

A PROSPECTIVE COHORT STUDY OF TETANUS; ITS MANAGEMENT AND ASSOCIATED RISK FACTORS¹*Hafiz Muhammad Asad Shakeel, ²Muhammad Sohail and ³Muhammad Umer Ali Ayub¹Faisalabad Medical University, Faisalabad.²International Education School, Chifeng University, China.³Akhtar Saeed Medical & Dental College, Lahore.***Corresponding Author: Hafiz Muhammad Asad Shakeel**

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ABSTRACT

Objectives: Our primary aim of this research was to assess the risk factors and treatment of tetanus and recovery techniques. **Design & Duration:** We were completed from October 2019 through March 2020 in six months in DHQ Hospital Faisalabad. **Subjects and Methods:** A total of 90 patients admitted by OPD or emergency department to the hospital were studied. There were 15-30 years of age. A pre-designed proforma was used to record information from each patient. In order to include patients in the study, the patients or their attendants had written consent. Research consent was also obtained from the hospital's medical superintendent. Microsoft Office (version 20) data has been analyzed and the results have been expressed in tables and charts. 95 percent was the confidence interval and 5 percent was the margin for error. Under 0.055, the P-value was considered. Calculated frequency, percentages and means. Using the WHO software, the sample size was determined. **Results:** It studied a total number of ninety patients, including fifty males patients and forty females patients. With an average of 30 out of 90 dying patients, the total death rate was 33 percent. The ICU continuously monitored these cases. Intubation and mechanical ventilation occurred in patients who had respiratory distress. In these cases, the risk factors were septic abortions, thorn pickles, road accidents, household traumas, abscesses, ulcers or burns, farm injuries, and surgery history during the last two weeks. 24 (60 per cent) of 40 females were at high risk, and 16 (40 per cent) were killed in critical condition despite all actions and support for ventilation. Similarly, 14 (28 per cent) out of 50 male patients were at high risk, and 13 patients (28.2 per cent) died in spite of all preventive measures. **Conclusion:** In underdeveloped and developing countries, Tetanus is the most life-giving disease. The frequency in South Asia is high. The mortality rate in this study was higher for women than for men. All these cases have not previously been Tetanus vaccinated. Proper vaccination and early diagnosis can significantly reduce death and morbidity. The critical components of management are early diagnosis and rapid management with ICU care and ventilator assistance.

KEYWORDS: Outcome, Mortality Rate, Risk factors, Tetanus.**INTRODUCTION**

Tetanus is a condition caused by tetanus clostridium, which in your blood produces pathological toxins called tetanospasmin. Patients are initially experienced in this situation with headache, jaw muscle spasm or other skeletal muscles. Late muscle respiration can result in respiratory arrest. Opisthotonus is present in advanced diseases and high-grade fever and fits are present. Only 50 cases of Tetanus are reported annually, according to a study in the USA. This illness is much more frequent in our society. In sound settings for tetanus patients, proper insulation rooms are available. In the hospital, the average stay is 3-5 weeks. These instances arise more in farmers because they receive agricultural injuries and children. When playing, after all, they get more trauma

along the road. There are some shortcomings in implementing the immunization program in our country, and there is no adequate public awareness. Dirty wounds or wounds infected with soil or feces are more likely to be infected with tetanus. Other risk factors, such as septic abortions caused by quakes in peripheral areas or dais in non-sterilized environments, are also associated with this infection. In our business, women's ear piercing is commonly used to wear jewellery, but this is done through unsterilized needles that cause Tetanus in young women. When the wound is a large-scale patient, it is also immune-committed and susceptible to this infection. Burning wounds break the skin. All risk factors for Tetanus infection are ulcers, abscesses and operations in an unsterilized setting.

PATIENTS AND METHODS

This study was conducted at Faisalabad DHQ Hospital. This study included patients receiving Tetanus diagnosis at the Medical Ward. Criteria for inclusion and exclusion have been developed, and patients have been included in this study. Regardless of age or population distribution, both men and women were investigated. A total of 90 patients were admitted to the hospital by OPD or emergency department. There were 15-30 years of age. A pre-designed proforma was used to record information from each patient. Patients or their assistants received the correct written permission to include patients in the study. Consent from the hospital's medical superintendent was also obtained for the conduct of the research. Using Microsoft Office (version 20), the data was analyzed and the results were expressed as tables and charts. 95 percent was the trust interval and 5 percent was the error margin. The p-value was considered to be less than 0.05 and to be less than 0.05. Frequency, percentages and means calculated. The WHO software has determined the sample size.

RESULTS

It studied a total number of ninety patients, including fifty males patients and forty females patients. With an average of 30 out of 90 dying patients, the total death rate was 33 percent. The ICU continuously monitored these cases. Intubation and mechanical ventilation occurred in patients who had respiratory distress. In these cases, the risk factors were septic abortions, thorn pickles, road accidents, household traumas, abscesses, ulcers or burns, farm injuries, and surgery history during the last two weeks. 24 (60 per cent) of 40 females were at high risk, and 16 (40 per cent) were killed in critical condition despite all actions and support for ventilation. Similarly, 14 (28 per cent) out of 50 male patients were at high risk, and 13 patients (28.2 per cent) died in spite of all preventive measures.

DISCUSSION

This study was conducted at the Hospital Faisalabad DHQ. This study included patients receiving Tetanus diagnosis at the Medical Ward. Therefore, inclusion and exclusion criteria have been developed, and patients have been included in this study. Regardless of age or population distribution, both men and women were investigated. A total of 90 patients were admitted by the OPD or the emergency department to the hospital. The risk factors in these cases are road accident, thorn prick, septic abortion, domestic trauma, ulcer or abscess, farm injury, and surgery history over the previous two weeks. Of 40 women, 24(60 per cent) were at high risk and 16(40 per cent) died in serious circumstances, in spite of all preventive measures and assistance of ventilator.

Similarly, 14(28 percent) were high-risk patients out of 50 males, while 13(28.2 percent) were killed, despite all measures taken. Septic abortions in peripheral areas in unsterilized environments were another significant risk factor found among females. In a V.R trial, this is also a

significant risk factor. From Edinburgh *et al.* In warm and humid environments and underdeveloped areas, *Clostridium tetanus* is mainly found. Serum anti-tetanus is more effective than TIG, according to a study by Altaf Hussain *et al.* The Tetanus fatality rate is 30 percent in the United States of America. This low level is due to their public awareness, a high literacy rate and an early Tetanus fatality rate of 30 percent. However, the tetanus mortality rate is very high in underdeveloped countries, as it is 68 percent in Uganda.

Tetanus is a disease caused by tetanus clostridium that causes pathology and causes a specific blood toxin known as tetanospasmin. Patients are initially experienced with headache, jaw muscle spasm or other skeletal muscles in this condition. Late muscle respiration can result in respiratory arrest. Opisthotonus is present in advanced diseases as well as high-grade fever and fits.

CONCLUSION

In underdeveloped and developing countries, Tetanus is the most life-giving disease. The frequency in South Asia is high. The mortality rate in this study was higher for women than for men. All these cases have not previously been Tetanus vaccinated. Proper vaccination and early diagnosis can significantly reduce death and morbidity. The critical components of management are early diagnosis and rapid management with ICU care and ventilator assistance.