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Research Article

**A CROSS-SECTIONAL STUDY TO ASSESS THE
PERVASIVENESS OF IRRESISTIBLE MALADIES IN THE
FLOOD AFFECTED AREAS**¹Dr Muhammad Usama Afzal, ²Dr Nughza Zaheer, ³Bilal Asghar¹House Officer, Ghurki Trust Teaching Hospital, ²House Officer, Jinnah Hospital Lahore,
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Abstract:

Background: Natural disasters are calamitous occasions with air, geologic, and hydrologic birthplaces. Calamities incorporate quakes, volcanic emissions, avalanches, waves, floods and dry season. Pakistan confronted floods in 2010 that started following substantial rainstorm rains in the Khyber Pakhtunkhwa, Sindh, Punjab and Baluchistan areas of Pakistan.

Objectives: To assess the pervasiveness of irresistible maladies in the flood influenced people.

Patients and Methods: This cross-sectional investigation was led at Services Hospital, Lahore from October 2017 to May 2018. The information with respect to age, sex, training, occupation, land beginning and nature of illness were gotten from the patients going to flood alleviation therapeutic camp for human services and were broke down on SPSS.

Results: Amid the investigation time frame, 8074 patients were inspected. Patients all things considered and both genders were incorporated. Male to female proportion was 1 to 1.01. The patients run from neonates to over 70 years old. The kids younger than ten years were 40.99%. Among the flood affected, the most well-known sicknesses in diminishing request of recurrence were looseness of the bowels, RTI, skin contamination, eye disease, ear disease and bone injury.

Conclusion: Health education, clean water and environmental hygiene with proper and timely medical cover can reduce mortality and grinness.

Keywords: Flood, Flood Affected, Disease Epidemic.

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INTRODUCTION:

Natural disasters produce genuine wellbeing, social and financial results. Amid the previous two decades, catastrophic events have murdered a huge number of individuals and unfavourably influenced the lives of no less than one billion additional individuals, bringing about generous financial damage [1]. Developing nations are lopsidedly influenced in light of their absence of assets, foundation and debacle readiness systems [2]. The flood in Pakistan 2010 exacted ruin from the northwest to the most distant south of the nation, annihilating towns, extensions and streets, harming a great many sections of land of cropland and uprooting a huge number of individuals. Floods in the Indus valley are not new to this area. The transcending human advancements like Indus Civilization of Mohenjo-Daro and Harappa were presumably additionally devastated by comparative floods. Riverine shells can at present be found in every aspect of south Pakistan demonstrating that the district had been overwhelmed and reflooded for a long time [3]. Among the flood casualties of this

2010 flood, there were more than 3.5 million youngsters and a huge number of pregnant ladies, a considerable lot of whom have conceived an offspring in the help camps. Somewhere in the range of 500,000 ladies were relied upon to bring forth indulges in the flood influenced regions throughout the following a half year. As indicated by the United Nations, the quantity of individuals dislodged by the floods is in excess of 17 million.

The flood overwhelmed many towns in the southern area of Sindh before filling the Indian Ocean. Present assessments show that more than two thousand individuals kicked the bucket and over a million homes destroyed [4, 5]. According to the United Nations, in excess of 21 million individuals were harmed or left destitute because of the flooding, surpassing the consolidated aggregate of people influenced by the 2004 Indian Ocean tidal wave, the 2005 Kashmir tremor and the 2010 Haiti earthquake [5, 6].

Figure – I: Mohenjo-Daro cradle of Indus civilization: One of the reasons for its destruction was a massive flood in 1700 BC



As the flood waters retreated, the peril of disease among the flood exploited people rose. The camps where individuals took cover turned into a potential reproducing ground for jungle fever, cholera, and other gastrointestinal ailments. The vast majority in

these camps grumbled of diseases brought about by defiled water. A few factors that advance sickness transmission after fiascos associate synergistically, encouraging the event of transmittable illnesses outbreaks [8].

Figure – II: Picture by Reuters showed gushing water in Swat Valley

Roughly one-fifth of Pakistan's absolute land zone stayed submerged due to the flooding [11]. Diarrheal illnesses, hepatitis, measles, meningitis, intense respiratory contamination and jungle fever have been normally depicted after catastrophic events and struggle circumstances. Tularemia, Lassa fever, the pneumonic plague was chiefly portrayed after the clash. Different sicknesses including diphtheria, flu and pertussis have been less recorded in calamity and evacuee settings, however, can possibly spread quickly in packed situations [12]. This examination had been led to assess the ailments predominant among the flood-affected people, so genuine insights could be gotten. It is normal that it would be useful in anticipating decrease and end of these irresistible illnesses.

METHODOLOGY:

This cross-sectional investigation was led at Services Hospital, Lahore from October 2017 to May 2018. Every one of the patients who achieved the camp, aside from those having gynaecological issues were incorporated into the investigation independent of age, sexual orientation, occupation, living

arrangement and comorbid illnesses. The information with respect to age, sex, instruction, occupation, land starting point, nature of malady was gotten by the survey. The information was examined on SPSS.

RESULTS:

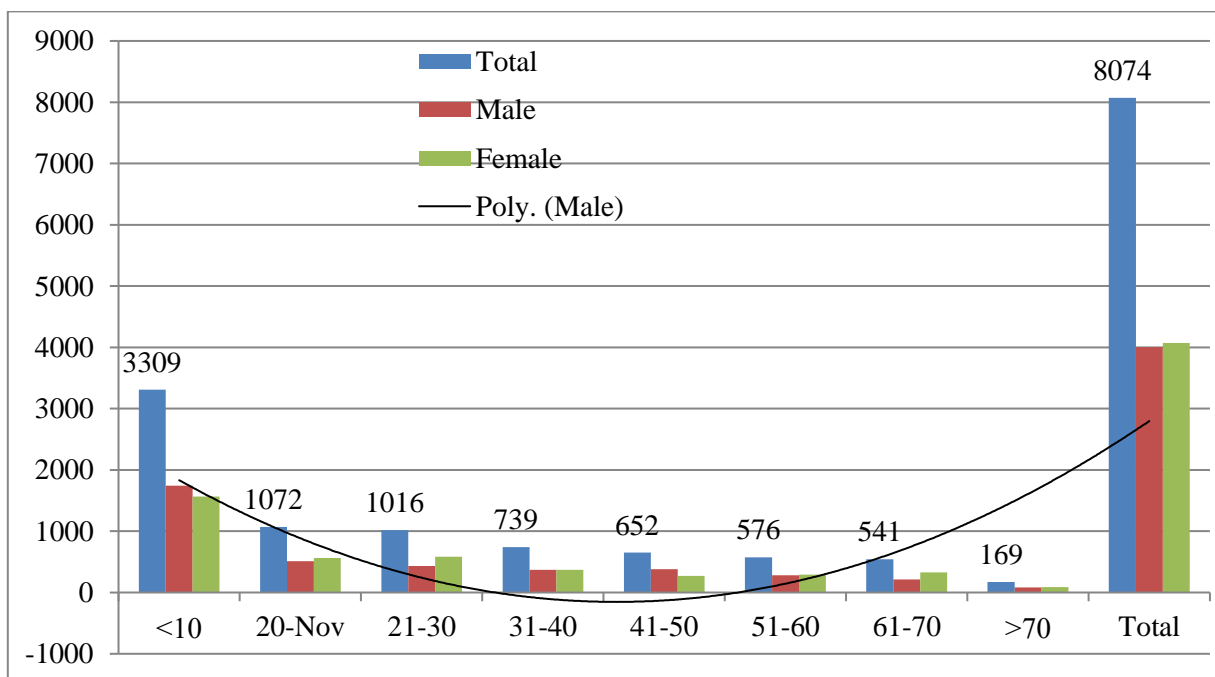
Amid the examination time frame, 8074 patients were analyzed. Out of these, guys were 4003 and females were 4071 (M/F proportion 1:1.01). The scope of patients age was from neonates to over 70 years. The youngsters younger than ten years were 40.99%. Among these, 21.56% were young men and 19.43% were young ladies. Young people were 1072 (13.27%) among whom 509 (6.30%) were guys and 563 (6.97%) females. Patients in conceptive age gathering (21 to 50 years old) were 2407 (29.82%), 1179 (14.60%) guys and 1228 (15.22%) females. Patients over the age of 50 went to the camp less much of the time. They were 1286 (15.92%) in number. Among these 573 (7.11%) were guys and 712 (8.81%) were females. With respect to of instruction, 78.48% were ignorant, 17.19% were essential dimension understudies and the rest (4.33%) were proficient up to matric or more.

Table – I: Top 11 Natural Disasters Reported

Disaster	Date	Number of People Affected
Flood	2010	21,000,000
Storm	2007	1,650,000
Earthquake	2005	5,128,000
Flood	2005	7,000,450
Flood	2003	1,266,223
Drought	1999	2,200,000
Flood	1996	1,300,000
Flood	1995	1,255,000
Flood	1992	6,655,450
Flood	1992	6,184,418
Flood	1988	1,000,000

Table – II: Age and sex wise distribution of patients

Age	Total (%age)	Male (%age)	Female (%age)
<10	3309(40.98)	1741(21.56)	1568(19.43)
11-20	1072(13.27)	509(6.30)	563(6.97)
21-30	1016(12.58)	432(5.35)	584(7.25)
31-40	739(9.15)	368(4.56)	371(4.59)
41-50	652(8.10)	379(4.69)	273(3.38)
51-60	576(7.13)	282(3.49)	294(3.64)
61-70	541(6.70)	211(2.61)	330(4.09)
>70	169(2.09)	81(1.01)	88(1.08)
Total	8074(100)	4003(49.57)	4071(50.43)



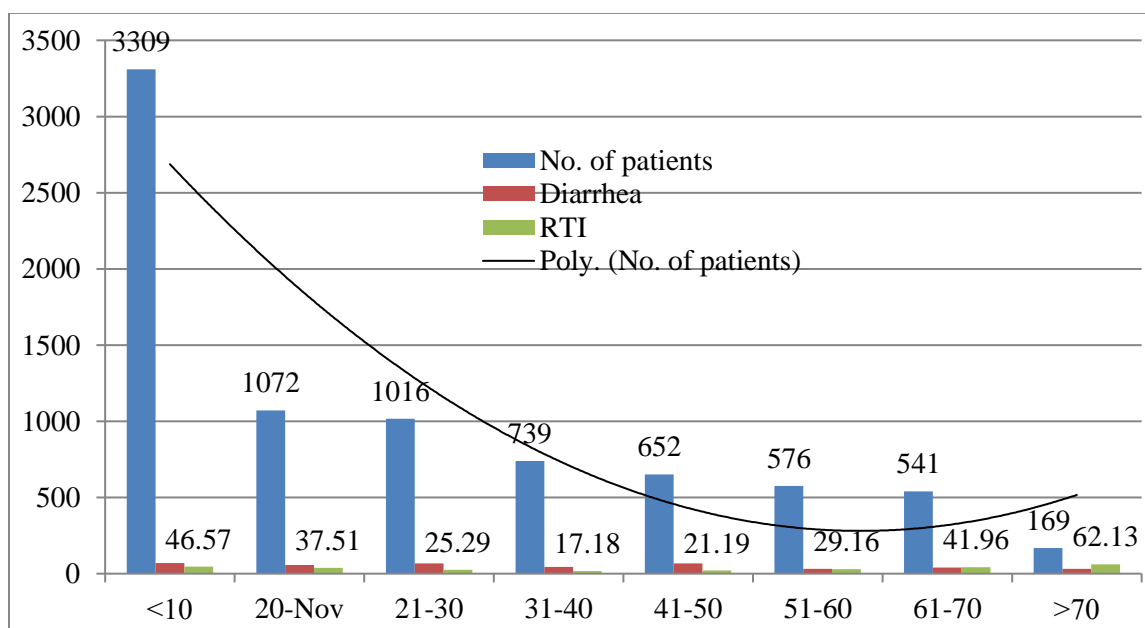
The larger part of people (96.37%) were workers, working in horticulture cultivates on wages. A similar number was of poor financial status. The flood had overpowered their homes and dairy cattle's as well as. Looseness of the bowels was the most widely recognized issue of the lion's share of the patients regardless of age and sex.

Out of 8074 cases, 4787 (59.28%) whined of the runs. Among these, youngsters younger than ten years were 2280(68.90%), the adolescents were 609(56.81%) and people of regenerative age were 1440(59.82%). Patients more seasoned than 50 years old who additionally experienced looseness of the bowels, were 454(35.30%) out of 1286. Respiratory tract contaminations were likewise a noteworthy medical issue of these patients. Youngsters younger than ten years surpassed 1541(46.57%) in number, while it influenced 402(37.51%) teenagers.

Relatively it was less normal among the regenerative age gathering, 522(21.68%). The extents of more seasoned people, over the age of 50 years having RTI were higher, 501(38.95%). Skin diseases going from scabies, pyoderma, urticaria, candid bubbles to cellulitis and sore arrangement were available. They were higher in the boundaries of ages. In kids, they were 13.68% and 21.78% in seniority individual. Eye diseases including conjunctivitis, trachoma and outside body ulceration were additionally progressively visited. In any case, they were moderately high in the age gathering of 21 to 50 years. Otitis externa and other ear diseases were available in 236(7.13%) kids younger than ten years. Among medical issues other than referenced before incorporating snake nibble and hard just as different wounds. These wounds run from 4.08% in early youth to 4.24% in the age gathering of over seventy.

Table – III: Disease Pattern and distribution among Patients in percentage (8074)

Age in years	No. of patients	Diarrhoea	RTI	Skin infection	Ear infection	Conjunctivitis eye infections	Injuries and other health problems
<10	3309	68.90	46.57	13.68	7.13	9.07	4.08
11-20	1072	56.81	37.51	11.38	1.37	7.74	5.67
21-30	1016	67.32	25.29	12.89	0.04	6.39	2.39
31-40	739	43.43	17.18	07.17	1.31	21.23	6.04
41-50	652	67.33	21.19	06.91	0.67	19.29	4.40
51-60	576	32.29	29.16	17.21	0.23	09.67	3.98
61-70	541	39.37	41.96	19.74	2.17	15.35	4.24
>70	169	32.54	62.13	21.78	1.39	11.89	3.41



DISCUSSION:

Pestilences in flood influenced regions are because of water-borne and vector-borne disease [6]. The lives of a huge number of Pakistan's flood exploited people were imperilled because of the flare-up of plague illnesses. Pakistan's Health Ministry sent a red caution to the World Health Organization (WHO) for beginning a crisis treatment against the sicknesses which were spreading quick, as the streaming dirtied water blended tap and well water with sewerage and other debased water sources [7].

Pakistan has extraordinary geological similitude with Bangladesh, which is additionally inclined to extreme flooding. There were broad floods amid the storms of 1988, 1998 and 2004 in Bangladesh. Amid these periods, 25-half of Bangladesh was submerged, bringing about the annihilation of foundation, defilement of water and pandemics of diarrheal illness [8]. A similar level of Pakistan territory was submerged amid the flood 2010 [9].

Swarming, insufficient water and sanitation and unexpected populace uprooting expanded the danger of transmittable infection transmission [11]. The nearness of substantial quantities of dairy cattle bodies in the fiasco influenced zones additionally added to illness outbreaks [12, 13]. The blending of deadly synthetic and dangerous substances from different sources in flood water upgraded the looseness of the bowels plague. It was found in the present investigation that out of 8074 patients, 4787 (59.28%) experienced looseness of the bowels.

Floods can possibly expand the transmission of water-borne infections and vector-borne diseases [14]. It was evaluated that 36,000 individuals had been influenced by the breakout of cholera [15]. Similar outcomes were found in WHO verdict [16]. During flood-related scourges, *Vibrio cholera* is the most normally distinguished reason for looseness of the bowels and Rotavirus the second most much of the time recognized the flood-related pathogen. Different reasons for the runs are enterotoxigenic *Escherichia coli*, *Shigella*, and *Salmonella* [17].

Comparative outcomes were found in an episode of diarrhoeal ailment subsequent to flooding in Bangladesh in 2004 which included >17,000 cases. *Vibrio cholera* (O1 Ogawa and O1 Inaba) and enterotoxigenic *Escherichia coli* were isolated [18]. An expansive (>16,000 cases) cholera pandemic (O1 Ogawa) in West Bengal in 1998 was credited to going before floods [19] and floods in Mozambique in January-March 2000 prompted an expansion in the rate of diarrhoea [20].

Swarmed living states of the flood-affected encouraged the transmission of transmittable ailments. Intense respiratory contaminations (ARI) were a noteworthy reason for disease among dislodged populaces, especially in kids <10 years old. It was found in the present examination that 46.57% of youngsters younger than ten years experienced intense respiratory contaminations (ARI). ARI represented the most elevated number of cases and passing among those uprooted by the tidal wave in Aceh in 2004 and by the 2005 quake in Pakistan [21, 22].

Vector-borne maladies represent an incredible threat to human wellbeing too. The swarming of contaminated and powerless hosts and improvement in reproducing places were all hazard factors for vector-borne infection transmission [23]. Dengue transmission is impacted by meteorological conditions, including precipitation and moistness and that improve the rearing of mosquitoes. Jungle fever episodes in overwhelmed zones are a notable wonder too [24].

CONCLUSION:

Disasters, similar to floods, open the ways to transmittable and irresistible illnesses. These become real general medical issues, particularly in creating nations like Pakistan, requiring a suitable and facilitated reaction from national and universal networks. These flare-ups might stay away from proper arranging and mediation. The most imperative advance is fast epidemiological appraisal for general wellbeing arranging and asset designation. We can diminish the mortality and horribleness by giving sufficient sanctuary, sanitation, water and nourishment security and proper reconnaissance. Vaccination and wellbeing instruction are additionally emphatically required. Early cautioning framework and interventional systems ought to be improved. Satisfactory sanctuary and sanitation, water and sustenance wellbeing, proper reconnaissance, vaccination and the board approach just as wellbeing training are emphatically required for the decrease of dismalness and mortality.

REFERENCES:

1. WHO. Cholera. *Wkly Epidemiol Rec.* 2003; 79:281-88
2. Qadri F, Khan AI, Faruque ASG, Begum Y, Chowdhury F, Nair GB, Salam MA, Sack DA, Svennerholm A. Enterotoxigenic *Escherichia coli* together with *V. cholerae* O1 was a major cause of acute watery diarrhea during the epidemic caused by flooding in Dhaka,

- Bangladesh during the summer of 2004. *Emerg Infect Dis* 2005; 11:1104-1107.
3. Qadri F, Khan AI, Faruque ASG, Begum YA, Chowdhury F, Nair GB, et al. Enterotoxigenic *Escherichia coli* and *Vibrio cholerae* diarrhoea, Bangladesh. *Emerg Infect Dis* 2005; 11:110-47
 4. Sur D. Severe cholera outbreak following floods in a northern district of West Bengal. *Indian J Med Res* 2000;112:178-82
 5. Kondo H, Seo N, Yasuda T, Hasizume M, Koido Y, Ninomiya N, et al. Post-floodinfectious diseases in Mozambique. *Prehosp Disaster Med* 2002; 17:126-33
 6. World Health Organization Epidemic-prone disease surveillance and response after the tsunami in Aceh Province, Indonesia. *Wkly Epidemiol Rec* 2005; 80:1604
 7. Retrieved from: http://www.bbc.co.uk/urdu/pakistan/2010/09/100907_ocha_flood_figures.s.html
 8. Floods in Pakistan worse than a tsunami, Haiti". *Gulfnews*. Http://gulfnews.com/news/world/Pakistan/floods-in-Pakistan-worse-than-tsunami-Haiti-1.666221localLinksEnabled=false&utm_source=Newsletter&utm_medium=email&utm_campaign=2010100807_morning_July_10&utm_content=&utm_term=Article%20click%20-%20TopStory+159813. Retrieved 2010-08-12.
 9. Goodwin, Liz. "One-fifth of Pakistan under water as flooding disaster continues". *News.yahoo.com*. Retrieved from: http://news.yahoo.com/s/yblog_upshot/20100816/wl_yblog_upshot/one-fifth-of-pakistan-under-water-as-flooding-disaster-continues. Cited on 2010-08-24.
 10. Gayer M, Legros D et al. "Conflict and Emerging Infectious Diseases". *Emerg. Infect. Dis* 2007; 13(11): 1004
 11. Kondo H, Seo N, Yasuda T, Hasizume M, Koido Y, Ninomiya N, Yamamoto Y. Post-flood epidemics of infectious disease in Mozambique. *Prehosp Disast Med*.2002; 17:126-133.
 12. Rashid SF. The urban poor in Dhaka City: their struggles and coping strategies during the floods of 1998. *Disasters* 2000; 24:240-253
 13. Toole MJ. Communicable diseases and disease control: In Noji E, ed. *Public health. Consequences of disasters*. New York. Oxford University Press. 1997; 22: 97-100
 14. Morgan O. Infectious disease risks from dead bodies following natural disasters. *Pan American Journal of Public Health* 2004, 15:307-311.
 15. De Ville de Goyet C. Epidemics caused by dead bodies: a disaster myth that does not want to die. *Pan American Journal of Public Health* 2004, 15:297-299.
 16. WHO. 2010, Health crises: Retrieved from: /www.Who.Int/hac/techguidance/ems/flovd_cds/en/index/html. Accessed on. 1stOct. 2010.
 17. World Health Organization Acute jaundice syndrome. *Weekly Morbidity and Mortality Report*. 2006; 23:8. [cited 2006 Aug 10]. Available from http://www.who.int/hac/crises/international/pakistan_earthquake/sitrep/Pakistan_WMMR_VOL23_03052006.pdf.
 18. Lifson AR. Mosquitoes, models, and dengue. *Lancet*1996; 347:12012 doi: 10.1016/S0140-6736(96)90730-8. [PubMed] [Cross Ref]
 19. Saenz R, Bissell RA, Paniagua F Post-disaster malaria in Costa Rica. *Prehosp Disaster Med* 1995; 10:154-60.
 20. About natural disasters. Paris, United Nations Cultural, Scientific and Cultural Organization 2004 (http://www.unesco.org/science/disaster/about_disaster.s.html; accessed 6 June 2006).
 21. Morse SS. Factors and determinants of disease emergence. *Rev. Sci. Tech* 2004;.23: 443-451.
 22. Retrieved from: <http://blog.travel-culture.com/2010/08/20/flood-in-Pakistan-scientific-facts-and-history>
 23. A b c "BBC News - Pakistan floods: World Bank to lend \$900m for recovery". *Bbc.co.uk*. 2010-08-17. <http://www.bbc.co.uk/news/world-south-asia-10994989>. Retrieved as 2010-08-24.
 24. BBC News- Millions of Pakistan children at risk of flood diseases". *Bbc.co.uk*. 2010-08-16. <Http://www.Bbc.co.Uk/news/world-south-Asia-10984477>. Retrieved 2010-08-24.