



## **Long Scarf Related Injuries in Female Bike Riders Reported at Different Tertiary Care Hospitals Karachi**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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## **ABSTRACT**

**Objective:** To determine the frequency of long scarf related injuries in female bike riders.

**Study Design:** This is an observational study.

**Setting:** This study was conducted in the emergency department of a tertiary care hospital in Karachi and aims to calculate the type of injury due to long scarf in female bike riders. It was conducted during the period of Dec, 2020 to Nov, 2021.

**Materials & Methods:** Participants visiting the emergency department due to motor bike accidents and female patients were screened for long scarf related injuries. Statistical analysis was done by SPSS version 21 and descriptive statistics were used.

**Results:** For one year time, we received 174 patients due to motor bike accidents and 20.6% injuries were due to long scarf in females. As 36 patients matched our inclusion criteria due to long scarf while riding a motor bike. The mean age of females was found to be 34 years (range 16-55)

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years). Majority of the patients had more than one site of injury and left leg fracture was the most common injury found in 44.6% of females. Out of 32 patients, 14 patients required admission urgently.

**Conclusion:** A considerable number of injuries and deaths can be prevented by simple interventions and carefulness while riding on motorcycle. We have identified this problem only in a small group of population but this issue needs to be highlighted at a higher place.

*Keywords: Long scarf; motor bike; female.*

## 1. INTRODUCTION

Dupatta is a long scarf and a significant embellishment for the ladies of Southern Asia. It is a free, unattached piece of material folded over the head, neck, and shoulders. It is recognized as a symbol of modesty in Asian culture [1]. In our culture females usually sit on motor bike with both legs on one side and the dupatta is at high risk for entanglement into the chain and rear wheel. Karachi is the third most densely populated city and majority includes low- and middle-class population. In 2011 the registered number of motor bikes found in Karachi were 1,296,481 [2]. In Karachi majority of the inhabitants use motorbikes as their primary mode of transportation and carrying more than average people allowed on the bikes. The number of daily registered vehicles in Karachi is increasing with dire need for traffic police officers. Jinnah Post Graduate Medical Centre has the largest Accident and Emergency unit to receive road traffic accidents and on average 50 motorbike accidents are reported daily [3]. Police officers have routinely found that bike riders are often inexperienced and without license adding to the risk of accident. Female pillion riders are at great risk due to dupatta entanglement while riding and these injuries can be prevented [4]. In a survey for clothing related traffic injuries, there were females (73.9%) and pillion riders (80.6%) and it resulted in limbs, head and facial injury. The data showed that 10.1% females had severe injuries and the mortality rate was 1.01% [5]. Awareness campaigns for clothing related injuries and prevention by installation of rear wheel covers are mandatory in Karachi but none of these actions have been taken in Karachi. As the long scarf entangles in the moving wheels or chains the result can be minor abrasion to quadriplegias and death [6]. This should point the attention to prevent such injuries and educate masses to avoid preventable deaths. The aim of our study is to assess the frequency and type of injury due to long scarf in motor bike female riders.

## 2. MATERIALS AND METHODS

This study was conducted in the emergency department of a tertiary care hospital in Karachi and aims to calculate the type of injury due to long scarf in female bike riders. It was conducted during the period of Dec, 2020 to Nov, 2021. Participants visiting the emergency department due to motor bike accidents and female patients were screened for long scarf related injuries. Data was collected from patients by initial history and examination specifically asking for region and type of injury occurred. Injuries were categorized according to their severity by physical and radiological investigations. Informed consent was taken by all participants and data collected. Statistical analysis was done by SPSS version 21 and descriptive statistics were used.

## 3. RESULTS

For one year time, we received 174 patients due to motor bike accidents and 20.6% injuries were due to long scarf in females. As 36 patients matched our inclusion criteria due to long scarf while riding a motor bike. The mean age of females was found to be 34 years (range 16-55 years). The most common mode of injury by long scarf is due to entanglement in the wheels of motor bike. Table 1 shows the type of injury in study participants. Majority of the patients had more than one site of injury and left leg fracture was the most common injury found in 44.6% of females.

Out of 36 patients, 14 patients required admission urgently. Around 13.8% (n=5) required admission in the neurology ward and 25% (n=9) patients were admitted in the orthopedic ward while other 22 patients were managed in the emergency. The details of causes of hospital admission are given in Table 2.

## 4. DISCUSSION

The long scarf also called as dupatta is an important part of the female attire and usually

**Table 1. Site of injury in female bike riders**

Site of injury	Frequency (n)	Percentage (%)
Head injury	10	27.8%
Head injury with loss of consciousness	2	5.6%
Facial injury	6	16.8%
Lip injury	2	5.6%
Right forearm fracture	4	11.2%
Left hand fracture	8	22.4%
Left leg fracture	14	44.6%
Right leg fracture	4	11.1%

*Frequency (n), Percentage (%)*

**Table 2. Cause for admission after accident**

Cases	No. Patients	Percentage
<b>Patients admitted in the orthopaedic ward (n=9)</b>		
• Left leg fractures with crush injury	2	5.6%
• Left hand fracture	3	8.3%
• Right forearm fracture	3	8.3%
• Right leg fracture	1	2.7%
<b>Patients admitted in the neurology ward (n=5)</b>		
• Patients having head injury with loss of consciousness	2	5.6%
• Patients having severe head injury	3	8.3%

styled by hanging down two loose sides across the shoulder. Some women wear it as hijab wrapping around their head and to cover their hair. In male attire the counterpart of dupatta is a turban which is long piece of cloth wrapped around the head in a specific pattern. Such loose pieces of clothing are vulnerable to injuries in workplace and motor vehicle accidents [7]. Surveys have shown that injuries due to dupatta are more common in rural areas especially people belonging to lower socioeconomic class [8]. Majority of dupatta related injuries occur in factories with machines having conveyer belts and roller machines followed by Dupatta entanglement in the wheels of motor bike [9]. As the rate of accidents from dupatta entanglement in the wheels of motorbike is increasing, there is dire need of any intervention to lessen the accidents [10]. In rare instances the dupatta while stuck into motorbike strangles the neck causing fracture of hyoid and cervical vertebrae causing sudden death. A case report in India reported death from neck strangulation and the lady was declared dead on arrival at hospital [11]. Data reports that from 2007 till 2009 there were 986 clothing related accidents in which 73.9% women got injured [12]. Clothing related injuries occur in female pillion riders usually aged younger than 45 years as found in most studies and sitting with both legs on one side risking the

entanglement of scarf in motor bike moving parts [13]. Motorcycle wheels covers are not locally made available in Pakistan and thus these kinds of injuries are not uncommon. During a survey in Jinnah Postgraduate Medical Center (JPMC) Karachi 10.8% of the accident and emergency (A & E) cases were due to clothing related motorbike accidents and 75.5% (n=37) patients had fractures needing admission into the orthopedic department whereas in our study 25% patients got orthopedic consultation. Also, it was confirmed by history that neither the patient nor the bike driver was wearing helmets [1]. There must be large studies conducted on frequency of clothing related injuries and awareness programs for motorbike riders.

## 5. CONCLUSION

A considerable number of injuries and deaths can be prevented by simple interventions and carefulness while riding on motorcycle. We have identified this problem only in a small group of population but this issue needs to be highlighted at a higher place.

## CONSENT

Informed consent was taken by all participants and data collected.

## ETHICAL APPROVAL

It is not applicable.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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