wjpmr, 2019,5(12), 184-186

SJIF Impact Factor: 5.922

WORLD JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.wjpmr.com

Research Article

ISSN 2455-3301

WJPMR

PROFILE OF CHILDREN PRESENTS WITH TETANUS AT SERVICES HOSPITAL LAHORE

Dr. Aqsa Kanwal*[1], Dr. Sajida Ayyoub[2] and Dr. Muhammad Kamran[3]

[1](Pmdc # 91240-p).
[2](Pmdc # 74039-p).
[3](Pmdc # 90314-p).

***Corresponding Author: Dr. Aqsa Kanwal**

(Pmdc # 91240-p).

Article Received on 22/10/2019 **Article Revised on 12/11/2019** **Article Accepted on 02/12/2019**

ABSTRACT

Background: Tetanus is an important cause of morbidity and mortality in developing countries though it is rare in developed countries. Childhood tetanus has high mortality and is preventable. Knowledge about the need of active and passive immunization for wound is still not encouraging. This study was conducted to describe the clinical profile, management outcome and prognostic indicators of tetanus in children in our region. **Methodology:** It is a cross sectional study. This study was conducted at pediatric ward, Services Hospital Lahore from September 2017 to February 2018. In this study 100 patients were included. Their parents were interviewed according to the given performa. **Results:** Out of these patients, the fathers of 68 patients and mothers of 86 patients were either illiterate or primary education only. Most 56 of the patients belonged to a low socioeconomic family having the monthly income of less than PKR 10,000. The fathers of 42 patients were Saraiki. 57 patients were from rural areas. Out of 100 affected, seventy percent of patients were boys, age range of 5 to 10 years. **Conclusion:** Tetanus is a preventable disease and to prevent it, more awareness in the society is needed. The various factors which are responsible for the development of childhood tetanus were; poor educational status of the parents, ethnicity, low socioeconomic status and people from rural areas.

KEYWORDS: Audit, Tetanus, Childhood, Risk factors.

INTRODUCTION

Tetanus is a significant public health problem throughout the world. It is associated with a high morbidity and mortality particularly in the developing countries.[1] Tetanus cause approximately 213,000-293,000 deaths worldwide each year, out of which 180,000 have been reported in neonates.[2] Tetanus is defined as, acute onset of painful muscular contractions of the jaw and neck and generalized muscle spasms. Tetanus is a clinical diagnosis. Neonatal cases are said to be confirmed if an infant with normal ability to suck and cry in the first 2 days presents with failure to suck between 3 and 28 days of life with rigidity or spasms. Neonatal tetanus is a major cause of infant mortality in underdeveloped and developing countries. Infection results from umbilical cord contamination during unsanitary delivery, a lack of maternal immunization or circumcision in an unhygienic condition.[3] Clostridium tetani is an obligate, anaerobic, motile, gram-positive bacillus.[4] They are found in soil, house dust, animal intestines, and human feces. Spores can persist in normal tissue for months to years. To germinate, the spores require specific anaerobic conditions, - such as wounds with low oxidation-reduction potential. Under these conditions, upon germination, they may release their toxin. Once the toxin becomes fixed to neurons, it cannot be neutralized with antitoxin. For recovery it requires sprouting of new nerve terminals and formation of new synapses.[4] Tetanus is a target disease of the World Health Organization (WHO) Expanded Program on Immunization. Principles of management of tetanus cases include admission to dark and quiet room, muscle spasm and rigidity control, autonomic dysfunction control, ventilator support when needed, neutralization of tetanus toxin, wound management, antibiotics administration and prevention of recurrence with booster vaccination. Benzodiazepines are still the corner stone for sedation and spasm control while magnesium sulfate is also currently recommended.[5,6] Infant tetanus vaccination followed by booster doses and proper wound management are disease prevention strategies.[7.8]

METHODOLOGY

It is a cross sectional study. This study was conducted at pediatric ward, Services Hospital Lahore from September 2017 to February 2018. In this study 100 patients were included. **Sample technique:** The

consecutive patients of childhood tetanus were taken from Pediatric Department. Their parents were interviewed according to the given Performa. The variables included in this study were parent's education, parent's occupation, father's ethnicity, living (rural / urban), age, sex and monthly Income. The data was entered and analyzed by using SPSS version 19.

Inclusion criteria: Children beyond the neonatal age i.e. more than one month and less than 15 years. Children with clinical manifestations of tetanus with the exclusion of other causes of spasm/fits. **Exclusion criteria**: Neonatal tetanus, Children with causes of spasm/fits e.g. meningitis, encephalitis, head injury etc.

RESULTS

Fathers' ethnicity	
Punjabi	05
Saraiki	42
Urdu speakers	2
Balochi	30
Sindhi	4
Pathan	17
Mothers' occupation	
Housewives	71
Unskilled labor	20
Skilled labor	9
Rural / Urban	
Rural	57
Urban	43
Age	
1 to 5 years	22
6 to 10 years	43
11 to 15 years	35
Sex	
Male	70
Female	30
Family Income (PKR/Month)	
≤ 10,000	56
10,000 to 20,000	32
> 20,000	12

Out of these patients, the fathers of 68 patients and mothers of 86 patients were either illiterate or primary education only. Most 56 of the patients belonged to a low socioeconomic family having the monthly income of less than PKR 10,000. The fathers of 42 patients were Saraiki because in this region mostly belong to Saraiki family. 57 patients were from rural areas. Out of 100 affected, seventy percent of patients were boys, age range of 5 to 10 years.

Table I: Demographic factors of childhood tetanus.

Characteristic	Number (%)
Fathers' education	
Illiterate	40
Primary	28
Matric	22
Inter and above	10
Mother education	
Illiterate	54
Primary	32
Matric	12
Inter and above	02
Fathers' occupation	
Unskilled labor	28
Government service	03
Private Service	06
Business	10
Skilled labor	11
Unemployed	12
Farming	30

DISCUSSION

Tetanus is characterized by an acute onset of painful muscular contractions of the jaw and neck and generalized muscle spasms. Tetanus predominantly occurs in underdeveloped countries. Among the burden of vaccine preventable diseases world over, tetanus ranks fourth with 13% disease burden. The incidence is high in tropical countries with humid climate. More cases are reported from rural than urban areas. Despite the availability of an effective active vaccination, tetanus remains a major health problem in resource limited countries and is still encountered in resource rich countries. In their study, Areola E Orimadegun et al found a significantly increasing trend in the risk of non-protective immunity was observed with decreasing level of mothers' education. Comparable to current study where 54% mothers were illiterate. Dons, Lucius Darby et al found statistically insignificant associations of education, religion, age of mother, ownership of a radio and a television with the tetanus and its vaccination.[8] Lau LG et al found that most of the patients were from low socioeconomic status,[9] this comparable to our study where 59% of the families were having <10,000 PKR monthly income.

In their study, Joshi S et al found that patient coming from the rural areas are having more complications and poor prognosis of tetanus.[10] In their study, Matthews Z et al found significant factors related to immunization were the child's age, place of residence, maternal education, father's occupation, region, and type of prenatal care,[11] this is comparable to our study, Collins S et al found that 50% of the patients of tetanus were male,[12] as compared to our current study where more than two third were male. At the Masada hospital, the chart reviewed by Nantes B et al revealed a total of 25 tetanus cases and all were males.[13]

Mustapha AF et al found that approximately 60% of the patients were male.[14] In their study, Khaliq N et al found that in infancy mortality in females was higher than males.[15] The study done by Choudhury P et al, revealed that 60% of the admissions in 1984-87 were for tetanus and most of them belong to low socioeconomic families,[16] comparable to our study. In the study by Oyedeji GA found that only 68.7% of the patients were in the custody of their two parents.[17] In a study, 27% of the fathers and 34.6% of the mothers had no formal education.65% of parents were in the lower socioeconomic class,[17] this is similar to our study. Salish C et al found that majority of tetanus patients belong to low socioeconomic families.[18] Among the demographic and socioeconomic risk factors maternal age, maternal and paternal education, occupation of head of house and caste are very important factors for tuberculosis.[19] It is indicated that mothers education and occupation, husband education and occupation, received tetanus's injection and medical checkup during pregnancy and watches TV have significant effects on infant, child and under-five mortality.[20]

CONCLUSION

Tetanus is a preventable disease and to prevent it, more awareness in the society is needed. The various factors which are responsible for the development of childhood tetanus were; poor educational status of the parents, ethnicity, low socioeconomic status and people from rural areas. With the strong implementation of immunization by EPI programme, we can overcome the high incidence of childhood tetanus.

REFERENCES

1. AL haji Aliya, tour dairy et al. Pattern and outcome of tetanus in a tertiary health facility in North West Nigeria. Ethiopian Medical Journal, 2016; 54(2): 131-5.
2. Stephen S. Anon. Tetanus Nelson Textbook of Pediatrics, 19th edition, 991-995.
3. Jay deep Choudhury, Ritabrata Kundu"Tetanus"Pediatric Infectious Diseases, First edition, 2012.
4. Jeremy Farrar. Tetanus Forfor Arneil's Text book of Paediatrics, 7th edition, 1254- 1255.
5. James D. Cherry, Rick E. Harison. Tetanus Feign & Cherry's Textbook of Pediatric Infectious Diseases, 6th edition, 1870 – 1880.
6. Altar Ahmed Taper, Abdul Rasheed Sarahi. Tetanus situation in Pakistan Comparison of medical versus surgical management. Professional Med J, 2016; 23(6): 634-640.
7. Areola E Orimadegun, Akinlolu A Adepoju. Prevalence and socio-demographic factors associated with non- protective immunity against tetanus among high school adolescents girls in Nigeria. Ital. J Pediatr, 2014; 40(1): 29- 135.
8. Dons, Lucius Darby. An Examination of Mothers' Socio-Demographic Factors associated with incomplete Vaccination Status among Under-five Populations in Malawi. Thesis, Georgia State University, 2013; 25- 32.
9. Lau LG, Kong KO. A ten-year retrospective study of tetanus at a general hospital in Malaysia. Singapore Med J., 2001 Aug; 42(8): 346-50.
10. Joshi S, Agarwal B. Complete elimination of tetanus is still elusive in developing countries: a review of adult tetanus cases from referral hospital in Eastern Nepal. Kathmandu Unit Med J (KUMJ), 2007; 5(3): 378-81.
11. Matthews Z, Diamond I. Child immunization in Ghana: the effects of family, location and social disparity. J Bioscope Sic, 1997; 29(3): 327-43.
12. Collins S, Amirthalingam G. Current epidemiology of tetanus in England, 2001-2014. Epidemiology Infect, 2016; 18: 1-11.
13. Nantes B, Galukande M. The burden of tetanus in Uganda. Springer plus, 2016; 5(1): 705-10.
14. Mustapha AF, Eegunranti BA. Tetanus remains a formidable health challenge in Nigeria: The experience from a single Teaching Hospital in Onus State, Nigeria. Nag Q J Hops Med, 2015; 25(3): 151-5.
15. Khaliq N, Sinha SN. Early childhood mortality--a rural study. J R Sock Health, 1993; 113(5): 247-9.
16. Choudhury P, Kumar P. Childhood morbidity and Mortality in a large hospital over last four decades. Indian Pediatr, 1991; 28(3): 249.
17. Peterman's WE, Sheens D. Tetanus - still a topic of present interest: A report of 27 cases from a Belgian referral hospital. J Intern Med, 1996 Mar; 239(3): 249 52.
18. Harding - Godson HE, Hanna WJ. Tetanus: A recurring intensive care problem. J Trop Med Hug, 1995 Jun; 98(3): 179-84.
19. Sun KO, Chan YW, Cheung RT, So PC, Yu YL, LPC. Management of tetanus: A review of 18 cases. J R Sock Med, 1994 Mar; 87(3): 135-7.
20. Black TP. Management of tetanus: A review of cases. R Sock Med, 1994 Sep; 87(9): 569.