Health Status and Psychosocial Stress among the Environmental Migrants in the Southern Part of Bangladesh

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Research Article

Abstract

Disasters are events that challenge the individual ability to adapt, which carries the risk of adverse mental health outcome including serious post-traumatic psychopathologies such as depression and anxiety. The cross-sectional study has been conducted in a coastal area of southern part of Bangladesh. The study revealed that among the displaced person due to river erosion, majority 48.4% were in the age group of 31 to 40year. By education 36.6% had primary level of education. Health status evaluation shows, the majority 75.3% of them are currently suffering from various Gynecological problem followed by gastroenteritis (30.1%), Peptic ulcer disease (25.8%) , fever (20.4%), bad headache/Migraine (16.1%), respiratory problem/ Breathing difficulties (15.1%), Diabetes (8.6%), Heart problem (4.3%) and Jaundice (4.3%). The relationship condition with family among the displaced people shows, before displacement 47.3% was more cordial (highest parameter) with their family whereas, after displacement it deteriorate to 71.0% to very cordial (second parameter) with their family than followed by 24.7% cordial with their family. According to psychosocial health, 10.8% of them are within mild depression scale followed by 1.1% of them having moderate depression. Same way, 10.8% of them are within mild depression scale followed by 1.1% of them having moderate depression. There is an association between age & level of depression found. Though mild depression is existing in every age group but above 35 years is more (10.9%). Lower age group that is up to 34 yrs (86.2%) of them is more exposed to profound anxiety. 89.5% illiterate people are more exposed to profound anxiety. 15.9% of them are suffering from mild depression and 90.9% of them are suffered from anxiety whose family members are within 5 to 7 persons in number. Overall health status and psycho-social condition is found poor. Health care and nutritional promotion, increased accessibility to services, reduction of stigma and discrimination through community mobilization and advocacy, life skills, rights protection and decentralization planning systems to mainstream their issues into development in order to improve their quality of life were recommended.

Introduction

Bangladesh is expected to be among the worst affected country by climate change. Bangladesh is often exposed to severe natural disasters because of its very flat topography and low land above sea level. Therefore, almost every year, a huge portion of the population is displaced, both temporarily and permanently, due to these calamities. Approximately 500,000 people were displaced when the Bhola Island was permanently inundated by the floods of 2005. In addition, recent occurrences of major cyclones like Sidr, and Aila,may be an indication of more frequent and severe climatic catastrophes [1]. Many terms and concepts such as 'environmental' or 'climate change migrants', 'environmentally induced' or 'forced migration', 'ecological' or 'environmental refugee' or 'climate change refugee', and 'environmental displacement' are used in literature. However finally it can said that, "Environmental migrants" are people who choose to move voluntarily from their usual place of residence primarily due to environmental concerns or reasons; "environmental displaces" are people who are forced to leave their usual place of residence, because their lives, livelihoods and welfare have been placed at serious risk as a result of adverse environmental processes and events (natural and/or triggered by people)". Climate change is a global phenomenon. Therefore, environmental displacement is not only a national problem but also an international one [2,3].

If global temperatures rise by about 4-5ºC in the course of the century, the South Asian region could

face a wave of immigrants displaced by the impacts of climate change including sea level rise and drought associated with shrinking water supplies and monsoon variability [4].

The coastline of Bangladesh is particularly vulnerable to the sea level rise in the Bay of Bengal on account of the low-lying deltaic environment. The tropical cyclones, which strike the coastal areas periodically, create misery and loss of life, property and damage to the ecosystems. The total area of the coastal belt is about 39,300km² (27% of the country's total area) and more than 29 million people (22% of the national population) live in this fragile and vulnerable area. It has been estimated that tens of thousands of people are displaced annually by river erosion in Bangladesh, possibly up to 100,000 [5]. The first immediate relief after erosion is provided by the nearby flood embankments. As a consequence of continuous erosion many embankments are densely occupied by squatters. Others move to slums in the bigger cities, especially in the capital Dhaka. While no recent figures are available, historic studies from the mid 1980s indicate that in some slums in Dhaka more than 40% of the population named river erosion as primary cause for their migration into slums. The life on the flood embankments and in slums results in special hardship, such as a lack of minimum services, drinking water, ration cards, schooling for children, health facilities, and attention of the local government [5-7].

Such, social vulnerability due to disasters is a function of human action and behavior. It describes the degree to which a socio-economic system or physical assets are either susceptible or resilient to the impact of natural and environmental changes.

In order to create the sustainable and just society necessary to effectively confront climate change, should look for ways to both confront its causes and protect the health and well-being of historically marginalized communities. Women in the coastal zone of Bangladesh live within a complex socio-cultural and climatic reality. Visibly, both men and women in coastal areas experience economic and social exploitation; in addition to this, they are subjected to harsh and sometimes unpredictable natural conditions that keep them poor and insecure. Increasingly frequent and severe disasters are likely to carry a significant human cost. Even when people survive and recover physically, these events can have ongoing adverse effects on mental health [8]. Communities such as those affected by Hurricane Katrina suffer post-traumatic stress, anxiety, depression and this can manifest in suicide, domestic violence and substance abuse. Factors such as financial security, employment, access to services and the social fabric of communities may

all be affected by climate change and these factors are integral to mental health and well-being. In addition, we have to recognize that acknowledging the substantial threat to the future of our planet that climate change represents can cause us emotional distress [9].

The challenges the displaced people regular faces are water logging; floods, lack of employment opportunities, ownership of khas land, cyclones, low prices of cultivated crops etc. increase the vulnerability of the small and landless farmers. In the case of the fishermen, cyclones, depletion of fisheries resources, dearth of capital or seed money, deteriorating law and order situation, weak communication facilities etc. make them extremely vulnerable [10]. There are some "routine" health threats also such as diarrhea, malnutrition, and malaria that are known to be climate sensitive, and the value of basic public health interventions (e.g., providing clean water and sanitation services, improving hygiene) as a means to reduce overall disease rates and to moderate the potential effects of climate change.

At the population level, changes in social structure, economic base, and political organization frequently occur as a result of this contact, whereas at the individual level the changes are in such areas as behavior, identity, values, and attitudes. Climate change can also impact on the traditional way of living via influences on fishing, and hunting. Alterations of the physical environment can lead to a rapid and a long-term cultural change and loss of traditional culture which can, in turn, create psychological distress and mental health challenges [11]

In a developing country like Bangladesh, limitations of mental health professionals & inadequate knowledge & practice about disaster mental health among the medical & paramedical stuff, may lead to delays in the psychosocial management & rehabilitation of the survivors. Efforts to address the mental health issues of disaster victims have increased as the psychological trauma of incidents have been more fully recognized.

Climate change can be an external factor that indirectly initiates the acculturation process by forcing people to behave in new ways, to change their ways of living, and to replace or drop old traditions [12].

Acculturative stress may be associated with psychological changes such as psychosomatic symptoms, feelings of alienation and marginality, and identity confusion. If the acculturation experience overwhelms the individual with a feeling of loss of control, psychopathology may occur such as depression and anxiety, substance abuse, and suicide. For instance, if climate change leads to a loss of herding, hunting, or fishing opportunities for

people who are closely connected to and dependent upon such activities, this can result in feelings of loss and grief. This might result in longer-term feelings of marginalization which can contribute to substance abuse, depression, and suicide.

Research conducted by CEGIS, 2004on the vulnerabilities of coastal inhabitants indicates that the vulnerability of the affected people of southern zone of Bangladesh who have been migrated in order to resettle their life at urban area in is exacerbated by the natural disasters and their socio-economic status. There are almost eight types of challenges concerned with people affected by environmental disaster as following; Health and health care, Nutrition and food security, Education, Protection, Placement,Psychosocial development, Socioeconomic status, Stigma discrimination. The potential value of the study will be digging those hidden problems and psychosocial stress. Findings of those problems & health status will add extra value in public health. This findings and results will be beneficial to the existing knowledge base and/or solve a problem [13,14].

Method and Materials

The cross-sectional descriptive type of study was conducted. Study area was Komolnogor upazilla, Ramgoti, Laxmipur,Bangladesh. The duration of the study was started from October 2010 to April 2011. Total 107 samples were taken in this study. Purposive sampling method was applied for this study [15].

Study population

Migrant people due to river erosion aged 18-60 years of Komol nogor upazilla of Laxmipur district from the kalkini rehabilitation centre of river erosion project. Environmental migrants who are displaced from char and now residing here was the study population. The aged of 20-65 years of environmental migrant's people was participant of the study. The target group of the poor people of coastal chars with following characteristics:-Landless labors,- Destitute women. Under aged of 20 and above 65 aged year was not participate in the study

Research tools

For collection of primary to find out the health status and psychosocial stress among the migrants of Komol nogor upazilla of Laxmipur district from the kalkini rehabilitation centre of river erosion project a semi-structured questionnaire was developed based on the research objectives and the research question. Pre-testing of the questionnaire was done in some of the villagers. After the pre-testing, revision of the items and questions was finalized based on the findings and observation experiences. The final questionnaire both structured and open questions were kept.

Method of data collection

Semi-structured questionnaire, Observational checklist (including in questionnaire) were used as instruments of data collection. Data was collected by face to face interview with environmental migrant people of Kalkini rehabilitation center of Komolnagar upazilla of Laxmipur district. Before taking face to face interview, their consent was taken. Socio demographic and other personal information was also recorded from a semi structured pre-tested questionnaire.

The complete questionnaires were collected, checked for completeness and clarity then compiled it. The data from the complete questionnaires was analyzed by means of SPSS (statistical packages for social sciences).

Result

Table1shows that among the respondents majority 48.4% (n=45) were in the age group of 31 to 40year followed by 26.9%(n=25) were within 30years of age,16.1%(n=15) were within 41 – 50 years of age and rest 8.6%(n=8) were beyond 50 years

Table 2shows that male (n=14)are almost five times less than female(n=79).

But in Table 3 it was found that all of the participants were found married.

The Table 4shows the education level of the respondents. It was found that among the respondents majority (61.3%) had no formal education followed by36.6% (n=34) had primary level of education and only 2 respondents had above primary level education.

The belowTable 5 of post erosion shows that among the respondents majority 61.4% (n= 57) were day labor followed by 22.6 %(n=21) is housewife. Whilst, the pre erosion table shows that among the respondents majority 86%(n=80) was housewives followed by 12.9%(n=12) was day labor.

In Table 6 shows that in case of post erosion among the respondents majority 36.6 %(n=34) daily earn between 50 to 100 taka per day followed by 23.7% (n=22) earn between 100 to 150 taka per day. On the contrary, the pre erosion table shows that among the respondents majority 45.2 %(n=42) earning money was between 50 to 100 taka/day then followed by 24.7 %(n=23)100 to 150 taka/day & 18.3% (n=17) within 50taka/day.

The below Table 7 shows that cost for food (87%) is more among respondents followed by Loan disbursement(55.9%). child education (36%) was more important then Health & medicine (26.9%). whereas, the post erosion table shows that the cost for food (94.6%) is more among respondents followed

Table 1. Distribution of respondents by age.

Age group	Frequency (n)	Percentage (%)
Up to 30 years	25	26.9
31 - 40 years	45	48.4
41 - 50 years	15	16.1
More than 50 years	8	8.6
Total	93	100.0

Table 2. Distribution of respondents by sex.

Sex	Frequency	Percent
Male	14	15.1
Female	79	84.9

Table 3. Distribution of respondent by marital status post erosion period.

	Frequency	Percent
Unmarried	21	22.6
Married	72	77.4
Total	93	100.0

Table 4. Education composition.

	Frequency	Percent
Class to Five	34	36.6
Class six to SSC	2	2.2
No education at all	57	61.3
Total	93	100.0

Table 5. Distribution of respondents by occupation.

Occupation	pre erosion	Post-erosion
Cultivating own land	1 (1.1)	
Housewife	80 (86.0)	21 (22.6)
Day labor	12 (12.9)	57 (61.4)
Rickshaw puller		3 (3.2)
Employed		8 (8.6)
Others		4 (4.3)
Total	93 (100.0)	93 (100.0)

Table 6. Distributions of respondents by money earn.

	pre erosion money earn	post erosion money earn
Within taka50	17(18.3%)	18(19.4%)
Between tk.50 to tk.100	42(45.2%)	34(36.6%)
Between tk.100 to tk.150	23(24.7%)	22(23.7%)
Between tk.150 to tk.300	6(6.5%)	10(10.8%)
Between tk.300 to tk.500	5(5.4%)	9(9.7%)

Table 7. Distribution of respondents by monthly family expenditure.

Items	Frequency	
	Pre	Post
Food cost	87.1%	94.6%
Health and medicine	26.9%	77.4%
Loan disbursement	55.9%	20.4%
Child education	36.6%	28.0%
Saving	24.7%	48.4%
Betel leaf and tea	49.5%	18.3%
Others	1.1%	0%

by health & medicine(77.4%). savings(48.4%) is more important than child education(28.0%).

The above post erosion physical problem Table 8 shows that the majority of respondents are sustained with Gynecological problem(n=70) followed by gastroenteritis (n=28) then PUD(n=24).

The above pre erosion Table 9shows that the respondents are more cordial (n=44) with their family followed by very cordial (n=34).whereas , the post erosion table shows the respondents are very cordial (n=66) with their family than followed by cordial(n=23).

The Table 10shows that the majority of respondents are lies within mild depression scale(n=10)followed by moderate depression(n=1).

The anxiety Table 11shows that majority of respondents are lies within profound scale(n=82) followed by moderate(n=4) & severe(n=4)

The belowTable 12 shows that the association b/w age & level of depression is mild depression is exist in every age group but more in age above 35 years(n=7) followed by up to 35 years(n=3).statistically it is not significant(p>0.05)

In Table 13 association between age & level of anxiety is Lower age respondents are more exposed to profound anxiety (n=25) followed by moderate anxiety(n=2).upto 34 yrs are more exposed on profound(n=25).about 89.1% are exposed among age group above 35 years. Statistically it was not significant(p>0.05)

The Association between education & level of Depression Table 14 shows that respondents who are tertiary educated are less exposed on depression (n=2) but illiterate are high on mild depression (n=6) followed by moderate depression (n=1) in primary educated respondents. Statistically it was not significant (p>0.05)

The Table 15 shows that respondents who are at the level of illiterate they are more exposed to profound

Table 8. Distribution of respondents by Physical problems.

Item	Frequency
Fever	19(20.4%)
Breathing	14(15.1%)
Diabetes	8(8.6%)
Heart problem	4(4.3%)
Gastroenteritis	28(30.1%)
Peptic Ulcer disease	24(25.8%)
Jaundice	4(4.3%)
Bad headache	15(16.1%)
Gynecological problem	70(75.3%)

Table 9. Distribution of respondents by Relation with family.

Items	Frequency	
	Pre	Post
Very cordial	34(36.6%)	66(71.0%)
Cordial	44(47.3%)	23(24.7%)
Neither Cordial nor hostile	12(12.9%)	4(4.3%)
hostile	2(2.2%)	
Very hostile	1(1.1%)	

Table 10. Distribution of respondents by depression.

	Frequency	Percent
no depression	82	88.2
mild depression	10	10.8
Moderate depression	1	1.1

Table 11. Distribution of respondents by anxiety.

	Frequency	Percent
mild	3	3.2
moderate	4	4.3
severe	4	4.3
profound	82	88.2

anxiety (n=51).statistically it was not significant. (p>0.05)

The Table 16 shows that majority of the respondents are lies within mild(n=7) depression whose family members are within 5 to 7 persons followed by 4 person in a family(n=3)

The Table 17 shows that majority of the respondents are lies within profound(n=40) scale of anxiety whose

family members are within 5 to 7 persons followed by 4 person in a family(n=34).

The Table 18shows number and percentages of respondents in the points of Depression scale (n=93).

In the Table 19number and percentages of distribution of respondents in each points of Anxiety scale (n=93).

Table 12. Association between Age & level of depression.

Age	Depression Category		
	no depression	mild	Moderate
Upto 34 yrs	25(86.2%)	3(10.3%)	1(3.4%)
Above 35 yrs	57(89.1%)	7(10.9%)	0(.0%)

Table 13. Association between Age & level of anxiety.

Age	Anxiety Category			
	mild	moderate	severe	Profound
Upto 34 yrs	1(3.4%)	2(6.9%)	1(3.4%)	25(86.2%)
Above 35 yrs	2(3.1%)	2(3.1%)	3(4.7%)	57(89.1%)

$X^2=0.756$. p=0.860

Table 14. Association between education & level of Depression.

Education	depression		
	no depression	mild	moderate
Class to Five	29(85.3%)	4(11.8%)	1(2.9%)
Class six to SSC	2(100.0%)	0(.0%)	0(.0%)
No education at all	51(89.5%)	6(10.5%)	0(.0%)

$X^2=2.060,$ P=0.725

Table 15. Association between education & level of Anxiety.

Education	Anxiety			
	mild	moderate	severe	Profound
Class to Five	1(2.9%)	2(5.9%)	2(5.9%)	29(85.3%)
Class six to SSC	0(.0%)	0(.0%)	0(.0%)	2(100.0%)
No education at all	2(3.5%)	2(3.5%)	2(3.5%)	51(89.5%)

X = 0.896 , P= o.989

Table 16. Association between family members & level of Depression.

Members	depression		
	no depression	mild	moderate
Upto 4 persons	38(90.5%)	3(7.1%)	1(2.4%)
From 5 to 7 persons	37(84.1%)	7(15.9%)	0(.0%)
8 persons & more	7(100.0%)	0(.0%)	0(.0%)

$X^2 = 3.783$, P =0.436

Table 17. Association between family members & level of anxiety.

members	Anxiety			
	Mild	moderate	severe	Profound
Upto 4 persons	2(4.8%)	1(2.4%)	4(9.5%)	35(83.3%)
From 5 to 7 persons	1(2.3%)	3(6.8%)	0(.0%)	40(90.9%)
8 persons & more	0(.0%)	0(.0%)	0(.0%)	7(100.0%)

$X^2 = 7.083$, P=0.313

Table 18. Distribution of respondents by scale of Depression.

	Not at all	a little bit	happen often	frequently	most frequently	Total
I feel repeated breathing	55.0(59.1)	10.0(10.8)	14.0(15.1)	6.0(6.5)	8.0(8.6)	93.0(100.0)
feel heaviness in chest	72.0(77.4)	6.0(6.5)	6.0(6.5)	5.0(5.4)	4.0(4.3)	93.0(100.0)
feel chest pain	67.0(72.0)	7.0(7.5)	10.0(10.8)	3.0(3.2)	6.0(6.5)	93.0(100.0)
burning sensation on palm & sole	57.0(61.3)	6.0(6.5)	15.0(16.1)	11.0(11.8)	4.0(4.3)	93.0(100.0)
tremor	63.0(67.7)		10.0(10.8)	15.0(16.1)	5.0(5.4)	93.0(100.0)
vertigo	63.0(67.7)	12.0(12.9)	7.0(7.5)	9.0(9.7)	2.0(2.2)	93.0(100.0)
headache	26.0(28.0)	18.0(19.4)	37.0(39.8)	9.0(9.7)	3.0(3.2)	93.0(100.0)
feel hot in head	29.0(31.2)	14.0(15.1)	29.0(31.2)	15.0(16.1)	6.0(6.5)	93.0(100.0)
feel thirsty	38.0(40.9)	4.0(4.3)	17.0(18.3)	27.0(29.0)	7.0(7.5)	93.0(100.0)
feel weak	20.0(21.5)	6.0(6.5)	25.0(26.9)	25.0(26.9)	17.0(18.3)	93.0(100.0)
indigestion	28.0(30.1)	5.0(5.4)	10.0(10.8)	35.0(37.6)	15.0(16.1)	93.0(100.0)
strong sweating	31.0(33.3)	10.0(10.8)	24.0(25.8)	15.0(16.1)	13.0(14.0)	93.0(100.0)
can't be comfort	54.0(58.1)	4.0(4.3)	11.0(11.8)	14.0(15.1)	10.0(10.8)	93.0(100.0)
feeling problem in talking in social program	53.0(57.0)	12.0(12.9)	12.0(12.9)	7.0(7.5)	9.0(9.7)	93.0(100.0)
repeated anxiety with same issue	11.0(11.8)	4.0(4.3)	11.0(11.8)	42.0(45.2)	25.0(26.9)	93.0(100.0)
something bad will happen	26.0(28.0)	4.0(4.3)	36.0(38.7)	14.0(15.1)	13.0(14.0)	93.0(100.0)
fear of loosingself control	38.0(40.9)	9.0(9.7)	19.0(20.4)	10.0(10.8)	17.0(18.3)	93.0(100.0)
can't be patience	16.0(17.2)	4.0(4.3)	16.0(17.2)	36.0(38.7)	21.0(22.6)	93.0(100.0)
lack of self confidence	19.0(20.4)	6.0(6.5)	31.0(33.3)	16.0(17.2)	21.0(22.6)	93.0(100.0)
fear of death	15.0(16.1)	3.0(3.2)	13.0(14.0)	13.0(14.0)	49.0(52.7)	93.0(100.0)

Table 19. Distribution of respondents by scale of Anxiety.

	Not at all	a little bit	happen often	frequently	most frequently	Total
I do feel unpleasant	8.0(8.6)	3.0(3.2)	18.0(19.4)	5.0(5.4)	59.0(63.4)	93.0(100.0)
I do often mood off	33.0(35.5)	8.0(8.6)	11.0(11.8)	11.0(11.8)	30.0(32.3)	93.0(100.0)
my future is dark	11.0(11.8)	7.0(7.5)	11.0(11.8)	38.0(40.9)	26.0(28.0)	93.0(100.0)
my situation would be worsen in future	17.0(18.3)	5.0(5.4)	12.0(12.9)	30.0(32.3)	29.0(31.2)	93.0(100.0)
my present life is very painful	44.0(47.3)	12.0(12.9)	30.0(32.3)	7.0(7.5)		93.0(100.0)
I don't find any joy & pain at all	10.0(10.8)	23.0(24.7)	15.0(16.1)	10.0(10.8)	35.0(37.6)	93.0(100.0)
I do feel myself very down	19.0(20.4)	19.0(20.4)	10.0(10.8)	14.0(15.1)	31.0(33.3)	93.0(100.0)
my trust on all subject is getting loss	12.0(12.9)	8.0(8.6)	8.0(8.6)	38.0(40.9)	27.0(29.0)	93.0(100.0)
I do feel people take care of mine	15.0(16.1)	8.0(8.6)	6.0(6.5)	9.0(9.7)	55.0(59.1)	93.0(100.0)
now I could not think even	15.0(16.1)	4.0(4.3)	11.0(11.8)	16.0(17.2)	47.0(50.5)	93.0(100.0)
I do cry often and on	10.0(10.8)	8.0(8.6)	34.0(36.6)	10.0(10.8)	31.0(33.3)	93.0(100.0)
now I could not pay attention even	16.0(17.2)	9.0(9.7)	16.0(17.2)	15.0(16.1)	37.0(39.8)	93.0(100.0)
I do not find any meaning in life	13.0(14.0)	7.0(7.5)	24.0(25.8)	16.0(17.2)	33.0(35.5)	93.0(100.0)
I get tired very soon	7.0(7.5)	4.0(4.3)	7.0(7.5)	37.0(39.8)	38.0(40.9)	93.0(100.0)
my mood is always in temper	23.0(24.7)	11.0(11.8)	4.0(4.3)	23.0(24.7)	32.0(34.4)	93.0(100.0)
my spirit of work is getting loss	18.0(19.4)	10.0(10.8)	9.0(9.7)	33.0(35.5)	23.0(24.7)	93.0(100.0)
I have forget how to laugh	27.0(29.0)	30.0(32.3)	6.0(6.5)	9.0(9.7)	21.0(22.6)	93.0(100.0)
I do not find interest on sex	22.0(23.7)	3.0(3.2)	12.0(12.9)	46.0(49.5)	10.0(10.8)	93.0(100.0)
I do not pay attention on social work	18.0(19.4)	11.0(11.8)	20.0(21.5)	20.0(21.5)	24.0(25.8)	93.0(100.0)
cannot work like previously	2.0(2.2)	37.0(39.8)	16.0(17.2)	19.0(20.4)	19.0(20.4)	93.0(100.0)

Discussion

The present cross-sectional study on health status & psycho-social stress of the environmental migrant people of Bangladesh, conducted in the Kalkini rehabilitation of household affected by river erosion in Ramgoti upazilla, Laxmipur district in Bangladesh.

In this study in Table 1 shows about half of the respondents were in the age group of 31 to 40 year. In Table 2 it shows ratio of male and female was 1:5. This male female ratio was such as during data collection most of the male household heads were out of home due to their occupation.

In Tables 4-7 it is observes that all of the study respondents were Muslim by religion and married. By education among the respondents, more than sixty percent were found having no formal education followed by about one third with primary level of education. The people of char areas are very poor. They used to employ their children in income earnings rather than sending them to school. Provision for the students to receive financial support or any subsidized food during the seasonal crisis of food would resist seasonal dropout from the schools. Among the study population more than sixty percent were day labor followed by about one-fourth was housewife. Whilst, it was reported by the respondents that before displacement more than eighty five percent were housewives and rest were day labor. It seems that before erosion most of the households were solvent but after displacement all the family members irrespective of sex have to work for livelihood. Though there is another reason that in rural area in Bangladesh females are restricted to do any sorts of occupation due to Purdah system [16]. One BRAC reported, women in the coastal areas are too conservative to work outside of their homestead for income earning. All sample members mentioned that they did not go too far of their homestead for economic activities, because it affected other responsibilities to the family, which they were bound to do [7]. The members take help from their husbands and children to sell their own product at market. They even sell these sitting at home. Sometimes the wholesaler comes to pick the product from members' households. In a study on Natural disaster and depression: a prospective investigation of reactions to the 1993 Midwest floods found that increases in symptoms as a function of flood impact were slightly greater among respondents with the lowest incomes and among residents living in small rural communities, as opposed to on farms or in cities[12]. By expenditure it was found that after food cost, before displacement respondents gave the importance on Loan disbursement followed by child education, health and savings while after displacement it changed to chronologically health, saving and child education. It might be due to the permanent job resource insecurity and considering future job opportunity. Loan is primarily used in household economic activities. Many respondents reported that their husbands or any adult male member of the household used the loan on their own business, because they were the breadwinners of the family. They informed that women in this area were not involved in a large-scale income generating activities, which needs large cash investment. Consequently, the ownership and control over loan turn into the male members. Men even pay the weekly installment of the loan with a few exceptions. Members of female headed households use loans in their own activities; accordingly they pay the installments [17,18].

The current study tried to explore in Tables 8 and 9, the health status of the participants. It was reported that about seventy percent of female respondents are suffering from Gynecological problem followed by one fourth are suffering from gastroenteritis and rest are suffering from PUD. Among the other diseases heart problems, diabetes, respiratory problems, abdominal pain and Rheumatoid Arthritis were also reported. A review of articles on the Relationship between Psychosocial Stress and Chronic Disease for Indigenous and African American People indicates that a range of poor health outcomes were associated with stress for Indigenous peoples and/or African Americans, including psychological distress, depression, anxiety, suicidal ideation and reduced self-esteem, hypertension, reduced immune function, diabetes, hyperglycemia, heart disease, cholesterol levels and artery thickness, pre-term birth, drug misuse, and cigarette smoking [19].

The current study shows in Tables 10-17, eighty percent of the displaced people exhibited single/multiple type of psychological problems. In this study almost eighty percent of the respondents were found suffering from anxiety. The depression table reveals the one-tenth of displaced people are suffering from mild depression. In a study, found that The Mexican immigrant farm workers who experience elevated levels of acculturative stress may be "at risk" for experiencing high levels of anxiety and depression. The findings highlight the importance of establishing prevention and treatment services for migrant farm workers that aim to increase levels of emotional support, self-esteem and coping skills[14]. In this study almost eighty percent of the respondents were found suffering from anxiety. Among them only one-tenth are suffering from mild depression.In a study Natural disaster and depression found that the disaster led to true but small rises in depressive symptoms and diagnoses 60-90 days post-flood. The disaster-psychopathology effect was not moderated by pre-disaster depressive symptoms or diagnostically defined depression; rather, pre-disaster symptoms and diagnoses uniquely contributed to increases in post-disaster distress[20,21].

During the study the association between age & level of depression in Table 12, is found that mild depression is exist in every age group but more in age above 35 years(older age group) followed by up to 35 years(middle age group). Statistically it is not significant ($p > 0.05$). In a study conducted among Mexican migrants in America, the participants were mostly between 18 and 25 years having the greatest risk of experiencing a depressive disorder nearly four and one-half times greater than their same-age Mexican peers who do not immigrate[23].

Besides, in Table 13 it shows association between age and level of anxiety after the displacement is, middle age group respondents are more exposed to profound anxiety followed by moderate anxiety. About ninety percent are found in the middle aged group (above 35 years) and about eighty percent of young age (up to 34 yrs) is more exposed on profound anxiety. Statistically it was not significant (p>0.05)

The study among the respondents after the displacement found that the association between education & level of Depression in Table 14 shows that the displaced people who are tertiary educated are less exposed on depression but illiterate are high on mild depression followed by moderate depression in primary educated respondents. Statistically it was not significant (p>0.05).

In the current study there is also an association between the education and level of anxiety found in Table15, among the displaced people that is, about half of the illiterate respondents they are more exposed to profound anxiety. Statistically it was not significant(p>0.05).

In another study by two researchers at the University of Mississippi Medical Center, they surveyed approximately 80 patients at an outpatient clinic in Jackson, Mississippi before and after the hurricane Katrina. Most of the patients were suffering from depression or some kind of anxiety disorder, including PTSD [24].

In Tables 18 and 19 it shows that, this study almost eighty percent of the displaced were found suffering from anxiety and one-tenth of displaced people are suffering from mild depression. Among them one third earn 50 to 100 taka per day. Our findings about income differed significantly from study of the Bhopal disaster in India. But Shah reported that wealthy people were at greater risk than poor people for depression because they had lost more than poor people and were less accustomed to asking for help. Losses related to this disaster, as they are in any disaster, were relative in terms of the financial effect on each household, but they were still significant losses regardless of the victim's income [25].Simply because victims happened to be poor did not mean that asking for or receiving help was any easier for them. In short, participants with lower incomes had fewer resources and options to rectify their living situations than did affluent respondents .It were revealed that respondents of bigger family were found mostly with depression than smaller family. Same way anxiety was also found more among the respondents of profound anxiety of bigger family. Finally, majority of the displaced person do not want to go back to the villages where they were before.

Conclusion

The current study indicates that how the environmental migrants are suffering from various type of health problems as well as psychological problems due to natural disaster.Most of the female respondents (70%) of are sustained with Gynecological problem followed by one fourth are suffering from gastroenteritis and rest are suffering from PUD.The main causes of Gynecological & gastroenteritis health problems were found lack of safe water and unhygienic life style. Majority of the displaced people (80%) exhibited psychological problem. To respond properly to a disaster like river erosion or a tornado or recurrent devastating flood, the disaster mental health team should be aware of the socio-economic status, local culture, tradition, language & local live hood patterns. Integration of the team with the network of various government & non-government organizations is essential to essential to provide mental services effectively. Three factors socio economic factors are mostly contributed in sustaining depression & anxiety which are lower education, middle age group & more family members.

Recommendation

1. Study guides us that Females were found suffering more from health problem than males. Cause they are not aware about the sanitation and clean and safe environment also health education. So some measure should be taken to mitigate these problems.

2. Study guides us that less educated & illiterate people are more suffering from depression & anxiety, because they could not easily cope up with the changing place and environment. So, formal or non-formal both type of education are needed.

3. Post-traumatic counseling is needed for affected families.

4.\Rehabilitation program that includes live and livelihood support such as house reconstruction, livestock shelter, child education, water; agrarian etc program is extremely helpful to reduce posttraumatic psychiatric problems as well as health problems also.

5. Young and aged group are suffering more due to disaster. So, program should be taken differently for different age groups.

Conflicts of Interest

The authors have no conflict of interests in this study.

Acknowledgement

Data availability Statements

In accordance with the "DFG Guidelines on the Handling of Research Data", we will make all data

(digitalized electrophysiological recordings (IGOR wave metrics format); confocal images (a.o. TIFF format) available upon request. The data set will be archived for at least 10 years after publication.

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