

IMPACT OF DIARRHEA ON STUDENTS' MENTAL, PHYSICAL HEALTH AND ACADEMIC ACHIEVEMENT AT SECONDARY SCHOOLS LEVEL DUE TO WAR HAZARDS IN NORTH WAZIRISTAN AGENCY

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ABSTRACT: *Because of war hazards and U. S. drone attacks used in North Waziristan Agency, the researcher did a novel research on the impact of diarrhea on students' mental, physical health and learning performance at school level including their academic performance and academic achievement in North Waziristan Agency. It was descriptive type study and all 9th and 10th class students were the target population in North Waziristan Agency. The numbers of respondents taken as samples from thirty male and female Secondary schools were 403 in which 202 were male students from selected fifteen schools and 201 were female students taken from fifteen girls' Secondary schools as samples in North Waziristan Agency. The key target of the researcher in his study was to find out the impact of diarrhea on students' mental, physical health and academic achievement at Secondary schools level due to war hazards in North Waziristan Agency. Data was collected through face-to-face questionnaire having five options 'Always', 'Frequently', 'Occasionally', 'Seldom' and 'Never' carrying values 5, 4, 3, 2 and 1 respectively. It was cleared from both the discussion and results that diarrhea caused by war hazards in North Waziristan Agency negatively influenced students psychologically due to which they showed poor academic grades at Secondary level. The study also concluded that war hazards caused diarrhea in North Waziristan Agency in which students suffered a lot mentally, physically psychologically and academically.*

Key Words: war hazards, diarrhea, students' health, academic achievement and schools.

INTRODUCTION

Diarrhea for less than fourteen days is considered acute [1]. Diarrhea for more than 14 days is persistent diarrhea which badly influence the students physically, mentally and psychologically due to which they always show poor academic performance [2]. There is negative impact of diarrhea on both corporal and mental development [3]. Diarrhea has very bad impact on both health and mentality of a person. Students having extreme diarrhea always show lower academic grades [4]. A student with mental stress, threat or worry about adverse events suffers from muscular, urinary, cardiovascular and gastrointestinal problems and later on these problems cause diarrhea due to which he can't improve his health as well as his learning [5]. Gastrointestinal problems cause diarrhea and a student having diarrhea confront other problems also such as heartburn, indigestion, nausea, vomiting and abdominal pain [6]. Stress too cause diarrhea; anxiety cause sympathetic nervous system to increase intestinal motility and when the intestines moves food through too quickly then nutrients are not absorbed properly [7]. Students suffering from diarrhea may also suffer from abdominal pain and such diarrhea-stricken students may also face nausea or urgent need to use bathroom and loss of bowel control and students having infections of diarrhea are also associated with fever, chills and bloody stools [8]. Patients suffering from acute watery diarrhea may also confront other corporal problems such as abdominal pain, malaise, flatulence, nausea, vomiting and fever. Acute watery diarrhea may also cause parasitic, bacterial and viral infections. Food poisoning may also be due to diarrhea [9]. Diarrhea is loose and watery stools which are for more than three times a day. Diarrhea can be divided into various types

such as Acute Diarrhea (A diarrhea less than three weeks); Chronic Diarrhea, Dysentery Diarrhea (A diarrhea containing blood) and the severity of diarrhea may also cause death [10]. Acute, chronic and dysentery are the various types of diarrhea which are very fatal and resulting death too [11]. Diarrhea which causes other infections are: Viral Infections e.g. Rotavirus, Norwalk Virus; Allergic e.g. Medication Side Effects, Lactose Intolerance, Celiac Sprue; Parasites e.g. Entamoeba, Giardia; Bacterial Infections e.g. Shigella, E. Coli, Campylobacter, Vibrio Cholera; Malabsorptive e.g. Biliary Disease, Pancreatic Deficiency; Functional e.g. Cancer, Irritable Bowel Syndrome, Short Bowel Syndrome; Helminthes (Intestinal Worms) e.g. Strongyloides; Nutritional such as "Vitamin-A deficiency, enteral feedings consisting of liquid nutritional formulae delivered straight to the bowels, zinc deficiency; and autoimmune e.g. Crohn's Disease, Ulcerative Colitis [12]. More than 75% people confront death due to diarrhea and diarrheal diseases such as cholera kills more people as compared to AIDS and malaria [13]. The pathogens causing diarrhea are generally spread by food or water that has been polluted with human and animal feces; diarrhea is not merely a disease spread by inadequate hygiene, poor sanitation practices and unsafe water but neglected disease such as guinea worm disease and schistosomiasis can also be reduced up to approximately 75% or more with improved safe water access, sanitation and hygiene [14]. Dysentery is diarrhea contains blood and mucus in feces and it may include rectal pain, fever and abdominal cramps. Shigella is the main cause of bloody diarrhea [15]. S.dysenteriae results severe complications including persistent diarrhea (diarrhea for two week), septicemia (blood poisoning), rectal prolapse and Haemolytic-Uraemic

Syndrome (HUS); HUS is a serious condition influencing kidneys and blood clotting system [16]. The weight of a patient with persistent diarrhea also lost and even persistent diarrhea may also cause death [17]. Diarrhea is negatively associated with 1 growth and development of a child [18]. Poor sanitation, contaminated food e.g. fruit, raw meat, seafood, vegetables, and drinking unboiled water may cause severe diarrhea [19]. Extreme level of diarrhea has been investigated to be more in boys than girls [20]. Some socio-economic factors like low income, crowded conditions and poor housing are also responsible for causing diarrhea [21, 22].

RESEARCH METHODOLOGY

Research Design

The study was descriptive in nature.

Population of the Study

All 9th and 10th class students in North Waziristan Agency were the target population of the study.

Sampling Technique

Sample was taken through stratified random sampling technique. .

Sample Size

The target population was distributed into two levels i.e. rural and urban. Out of thirty sampled Secondary schools, fifteen boys and fifteen girls schools were randomly selected from both rural and urban areas in North Waziristan Agency. The total numbers of respondents as samples were 403 in which 202 were boys and 201 were girls respectively. John Curry formula was used to determine the Size of the sample.

Sample Size Rule of Thumb

10-100	100%
101-1000	10%
1001-5000	5%
5001-10000	3%
10000 +	01%

Source: Curry, J. (1984). Professor of Educational Research, North Texas State University; Sample Size Rule of Thumb; *Populations and Sampling*, 7-4

.Table 1: The Sampling Framework (n=403)

Respondents as Samples in Urban Areas Secondary Schools				Respondents as Samples in Rural Areas Secondary Schools			
Male Schools	Sampled Respondents	Female Schools	Sampled Respondents	Male Schools	Sampled Respondents	Female Schools	Sampled Respondents
9	122	6	80	6	80	9	121
Total numbers of male schools = 15		Male Respondents as samples (n=202, 50.12%)		Total numbers of female schools = 15		Female Respondents as samples (n=201, 49.88%)	
Grand Total of sampled Schools = 30		Total Sampled Respondents (n=403, 100%)					

DATA COLLECTION

In order to work on this novel research task, the researcher deeply studied various materials which were related to his research study such as journals, newspapers, magazines, books and internet etc. The researcher also conducted seminars with expert educationists, psychologists and psychiatrists regarding psychotraumatic problem (diarrhea) caused by war hazards in North Waziristan Agency. The researcher personally collected data from students also at Secondary level in North Waziristan Agency. The researcher finally tried his best to identify the impact of diarrhea on students’ mental, physical health and academic achievement at Secondary Schools level due to war hazards in North Waziristan Agency.

DATA COLLECTION INSTRUMENT

The researcher also developed a very novel and unique questionnaire named as “Face-to-face Questionnaire” for data collection from students about diarrhea caused by war hazards in North Waziristan Agency and its impact on students’ mental, physical health and academic performances and academic achievement at Secondary level in North Waziristan Agency.

MEASUREMENT SCALE

The researcher used a novel scale with five options “Always”, “Frequently”, “Occasionally”, “Seldom”, and “Never” carrying values 5,4,3,2 and 1 in order to measure the opinions and views of the students. The scale is given below in the form of table.

Table2: Illustration of Scale Applied for Data Collection (n=403)

Version	Always	Frequently	Occasionally	Seldom	Never
Numerical Values	5	4	3	2	1

PILOT STUDY

For validity, the researcher administered his initial draft of questionnaire to thirteen research experts i.e. five psychiatrists, six psychologists and two educationists. The experts were requested to bring corrections, modifications or changes in the statements of the questionnaire for the purpose

of refinement. For reliability the questionnaire was distributed among 50 students at Secondary level in North Waziristan Agency. Chronbac Alpha formula was used for reliability assessment and obtained Chronbac Alpha was .789.

DATA ANALYSIS

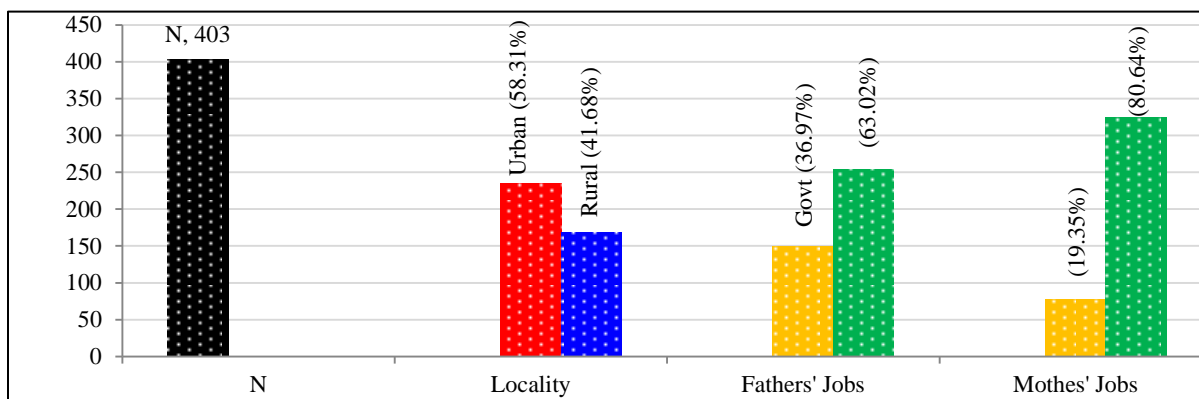


Figure 1: Respondents' Locality and Nature of Their Parents' Jobs in North Waziristan Agency

Data was analyzed through Arithmetic Mean, Std. Deviation and Pearson Correlation by using SPSS (Version 16.0).

RESULTS

Data was taken from 403 respondents at Secondary schools level in North Waziristan Agency i.e. Thirty Secondary Schools' students (15 urban and 15 rural areas schools). Out of 403 students 202 (50.12%) were males and 201 (49.88%) were females. Among them 15 (7.43%) male students and 7 (3.48%) female students were always suffering from diarrhea due to war hazards in North Waziristan Agency and 76 (37.62%) male and 18 (8.96%) female students had

frequently diarrhea because of war hazards in North Waziristan Agency. In the same way 39 (19.31%) male and 56 (27.86%) female students were found occasionally diarrhea patients due to war hazards in North Waziristan Agency. Male respondents i.e. (n=34, 16.83%) and female students i.e. (n=51, 25.37%) were seldom suffering from diarrhea due to war hazards in North Waziristan Agency. 38 (18.81%) male students and 69 (34.33%) female students were never suffering from diarrhea because of war hazards in North Waziristan Agency.

Table-3: Correlation between Diarrhea and Students' Mental, Physical Health & Academic Achievement at Secondary level in North Waziristan Agency (n=403)

Psycho-Traumatic Problems Due to War Hazards in North Waziristan Agency	Mean	S.D	r	Sig.
Diarrhea	2.2457	1.33335	-.902**	.000

N=403 *p<0.05 **p<0.01(2-tailed).

Table 3 indicates that the Mean of Diarrhea= 2.2457, S.D = 1.33335, r = -.902** and p = .000. The value of p is less than 0.05 and the value of 'r' is negative therefore, there is Level in North Waziristan Agency.

negative correlation between diarrhea and students' mental and physical health and academic achievement at Secondary

Table 4: Respondents' Locality and Nature of Their Parents' Jobs in North Waziristan Agency (n=403)

N	Respondents Locality		Nature of Respondents' Parents Jobs			
	Urban	Rural	Fathers' Jobs		Mothers' Jobs	
			Govt.	Private	Govt.	Private
403	235 (58.31%)	168 (41.68 %)	149 (36.97%)	254 (63.02%)	78 (19.35%)	325 (80.64%)

Table 4 along with figure 1 shows that out of total (403) respondents, 235 (58.31%) respondents belong to urban areas while 168 (41.68%) respondents belong to rural areas. In the same way 149 (36.97%) Respondents' fathers were govt. employees while 254 (63.02%) respondents' fathers had

private jobs; similarly 78 (19.35%) respondents' mothers were govt. employees while 325 (80.64%) Respondents' mothers had private jobs respectively.

Table 5: Respondents' Responses regarding Diarrhea Caused by War Hazards in North Waziristan Agency (n-403)

Gender	Never	Seldom	Occasionally	Frequently	Always	Total
Male	38 (18.81%)	34 (16.83%)	39 (19.31%)	76 (37.62%)	15 (7.43%)	202 (50.12%)
Female	69 (34.33%)	51 (25.37%)	56 (27.86%)	18 (8.96%)	7 (3.48%)	201 (49.88%)
Total	107 (26.55%)	85 (21.09%)	95 (23.57%)	94 (23.33%)	22 (5.46%)	403 (100%)

Table 5 along with figure 2 denotes that the total numbers of respondents are 403 (100%) in which 202 (50.12%) are male and 201(49.88%) are female. Out of total 202 (50.12%) male respondents, the responses of 38 (18.81%) were never regarding the impact of diarrhea on students' mental, physical health and academic achievement at Secondary schools level due to war hazards and U.S. drone attacks in North Waziristan Agency; 34(16.83%) respondents showed seldom response; 39(19.31%) respondents gave occasionally response; 76 (37.62%) showed frequently response and 15

(7.43%) respondents gave always response respectively about the impact of diarrhea on students' mental, physical health and academic achievement at Secondary schools level due to war hazards in North Waziristan Agency. In the same way Out of total 201 (49.87%) female respondents, the responses of 69 (34.33%) respondents were never regarding the impact of diarrhea on students' mental, physical health and academic

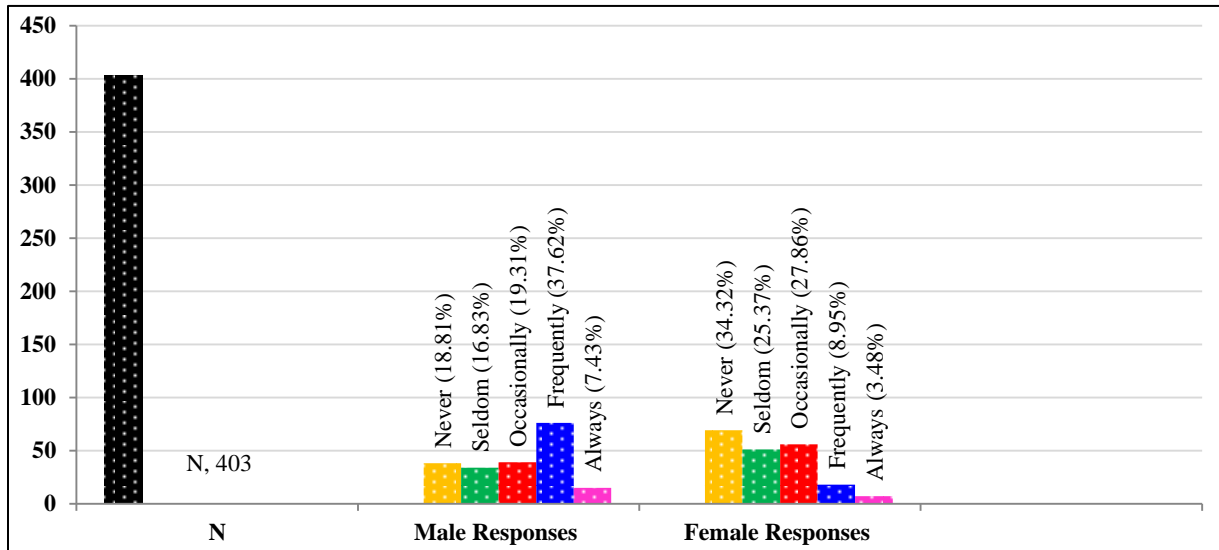


Figure 2: Respondents' Responses regarding Diarrhea Caused by War Hazards in North Waziristan Agency

achievement at Secondary schools level due to war hazards in North Waziristan Agency; 51 (25.37%) respondents showed seldom responses; 56 (27.86%) gave occasionally response; 18 (8.96%) showed frequently response and 07 (3.48%) respondents gave always responses about the impact of diarrhea on students' mental, physical health and academic achievement at Secondary schools level due to war hazards in North Waziristan Agency. Similarly out of the total sampled 403 (100%) respondents including both males and females, 107 (26.55%) respondents gave never response about the impact of diarrhea on students' mental, physical health and academic achievement at Secondary schools level due to war hazards in North Waziristan Agency; 85 (21.09%) respondents showed seldom response; 95 (23.57%) respondents gave occasionally response; 94 (23.33%) respondents gave frequently response and 22 (5.46%) respondents showed always response respectively regarding the impact of diarrhea on students' mental, physical health and academic achievement at Secondary schools level due to war hazards in North Waziristan Agency.

DISCUSSION

Diarrhea negatively affects the learning abilities of students at Secondary school level. Extreme diarrhea causes physical, mental and psychological problems for students at Secondary level due to which they hardly pass academically or mostly they placed in the third grades. The researcher observe that diarrhea is quite prevalent in North Waziristan Agency

because of war hazards due to which students are highly disturbed and they face other health issues also. Diarrhea badly affects students' concentration power and their learning capabilities. Students lost their weights due to diarrhea due to which both their growth and development are negatively affected at secondary level and even they confront death too because of diarrhea caused by war hazards in North Waziristan Agency.

CONCLUSION

Our study concluded that a high proportion of students are suffering diarrhea due to war hazards and constant threats of U.S drone attacks strikes in North Waziristan Agency.

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