Fracture is a condition that arises as a consequence of a break, split or crack in the building frame of any osteological component, affecting the skeletal system on regular basis [1]. It might be partial or total, and medically, it is defined as any disruption in a skeletal structure, ranging from total disintegration to small hairline incursion of its structural parts [2, 3]. A broken bone is a partial or full break that impacts the integrity of the bone ['1, 4]. One of the causes of fracture of the bone is vehicle collisions on the road, which are the major reason for mortality in many human beings [5]. Vehicle crashes on the road are the ninth biggest reason for death worldwide, making them a major public health concern [6]. The fact that the bulk of the casualties is young persons, underprivileged, and vulnerable road users is even more disturbing [7].

### Introduction

Fracture is a condition that arises as a consequence of a break, split or crack in the building frame of any osteological component, affecting the skeletal system on regular basis [1]. It might be partial or total, and medically, it is defined as any disruption in a skeletal structure, ranging from total disintegration to small hairline incursion of its structural parts [2, 3]. A broken bone is a partial or full break that impacts the integrity of the bone [1, 4]. One of the causes of fracture of the bone is vehicle collisions on the road, which are the major reason for mortality in many human beings [5]. Vehicle crashes on the road are the ninth biggest reason for death worldwide, making them a major public health concern [6]. The fact that the bulk of the casualties is young persons, underprivileged, and vulnerable road users is even more disturbing [7]. The number of annual road traffic deaths has grown to 1.35 million, according to the WHO's Global Status Report on Road Safety 2018, issued in December 2018 [8]. Vehicle/automobile road collisions are the leading reason of mortality among people aged 5 to 29 years old [9]. Pedestrians, cyclists, and motorcyclists endure a disproportionate amount of the cost, particularly in developing nations [10]. Long bone fractures can happen in several different ways [11], while a transverse fracture is defined by its horizontal nature [12]. Fractures that run parallel to the surface of the bone are known as longitudinal fractures [1]. Another form of fracture that develops when a bone is shattered or breaks apart is a comminuted fracture [1, 13]. Comminuted fractures are referred to as mixed fractures that have both longitudinal and transverse...
components [14, 15]. The first kind, known as a Greenstick fracture, occurs when one side of the bone is shattered whereas the other one is twisted [16]. When two bones are fractured in a spiral pattern and are wrenched apart, it is called a spiral fracture [14]. Every day, new and quickly evolving technologies arise in a range of fields, notably in medicine [17]. Certain earlier tactics, on the other hand, are still frequently utilized, effective, and valuable in this respect. X-rays are one of these methods for identifying bone fractures [18]. X-ray is the oldest, quickest, and most extensively used radiographic modality in the world for visualizing the body’s interior organs and checking suspicious fractures [19]. It has become a very useful and popular technique for identifying fractures in patients, due to its broad availability in regions where many complex and costly imaging modalities are unavailable [20]. Radiologists or physicians carefully evaluate X-ray images to detect the presence and kind of fractures in numerous bones [21]. Finding the exact site of a fracture in a patient who is in pain or has been injured is difficult and time-consuming. Medical imaging methods are now widely used in both research and diagnosis [22]. The technology of X-ray imaging is used to diagnose and represent anatomical aspects in people, such as bones [23]. X-ray scans are commonly used by doctors and radiologists in hospitals to determine whether or not a fracture has occurred, as well as assessing the particular type of the fracture [24]. Road traffic collisions/accidents (RTAs) claim the lives of a large amount of people every year. Each year a wide array of people pertaining to varying ages are injured due to RTAs. In current study the use of x-rays as a first line of diagnosis in emergency situations of road traffic accidents can be endorsed. The present research will aware and acknowledge the patients to use x-rays as a first diagnosis in immediate conditions, because of its reliability and cost/time effectiveness. Furthermore, it will document the type of injuries in Road Traffic accidents which will draw attention towards road safety measures.

M E T H O D S

All patients with RTA-related fractures who underwent X-rays were included in this cross-sectional analysis at the orthopedic department of the DHO/Teaching Hospital in Gujranwala. The research was concluded in three months, from January 13th, 2022 to April 13th, 2022. The study included a total of 100 patients, all of these patients had fractures from road vehicle collisions. Patients with fall-related fractures, sports-related fractures, osteoporosis, and patients undergoing bone surgery were all omitted, as were those who refused to take written approval and others who were recalcitrant. A Siemens Ceiling Mount X-Ray machine was utilized to examine the fracture and collect photos for filming. Whenever applicable, the standard deviation of frequency and percentage were used to express the data. IBM SPSS Statistics 26.0 was used to input the data.

R E S U L T S

Table 1 illustrates the incidence of fractured bones related with road traffic accidents among people involved; ulna 3 (2.5%), radius 6 (4.9%), femur 46 (37.7%), tibia 26 (21.3%), fibula 20 (16.4%), ankle joint 2 (1.6%), humerus 8 (6.6%), knee joint 3 (2.5%), elbow joint 6 (4.9%), spine 1 (0.8%) and phalanges 1 (0.8%), the femur is the most frequently damaged bone (37.7%), while thumb (0.8%) and spine (0.8%) fractures are the least prevalent.

Table 1: Total number of fractured bones

| Fractured bones | Frequency | Percent |
|-----------------|-----------|---------|
| Ulna            | 3         | 2.5     |
| Radius          | 6         | 4.9     |
| Femur           | 46        | 37.7    |
| Tibia           | 26        | 21.3    |
| Fibula          | 20        | 16.4    |
| Ankle Joint     | 2         | 1.6     |
| Humerus         | 8         | 6.6     |
| Knee Joint      | 3         | 2.5     |
| Elbow Joint     | 6         | 4.9     |
| Spine           | 1         | .8      |
| Thumb           | 1         | .8      |
| Total           | 122       | 100.0   |

Table 2: Proportion of different kinds of fractures

Table 3 indicates the types of vehicles in RTA that are more to less dangerous and cause accidents, with individuals riding bikes 55 (45.1 %) having the greatest accidents and automobile/car passengers 3 (2.5 %) having the fewest fractures.
**DISCUSSION**

The most prevalent cause of fractures [14, 25]. Shahzad et al., who found that road traffic collisions were the fewest fractures. This study's findings were accidents and automobile/car passengers 3 (2.5%) having individuals riding bikes 55 (45.1%) having the greatest more to less dangerous and causes accidents, with research indicates the types of vehicles in RTA that are to happen. Based on the current study, the findings of this demonstrated that 41 (33.6%) of patients with RTA-related fractures had to have a transverse fracture, which is the most prevalent type, and 1 (0.8%) had a Garden type IV fractures had to have a transverse fracture, which is the most prone skeletal structure to shattered bone and the most frequent damaged bone (37.7%), while thumb (0.8%) and spine (0.8%) fractures are the least prevalent. Studies by Aloudah et al., 2020, and Anibor, et al. 2021 [5,2], indicated that the femur was the most often shattered bone and the most prone skeletal structure to fracture, followed by the tibia/fibula. This study demonstrated that 61 (33.6%) of patients with RTA-related fractures had to have a transverse fracture, which is the most prevalent type, and 1 (0.8%) had a Garden type IV fracture, which has the lowest percentage and is least likely to happen. Based on the current study, the findings of this research were comparable to those of Shahzad et al. 2021, who found that road traffic accidents are the major reason for bone fractures and that transverse bone fractures are the most common type of bone fracture [14]. Current research indicates the types of vehicles in RTA that are more to less dangerous and causes accidents, with individuals riding bikes 55 (45.1 %) having the greatest accidents and automobile/car passengers 3 (2.5 %) having the fewest fractures. This study's findings were comparable to those of Omoke & Ekumankama and Shahzad et al., who found that road traffic collisions were the most prevalent cause of fractures[14, 25].

**CONCLUSION**

The most probable bone fracture in road traffic accidents is the femur, which is more prevalent in people on bikes. The most prevalent kind of fractured bone is a transverse bone fracture.

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**Table 3:** Different kinds of RTA vehicles

| Vehicle Type | Count | Percentage |
|--------------|-------|------------|
| Pedestrian   | 22    | 18.0       |
| Car          | 3     | 2.5        |
| Auto Rickshaw| 19    | 15.6       |
| Truck/Tractor| 10    | 8.2        |
| Total        | 122   | 100.0      |
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