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The Importance of the Role of Radiology and Physical Therapy in Treating Accident Fractures

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Abstract

The aim of the current study is: What is the importance of the role of radiology in diagnosing fractures for patients, and what is the importance of the role of physical therapy in following up on fractures? Knowing the extent of cooperation between physical therapy and radiology in this field. The questionnaire was created electronically via Google Drive, and then distributed via mobile phone on the program. Social networking (WhatsApp). Email was used to send responses to all survey participants. 600 questionnaires were distributed on the WhatsApp communication program to all groups or people in Mecca. 550 (answers) out of 600 questionnaires were received on the researcher's e-mail. The target group was residents of the city of Mecca, aged between (25-55 years). The following is clear from this study: the importance and role of physical therapy in relieving patients' pain by following a treatment program for them to return to their normal lives, to return to their normal functions and to live their lives after the fracture (yes 93.7% and no 6.3%), and also the importance and role of radiology in the appearance of infections and fractures in Bones and teeth in X-rays, according to the opinions of the participants also in the questionnaire (yes, 91.7% and no, 8.3%). Other roles of x-rays should not be overlooked, such as knowing the types of fractures, the types of splints used for each fracture, and knowing bone density.

Keywords*: The importance, the role of radiology and physical therapy, in treating accident fractures.*

Introduction

A traffic incident, also called a motor car clash, traffic incident, or crash, place when a car collides with another car, a pedestrian, animal, road debris, or other stationary hurdle, such as a tree, pole, or building. Traffic incident often result in injury, disability, passing, and property destroy as well as monetary costs to both community and the personals involved. Land transmission is the most danger location that people deal with on a daily basis, but the wound numbers outcoming from these incidents do not entice media attention like other types of less frequent tragedies (1). factors that share in accident danger are: vehicle design, operating speed, road design,

weather, road environment, driving skills, weakness due to alcohol or drugs, and behavior, especially attacker driving, moonstruck driving, speeding, and street racing. In 2013, 54 million people worldwide were wound from traffic accidents (2). This consequence in 1.4 million passing in 2013, while the number of deaths was 1.1 million in 1990 (3). About 68,000 of these incidents place to children under the age of five. Almost all high-income countries have disadvantaged death rates, while the majority of low-income countries have dropped death rates due to traffic incidents. Middle-income countries have the highest fatality rate with 20 deaths per 100,000 population, accounting for 80% of all road deaths with 52% of all motor vehicles. While the death rate in Africa is the highest (24.1 per 100,000 population), the lowest is found in Europe (10.3 per 100,000 population) (4)(5). In outpatient physical treatment settings, neck complaining is a common case for which patients demand curing. Although a special pathoanatomical source cannot be routinely particular in the vast majority of patients with mechanical neck pain,1 a small number of patients may have a serious underlying medical condition that may be causing the neck pain, which would preclude physical therapy intervention.(2–7) Fractures of the cervical spine are one example of a serious underlying medical condition that can reason neck pain. Fractures of the cervical spine should be considered in the presence of major trauma (ie, motor vehicle accident) or in the presence of small trauma for older individuals.8,9 In an effort to recognize cervical spine fractures in a timely and accurate manner, patients who have sustained trauma and have the possibility of a cervical spine fracture should routinely receive conventional radiographs initially.(12–14). Some cases of missed cervical spine fractures in patients with neck pain following trauma have been reported in the chiropractic literature.(7–11) These cases involved patients with neck pain following trauma who were seeking chiropractic treatment and whose radiographs taken early after their injury were found to be passive for a fracture. In some of the cases, the chiropractors demand repeat radiographs after the initial checking but before applying treatment, (7–9) and the cervical spine fractures were uncovered. In other cases, chiropractic or physical therapy treatment was initiated without repeat radiographs, and the fractures were not revealed until later in the course of care. (10,11) We were not able to set any reported cases of missed cervical spine fractures in the physical therapy literature. If physical therapists suspect an underlying cervical spine fracture, it would be necessary to request or recommend diagnostic imaging before initiating curing for patients with neck pain following trauma. The objective of this case report is to characterize a patient point for physical therapy curing of neck ache who had an underlying hangman's fracture that precluded physical therapy intervention.

Material and Methods:

The study started in (the holy city of Mecca in Saudi Arabia), began writing the research and then recording the questionnaire in January 2022, and the study ended with data collection in June 2022. The researcher used the descriptive analytical approach that uses a quantitative or qualitative description of the social phenomenon (The importance of the role of radiology and physical therapy in treating accident fractures). This kind of study is characterized by analysis, reason, objectivity, and reality, as it is concerned with individuals and societies, as it studies the variables and their effects on the health of the individual, society, and consumer, the spread of diseases and their relationship to demographic variables such as age, gender, nationality, and marital status. Status, occupation (15), And use the Excel 2010 Office suite histogram to arrange the results using: Frequency tables Percentages (16). A questionnaire is a remarkable and helpful tool for collecting a huge amount of data, however, researchers were not able to personally interview participants on the online survey, due to social distancing regulations at the time to prevent infection between participants and researchers and vice versa (not coronavirus participation completely disappearing from society). He only answered the questionnaire electronically, because the questionnaire consisted of seventeen questions, all of which were closed. The online approach has also been used to generate valid samples in similar studies in Saudi Arabia and elsewhere (17)

Results and discussion

The percentage of approval to participate in the research questionnaire was 100%, and the percentage of ages between 25 - 34 years was equal to 14.3%, as well as the same percentage for ages 45 - 55 years. While the percentage of ages between 35-44 years was 57.1%, the percentage of participating males was 71.4%, and the percentage of participating females was 28.6%. As for their nationalities, they were all 100% Saudi. As for their tasks, they were as follows: Student: 0%, government employee: 57.1%, private sector employee: 0%, housewife: 28.6%, freelancer: 11.3%, entrepreneur: 0%. As for the situation Educational: Primary 0%, Intermediate 0%, Secondary 15%, University 75%, Diploma 5%, Doctorate 5%. The first question: What are the signs and symptoms of fractures? Choose a paragraph from the following? Severe fracture in the area of injury 0%, swelling, bruising, bluish or pain when pressing on the injury 14.3%, sometimes, presence of some deformities, when the fractured organ is out of place 0%, tingling feeling, Numbness in the affected area: 0%, all of the above: 85.7%. The second question is about what types of fractures are: fixed fractures, open or compound fractures, transverse fractures, oblique fractures, and comminuted fractures? The answer is 100% yes and 0% no. The third question is about whether the location of the fracture differs, whether it is in the upper limbs or the lower limbs. She may be under one goal and perspective in her treatment after the injury? Yes 85.7% and no 14.3%. The fourth question: What methods do doctors use to treat fractures? Fixed splints, splints or braces, popular, external fixation of the fractured part, internal fixation? Yes 85.7% and no 14.3%. The fifth question: Where does the actual role of the physical therapist begin in helping the patient return to his normal functions and lead his life after the fracture? Yes 100% and no 0%. The sixth question: What are the measurements necessary to develop the appropriate treatment plan for the patient's condition? Measuring the range of motion of the joint, muscle strength, the amount of pain, the extent of flexibility and movement in the fracture site, the amount of swelling in the fracture area, observing the patient's way of walking in the event of lower limb fractures, the patient's general range of movement and performance of his daily functions? The seventh question: After the initial examination, the specialist begins Work with the patient to help him regain full function. And overcoming the negative effects resulting from the immobility of the organ throughout the treatment period, which may cause muscle weakness and lack of functional performance? The eighth question about: The importance of physical therapy during the treatment period, lies in improving functional performance with more focus on the functions that were lost depending on the location of the fracture? The answers were the same: 100% yes and 0% no. As for the ninth question: Sometimes the patient feels unbearable pain at the site of the injury or swelling, and the role of physical therapy here is to help relieve the pain? Yes 93.8% and no 6.2%. The tenth question: In some cases of fractures that required surgery, scars appear at the site of surgery. In this case, it is possible to massage the area to reduce adhesions around the scar area and improve movement? The eleventh question: After controlling the pain and swelling, the specialist begins to develop the necessary plan. appropriate to the patient's condition. To improve the range of motion that has been affected by lack of movement and to strengthen the muscles. So that the focus is particularly on the fracture area and the movement of the joints near it? The twelfth question is about: The period required to continue the rehabilitation phase for the injured patient, between 6-8 weeks? The same answers: yes 100% and no 0%. Question thirteen: In most cases, fractures and infections in the bones and teeth appear clearly on X-rays? The fourteenth question: Should the radiology service provider (radiology technician) wear protection to protect against radiation? The answer was the same: yes, 91.7% and no, 8.3%. Question fifteen: Are there x-rays to determine bone density? Yes 100% and no 0%. Question Sixteen: Some people worry that radiation is unsafe, given that exposure to radiation can cause cell mutations, which may lead to cancer? The last question is: Should the radiology service provider (radiology technician) wear protection to protect against radiation? Also, the answer was the same, 91.7% and 8.3%. (Figure No.1)(figure no.2).

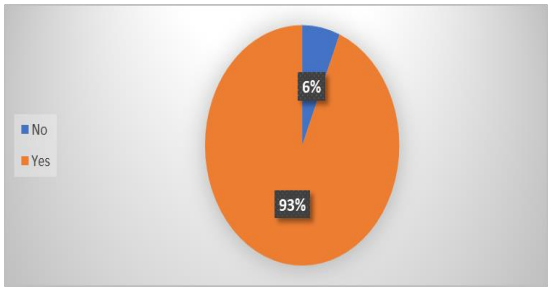

Figure No.1: The importance of the role of physical therapy in relieving the patient's pain

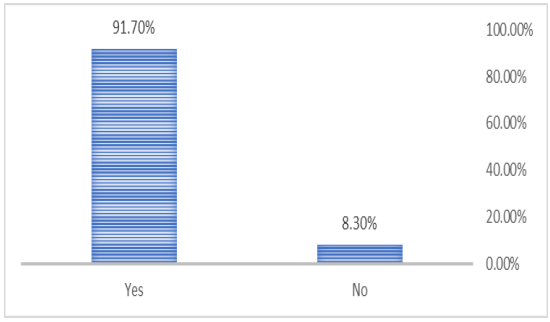

Figure.No.2: The importance of radiology in making fractures and infections in bones and teeth appear clearly through X-rays

Conclusion:

Through this current study, and through the opinions of the participants in the questionnaire, 93.7% of whom answered yes, and 6.3% said no, the importance and role of physical therapy in relieving patients' pain becomes clear by following a treatment program for them to return to their normal lives, to return to their normal functions and to live their lives after the fracture. Also, the importance and role of x-rays in the appearance of infections and fractures in the bones and teeth in Other roles of x-rays should not be overlooked, such as knowing the types of fractures, the types of splints used for each fracture, and knowing bone density

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