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Research Article

**A RESEARCH STUDY TO ASSESS THE INFECTIOUS
DISEASE DEVELOPMENT AND CAUSE AMONG TWELVE-
YEAR-OLD CHILDREN (EPIDEMIOLOGIC FACTORS)**¹Dr. Hira Javed, ²Dr. Sana Zahid Maryam, ³Dr. Hina Abbas¹Pmdc: 93180- P, DHQ Hospital Narowal²Pmdc 93231-P, BHU Chak No. 44/2-L, Okara³Pmdc 93360- P, THQ Shakkot**Abstract**

Objective: Despite modern innovations in therapies & prevention, infectious diseases are the main reason of mortality & weakness in the whole world. The main purpose of this research work is to find out the causes and the development of these diseases in the children of up to twelve years of age getting treatment in Allied Hospital, Faisalabad.

Methodology: This is an elaborate retrograde research work. The collection of the information carried out from the records of eight hundred and ninety-two patients suffering from these diseases. This research work carried out at Allied Hospital, Faisalabad from during March to November 2017. SPSS software was in utilization for the analysis of the factors of spread and control of diseases.

Results: About 892 patients out of 2105 admitted patients were the victims of infectious diseases. The most common infections were gastroenteritis, infection of urinary tract & pneumonia with 57.6%, 7.1% & 11% respectively. About 3% was the rate of mortality because of these infections.

Conclusion: This research work lights the regular significance of these diseases in the central areas of Iran particularly gastroenteritis & pneumonia. The advancement in the conditions of hygiene of supply of water and regular use of the pneumococcal & vaccines of Haemophilus influenza are recommended.

Keywords: Pneumococcal, pneumonia, flu, infection, gastroenteritis, retrograde, advancement.

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INTRODUCTION:

Infectious diseases are a major reason for instability and mortality, as well as these diseases are responsible for the destruction of conditions of life for millions of people in the whole world [1]. There was an estimation of fifty-four million deaths in the year 1998, 1/3 deaths were the outcome of these diseases. Most of the victims were children from the whole world [2]. The mortality of the children is the health priority globally [3]. About 10.5 million children of less than five years of age died in 2002 from infectious diseases and other diseases which were avoidable [4]. Pneumonia & diarrhoea are the most common diseases which are linked with the deaths of children [5]. Infections of the respiratory system are the main reason for acute illnesses in the whole world & it is also the main reason for mortality of infants and children of young age [6]. Majority of the pneumonia patients occur in India (forty-three million), China (twenty-one million) and Pakistan (ten million), with other high occurrences in Bangladesh, Nigeria & Indonesia (six million each) [7].

Infectious diarrhoea is the most important reason for morbidity & mortality in the whole world [8]. The prevention from diarrheal diseases in the children has the availability to lead to significant not costly healthcare in the whole world [9]. The lives of children can be saved with the contribution of the epidemiology [5, 10]. There is less knowledge about the spread and control of the infectious diseases of children in Iran.

METHODOLOGY:

This research work carried out at Allied Hospital, Faisalabad from during March to November 2017.

Eight hundred and ninety-two children of less than twelve years of age were the part of this research work. Categorization of these infectious diseases carried out according to the standard of the classification of these diseases as prescribed by WHO (World Health Organization) [11]. The review of the clinical record of the patients carried out and a questionnaire was in utilization to get the data about the age of the patient, sex, residential area, and diagnosis of the disease in the last, the occurrence of death & duration of stay at the hospital. In the final diagnosis of the disease, following systems were the main harmed areas as urinary tract, CNS (central nervous system), oesophagus or digestive tract, skin & osteoarticular system, and some other systems of the human body. SPSS software & Chi-square method were in use for the statistical analysis of the information.

RESULTS:

About 2105 patients got admission in this hospital and eight hundred and ninety-two patients confirmed with the infectious diseases in the duration of this study period. The average age of the patients was 2.29 years with a range of seven days to twelve years. About 479 were the male patients. The average stay at the hospital was 2.47 days with a range of one to twenty-three days. The rate of mortality of these diseases was 0.3% which was because of pneumonia, shigellosis & whooping cough. The most common diseases were gastroenteritis with more than fifty-seven percent, pneumonia with eleven percent & infection of the urinary tract with about seven percent. The traits of patients with these 3 diseases are available in the tabular data (Table – I, II and III).

Table – I: Mean and SD Division among Gastroenteritis, Pneumonia and UTI

Gastroenteritis		Pneumonia		UTI	
Mean	±SD	Mean	±SD	Mean	±SD
1.7	1.21	5.2	4.22	3.73	2.06

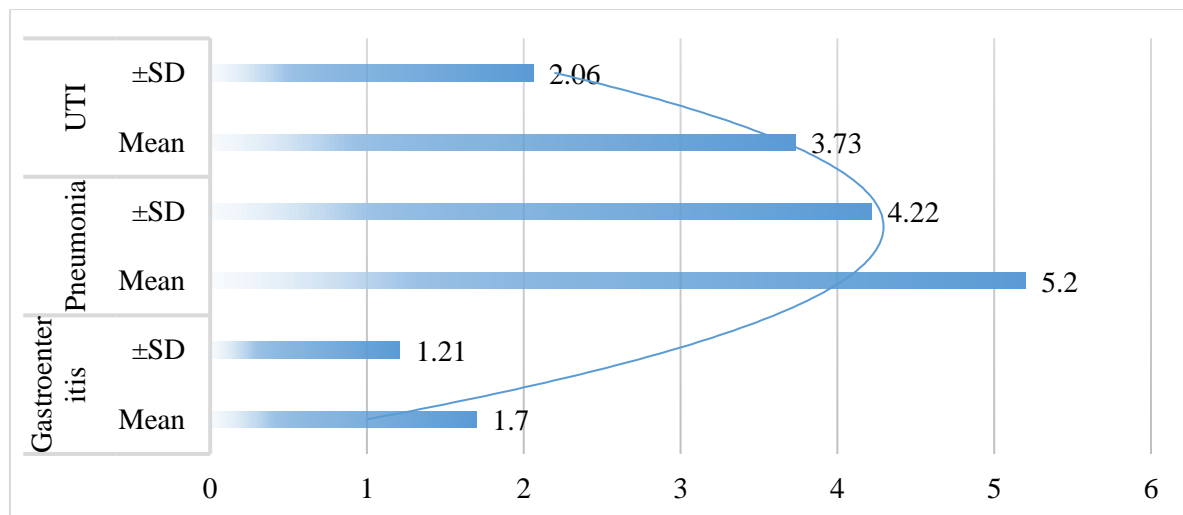


Table – II: Gender Distribution among Gastroenteritis, Pneumonia and UTI

Gender	Gastroenteritis		Pneumonia		UTI	
	Number	Percentage	Number	Percentage	Number	Percentage
Male	285	55.4	63	64.3	16	25.3
Female	229	44.6	35	35.7	47	74.7

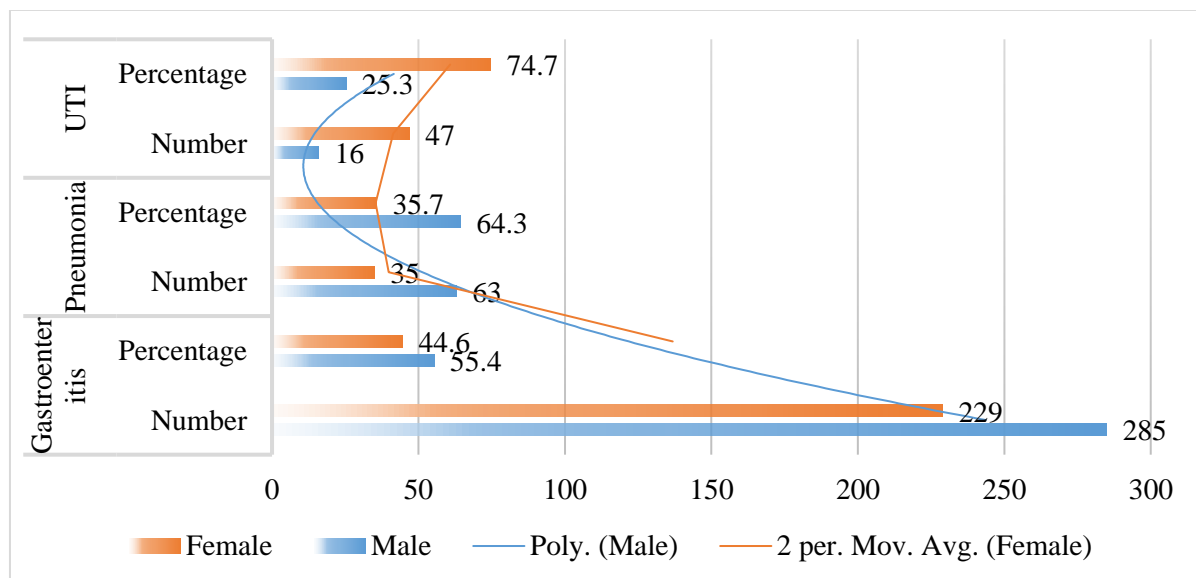
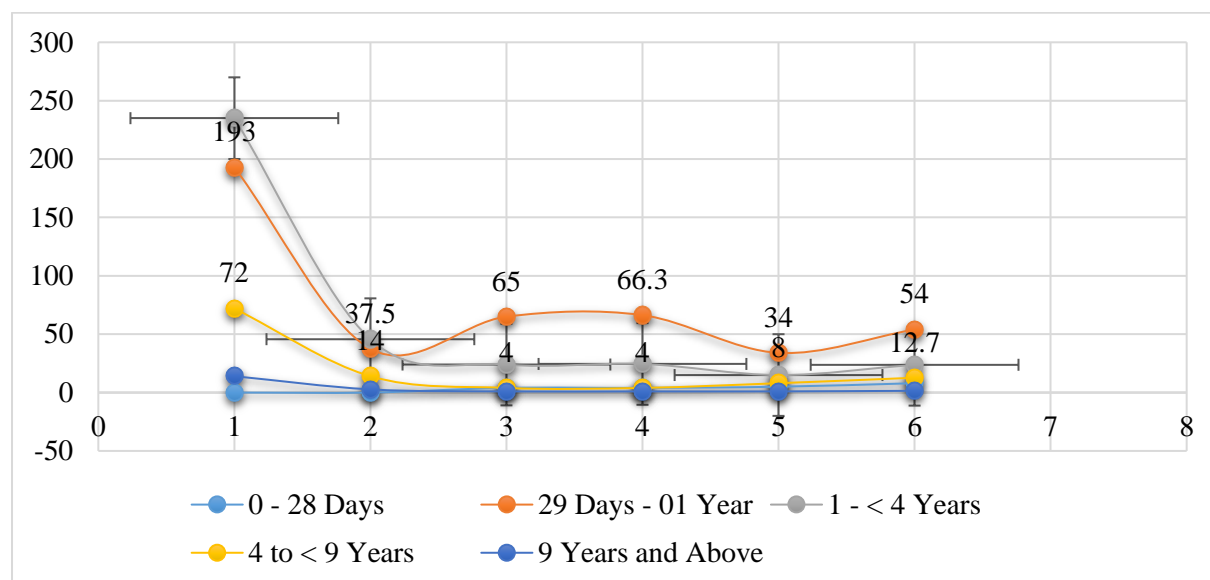


Table – III: Age Distribution among Gastroenteritis, Pneumonia and UTI

Age	Gastroenteritis		Pneumonia		UTI	
	Number	Percentage	Number	Percentage	Number	Percentage
0 - 28 Days	0	0	4	4	5	8
29 Days - 01 Year	193	37.5	65	66.3	34	54
1 - < 4 Years	235	45.7	24	24.5	15	23.8
4 to < 9 Years	72	14	4	4	8	12.7
9 Years and Above	14	2.7	1	1	1	1.5



Children having the age of fewer than twenty days had the less frequency rate as compared to the other group age. There was no significant disparity in the frequency of gastroenteritis among male & female patients. But there was a significant disparity in the rates of pneumonia & infection of the urinary tract. The frequent system involved was a digestive system (about seventy-one percent), respiratory system (about sixteen percent), urinary tract (seven percent), Miscellaneous (about four percent), CNS (two percent) and skin (about one percent), respectively.

DISCUSSION:

In this research work, forty-two percent of the total patients were the victims of infectious diseases whereas Najib has concluded this rate as 21.3% in the southern areas of Iran [12]. In this research work, gastroenteritis was most common than pneumonia whereas Najib [12] declared pneumonia as the most common. This difference was due to the difference of the seasons in which the studies were conducted. Respiratory infections are very common in the season of fall & winter [13]. The high frequency of the gastroenteritis was due to the unhealthy water supply in the region. Gastroenteritis is a major problem of health in the whole world especially in the children having less than four years of age living in the countries which are under development [14]. The occurrence of diarrhoea has not reduced in Iran during the last ten years [15].

Gouvea concluded that children having an age of twelve to thirty-five months are mostly the victims of gastroenteritis which is similar to the results of this research work [14]. Barnes concluded in Australia that most of the children who got admission were less than twenty-four months of

age [9]. Kolahi reported that there was no significant disparity among male and female patients of gastroenteritis in the patients having less than five years of age in Tehran [15]. Kurugol concluded the mean stay as 5.5 days for patients of rotavirus gastroenteritis & 3.3 days for patients of non-rotavirus gastroenteritis [16]. Pneumonia is very severe and it is also the greatest children kill [17]. Michelow discovered that most common age groups for pneumonia patients are six months to less than two years and greater than five years, each thirty one percent [18].

In this research work, pneumonia was most common in male patients than females which is much similar to various other studies [18, 19]. We examined that average duration of admission for pneumonia was about 5.17 days. The same findings were also the outcome of the research work of Michelow in USA [18]. Neonates & infants are mostly the victims of infection of urinary tract [20]. We sought that most of the patients of infection of urinary tract were in the age group of twenty-nine to one year of age which is similar to the conclusion of Wu Cy [21] from Taiwan. The frequency of UTI was nine percent in Tehran & Nigeria [22, 23]. Shaw concluded that overall occurrence of infection of the urinary tract in the department of emergency was 3.3 [24]. The rate of occurrence of infection of urinary tract depends upon the age, race, and sex & circumcision condition [25]. Circumcision reduces the danger of infection of urinary tract [26] as it is a religious obligation in the country of Pakistan. In this research work, the occurrence of amoebiasis was greater than giardiasis that is opposite to the conclusions of other research works [27, 28].

CONCLUSION:

This research work signifies the dangers of infectious diseases in the central regions of Pakistan especially gastroenteritis, UTI & pneumonia. There is a requirement of other research works to know about the causes of these infections to prevent children from dire consequences. The advancement in healthy conditions of the supply of water in the province of Punjab is the main requirement to decrease these diseases. The vaccines of pneumococcal & Haemophilus usage are recommended.

REFERENCES:

1. Panahi Y, Beiraghdar F, Moharamzad Y, Matinzadeh Z, Einollahi B. The incidence of urinary tract infections in febrile children during a two- year period in Tehran, Iran. *Tropical Doctor* 2008;38(4):247-249.
2. Musa-Aisien AS, Ibadin OM, Ukoh G, Akpede GO. Prevalence and antimicrobial sensitivity pattern in urinary tract infection in febrile under-5 at a children's emergency unit in Nigeria. *Ann Trop Paediatr* 2003;23(1):39-45.
3. Shaw K, Gorelick M, McGowan K, Yakscoe N, Schwartz J. Prevalence of Urinary Infection in Febrile Young Children in the Emergency Department. *Pediatrics* 1998;102(2):e16.
4. Shaikh N, Morone NE, Bost JE, Farrell MH. Prevalence of Urinary tract Infection in childhood: A Meta-analysis. *Pediatr Infect Dis J* 2008;27(4):302-308.
5. Houle A. circumcision for all: The proside. *Can Urol Assoc J* 2007;1(4):398-400.
6. Huh J, Moon S, Lim Y. A survey of Intestinal protozoan Infections among gastroenteritis patients during a 3-year period (2004-2006) in Gyeonggi - do (Province), South Korea. *Korean J Parasitol* 2009;47(3):303-305.
7. Sanchez-Vega J, Tay-Zavala J, Aguilar-Chiu A, Rviz-Sanchez D, Malagon F, Covarrubias J, et al. Cryptosporidiosis and other Intestinal Protozoan Infections in Children Less than one year of age in Mexico City. *Am J Trop Med Hyg* 2006;75(6):1095-1098.
8. Barnes G, Uren E, Stevens K, Bishop R. Etiology of Acute Gastroenteritis in Hospitalized children in Melbourne, Australia, from April 1980 to March 1993. *J Clin Microbial* 1998;36(1):133-138.
9. Nelson K, Williams C, Graham N. Infectious Disease Epidemiology: Theory and practice. *JAMA* 2008;299(4):459.
10. WHO. International Statistical Classification of diseases, 10th Revision, Second Edition 2003.
11. Najib KH, Fallah Zadeh E, Fallah Zadeh M. Disease spectrum and mortality in hospitalized children of southern Iran. *Iran J Pediatr* 2007;17(3):359-363.
12. Kliegman R, Behrman RE, Jenson H, Stanton B. Nelson Textbook of paediatrics. 18th edition. USA: Saunders; 2007.1795.
13. Gouvea V, Dias G, Aguiar E, Pedro A, Fishman E, Chinem et al. Acute Gastroenteritis in a pediatric hospital in Rio de Janeiro in pre- and post- Rotavirus vaccination settings. *The Open Virol J* 2009;3:26-30.
14. Kolahi A, Nabavi M, Sohrabi M. Epidemiology of acute diarrheal diseases among children under 5 years of age in Tehran, Iran. *Iran J Clin Infect Dis* 2008;3(4):193-198.
15. Kurugol Z, Geylani S, Karaca Y, Umay F, Erensoy S, Vardar et al. Rotavirus gastroenteritis among children under five years of age in Izmir, Turkey. *Turkish J Pediatr* 2003;45:290-294.
16. McIntosh K. Community-Acquired pneumonia in children. *N Eng J Med* 2002;346(6):429-437.
17. Michelow L, Olsen K, Lozano J, Rollins N, Duffy L, Ziegler T, et al. Epidemiology and clinical characteristics of community-acquired pneumonia in Hospitalized children. *Pediatrics* 2004;113(4):701-707.
18. Savadkoobi R, Ahmadpour- Kacho M, Yahyapour Y. Prevalence of viral gastroenteritis in children with acute gastroenteritis in Babol, Iran. *J Pediatr Infect Dis* 2007;2(4):211-214.
19. Ma J, Shortliffe L. Urinary tract infection in children: Etiology and epidemiology. *Urologic Clinics of North America* 2004;31(3):224-233.
20. Wu CY, Chiu PC, Hsieh ks, Chiu CI, Shih CH, Chiou YH. Childhood urinary tract infection: A clinical analysis of 597 cases. *Acta Pediatr Taiwan* 2004;45(6):328-33.
21. Fauci A, Braunwald E, Kasper D, Hauser S, Longo D, Jameson J. Harrison's principles of internal medicine. 17th edition. USA: MC GrawHill; 2008:749.
22. Sabayan B, Motamedifar M, Zamiri N, Karamifar K, Chohedry A. Viral infections, prevalence and costs; A 5-year, hospital-based, retrospective observational study in Shiraz, Iran. *Pak J Med Sci* 2007;23(4):580-584.
23. Orne-Gliemann J, Perez F, Leroy V, Newell ML, Dabis F. A decade of child health research in developing countries. *Sante* 2003;13(2):69-75.
24. Stein CE, Inoue M, Fat DM. The global mortality of infectious and parasitic diseases in children. *Semin Pediatr Infect Dis* 2004;15:125-9.
25. Black RE, Morris SS, Bruce J. Where and why are 10 million children dying every year?. *Lancet* 2003;361(9376):2226-34.
26. World Health Organization. Acute Respiratory Infections. 2009. Available From: <http://www.who.int/>

27. Rudan I, Boschi- pinto C, Biloglav Z, Mulholland K, Campbell H. Epidemiology and aetiology of childhood pneumonia. Bull World Health Organ 2008;86(5):408-416.
28. Nguyen T, Van P, Huy C, Gia K, Weintraub A. Etiology and epidemiology of diarrhoea in children in Hanoi, Vietnam. international J Infect Dis 2006;10(4):298-308.