltreatment in a population of first year medical students in a Turkish university using the retrospective version of the ISPCAN Child Abuse Screening Tool (ICAST-R). One hundred seventy three first year medical students, aged between 18 and 24 years, who agreed to complete the ICAST-R questionnaire, were recruited in our study. Of 173 students who completed the survey, 51.4% are found to be subjected to at least one type of child abuse (physical, emotional or sexual). The prevalence is higher in male gender and the difference is statistically significant. Physical, emotional and sexual abuse exposure rates are found to be 23.1%, 40.5% and 11% respectively. Physical and emotional abuse rates are higher in male gender and the difference is statistically significant. We did not find any statistically significant association between gender and sexual abuse. Efforts to prevent child abuse and neglect are growing in our country, as they are worldwide. However, child abuse is still common and a problematic issue. It is important to determine the prevalence of child abuse in order to raise awareness. We need further studies investigating not only prevalence but also risk factors to have reliable data for our country.

1. Introduction

Children need protection, appropriate support and intervention throughout the childhood period. Love, attention and guidance from family and environment will provide proper and healthy growth and development of a child. The progress of a society depends on having physically and emotionally healthy children. Childhood experiences of abuse and neglect are associated with various negative health outcomes, including increased risk for sexually transmitted infections, substance abuse, mental illness, depression, asthma and fractures (Bellis, Lowey, Leckenby, Hughes, & Harrison, 2013; Goodwin & Stein, 2004; Wade et al., 2016). Development of children is affected directly by maltreatment. Maltreatment is conceptualized as many different types of physical, emotional or sexual abuse, neglect or negligent treatment, which causes actual or potential harm to victims in terms of health, survival, development, or dignity (Jacobi, Dettmeyer, Banaschak, Brosig, & Herrmann, 2010). It is also well known that child abuse and neglect (CAN) can adversely effect the development of a child's personality (Aral, & Gursoy, 2001, p. 36–40; Ludwig & Fleisher,

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2000).

Over the last decade, recognition of violence against children has grown but remained an unsolved problem as it is largely undocumented and underreported (UNICEF, 2014). Data on prevalence of child abuse and neglect is not universally reliable due to lack of sufficient data in low and middle-income countries. Studies indicate that approximately 20% of female population and 5–10% of male population have been subjected to sexual abuse in their childhood. Physical abuse rate among children was reported to be 25–50%. Moreover, many children face emotional abuse and neglect in childhood (WHO, 2013a, 2013b).

CAN is a common problem in Turkey as the rest of the world. Efforts to prevent CAN are gradually increasing in our country. Nevertheless, it is still a major problem. It is important to determine the prevalence of child abuse to raise awareness and to create effective interventions. A study titled "Causes and Results of Intrafamilial Violence" conducted by Turkish Family Research Institution in 1995, reported 40% of children between the ages of 7–14 and 8.5% of children older than 14 experienced violence by their parents. This study also stated that male children experienced more intrafamilial violence than female children (as cited in Altiparmak, 2008). In 2010 another study supported by UNICEF called "Child Abuse and Intrafamilial Violence Research in Turkey" reported results about children between the ages of 7–18 years. This study revealed that reported child abuse rates among all children are 56%, 49%, 10% for physical, emotional, sexual abuse successively and 25% for neglect. The most common type of neglect in this study was being left alone. Sexual abuse was the least common abuse type according to this report. One percent of the study group claimed they had been exposed to pornography and 0.5% of them have been forced to touch or be touched by others sexually, in the year before the study is done (Korkmazlar-Oral, Engin, & Büyükyazıcı, 2010). In 2012, a study conducted in Turkey's capital Ankara, examined abuse and neglect in a population between the ages of 18–24 years retrospectively. The prevalence of physical, emotional and sexual abuse was found to be 16.6%, 37.8%, and 10.8% respectively. Physical abuse was significantly more common in males but there was no significant relationship between gender and other types of abuse (Koç, 2012).

Previously, there were inconsistencies in the identification of child abuse and this restriction prevented obtaining reliable data on the extents and prevalence of child abuse (Kim, Lee, & Song, 2009; Sofuoğlu et al., 2014). Even though the aim was to prevent and treat child abuse, there were difficulties in determining and establishing a targeted policy. Previous research focused on the need for objective criteria to assess and evaluate the level of child abuse (Koç, 2012; Lee & Chang, 2004; Polat, 2000). The International Society for the Prevention of Child Abuse and Neglect (ISPCAN) Child Abuse Screening Tools (ICAST) were developed to evaluate the level, type and severity of violence against children regarding United Nations' Violence Against Children report (Pinheiro, 2006). There are three different versions: ICAST-Parent (P), ICAST-Child (C), and ICAST-Retrospective (R). Through the process of a delphi study in which professionals from all around the world (Russia, Egypt, Lebanon, India, Malaysia, Columbia, and Kyrgyzstan) were involved, it has been shown that ICAST is a globally applicable tool not only for native english speakers but also for the population from non-english speaking regions (Butchart et al., 2006; Dunne et al., 2009).

Even though there is growing interest to determine the prevalence of childhood physical, emotional and sexual abuse and negligent treatment in Turkey, we still don't have enough and reliable data on this important subject. CAN is a major problem in Turkey and the process of recognizing, reporting and preparing rehabilitation plans for CAN by health professionals needs significant improvement. Our aim was to determine the prevalence of CAN by evaluating possible history of abuse among first year medical students by using an internationally recommended and accepted tool, ICAST-R. We also hope to provide a working basis for those who want to work towards prevention of CAN.

2. Method

A cross-sectional study was conducted between September 2014 and February 2015 to estimate the prevalence of abuse and neglect during childhood among first year medical students in Turkey. The relationship between socio-demographic features and childhood abuse and neglect was also examined for determining social risk factors that may cause abuse and neglect.

2.1. Ethics

This study was reviewed and approved by Dokuz Eylul University Faculty of Medicine Ethics Committee for Noninvasive Clinical Research (Date: 11/20/2014, Number: 2014/35-31).

Confidentiality was assured and every participant was informed that the responses would not be used should the participant wish to terminate participation. After the purpose of the study was explained, all participants gave written informed, voluntary consent. The consent forms contained contact details of the researchers. Contact details of participants were not taken but each questionnaire was given a unique identification number. The numbers were supposed to be used if a participant wished to terminate their participation. All forms were locked and secured to remain confidential.

2.2. Participants

Research population consisted of 286 first year students of Dokuz Eylul University School of Medicine. Population sampling was not performed because the whole population was targeted. Researchers approached all students once and explained the purpose of the study. Questionnaires were given to 175 students (61.2%) who agreed to participate in the study. Finally, 173 students (60.5%) who completed the questionnaire were enrolled into the study. There was no student who wanted to withdraw from study after submitting the questionnaire.

2.3. Child maltreatment measures

History of childhood abuse was measured using ICAST-R. ICAST-R questionnaire is used between 18 and 24 years of age and was designed to evaluate retrospective measures of maltreatment during childhood. This tool examines indicators of behaviorally specific acts. Initially, lifetime exposure of maltreatment and its types are questioned and followed by the questions about the period of age at which the event(s) occurred, and both adult and peer aggressors are chosen from a comprehensive list. According to Delphi study results the ICAST-R was found to perform well cross-culturally in different languages in seven different countries. It was also evaluated as easy to read, and brief enough to complete when compared with other instruments. In item total correlations, its internal consistency was found to be moderate to high. It was also claimed that translation into other languages would not cause interpretative problems (Dunne et al., 2009).

ICAST-R consists of 26 questions about physical, emotional, and sexual abuse. All questions are answered by 'yes', 'no', and 'cannot remember'. Questions are followed by supplemental questions in order to understand the context, frequency and duration. There also are additional questions about the features of the perpetrator. First six questions inquire the participants' socio-demographic features such as gender, age, employment etc. Questions 7–11 are about physical abuse experiences and its details. Following questions 14–18 are about emotional abuse experiences and its details and 21–25 ask sexual abuse and its details. If a participant answer one of these groups of questions as "yes", he/she is considered to be a victim of abuse. The questions among these three groups are about the participants' thoughts of these unpleasant experiences. If the participant is a victim of abuse, then he/she is asked to compare his/her childhood with others. Finally, the last question refers to talking about this experience with others (Anonymous, 2014).

2.4. Descriptive statistics and correlational analyses

All data were analyzed using Statistical Package for the Social Sciences (SPSS) version 20.0 (SPSS Inc., 2013). Descriptive analysis was performed on the participants' socio-demographic features and was conducted to explore the prevalence of childhood maltreatment. Prevalence of CAN also was compared by socio-demographics including age, employment, living arrangement and gender. Chi- square test was performed to compare independent variables. For 95% confidence level, a "p" value less than 0.05 is accepted statistically significant.

3. Results

3.1. Socio-demographic features

Among 173 participants, 92 (53.2%) of them were male and 81 (46.8%) of them were female students. The data of 173 participants (mean age, 18.81 years, SD, 1.12 year) were analyzed. The mean age of female students was 18.57 ± 0.79 and the mean age of male students was 19.03 ± 1.12.

Victims are from diverse settlements. Sixteen (9.3%) students had grown up either at village or rural area, 58 (33.5%) students had grown up either at country or town, and 99 (57.2%) students had grown up at cities. There was no significant difference related to growing up in a city or rural area, regardless the type of abuse reported. Approximately 3.5% of the students have a part-time job and 96.5% have never worked.

3.2. Data about childhood maltreatment

About half (51.4%) of the participants reported that they were victim of abuse before the age of 18. Thirty-two (39.5%) of the 81 female students and 57 (62%) of the 92 male students reported that they had been exposed to physical, emotional or sexual abuse before they were 18 years old. We found a statistically significant correlation between gender and victimization before the age 18 (p:0.003).

3.2.1. Physical abuse

Forty (23.1%) students who answered at least one question "yes" between 7 and 11 considered as a physical child abuse victim. Ten (25%) students were female and 30 (75%) were male. We found males have significantly higher risk of being exposed to physical abuse under 18 (p:0.003) (The continuity correction test was performed**).** Further data about subtypes of physical abuse and gender distribution are given in detail in Tables 1 and 2.

When asked to compare their childhood to other children around the same age at the time, 117 (67.6%) stated they were subjected to much less physical abuse than most. Thirteen (7.5%) participants stated; a little less than most, 15 (8.7%) about the same as most, three (1.7%) a little more than most and three (1.7%) much more than most children. Twenty four (13.9%) students left the question unanswered.

3.2.2. Emotional abuse

Seventy (40.5%) students who marked at least one question as "yes" between 14 and 18 considered as an emotional abuse victim before the age of 18. Twenty six (37.1%) were female and 44 (62.9%) were male. Male gender is found to have significantly higher risk for emotional abuse under the age of 18 (p:0.035). Further data about subtypes of emotional abuse and gender distribution are

Table 1
The subtypes of abuse and gender distribution.

	Male	Female	P value < 0.05
Physical Abuse			
Hit or punched/assaulted	24 (26.1%)	7 (8.6%)	0.005
Yes	68 (73.9%)	74 (91.4%)	
No/Can not remember			
Kicked	9 (9.8%)	3 (3.7%)	0.204
Yes	83 (90.2%)	78 (96.3%)	
No/Can not remember			
Beaten by a stick or a belt	6 (6.5%)	2 (2.5%)	0.286
Yes	86 (93.5%)	79 (97.5%)	
No/Can not remember			
Shaken	6 (6.5%)	4 (4.9%)	0.752
Yes	86 (93.5%)	77 (95.1%)	
No/Can not remember			
Stabbed with a sharp object/knife	3 (3.3%)	1 (1.2%)	0.624
Yes	89 (96.7%)	80 (98.8%)	
No/Can not remember			
Emotional Abuse			
Insulted/humiliated	37 (40.2%)	25 (30.9%)	0.2
Yes	55 (59.8%)	56 (69.1%)	
No/Can not remember			
Told not being loved	4 (4.3%)	7 (8.6%)	0.399
Yes	88 (95.7%)	74 (91.4%)	
No/Can not remember			
Wished he/she was dead	3 (3.3%)	3 (3.7%)	§
Yes	89 (96.7%)	78 (96.3%)	
No/Can not remember			
Threatened to be injured/killed	13 (14.1%)	4 (4.9%)	0.043
Yes	79 (85.9%)	77 (95.1%)	
No/Can not remember			
Threatened to be abandoned	2 (2.2%)	5 (6.2%)	§
Yes	90 (97.8%)	76 (93.8%)	
No/Can not remember			
Sexual Abuse			
Exposed to exhibitionism	5 (5.4%)	6 (7.4%)	0.827
Yes	87 (94.6%)	75 (92.6%)	
No/Can not remember			
Forced to pose naked	0	3 (3.7%)	0.101
Yes	92 (100%)	78 (96.3%)	
No/Can not remember			
Touched in private parts	5 (5.4%)	9 (11.1%)	0.277
Yes	87 (94.6%)	72 (88.9%)	
No/Can not remember			
Forced to touch other's private parts	0	1 (1.2%)	0.468
Yes	92 (100%)	80 (98.8%)	
No/Can not remember			
Forced to have sex	0	2 (2.5%)	0.218
Yes	92 (100%)	79 (97.5%)	
No/Can not remember			

§Sample size less than minimum expected count

given in detail in Tables 1 and 2.

When asked to compare their childhood to other children around the same age at the time, 108 (62.4%) stated they were subjected to much less emotional abuse than most. Seven (4%) of the participants stated; a little less than most, 17 (9.8%) about the same as most, 11 (6.4%) a little more than most and two (1.2%) much more than most children. Twenty eight (16.2%) students left the question unanswered.

3.2.3. Sexual abuse

Nineteen (11%) students who answered at least one question as "yes" between 21 and 25 are considered as a sexual abuse victim under the age of 18. Eleven (57.9%) students were female and eight (42.1%) of them were male (p:0.434). Further data about subtypes of sexual abuse and gender distribution are given in detail in Tables 1 and 2.

Nineteen participants claimed to have sexual experience without their consent under the age of 18. Two (10.5%) participants claimed that they told others about their sexual experience, other 17 (89.5%) reported that they have never shared their experience with others. The participants who claimed sharing their experience, were asked with whom they talked to. Possible answer options

Table 2
The subtypes of physical, emotional and sexual abuse in detail.

	How many times		Age (years)*		Perpetrator*§	
Physcial Abuse						
Hit or punched/assaulted	1–2	18 (58.1%)	< 5	4 (8.9%)	Older male	16 (41%)
n: 31	3–10	9 (29%)	5–9	6 (13.3%)	Older female	4 (10.3%)
	> 10	4 (12.9%)	10–13	15 (33.3%)	Male peer	18 (46.1%)
			14–17	20 (44.5%)	Female peer	1 (2.6%)
Kicked	1–2	7 (58.3%)	< 5	1 (6.7%)	Older male	6 (37.5%)
n: 12	3–10	2 (16.7%)	5–9	2 (13.3%) 5 (33.3%)	Older female	0
	> 10	3 (25%)	10–13	7 (46.7%)	Male peer	9 (56.2%)
			14–17		Female peer	1 (6.3%)
Beaten by a stick or a belt	1–2	6 (75%)	< 5	0	Older male	2 (25%)
n: 8	3–10	2 (25%)	5–9	0	Older female	1 (12.5%) 5 (62.5%)
	> 10	0	10–13	4 (50%)	Male peer	0
			14–17	4 (50%)	Female peer	
Shaken	1–2	< 5 (50%)	< 5	1 (6.7%)	Older male	3 (27.3%)
n: 10	3–10	4 (40%)	5–9	2 (13.3%) 6 (40%)	Older female	3 (27.3%)
	> 10	1 (10%)	10–13	6 (40%)	Male peer	5 (45.4%)
			14–17		Female peer	0
Stabbed with a sharp object/knife	1–2	4 (100%)	< 5	1 (20%)	Older male	1 (20%)
n: 4	3–10	0	5–9	1 (20%) 1 (20%)	Older female	2 (40%) 2 (40%)
	> 10	0	10–13	2 (40%)	Male peer	0
			14–17		Female peer	
Emotional Abuse						
Insulted/humiliated	1–2	32 (51.6%)	< 5	3 (3.7%)	Older male	28 (29.2%)
n: 62	3–10	15 (24.2%)	5–9	13 (16.1%)	Older female	20 (20.8%)
	> 10	15 (24.2%)	10–13	35 (43.2%)	Male peer	23 (24%)
			14–17	30 (37%)	Female peer	25 (26%)
Told not being loved	1–2	7 (63.6%)	< 5	1 (6.7%)	Older male	6 (50%)
n: 11	3–10	0	5–9	1 (6.7%) 6 (40%)	Older female	6 (50%)
	> 10	4 (36.4%)	10–13	7 (46.6%)	Male peer	0
			14–17		Female peer	0
Wished he/she was were dead	1–2	4 (66.6%) 1 (16.7%)	< 5	0	Older male	2 (33.4%)
n: 6	3–10	1 (16.7%)	5–9	0	Older female	4 (66.6%)
	> 10		10–13	3 (50%)	Male peer	0
			14–17	3 (50%)	Female peer	0
Threatened to be injured/killed	1–2	14 (82.3%)	< 5	1 (5%)	Older male	5 (25%)
n: 17	3–10	3 (17.7%)	5–9	2 (10%) 6 (30%)	Older female	2 (10%)
	> 10		10–13	11 (55%)	Male peer	13 (65%)
			14–17		Female peer	0
Threatened to be abandoned	1–2	5 (71.4%)	< 5	0	Older male	7 (77.8%)
n: 7	3–10	2 (28.6%)	5–9	0	Older female	2 (22.2%)
	> 10	0	10–13	0	Male peer	0
			14–17	7 (100%)	Female peer	0aaaaa
Exposed to exhibitionism	1–2	11 (100%)	< 5	2 (18.1%)	Older male	2 (18.1%)
n: 11	3–10	0	5–9	4 (36.4%) 1 (9.1)	Older female	0
	> 10	0	10–13	4 (36.4%)	Male peer	9 (81.9%)
			14–17		Female peer	0
Forced to pose naked	1–2	2 (50%)	< 5	0	Older male	0
n: 4	3–10	2 (50%)	5–9	0	Older female	1 (20%)
	> 10	0	10–13	0	Male peer	2 (40%) 2 (40%)
			14–17	4 (100%)	Female peer	
Touched in private parts	1–2	9 (64.3%)	< 5	3 (16.7%)	Older male	7 (38.9%)
n: 14	3–10	1 (7.1%)	5–9	3 (16.7%) 6 (33.3%)	Older female	3 (16.7%)
	> 10	4 (28.6%)	10–13	6 (33.3%)	Male peer	6 (33.3%) 2 (11.1%)
			14–17		Female peer	
Forced to touch other's private parts	1–2	1 (100%)	< 5	0	Older male	0
n: 1	3–10	0	5–9	0	Older female	0
	> 10	0	10–13	0	Male peer	1 (100%)
			14–17	1 (100%)	Female peer	0
Forced to have sex	1–2	2 (100%)	< 5	0	Older male	0
n: 2	3–10	0	5–9	0	Older female	0
	> 10	0	10–13	0	Male peer	2 (100%)
			14–17	2 (100%)	Female peer	0

*Pariticipants marked more than one option.
§ Older male/female refers to an adult or a person who is ≥5 years older than the victim. Male/female peer refers to a person who is around victims age or younger.

were mother, father, friend and boy/girl friend and each of which was chosen once. (Participants marked more than one option). One participant reported that he/she had shared his/her experience months ago, other participant reported that it was more than three years when he/she had shared his/her experience. The two participants who disclosed, reported that they had felt believed and supported.

4. Discussion

Lack of reliable data about child abuse and neglect, makes it difficult to determine and compare CAN's prevalence all around the world (Chadwick, 2002). In many developing countries, CAN was not assessed adequately and systematically (Mulryan, Cathers & Fagin, 2000). In addition to differences in what constitutes CAN, countries vary in their surveillance systems and Turkey is no exception.

Studies show that physical abuse towards children in Turkey has an incidence of 30–35%, whereas sexual abuse is 4–18%. In a recent study, 16% of cases that presented to emergency settings as home accidents have been regarded as suspected physical abuse. In 2014, 25 children have been killed by their parents. (Gündem Çocuk Vakfı, 2014; Korkmazlar-Oral et al., 2010)

The process of developing a basic, useful, international and cross-cultural valid tool to effectively study the prevalence and type of abuse as well as the description of perpetrators was highly important and groundbreaking. For retrospective recording of abusive behaviors experienced in childhood, the ICAST-R was designed as a complement to existing psychometrically valid scales. The ICAST-R can capture a variety of contexts for some key indicators of exposure to violence in its format and it is considered as one of the most important advantages of the tool. The need for determining criteria to evaluate the type, severity and other features of child abuse was also raised in our country. A cross-national study was recently performed in Turkey to determine validity and reliability of ICAST. With sixth, seventh and eight grade students ($n = 440$), a study was performed using ICAST-CH in İstanbul, Turkey (Cankur et al., 2012). This was the first study in which an ICAST tool was used in Turkey. The rate of in-home physical violence was 73.4%, emotional violence was 67.9%, and negligence was 74.3% in this study.

ICAST-R was first used in Turkey in a study conducted by Koç (2012). Total of 232 students were recruited in two phases. In the first phase of study a sample group of 40 students from different universities were recruited. In this sample the rates of physical, psychological and sexual abuse were reported to be 25%, 62.5% and 20%, respectively. In the second phase 138 first year medical students were recruited and prevalence of physical abuse was 14.8%, emotional abuse was 32.6% and sexual abuse was 8.9%. Both groups had similar gender distribution, age and socio-demographic characteristics. Pooled prevalences of physical, emotional and sexual abuse were 16.6%, 37.8% and 10.8% respectively. The pooled group consisted of 232 students with a mean age of 19.83 ± 1.65.

Our study group's mean age was 18.81 ± 1. We chose to recruit our participants from the first year medical students to diminish the effect of errors derived from memory gaps. The mean age was 19.83 ± 1.65 in the study conducted by Koç (2012). In another study conducted by Lee & Kim in South Korea, with ICAST-R questionnaire, mean age was 20.1(2011).

Of 173 students who responded to ICAST-R in our study, 89 (51.4%) reported to experience at least one type of abuse under the age of 18. Emotional abuse was found to be the most frequent type of abuse in our study. According to Child Abuse and Intrafamilial Violence Study in Turkey supported by UNICEF (Korkmazlar-Oral et al., 2010), the most prevalent type of abuse in childhood between the ages of 7–18 was found to be emotional abuse (51%). It also has been shown that emotional abuse was the most common type of abuse in the study conducted by Koç (2012) from Turkey. These results are consistent with our results. In contrast, another study published by WHO (2013a) from Turkey reported physical abuse (21.1%) was the most common type of abuse in concordance with the results of Lee & Kim study (42.2%) from South Korea (2011). ICAST-R questionnaire only examines the physical abuse that causes injury, which may explain the difference between the results of WHO report (2013a) and our study. Even though Lee & Kim (2011) also used ICAST-R questionnaire to determine the prevalence of abuse, differing results may be originating from the sociocultural difference between South Korea and Turkey.

In our study 40 (23.1%) students reported that they had experienced physical abuse under the age of 18. Ten (25%) students were female and 30 (75%) of them were male. We found a significant relationship between gender and being subjected to physical abuse in childhood (p:0.003).

In Koç's study (2012), physical abuse prevalence was found to be 16.6% by using ICAST-R. In male participants physical abuse rate was 23.8% and 12.4% in female participants. There was a statistically significant difference between genders in being victim of physical abuse under the age 18 (p:0.04). In WHO report (2013a) physical abuse rate was 21.1%. It was also shown that there was a statistically significant relationship between victimization of physical abuse and gender (male 26.2%; female16.3%, $p < 0.001$).

ICAST instruments were implemented in nine countries in Balkan Epidemiological Study on Child Abuse and Neglect (BECAN) (Sofuoğlu et al., 2014), which aims to help development of children's rights in the Balkan countries and the introduction of the extent of the problem to the legislators. This study reported that physical abuse rate was 58.1% in Turkish children, by using ICAST-CH. They also reported that male gender had significantly higher risk for being victim of physical abuse ($p < 0.001$). These results were overall consistent with our study.

Participants of Korkmazlar-Oral et al. (2010) and Sofuoğlu et al. (2014) studies were consisted of children under 18. Children may have remembered the negative life events much more easily. Recall bias may be the reason for our study reporting lower rates of physical abuse. As mentioned before, ICAST-R questionnaire examines only the physical abuse that may cause injuries. Additionally, use of different evaluation tools with different perspectives may be another reason of inconsistency.

Lee and Kim's study from Korea (2011), which also used ICAST-R, reported the rate of physical abuse much higher than our study. This may be the result of sociocultural differences and adopting physical abuse as a disciplinary method.

The most prevalent physical abuse types were being assaulted or punched (17.9%) and kicked (6.9%) subsequently. Similarly in Turkey, Koç (2012), using ICAST-R, reported that being assaulted (11.4%) was the most frequent type of physical abuse in their study.

In BECAN study (Sofuoğlu et al., 2012) it has been reported that, ear pulling, smearing red pepper on the lips, pinching and slapping in the face were the most common types of physical abuse in our country.

According to Child Abuse and Intrafamilial Violence Study (Korkmazlar-Oral et al., 2010) supported by UNICEF, slapping, ear pulling and pinching were the most common reported types of physical abuse in our country. Two studies conducted by Dunne et al. (2009), and Lee & Kim (2011) by using ICAST-R showed that being assaulted was the most common reported type of physical abuse. In studies from Saudi Arabia (Al-Eissa et al., 2015) and Georgia (Lynch, Saralidze, Goguadze, & Zolotor, 2007) the most common physical abuse types were ear pulling and slapping respectively. These findings from previous studies using ICAST-R and ICAST-CH are consistent with our results (Al-Eissa et al., 2015; Lynch et al., 2007).

Of 173 students in our study, 70 (40.5%) reported experiencing emotional abuse in childhood. Twenty six (32.1%) female students and 44 (47.8%) male students experienced emotional abuse. There was statistically significant difference in being victim of emotional abuse and gender under the age of 18 (p:0.035).

Koç (2012) stated that emotional abuse rate was 37.8% in their study by using ICAST-R. Another study by using ICAST-R by Lee & Kim (2011) reported emotional abuse rate as 36.3% in South Korea. Emotional abuse rate was found to be 51% between the ages of 7–18, in Child Abuse and Intrafamilial Violence Study report by UNICEF (Korkmazlar-Oral et al., 2010). In 2013, WHO (2013b) reported that emotional abuse rate was 9.8% in Turkey.

BECAN study (Sofuoğlu et al., 2014) reported prevalence of psychological negative childhood experience (NCE) was 70.4% in our country. There was no significant difference between gender and being a victim of emotional abuse. Al-Eissa et al. (2015) from Saudi Arabia reported that emotional abuse rate was 74.9% by using ICAST-CH; moreover, emotional abuse rate was significantly higher among female participants (females 79.6%; males 68.4%; $p < 0.01$). These findings from Saudi Arabia may be based on cultural differences and different perception of gender roles. Due to different study designs and use of various tools, it can be challenging to compare the results of these studies. Some abusive peer violence and verbal insults, which may as well be considered as bullying, is also attributed to regarding abuse category in ICAST-R. For this reason, ICAST-R questionnaire is expected to report higher rates of emotional abuse compared to other instruments. Furthermore, reporting as a victim of emotional abuse may represent a more subjective statement when compared to other types of abuse. However, results from Koç (2012) and our study, which both utilized ICAST-R in Turkey, have consistent emotional abuse rates.

In our study, the most prevalent emotional abuse types were humiliation (35.8%) and being threatened to be injured or killed (9.8%). Similarly, Koç (2012) reported that humiliation (50.2%) was the most frequent emotional abuse type in their study. In BECAN study (Sofuoğlu et al., 2014), the most frequent psychological NCE's were described as being yelled at and humiliated. According to Korkmazlar-Oral et al. (2010), being scolded angrily and hearing unpleasant words from others were the most common types of emotional abuse in Turkey. Lee & Kim (2011) reported that being humiliated was the most prevalent type of emotional abuse. Al-Eissa et al. (2015) stated that the most common type of emotional abuse was insulting/humiliation in Saudi Arabic population as well. The results from both our country and abroad regarding emotional abuse are consistent although study designs, tools and participants ages are different.

Of 173 students who responded to ICAST-R in our study, 19 (11%) reported experiencing sexual abuse before 18. 13.6% of female students and 18.6% of male students were subjected to sexual abuse. There was no statistically significant difference in victimization of sexual abuse between male and female students. In Koç's (2012) Study from Ankara, sexual abuse rate was found to be 10.8% by using ICAST-R. WHO (2013a) had reported that sexual abuse rate was 7.9% and also reported that there was no statistically significant difference between male and female genders. According to Korkmazlar-Oral et al. study (2010), sexual abuse rate among children between 7–18 years old was 3% in our country. Kim and Lee (2011) pointed that sexual abuse rate was 24.3% in South Korea by using ICAST-R. In another study, sexual abuse rate was found to be 14% in Saudi Arabia by Al-Eissa et al. (2015).

Confrontation with experiencing sexual abuse and sharing it with others are challenging situations. Sociocultural differences and using different tools to determine the sexual abuse may also affect the results of the studies (May-Chahal & Cawson, 2005). Therefore, results from different studies including ours may lay in a broad spectrum and may not be reflecting the exact prevalence of sexual abuse.

In our study, being touched in private parts by others (8%) and being exposed to exhibitionism (6.3%) were the most prevalent types of sexual abuse. Results from Koç's study from Turkey (2012) and Lee & Kim's study from South Korea (2011) were consistent with our findings. Differing from these results the most common type of sexual abuse in our country was reported as being exposed to dirty talk by Korkmazlar-Oral et al. That result was overall consistent with the results of the study from Saudi Arabia by Al-Eissa et al. (2015). The difference between our findings and Korkmazlar-Oral et al. report may be the result of methodology and examining different subtypes of sexual abuse in these studies. Similarly, different findings from Saudi Arabian study (Al-Eissa et al., 2015) may be originating from using different instruments. Dirty talk and showing pornography are not asked in the ICAST-R instrument.

Disclosing being a sexual abuse victim may be more challenging than other types of abuse. According to a report by UNICEF nearly half of all adolescent girls aged 15–19 who reported ever having experienced physical and/or sexual violence said they never told anyone about it (UNICEF, 2014). As reflected in our data, 17 (89%) of respondents reported they had never shared their experience with others. In some cultures or religions loosing virginity or being in any kind of sexual act may be considered as being 'dirty', 'impure' or even 'damaged'. This would lead to stigmatization of victim and further suffering. In countries where women are considered inferior to men, woman who suffered sexual abuse in childhood may be considered unsuitable for marriage. So victims may want to keep this particular type of abuse in dark to avoid further suffering. Furthermore concept of 'abuse' may be evaluated

variably in diverse cultures. Some communities may accept marriage of an adult with a child as 'normal'. Therefore, studies from different countries with different tools and study designs may end up with inconsistent findings.

4.1. Limitations

There are limitations in our study. First, design of our study is retrospective and open to recall bias. ICAST-R is a useful tool for assessing physical, emotional and sexual abuse but it does not completely cover neglect. Neglect is defined as "caregivers' failure to appropriately supervise their children; impairments in protecting children from harm; deficits in caring for children's basic physical needs." Neglect may be intentional or unintentional (Erickson & Egeland, 2002). ICAST-R questions are mainly focused on hostile or rejectory behaviors. Another limitation in our study was to implement ICAST-R only to medical students. Research shows that violence can negatively impact children's educational performance and achievement (Pinheiro, 2006). Those who had experienced more severe and recurrent abuse before the age of 18 may not have a chance to continue their education. Medical students are a population with higher scholastic performance. It may be an indication for lower abuse rates in our study group compared with the whole community. As reflected in our data; 117 (67.8%) of respondents reported they were subjected to much less physical violence and 108 (62.4%) of respondents reported they were subjected to much less emotional violence when compared to children around same age at the time. Another limitation was that sexual abuse creates a challenging situation as related to disclosure. Significant sociocultural traditions and limitations regarding the role of women often create barriers to disclosure. Since our study relies on self-report measures, reported prevalence rates may not reflect the exact rates in our community about sexual abuse.

The strength of this study is use of an internationally accepted self-report instrument: ICAST-R, modified to meet the cultural context.

4.2. Conclusions

To conclude our findings, of 173 students who completed the survey, 51.4% are found to be subjected to at least one type of child abuse (physical, emotional or sexual). The prevalence is higher in male gender and the difference is statistically significant. Physical, emotional and sexual abuse exposure rates are found to be; 23.1%, 40.5% and 11% respectively. Physical and emotional abuse rates are higher in male gender and the difference is statistically significant. However, we did not find a statistically significant association with gender and sexual abuse. The most common physical abuse subtype is being assaulted or punched (17.9%); the most common emotional abuse subtype is being humiliated (35.8%) and finally the most common sexual abuse subtype is being touched in private parts by others (8%).

In Turkey, there are growing efforts to prevent CAN both supported by the Government

and NGOs. The government took steps to renew relevant laws, established a council to oversee the foundation of child advocacy centers for a multidisciplinary and interagency response to child sexual abuse. Ministry of Family and Social Politics, and the Centers of Child Surveillance belonging to the Ministry of Health are new institutions for the area. Several state departments are implementing professional in-service training of relevant governmental agency staff. 425 professionals from state services were trained to work together at the local level when intervening in violence against children cases. Non-governmental organizations are also contributing to this process by instituting professional and public education. Through a series of 10 workshops, 182 NGO representatives from 30 cities were also equipped to advocate for and monitor systematic responses to violence against children (Akco et al., 2013; UNICEF, 2014). CAN is an important and expansive problem. In Turkey, many Problems pertaining the care and protection of the children are not solved yet despite efforts and progresses in the studies on child abuse and neglect. Determining the risk factors and prevalence of CAN is crucial to raise awareness in society. To derive reliable data, further studies designed using internationally accepted tools and recruiting a non-privileged population, which may be more reflective for the whole country, are needed.

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