

Recreational motorcycle accidents among children. A prospective analysis

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Abstract:

Objective: To analyze injuries in children below 14 years of age due to motorcycle accidents during the Eid Al-Adha holidays of 1419 hijri.

Design: This is a study of all children seen in emergency room with recreational motorcycle accidents.

Settings: King Fahd Hospital of the University, Al-Khobar.

Subjects: Thirty-nine children were admitted to the emergency room with motorcycle crashes who needed medical care were included in the study group.

Results: Thirty-three boys and 6 girls with a mean age of 10 years (Range 5-14 years $SD \pm 2.643$) were seen in the emergency room. They suffered 23 fractures, 1 dislocation and 26 soft tissue injuries, like lacerations, cut wounds and friction burns etc. Nine children required hospitalization, whereas the rest, after treatment were referred to outpatient clinics for further follow-up.

Conclusions and Recommendations: Recreational motorcycle accidents causing grievous injuries to the unprotected children appears to be on the rise. Physicians should not sit at the sidelines and treat these injuries but in collaboration with the concerned departments to formulate ways to prevent these injuries.

Introduction:

Injuries due to motorcycle accidents (MCA) are common worldwide, causing morbidity and mortality in the young. Deaths due to motorcyclists and bicyclists make 10% of all deaths on the roads of United States of America (Coble et al 1994)⁽¹⁾ which makes over 4500 deaths yearly due to MCA.⁽²⁾

There are no reports on the injuries due to MCA in the Gulf countries in general and Saudi Arabia in particular. A sudden upsurge of MCA have been noticed in the eastern region of Saudi Arabia.⁽³⁾ This manuscript attempts to analyze injuries in children seen due to MCA at King Fahd Hospital of the University at Al-Khobar.

Patients and Methods:

Motorcycles are driven for recreation by children and adolescence age groups on the beach and water fronts. These motorcycles are either three or four wheelers, which reach a speed of 30 kilometers per hour. King Fahd Hospital of the University is 2-20 kilometer radius of the beach fronts on the Arabian Gulf and receives most of the emergency cases.

In the preceding months before the present study it was observed that the prevalence of MCA during the weekends were on the rise in all age groups, this made us to conduct a prospective study. The study was conducted during the 6-day holiday period during the Eid Al-Adha holidays between 10th and 15th of Dhul Hajjah, 1419 Higri, at King Fahd Hospital of the University, Al-Khobar. All children below the age of 14 years of age with the history of MCA were included. The demographic data included age, sex, site of injury, hospitalization and follow up.

Results:

During the 6-day period of Eid Al-Adha holidays of 1419 Higri, 39 children sought medical attention at the emergency room of the hospital with motorcycle accidents. The age distribution is given in Table I. The minimum age was 5 and the maximum 14 years (Mean 10 years with SD \pm 2.64). There were 33 boys and 6 girls. These children suffered 23 fractures and 1 dislocation and 26 soft tissue injuries. Table II shows injuries to the upper extremity and Table III shows the injuries sustained to the lower extremity.

Five patients had abrasions and friction burns of the face and 4 children had scalp wounds. Nine patients were admitted for further management of their injuries.

Discussion:

Injury due to any cause is a major burden on all aspects of healthcare and extracts heavy toll of the socioeconomic factors of the society⁽⁴⁾. Road traffic accidents (RTA) in Saudi Arabia are not uncommon⁽⁵⁻⁸⁾. Deaths due to RTA in the Gulf Cooperation Council Countries (GCC) for the year 1998 were 5000. The estimated cost of RTA yearly in Saudi Arabia is reported to be SR2,135 Million⁽⁹⁾. Since the problem of RTA is so enormous, we have overlooked another brewing big problem of MCA. Thirty-nine patients attending one hospital during a 6-day period is large enough to be ignored. If one could only assess the true incidence of injuries due to MCA, it will be realized that the problem of MCA is quite enormous. Factors, which hinder the correct assessment of true incidence, are many-fold. This could be due to other injured children must have received attention in other hospitals and secondly children of non-injury crashes will not seek medical advice. The important factor of all is that MCA's are not legally reportable to the traffic police. These circumstances should alert the planners and administrators of the current situation if not brought under control at present time can turn into a major undertaking in near future.

The report on the assessment of teenage death and injury due to MCA were suggested to be due to risky driving behavior⁽¹⁰⁾. It is reported that motorcyclists are more vulnerable to severe and fatal injuries as compared to any other mode of transport.⁽¹¹⁾ This increased incidence of fatalities were due to head injuries.^(12,13) In our patients the speed is less than 40kmph but since these young riders drive without a helmet, one would expect fatal injuries as reported earlier.⁽³⁾ Todd (1991)⁽¹⁴⁾ found that lower limbs are injured more often in MCA and this received support from another American study.⁽¹⁵⁾ In this study the injuries were similar in the upper and lower extremities, but soft tissue injuries were more common in children than seen in adult female riders.⁽³⁾

There are two aspects, which need to be addressed. To find the causes of motorcycle injuries and ways to prevent them. The motorcycle rides always take place close to the waterfront in and around the beaches of the eastern coast. Three facets can reduce the incidence of accidents and they are; the vehicle, the driver and the road.^(1,2) Unfortunately in our situation the last two factors don't support in any way to reduce the crashes. The children drive the vehicles without prior experience on the uneven desert sand,

making them very vulnerable for crashes and still the condition of vehicle is not taken into consideration. Secondly, emphasis should be given to the age-old saying, that "Prevention is better than cure". Should we physicians sit at the sidelines and treat these injuries or take active part along with the relevant authorities to prevent the injuries. We believe that the second choice is better than the first.

It is recommended that along with the traffic police and other appropriate departments the riding should be allowed on the driving tracks and the area should be under control of trained personnel. The use of helmets, arm and leg protectors should be made mandatory. With an all out effort, cooperation and hard work one can expect the number and severity of injuries due to MCA be reduced.

In conclusion the number of accidents due to Recreational motorcycle rides is increasing. In collaboration with various departments ways need to be found to decrease such injuries.

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Table (1)
Showing the age distribution of
injured children.

1AGE DISTRIBUTION

| Age | Number |
|------------|---------------|
| <6 years | 6 |
| 7-9 years | 12 |
| 10 12years | 13 |
| 13 14years | 8 |

Table (2)
Shows injuries sustained to the upper limb

INJURIES TO THE UPPER EXTREMITY

| Type | Number of cases |
|-------------------------------|------------------------|
| Fractures : | |
| Clavicle | 4 |
| Radius & Ulna | 2 |
| Radius | 2 |
| Ulna | 3 |
| Dislocation : | |
| P.I.P Joint | 1 |
| Soft Tissue Injuries : | 6 |

Table (3)
Table showing the number of injuries of the
lower extremity.

INJURIES TO THE LOWER EXTREMITY

| Type | Number of cases |
|-------------------------------|-----------------|
| Fractures : | |
| Pelvis | 1 |
| Femur | 1 |
| Tibia & Fibula | 3 |
| Fibula | 2 |
| Metatarsals | 4 |
| Soft Tissue Injuries : | 11 |

الإصابات الناتجة بسبب الدراجات النارية الترفيهية بين الأطفال

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الملخص ::

الهدف : لتحليل الإصابات في الأطفال أقل من ١٤ عاما من العمر والناتجة من ركوب الدراجات النارية الترفيهية خلال إجازة عيد الأضحى لعام ١٤١٩هـ.

الطريقة : في فترة عيد الأضحى لعام ١٤١٩هـ قمنا بتحليل الإصابات في الأطفال من ١٤ عاما الذين راجعوا قسم الطوارئ بمستشفى الملك فهد الجامعي بالخبر، الناجمة عن ركوب الدراجات النارية الترفيهية، وقد اشتملت الدراسة على ٣٩ طفلا أدخلوا إلى قسم الطوارئ واحتاجوا إلى رعاية طبية .

النتائج : تم معاينة ٣٣ طفلا ذكر، ٦ أنثى (متوسط العمر ١٠ سنوات) (٥ - ١٥ سنة ، ٢٦٤٣ SD) بقسم الطوارئ وكانت الإصابات ٢٣ كسرا، خلع واحد، ٢٦ إصابة في الأنسجة مثل التهتك، الجروح القطعية، والسججات الحرقية .. الخ ، ٩ أطفال احتاجوا الدخول إلى المستشفى بينما تم إحالة الباقين إلى العيادات الخارجية بعد عمل اللازم في قسم الطوارئ.

النتائج والتوصيات : حوادث الدراجات النارية الترفيهية المتسببة في إصابات بليغة للأطفال الذين لا يرتدون وسائل الحماية المطلوبة في إزدیاد ، الأطباء يجب أن لا يكتفوا فقط بعلاج مثل هذه الحالات بل يجب أن يتعاونوا مع الإدارات المعنية الأخرى لإيجاد أطر ووسائل لتقليل هذه الإصابات.