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Pattern of Intentional and Non-Intentional Non-Fatal Children Injuries in Sohag City, Egypt

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Abstract

Background: Intended and unintended injuries are considered the main causes of disability and death in children worldwide. Recognition of the patterns of children's injuries is critical for improving efficient protection schemes. **Aim of the study**: This study aims to outline the childhood injury pattern, mode, characteristics, causes, and consequences in patients aged less than 18 years. **Method**: A prospective study was carried out on patients aged 18 years and below admitted to the emergency department of Sohag University Hospital, in the period between January to June 2021. Data including age, sex, type of injury, mode of injury, and the effects of the injury on the body were collected. **Results**: 149 cases; 49 females (32.9%) and 100 males (67.1%) were identified. The most commonly affected age group (6-10) years. Intentional injuries were found in 36 cases (24.2%, with male to female ratio of 3:1), compared to non-intentional injuries appreciated in 113 cases (78.2%, with male to female ratio of 1.8:1). The most common etiology was violence applied by a person other than father and mother, either non-intentional or intentional, (45 cases), while the least etiology was animal bite (2 cases). The most common type of injury is contused wound (54 cases) while the least common is a firearm wound (5 cases). **Conclusion**: Most of the cases of our study were mild or moderate injury and mainly resulted from injury by a person other than father and mother (either non-intentional or intentional) followed by a motor car accident, while the least etiology was an animal bite.

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Introduction

Trauma or injury is an external factor that produce damage to any part of the body or bodily harm caused by application of violence. Injury also includes any harm to the mind, reputation and property, and hurt includes bodily pain, disease or infirmity (Barek and Haque, 2013). It may be due to physically, mechanically or emotionally harmful process or a series of processes that is experienced by a person and result in impairment of the person well-being (SAMSHA, 2012). Many symptoms that could be represented as mental illnesses are a consequence of trauma specially in children, so it is considered one of the main health problems all over the world in all age groups (Wang et al., 2015).

Injury could be intended or unintended which is considered the main causes of incompetence, death in children worldwide. The most common cause of non-fatal children's injuries is the unintended injury (Korkmaz et al., 2014& Gutierrez, 2016). child defined as a human being who is below the age of 18 years (Detrick,1999).

Due to improvement in the pediatric health issues especially in low socioeconomic countries, researches indicate that the plurality of these injuries could be prevented in all countries (DiGuiseppi and Roberts, 2000).

Injury and trauma in patients below 18 age group has a special regard with special pattern of injury, investigation and dealing due to the difference of anatomy, physiology and recognition in children compared to older individual. There are expenses of children trauma as the hospitalization and the future economic load due to incompetence and the work chances loss in the future (Miller et al., 2000 & Committee of Pediatric Emergency Medicine, 2016).

Mechanical forces may lead to different types of injuries (wounds) according to (Sharma et al., 2011)

1) Blunt Force Injuries which are caused by a blunt instrument
   a) Abrasions
   b) Contusions/Bruises:
   c) Lacerations
      - Contused wounds
      - Split lacerations
      - Overstretching of skin (torn)
2) Sharp Force Injury Caused by sharp edge weapons such as knifes, broken glass, razor blade etc.
   a) Incised wound:
   b) Stab/Penetrating/Puncture
3) Firearms Injury which is produced by fire arms weapons

The improvement of the health problems of major child injuries are ameliorated when children are properly managed by an expert trauma service team. Recognition the patterns of children injury are critical for improving the efficient protection schemes (Densmore et al., 2006 & Tracy et al., 2013).

This study aims to outline the childhood injuries pattern, characteristics, causes and consequences in patients aged below 18 years admitted to surgery emergency department of Sohag university hospital.

Patients and Methods

A prospective study was carried out on patients aged 18 years and below who were admitted to emergency department at Sohag University Hospital during the period from January to June 2021. The cases were examined and the data including age, sex, cause of trauma, type of injury, mode of injury and the effects of injury on the body were collected.

The study protocol was approved by the Institutional Review Board (IRB), Faculty of Medicine, Sohag University (Code: Soh-Med-22-02-36). In all cases, informed consent was obtained from the caregiver to use these data in the present study and the confidentiality of record were preserved.

Results were expressed in tables and charts. Data collected throughout history, basic clinical examination and outcome measures coded, entered and analyzed using Microsoft Excel software.

The data collected were tabulated and analyzed by SPSS (statistical package for social science) version 23 (IBM, Armonk, NY, USA) on IBM compatible computer. Two types of statistics were done:

Descriptive statistics: According to the type of data qualitative represent as number and percentage, quantitative continues group represent by mean ± SD.

Analytic statistics:

Chi-square test ($\chi 2$): was used to study comparison and association between two qualitative variables. A P-value of < 0.05 was considered statistically significant & <0.001 for high significant result.

Results

In the present study, 149 children trauma cases (below 18 years) presented to emergency department at Sohag University Hospital in the period between January to June 2021. Of these cases, 49 were female (32.9%) and 100 were male (67.1%). The mean age of cases was 7.57 (SD ±3.49) years). There was higher injury rate in rural area (54.4%) compared to urban areas (45.6%) and children with working mothers had lesser incidence of injuries (33.6%) than housewife mothers (66.4%) as shown in (Table 1).

The most common affected age group (6-10) years with 89 cases (60 male & 29 female) and the least common affected age group (16-18) with 8 cases (1 male & 7 female) which is highly significant with p value (0.002) as shown in (Table 2).

Table (3) shows that the intentional injury rate was higher in males (27 cases) than in females (9 case), also the non-intentional injury rate was higher in male (73 cases) than in female (40 cases) with no statistically significant difference in distribution of injury intention regarding sex with p value 0.247. When all injuries in both sexes are evaluated together, the non-intentional injury cases were observed to be 113 cases (75.84%) (70 male and 43 females) compared to 36 cases of child abuse cases (24.16%) (27 males and 9 females).

According to the relationship between age groups and intention of injuries. The most commonly affected age group (6-10 years) with 89 cases (27 cases of child abuse which represent 75% of total abused cases) and the least commonly affected age group (16-18 years) with 8 cases (all of them had non-intentional injuries which representing 7.1% of total non-intentional injuries) which is significant with p value (0.031) between all age groups as shown in (Table 4).

Table (5) shows the distribution of intentional injury according to accused person, type and site of wound. The most common accused person in intentional cases (abuse) were injury by the father (41.7%) followed by the mother (33.3%) with the least one was injury by uncle which was (5.6%) of abused cases. The most common type of injury was contused wound (58.3%) of cases with the least common type was cut wound (11.1 %) of cases. In intentional injury, face was the commonest site of injury representing (75%) of cases with the least common site was chest representing (2.8%) of cases.

In relation to the commonest type of injury in all cases (either non-intentional or intentional) the contused wounds (54 cases, 32.21%) were in the 1st place followed by cut wound (27 cases, 16.77%) and the least common type was firearm wounds (5 cases, 3.35%) as shown in (Figure 1).

Face injury represented with 110 cases (73.82 %) this followed by the upper limb (20 case 13.42%), and the least site affected neck region with 1 case (0.6 %) as shown in (Figure 2). Lid injury represent (46.3 %, 51 cases) of total face injury cases followed by orbital fractures represented by 19 cases (17.27 %) with the least affected facial injuries was palate injury 1 case (0.9%) of the total facial injuries as shown in (Figure 3).

When injuries were investigated according to etiology, injury by a person other than father and mother (either non-intentional or intentional) appreciated in 45 cases (30.2%: 33 male and 12 female) with 48.9% of these cases were in the age group 6-10 years followed by motor car accident in 27 cases (18.12%, 18 male and 9 female) with 66.7 % of these cases were in the age group 6-10, falling from height in 16 cases (10.73%, 9 male and 7 female with 81.2 % of these cases were in the age group 6-10, injury by the mother with the same percentage 16 cases(10.73%, 10 male and 6 female with 48.9% of these cases are in the age group 6-10 while the least etiology was animal bite 2 cases (1.34%, 2 females in the groups above 10 years as shown in (Table 6 & 7 and Figure 4).

All of cases in this in the present study discharged after either outpatient treatment or hospitalization with complete recovery without permanent infirmity cases or mortality.

Table (1): Sociodemographic data of injured studied children (N=149)

Age of child	7.57 ± (3.49)	
Age of the mother	29.73± (6.92)	
Age of the father	40.03± (7.73)	
Gender	**No**	**%**
Male	100	67.1%
Female	49	32.9%
Intentional or not		
Intentional	36	24.2%
Non- intentional	113	75.8%
Working of the mother		
Working	50	33.6%
Housewife	99	66.4%
Residence		
Urban	68	45.6%
Rural	81	54.4%

N= number

Table (2): Chi square statistical analysis for distribution of injuries according to age group

Age group	**Sex**		**Total (%)**	**P value**
	Male	**Female**		
1-5 years	31	7	38 (25.5%)	0.002
6-10 years	60	29	89 (59.73%)	
11-15 years	8	6	14 (9.3%)	
16-18 years	1	7	8 (5.36%)	
Total	100	49	149 (100%)	

P < 0.05 is considered significant

Table (3): Chi square statistical analysis for distribution of injury intention according to sex

		Intention of injury		**P value**
		Intentional	**Non-intentional**	
Sex	**Male**	27 (75.0%)	73 (64.6%)	0.247
	Female	9 (25.0%)	40 (35.4%)	
	Total	36	113	

P < 0.05 is considered significant

Table (4): Chi square statistical analysis for distribution of intentional and non-intentional injury according to age group

Age group	**Intention of injury**		**Total (%)**	**P value**
	Intentional	**Non-intentional**		
1-5 years	9 (25.0%)	29 (25.7%)	38 (25.5%)	0.031
6-10 years	27 (75.0%)	62 (54.9%)	89 (59.73%)	
11-15 years	0 (0.0%)	14 (12.4%)	14 (9.3%)	
16-18 years	0 (0.0%)	8 (7.1%)	8 (5.36%)	
Total	36 (24.16%)	113 (75.84%)	149 (100%)	

P < 0.05 is considered significant

Table (5): Chi square statistical analysis of number and ratio of intentional cases (abuse) according to accused person & type and site of injury

Accused person	**No.**	**Ratio**		**Type of injury**	**No.**	**Ratio**		**Site of injury**	**No.**	**Ratio**
Father	15	41.7%		**Contused wound**	21	58.3%		**Face**	27	75%
Mother	12	33.3%		**Cut wound**	4	11.1%		**Scalp**	3	8.3%
Teacher	7	19.4%		**Burn**	6	16.7		**Hand**	5	13,9%
Uncle	2	5.6%		**Fracture**	5	13.9%		**Chest**	1	2.8%
Total	36	100%		**Total**	36	100%		**Total**	36	100%

Table (6): Chi square statistical analysis for distribution of mode of injury in relation to sex

			Mode of injury									P value
			Injury caused by Mother	Injury caused by Father	Injury caused by Others	Motor car accident	Falling from high	Self-injury by sharp Object	Driving Bike	Firearm	Animal bite	
Sex	Male	Count	10	10	33	18	9	9	10	1	0	.050
		% Within Mode of trauma	62.5%	83.3%	73.3%	66.7%	56.2%	60.0%	90.9%	20.0%	0.0%	
	Female	Count	6	2	12	9	7	6	1	4	2	
		% Within Mode of trauma	37.5%	16.7%	26.7%	33.3%	43.8%	40.0%	9.1%	80.0%	100.0%	
Ratio of mode to total injuries			10.73 %	8.05 %	30.2 %	18.12 %	10.73 %	10.06 %	7.38 %	3.35 %	1.34 %	

P < 0.05 is considered significant

Table (7): Chi square statistical analysis for distribution of mode of injury in relation to age groups

Age group	Mode of injury									P value
	Injury caused by Mother	Injury caused by Father	Injury caused by Others	Motor car accident	Falling from high	Sharp Object	Driving Bike	Firearm	Animal bite	
1-5 years	6	0	22	5	3	2	0	0	0	.000
	37.5%	0.0%	48.9%	18.5%	18.8%	13.3%	0.0%	0.0%	0.0%	
6-10 years	10	11	22	18	13	6	8	1	0	
	62.5%	91.7%	48.9%	66.7%	81.2%	40.0%	72.7%	20.0%	0.0%	
11-15 years	0	1	1	4	0	4	2	1	1	
	0.0%	8.3%	2.2%	14.8%	0.0%	26.7%	18.2%	20.0%	50.0%	
16-18 years	0	0	0	0	0	3	1	3	1	
	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	9.1%	60.0%	50.0%	
total	16	12	45	27	16	15	11	5	2	
	10.73 %	8.05 %	30.2 %	18.12 %	10.73 %	10.06 %	7.38 %	3.35 %	1.34 %	

P < 0.05 is considered significant

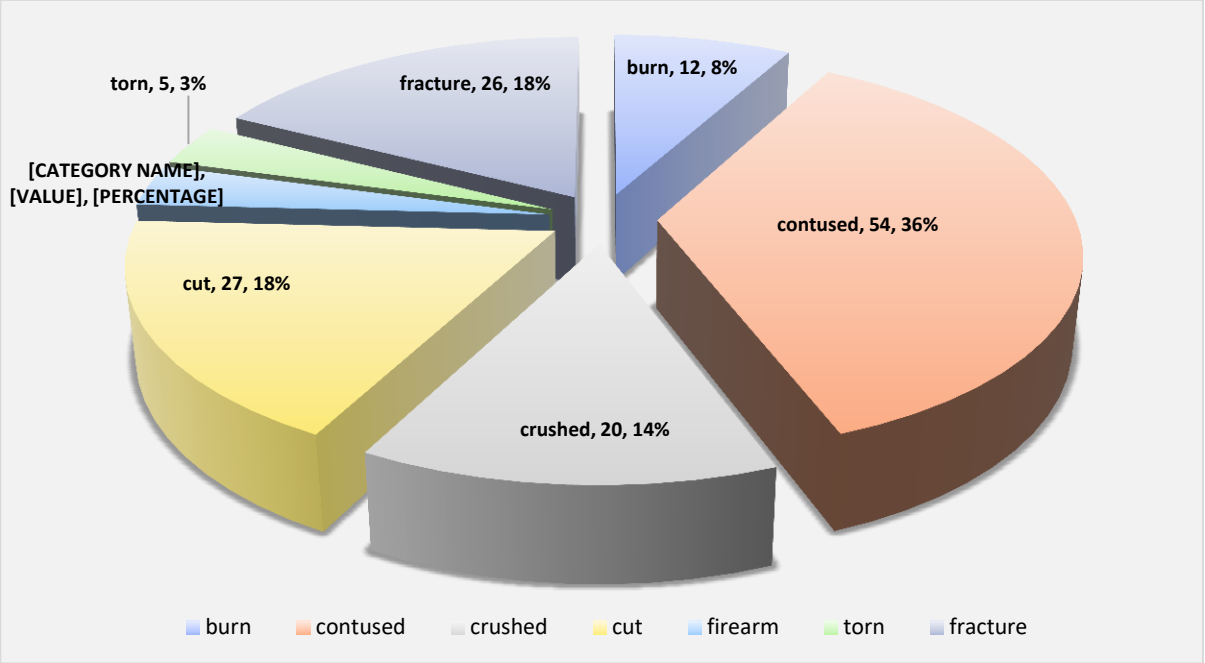

Figure (1): Types of Injury in studied children

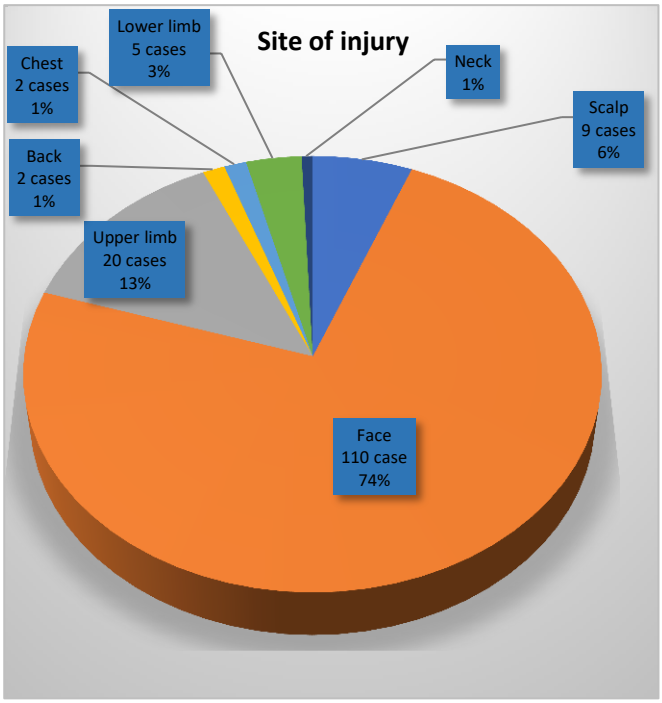

Figure (2): Sites of Injury in studied children

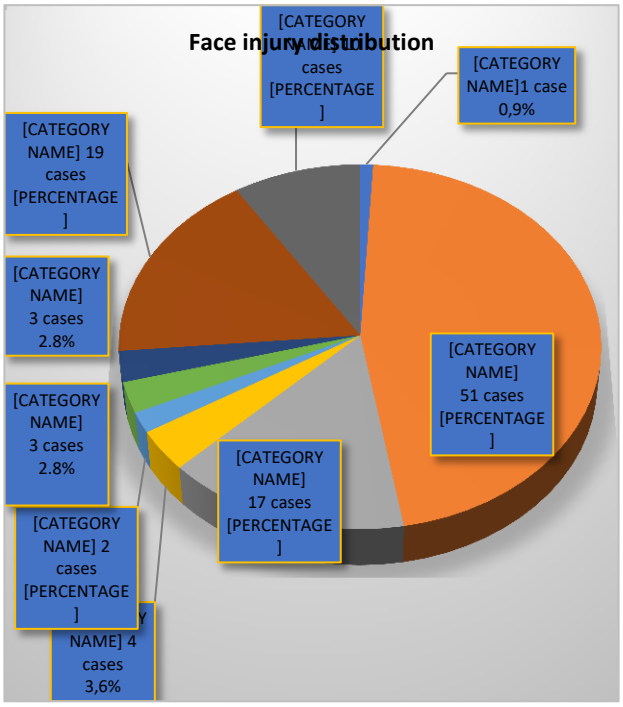

Figure (3): Site of injury in the face area

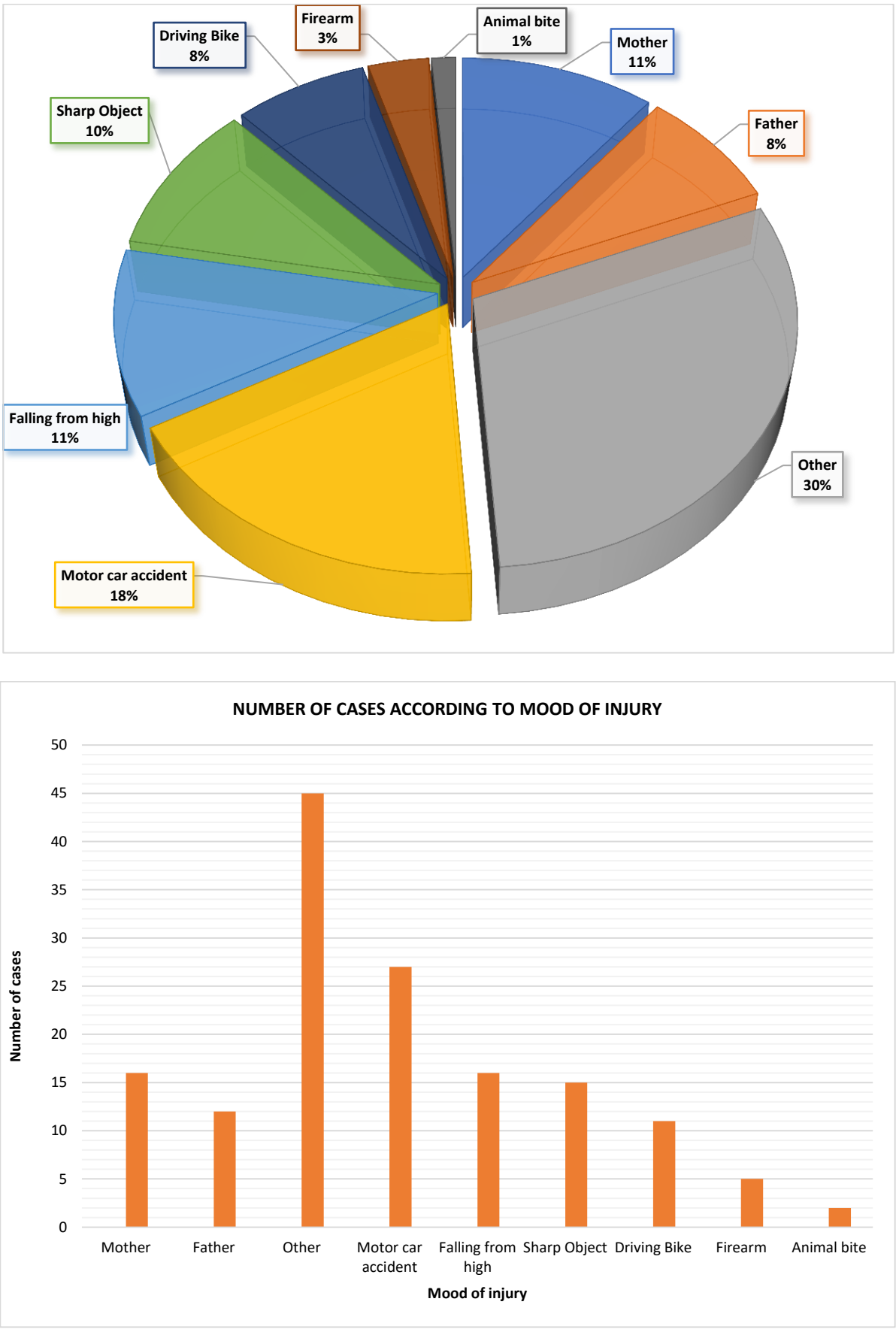

Figure (4): Mode of injury in studied children

Figure (5): Showing types of injuries included in the study. A: Torn wound, B: Cut wound, C: Contused wound, D: Contused wound, E: Burn, F: Crushed wound, and G: Cut wound

Discussion

Childhood injuries (either intentional or non-intentional) are major health problems that may require hospital care, and a large portion of these cases may result in disabilities and other health issues. Most of the pediatric injury or trauma could be avoided (Gutierrez, 2016).

Clinically a wound or injury is produced when there is breach of anatomical continuity of the skin or mucous membrane with or without damage of the underlying tissues. Forensically it is wound when there is damage of any tissue or organ by a mechanical force irrespective of breach of continuity of the skin or mucous membrane (Barek and Haque, 2013).

The present study showed specific patterns of injuries in the childhood period according to gender, age and residence. Rural areas showed higher injury rate in compared to urban areas which was in harmony with (Danseco et al., 2000 & Hammig and Weatherley, 2003). These findings are in contrast to other studies conducted in Egypt and all over the world, which

reported higher frequency of children injuries in urban than in rural areas (Gilbride et al., 2006 & Hedström and Waernbaum, 2014 & Halawa et al., 2015). This difference could be explained by exposure to machine in the farm and its hazardous effects. Also, there is a higher rate of child labor and uneducated children Additionally, firearms suitability and the limited medical facilities in rural areas especially in Upper Egypt due to shortage of health insurance in rural residents could be another reason. The higher ratio of urban injuries in other studies could be attributed to higher number of urban participants in those study samples which conducted in Colorado, Ireland and Egypt respectively (Leff et al., 2003& Boland et al., 2003 & Halawa et al., 2015).

Working of the mother had strong effects on childhood injuries. In the current study, children with working mothers had lesser incidence of injuries than housewife mothers, and these results are in accordance with an Egyptian study conducted by Mohammed et al., (2020). In contrary, in a study conducted by (Halawa et al., 2015), the authors showed that children injuries of working mothers had greater incidence than non-working mothers, and they explained that by less time and care of the working mothers for their children (Nathens et al., 2000). This might be explained by differences in cultures due to lesser number of working mothers in Upper Egypt and the sample size also has role in this difference (Halawa et al., 2015).

According to the rate of injury in relation to specific age group, the most common affected age group (6-10) years with 89 cases (59.73%)) and the least common affected age group (16-18) with 8 cases (5.36%). This is consistent with (Demir et al., 2013) who stated that the most frequent children age group affected by injuries was 7-10 years.

Boys had higher frequency for all age groups except in the age group (16-18) in the present study. Male gender also had greater frequency for all mode of injuries except firearm injuries and animal bite. The explanation for this high frequency in male than female may be due to the higher frequency of exposure to injury risk in the activities the boys expose every day (Morrongiello and Lessard, 2007). These findings are in accordance to other studies in Egypt (Elbaih et al., 2016) and with other studies conducted in all over the world (Mattila et al., 2004 & Kalkan et al., 2016).

Nevertheless, in study conducted in turkey there is no difference between male and female ratio in injuries as reported by (Büken and Yasar, 2015) who explained that by the similarity in the life style activity between both sexes in these countries.

The intentional injuries in the present study represent a lesser rate of the total cases (24.2%) in comparison with non-intentional injuries (75.8%). This is in harmony with Kalkan et al., (2016) who reported that intentional injuries in their study represent 21.6% of the total cases, Additionally, these results were in consistent with Gallaher et al., 2016 who recorded that the total intentional injuries in children below 18 years was 1976 cases with ratio of 8.1% of total cases.

The intentional injury rate of the cases was higher in males (27 cases, 75%) than in females (9 case,25%), which was in consistent with Gallaher et al., 2016 who reported that female cases in intentional injuries was lower than male cases (72.6 % in males compared to 27.4% in females. The age group with highest frequency in the intentional injuries was 6-10 age group (27 cases, 25%) which is the same age group with the higher frequency of non-intentional injuries (62 case, 54.9%). The most common affected site of intentional cases was face area which could be explained by the accessibility of this area this was in accordance with Gallaher et al., (2016).

In the developing countries, the majority of children record presented with physical punishment with ratio about 20% of total cases experiencing severe injuries (UNICEF, 2011).

WHO reported that 37% of all Egyptian children experience severe physical punishment by their mother and father, which was in consistent with the present study according to mode of injury as the father followed by the mother was the most common personnel with different ratios in other countries as the Republic of Korea (45%), Romania (50%) Ethiopia (64%), India (36%), and the Philippines (21%) (Krug et al., 2002). It has been estimated that 133 to 275 million children face intentional injuries at home (UNICEF 2011).

In the present study the commonest type of injury was contused wound (54 cases) followed by cut wounds (27 cases), fractures (26 cases), crushed wounds (20 cases) and finally burns (12 cases). This was in harmony with (Halawa et al., 2015 & Mohammed et al., (2020). In another study conducted by El-Sayed et al., 2002 in Ismailia - Egypt, as the authors reported that the commonest injury was fracture followed by cut wound. This could be explained by that the commonest mode of trauma in the present study was injury by other person than father and mother followed by motor car accident and fall from height which is considered blunt injury resulting in contused wounds and fracture also due to, limited areas for playing safely of the children, and also unpaved surfaces and lack of traffic rules in some places in developing countries especially in rural areas, also the use of motor cycles and bike in our region the cause (Petersburgo et al., 2010).

Concerning the site of injury, the present study recorded that the face area was in the top position by (110 cases) followed by upper limb (20 cases). This was in accordance with (Çınar et al., 2010 & Sever et al., 2010 & Gallaher et al., 2016) who recorded that head-neck and upper extremity regions are the most frequently injured body areas. In another study conducted by Kalkan et al., (2016) about half of cases had trauma in the head and neck area, followed by lower extremity and the upper extremity injuries

The eyelid and brow regions are the most common facial site of injury in the present study which could be related to that contused wound are common in children as more acutely edged bony structures strike against blunt surface, such as the ground, road surface

or furniture, resulting in a common presentation of contused or crushed wound to the forehead and superior orbital rim (Rogan and Fang, 2021).

The liability of fracture in face area is less in relation to soft tissue injury as presented in the current study by 19 orbital fractures (17.27 %) and 3 mandible fractures (2.72 %) and 3 nose bone fractures (2.72 %) of total face injuries. This in accordance with (Vyas et al., 2008 & Grunwaldt et al., 2011) who reported that facial fractures occur in only 8-15% of pediatric facial trauma that present to the emergency department. Younger children have elastic bony and cartilaginous facial structures with flexible suture lines, with which lead to minimally displaced fracture. This could explain that the soft tissue injuries are common in relation to facial trauma (Rogan and Fang, 2021).

Children have larger size of heads in relation to body size compared to adults. So, the probability of the head to be stroked in children trauma is higher than that in adults. The ratio of head-body size is decreasing with age. Also, the head is considered heavy in relation to the rest of the body so it is more liable to traumatic head injury (Araki et al., 2017).

Injury by a person other than father and mother has the higher percentage as a causation factor in the present study followed by motor car accident and falling from height which was in consistent with results by (Mutto et al., 2011 & Kalkan et al., 2016) which reported that traffic accident followed by fall were the commonest etiological factors in children injuries in their study. These results also consistent with national research conducted by (Halawa et al., 2015) who reported that fall was the most common mode of injury. In a Pakistanian study, pedestrians and motorcyclists children represent the top rated injures, and 80% of all accidental injuries and 67% of all resulting mortality in children were due to road traffic injuries (Razzak et al 2004).

Absence of supervision, lack of traffic rules in some places in developing countries especially in rural areas, and the extensive use of motor cycles and bike in our region can be considered main causes of childhood injuries, as Egypt was reported to be one of the highest countries with RTAs rate in Africa and Middle East as stated by statistics of WHO, (2018). Falling from height also common in our region due to absence of safety measures in buildings which commonly occurs in developing countries (Petersburgo et al., 2010). Some studies reported that traffic accidents are less observed (Bilgin et al.,1997 & Büken and Yasar, 2015). This may result from different geographical distribution of these studies as in developed countries there is strict rules of traffic and Prescence of major supervision in traffic and roads compared to developing countries.

In order to decrease the children injuries, many educational and interventions could be effective in increasing safety knowledge, behaviors and attitudes specially if these interventions accompanied with other approaches. Legislation also has important rule in this process such as wearing cycle helmet for motorcyclist to reduce traffic-related injury rates, setting and activating child abuse legalization specially in developing countries. Findings reveal the relevance of infrastructure modification in reducing falls and improving pedestrian safety among children (Bou-Karroum et al., 2022). Also, collaboration between educational institutions and families has significant potential for preventing child injuries and developing children's health competencies consistent with ideas of sustainable development (Stralczynská et al., 2022).

Conclusion

This study identified the types and the possible risk factors for non-fatal childhood injuries in (Sohag) Egypt. Most of cases of our study were mild or moderate injury and mainly resulted from injuries by a person other than father or mother either intentionally or non-intentionally followed by RTA then injury due to falls. Our data also could have a role in identifying the risk factors for childhood injuries as sex, age and socioeconomic status.

Recommendations

- The child caregiver has an important role in maintain child safety and prevent injuries occurrence by the close supervision and by educating child the ways to be safe either inside or outside.
- Prevention and criminal punishment programs by the authority must be of high priority for decreasing injuries in childhood period caused by falls, RTAs and other domestic injuries.
- Children education in school about traffic rules and safety measures when using the road or when practice daily activates as sport.
- Formation of greater awareness about the prevalence and effect of childhood injuries, and activation of legalization against child abuse has a great role in decrease these injuries and its effect as the injuries can affect a child's perception of the self and the world (Bou-Karroum et al., 2022).

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نمط إصابات الأطفال الغير مميتة المتعمدة وغير المتعمدة في مدينة سوهاج، مصر

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الملخص العربي

الخلفية: تعتبر الإصابات المتعمدة وغير المتعمدة من الأسباب الرئيسية للإعاقة والوفاة في جميع أنحاء العالم في الفئة العمرية التي تقل عن ١٨ عاما، وتتميز الاصابات في هذه الفئة العمرية بنمط خاص من ناحية نوعيتها وطريقة التعامل معها مقارنة بالأفراد الأكبر سنا. لذلك فإن دراسة تلك الأنماط الخاصة بإصابة الأطفال أمر بالغ الأهمية لتحسين خطط الحماية الفعالة. تهدف هذه الدراسة إلى تحديد نمط إصابات الأطفال وخصائصها وأسبابها وعواقبها في المرضى الذين تقل أعمارهم عن ١٨ عاما.

الطريقة: أجريت دراسة مستقبلية على المرضى الذين تبلغ أعمارهم ١٨ عاما أو أقل والذين تم إدخالهم إلى قسم الطوارئ - مستشفى سوهاج الجامعي في الفترة من يناير إلى يونيو ٢٠٢١. تم جمع البيانات بما في ذلك العمر والجنس وسبب ونوع وطريقة الإصابة وآثار الإصابة على الجسم.

النتائج: عدد الحالات الكلي ١٤٩ حالة منهم ٤٩ أنثى (٣٢.٩ في المائة) و١٠٠ ذكر (٦٧.١ في المائة). الفئة العمرية المتضررة الأكثر شيوعا (٦-١٠) سنوات، الفئة العمرية المتضررة الأقل شيوعا (١٦-١٨). وقد وجدت إصابات ناجمة عن إساءة معاملة الأطفال في ٣٦ حالة (٢٤.٢ في المائة، بنسبة الذكور إلى الإناث 1:3)، مقارنة بالإصابات العرضية التي قدرت في ١١٣ حالة (٧٨.٢ في المائة، مع نسبة الذكور إلى الإناث (١.٨: 1) وكانت المنطقة الأكثر إصابة هي الوجه (١١٠ حالة؛ ٧٣.٨٢ في المائة). وكانت المسببات الأكثر شيوعا هي الإصابة عن طريق شخص آخر غير الأب والأم، سواء كانت عرضية أو متعمدة، (٤٥ حالة)، تليها حوادث السيارات ((٢٧) حالة) في حين أن أقل مسبباتها كانت عضات حيوانية (حالتين). النوع الأكثر شيوعا من الإصابات هو الجروح الرضية (٥٤ حالة) في حين أن الأقل شيوعا هو جرح السلاح الناري (٥ حالات).

الخلاصة: حددت هذه الدراسة أنواع وعوامل الخطر المحتملة لإصابات الطفولة غير المميتة في سوهاج. كانت معظم حالات دراستنا إصابات خفيفة أو متوسطة ونتجت بشكل رئيسي عن طريق شخص آخر غير الأب والأم (إما عرضي أو متعمد) تبعها حادث سيارة، في حين أن أقل مسبباتها كانت عضات حيوانية.

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