



Mental stress of climate migrant's poor women living in slums of Dhaka city

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Abstract

The state of mental health among urban people is one of the global concerns. This problem (i.e. stress, depression, anxiety) in developing countries is highly prevalent, but the issues in this regard are not yet reasonably addressed, especially in the context of rapidly urbanizing megacities where a growing number of residents live in slums. Little is known about the situation of mental wellbeing of women in urban slums who are usually migrants from rural location. This research explores the state of the mental stress of migrant women in two urban slums of Dhaka city. In the recent years migrant women have increased in number with displacement by climate change. The study has found a significant difference between the mental stress statuses of climate migrant's single and married women in Dhaka slums. Researcher used Dhaka Stress Scale-Adult (DSS-A) to measure the contrast status of climate migrant women in Dhaka slums. Mental well-being is associated with physical well-being. This study provides vital information for developing better mental health care and prevention programs in slums of Dhaka and comparable worldwide.

Keywords: mental stress, mental health, climate migrant women, urban slum

Introduction

Bangladesh is an appropriate country to study as it has been experiencing a rapid increase in urban population over the last two decades. A large part of this population comes from rural areas either to seek economic opportunities, to escape consequences of natural disasters or both. At the same time, urban infrastructure in cities has struggled to keep up with this inflow (Dench, 2015) [4].

Bangladesh experienced faster urbanization than South Asia as a whole between 2000 and 2010. Over that period, the share of its population living in officially classified urban settlements increased by 1.69 percent a year (World Bank, 2014). Like many other developing countries, domestic migration to urban areas is a livelihood strategy in Bangladesh. According to the current trends, more than 50 percent of the population in Bangladesh will live in urban areas by the year 2025 (ESCAP, 2007). However, this has led to quality of life issues due to severe infrastructure and service deficiencies, lack of land administration, expansion of slums and social strife. For example, Dhaka, the largest and best performing city in Bangladesh, was ranked 139 out of 140 cities by the 2015 livability index of the Economist Intelligence Unit (Dench, 2015) [5].

In much of the developing world mental health constitutes a major public health challenge undermining the social and economic development. For example, According to one estimate, mental health disorders account for 13% of the global burden of disease (WHO, 2007) [19]. Mental health support infrastructure in Bangladesh, like many other developing countries, is inadequate by most accounts. According to a report by WHO in 2007, there was no mental health authority, no day treatment mental health facilities in the country, and only 31 community-based psychiatric inpatient units for a total of 0.58 beds per 100,000 population (WHO, 2007) [19].

Research evidence on mental health disorders in Bangladesh is also thin. The overall prevalence of mental disorders

varied from 6.5 to 31% among adults and from 13.4 to 22.9% among children (Hossain *et al.* 2015) [6]. As far as mental health disorders in urban areas is concerned, such disorders were worse in slum areas and were correlated with education and working status (Izutsu *et al.* (2015) [8].

Statement of the Problems

Mental health conditions are of rising concern as they increasingly contribute to the global burden of disease (WHO, 2004). Neuropsychiatric disorders (including depression, alcohol-and substance abuse, or psychoses) add to the so-called disability-adjusted life-years (DALYs). This contribution is further projected to increase worldwide, from 13.5% in 2005 to 14.4% in 2030 (Mathers *et al.*, 2006) [10], (Prince *et al.*, 2007) [12].

In low-income countries for example, depression has become almost as prevalent as malaria (3.2% versus 4% of the total disease burden) (WHO, 2010) and this number is projected to further increase to ~5% in 2030 (Mathers *et al.*, 2006) [10]. However, mental health issues tend to be overtaken by other health problems, especially in the rapidly urbanising megacities of developing countries, where a growing number of people are living in slums and unhealthy environments (UN-HABITAT, 2010) [15]. High levels of environmental pollution, lack of adequate water and sanitation, overcrowding, insecurity of tenure, and non-durability of housing could adversely affect the health of slum dwellers (Sclar *et al.*, 2005) [14], (Unger *et al.*, 2007) [13, 18], (UN-HABITAT, 2003) [16]. To date, little is known about the burden of disease in urban slums (Riley *et al.*, 2007) [13] and research on the mental well-being of slum residents is lacking (Izutsu, 2006) [8].

Dhaka, the capital of Bangladesh, is one of the fastest growing megacities in the world and in 2005, approximately 3.4 million out of the city's 12.6 million inhabitants were living in slums (CUS,2006) [3], (UN, 2010). Today, the city comprises approximately 14 million inhabitants (UN, 2010)

with more than 300,000 new migrants, mainly the rural poor, moving to Dhaka each year (Afsar, 2000) ^[1], (World Bank, 2007). As most of these new immigrants initially concentrate in slums (Angeles, 2009) ^[2], (Islam, 2005) ^[2], Dhaka's population growth led to an increase in the proportion of slum dwellers from 20% in 1996 to 37% in 2005 (CUS, 2006) ^[3], which presents a daunting challenge for local health authorities (CUS, 2006) ^[3], (Khan, 2008) ^[9]. The lack of data on the burden of disease morbidity and mental health status in slums hampers the efficient allocation of health care initiatives and the provision of appropriate disease prevention services (Riley *et al*, 2007) ^[18]. Given that psychological well-being is associated with physiological well-being (Prince *et al*, 2007) ^[12], assessing the factors that describe the mental well-being of poor populations residing in urban slums is urgently needed. This research represents the measurement of mental stress status of climate migrant urban poor women slum dwellers in Dhaka city and has assumed that the mental well-being of women slum dwellers is associated with the social and physical environment even controlling for the impact personal factors such as place and reason of migration, age, gender and diseases.

Objectives of the study

The broad objective of this research is to find out the present mental stress condition of climate migrant urban poor women slum dwellers in Dhaka city.

The specific objectives of this study are:

1. To find out the major factors to increase mental stress.
2. To measure the comparative mental stress condition of married and unmarried climate migrant urban poor women slum dwellers.
3. To recommend some policies to ensure the healthy mental life for climate migrant urban poor women slum dwellers.

Rationale of the Study

This study represents the measurement of mental stress status of climate migrant urban poor women slum dwellers in Dhaka city in Bangladesh context. Furthermore, these are some rationales which cannot ignore:

- This study will be more useful for academic purpose in worldwide.
- This research will be helpful for taking preventive measurement against climate migrant women stress.
- This study will be helpful for any of the family member to safe their women from mental stress.
- The policy makers of Bangladesh may be benefited from this study for developing policy against mental stress among climate migrant women.

Literature Review

Recently, a few studies have examined the linkages between climate change, migration, and gender using empirical evidence. Besides empirically supporting the theories, these studies are also methodologically relevant.

Susanta Kumar Padhy, Sidharth Sarkar, Mahima Panigrahi, and Surender Paul (2015) ^[11] in the study, Mental health effects of climate change, reported that climate change is a global challenge which is likely to affect the mankind in substantial ways. Not only climate change is expected to affect physical health, it is also likely to affect mental health. Increasing ambient temperatures is likely to increase

rates of aggression and violent suicides, while prolonged droughts due to climate change can lead to more number of farmer suicides. Droughts otherwise can lead to impaired mental health and stress. Increased frequency of disasters with climate change can lead to posttraumatic stress disorder, adjustment disorder, and depression. Changes in climate and global warming may require population to migrate, which can lead to acculturation stress. It can also lead to increased rates of physical illnesses, which secondarily would be associated with psychological distress. The possible effects of mitigation measures on mental health are also discussed. The paper concludes with a discussion of what can and should be done to tackle the expected mental health issues consequent to climate change (Padhy *et al*, 2015) ^[11].

In another study, Mental health in the slums of Dhaka - a geoepidemiological study, (2012) by Oliver Gruebner, M Mobarak H Khan, Sven Lautenbach, Daniel Müller, Alexander Krämer, Tobia Lakes and Patrick Hostert was using a geo-epidemiological approach, the present study identified factors that contribute to the mental well-being in the slums of Dhaka, which currently accommodates an estimated population of more than 14 million, including 3.4 million slum dwellers. The baseline data of a cohort study conducted in early 2009 in nine slums of Dhaka were used. Data were collected from 1,938 adults (≥ 15 years). All respondents were geographically marked based on their households using global positioning systems (GPS). Very high-resolution land cover information was processed in a Geographic Information System (GIS) to obtain additional exposure information. We used a factor analysis to reduce the socio-physical explanatory variables to a fewer set of uncorrelated linear combinations of variables. In the study then regressed these factors on the WHO-5 Well-being Index that was used as a proxy for self-rated mental well-being. Mental well-being was significantly associated with various factors such as selected features of the natural environment, flood risk, sanitation, housing quality, sufficiency and durability. We further identified associations with population density, job satisfaction, and income generation while controlling for individual factors such as age, gender, and diseases (Gruebner *et al*, 2012) ^[5].

The study of Daniel Dench, Mental Health Effects of Internal Migration – Evidence from Urban Bangladesh, in 2015 represented the impact of internal migration on the mental health of migrant population in six urban areas in Bangladesh. Specifically, in this study try to empirically test the social theories of selection and stress by looking at the link between the migrants' overall mental health status including suicidal thoughts, and migration status and history. Significant differences exist between men and women's socio-economic and migration behavior including motives for migration. This confirms previous research that gender plays an important role in understanding the link between social factors and mental health outcomes. Additionally, this research test theories on the effects of migration duration. To mitigate the problem of migrant selection, this study exploited migration motivation comparing cases of voluntary migration with quasi-voluntary migration (Dench, 2015) ^[5].

Most of the writers give importance on climate change, women and migration problems and show how the problems affected the lives of the people. For this perspective, this paper studies on particularly represents the contrast of

mental stress status of climate migrant women slum dwellers in Dhaka slums. This study also signifies that mental well-being is associated with physical well being in living condition, its implications for life security and focusing planned migration of displaced people as one of the adaptation measures of climate change can reduce vulnerability of the poor.

Methodology of the Study

The research methods are described under following sub-heads

a) Research Design and Approach

The paper adopted Dhaka Stress Scale- Adult has been conducted in Bangladesh carried out from December 2018 and March 2019. A quantitative data analysis technique has used to analyze mental stress status of climate migrant urban poor women in Dhaka, Bangladesh.

b) Area of the Study

Two slums of Dhaka city where women migrated for climate change has been selected as research area. Data has been collected from the Jilpar slum, Shahjadpur and Korail slum, Mohakhali area of Dhaka. These two areas have been selected because of convenient of the researcher. The target groups of the respondents were the lower class married and unmarried women who were migrated from their home land to Dhaka city because of any kinds of climate effects.

c) Sampling and sample size

The researcher divided the respondents into two categories. The first category is married climate migrant women (18-45 years) slum dwellers. Another one is single climate migrant women (18-23 years) slum dwellers in Dhaka city belong the second category. Researcher have been collected the primary data from both categories. A random sampling technique was adopted to collect data from both climate migrant unmarried and married women slum dwellers but their willingness to provide information has been taken into consideration. The sample size is 60 (30 respondents from climate migrant married women + 30 respondents from climate migrant unmarried women = 60 respondents).

d) Data Collection Techniques

Dhaka Stress Scale- Adult (DSS-A) has been used for collecting data and also measuring the contrast status of climate migrant women in Dhaka slums.

This study used Dhaka Stress Scale- Adult (DSS-A), (A New Scale for Assessing Psychological Stressors among adults in Bangladesh) established by Professor. Mohammad S I Mullick, Department of Psychiatry, Bangladesh Sheikh Mujib Medical University, Dhaka, Bangladesh, for measuring mental stress among climate migrant older women in Dhaka city.

This research has been conducted with both categories of the respondents as well as key informants at certain points of the migration routes of climate migrants. KII (Key Informant Interview) has been used to collect information about respondents from their family members and neighbors.

e) Tools and Techniques for Data Analysis

Collected data processed with the help of Excel (2016 version) and the data has been measured with numerical

value against each item of the variable factors given by the fixed point of Dhaka Stress Scale- Adult (DSS-A).

The researcher has used 58 factors variables from Dhaka Stress Scale- Adult (DSS-A) as the determinants for measurement of mental stress. The researcher has run a factor analysis to determine most important factor that combined from 58 variables. After that the researcher has run comparative analysis and has been found significant difference between the mental health statuses of climate migrant’s single and married women’s socio economic and migration behavior including motives for migration.

Ethical consideration

An appropriate ethical guide line (Miles and Hubberman, 1996) will be followed for my study. A consents from will be send to the participant and permission will be taken from the approved authority to conduct the study. The aim and purpose of the study were explained with the participants and then different questions were asked to them on the basis of that they expressed their response and comments. All the participants were given assurance of confidentiality before conducting interview. The interview was conducted with privacy as much as possible. Alongside these, the study also tries to level best to show respect to all the participants in the same manner and maintain local norms, values and believes in all respect.

In the part of building conceptual framework through the using of literature review and secondary source of data in this research there are some limitations in terms of ethical consideration. I did not able to get permission from the main author for using his or her book and works as a reference but I have tried to give proper credit by using citation of their name through APA style of referencing.

Dimension of Mental Health

Mental Health is determined by some of specific dimensions like as social, spiritual, emotional, occupational and environmental, which we could not ignored in our life. In this study researcher does not give emphasize on the specific dimension of mental health because this research only represent the measurement of mental stress status of climate migrant urban poor women slum dwellers in Dhaka city using Dhaka Stress Scale- Adult (DSS-A) established by Professor. Mohammad SI Mullick.

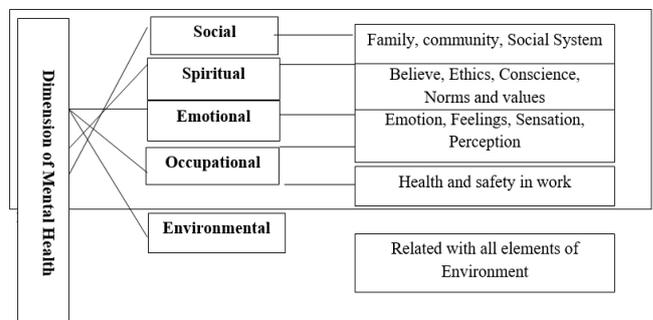


Fig 1: Dimension of Mental Health (Adapted from Prof. Md. Atiqur Rahman, 2003)

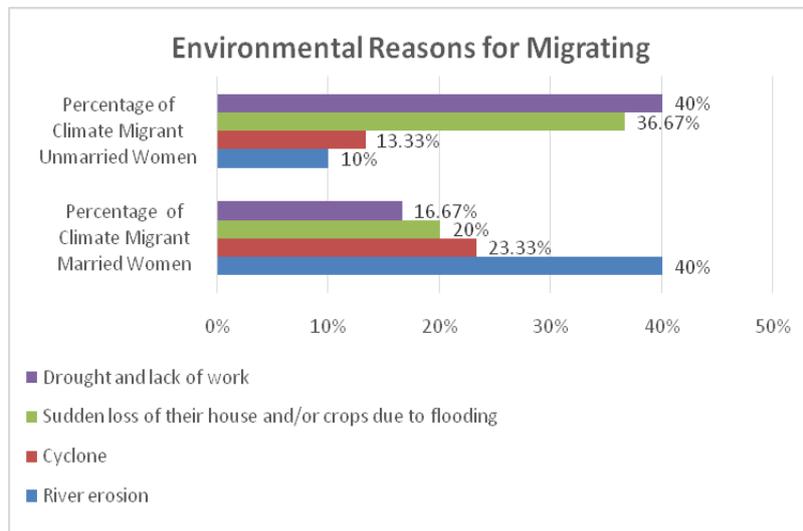
Analysis and Result

The results description have been made with obtained data and presented that with tables, charts, diagrams and by other formats.

Table 1: Stated Environmental Reasons for Migrating (through KII)

Environmental Reasons for Migrating	Frequency of Climate Migrant Married Women	Percentage of Climate Migrant Married Women	Frequency of Climate Migrant Unmarried Women	Percentage of Climate Migrant Unmarried Women
River erosion	12	40%	3	10%
Cyclone	7	23.33%	4	13.33%
Sudden loss of their house and/or crops due to flood	6	20%	11	36.67%
Drought and lack of work	5	16.67%	12	40%
Total	30	100%	30	100%

Source: field survey, 2019



Source: field survey, 2019

Fig 1

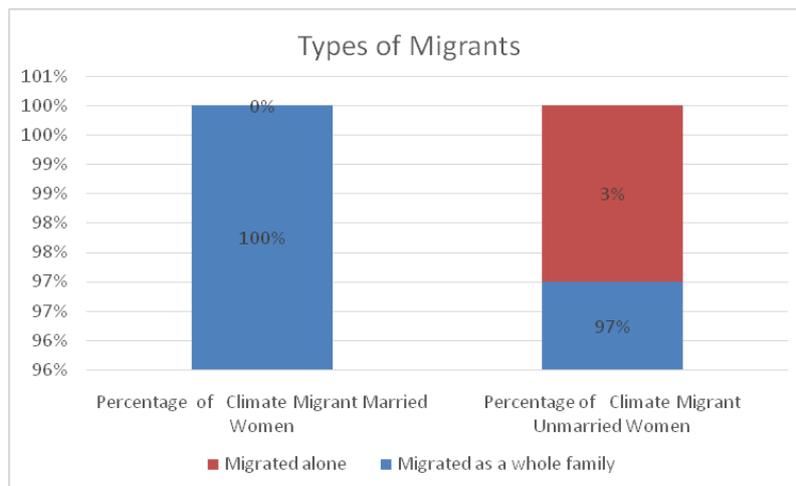
During the study it has been seen that maximum married respondents migrated because of river erosion then cyclone.

However, highest unmarried climate women migrated because of draught then flood and cyclone.

Table 1: Stated Types of Migrants (through KII)

Types of Migrants	Frequency of Climate Migrant Married Women	Percentage of Climate Migrant Married Women	Frequency of Climate Migrant Unmarried Women	Percentage of Climate Migrant Unmarried Women
Migrated as a whole family	30	100%	29	97%
Migrated alone	0	0%	1	3%
Total	30	100%	30	100%

Source: field survey, 2019



Source: field survey, 2019

Fig 2

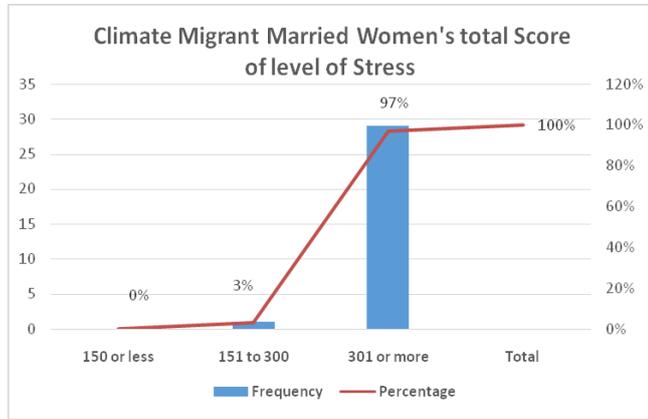
All of the married women respondents migrated with their family members. Besides, major portion (97%) of climate

migrant unmarried women migrated as a whole family.

Table 1: Frequency distribution of the repondents (Climate Migrant Married Women) according to the total Score of level of Stress (through DSS-A)

Total Score of level of Stress	Level of Stress	Frequency	Percentage
150 or less	Mild level of Stress	0	0%
151 to 300	Moderate level of Stress	1	3%
301 or more	Severe level of Stress	29	97%
Total		N=30	100%

Source: field survey, 2019



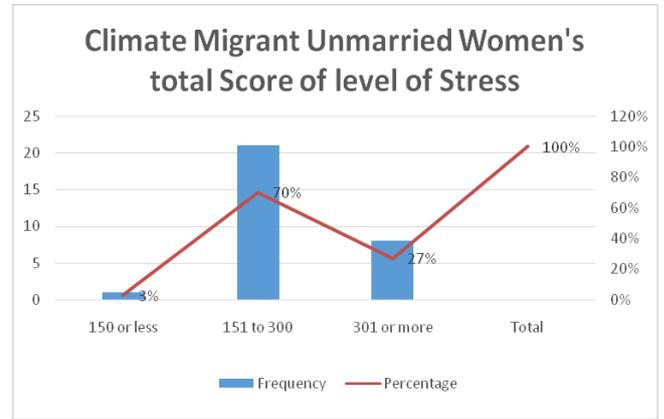
Source: field survey, 2019

Fig 1

Table 2: Frequency distribution of the repondents (Climate Migrant Unmarried Women) according to the total Score of level of Stress (through DSS-A)

Total Score of level of Stress	Level of Stress	Frequency	Percentage
150 or less	Mild level of Stress	1	3%
151 to 300	Moderate level of Stress	21	70%
301 or more	Severe level of Stress	8	27%
Total		N=30	100%

Source: field survey, 2019



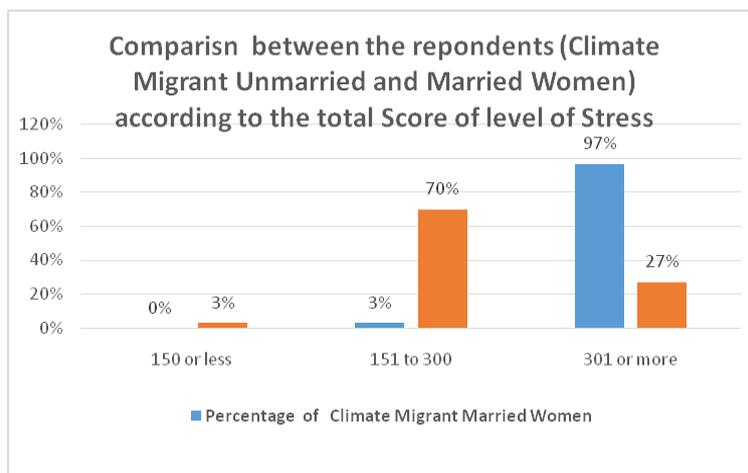
Source: field survey, 2019

Fig 2

Table 3: Frequency distribution of comparison between the respondents (Climate Migrant Unmarried and Married Women) according to the total Score of level of Stress (through DSS-A)

Total Score of level of Stress	Level of Stress	Percentage of Climate Migrant Married Women	Percentage of Climate Migrant Unmarried Women
150 or less	Mild level of Stress	0%	3%
151 to 300	Moderate level of Stress	3%	70%
301 or more	Severe level of Stress	97%	27%
Total		100%	100%

Source: field survey, 2019

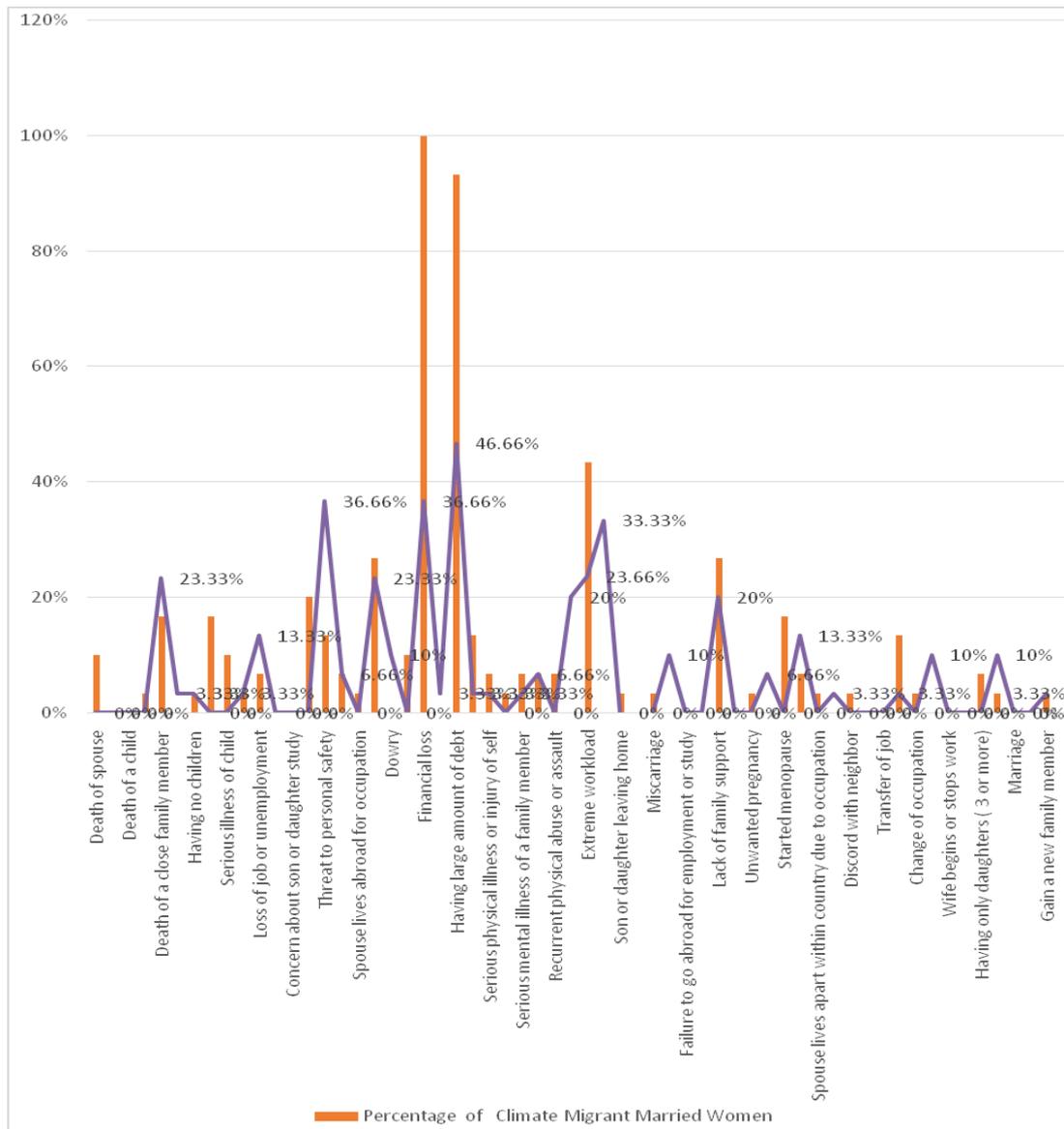


Source: field survey, 2019

Fig 3

According to survey data (by using DSS-A), 97% of the total score of respondents (married climate migrant women) was more than 301 or more. It means they have severe level

of stress. Whereas, only 27% of respondents (unmarried climate migrant women) have severe level of stress.



Source: field survey, 2019

Fig 4: Frequency distribution of the repondents (Climate Migrant Married Women) according to the factors to increase mental stress (through DSS-A)

Collected data processed with the help of Excel and the data have been measured with numerical value against each item of the instrument by Dhaka Stress Scale- Adult (DSS-A) ranging from 58 variables.

In the summary, the result of the MODE of the climate migrant married women analysis shows that major portion of the respondents collapsed with financial loss and having large amount of debt. However, there have not any specific MODE results of climate migrant unmarried women.

In addition, during the study it has been seen that death of spouse, death of a close family member, extreme job dissatisfaction, serious physical illness of a family members, financial loss, having large amount of debt, loss of any major organ or major surgery, extreme workload, lack of family support, having only daughters (3 or more) having the frequent factor for climate migrant married women of increasing mental stress.

On the other hand, from the study, it has been found that death of a close family member, loss of job or unemployment, threat to personal safety, serious physical

illness of a family members, financial loss, having large amount of debt, broken affair, broken engagement, lack of family support, lack of recreation, change in residence having the frequent factor for climate migrant unmarried women of increasing mental stress.

This means that identified factors are highly important and have significant influences on mental stress in climate migrant women of slum dwellers in Bangladesh. The researcher can see from the value of the total score of respondents of married and unmarried climate migrant women.

Discussion

Through this research the researcher tries to find out the relationship between level of mental stress and most important factors to determine significance level of the variables for climate migrant women of slum dwellers in Dhaka city. For this purpose, the researchers have been collected 60 samples from two slums of Dhaka in Bangladesh.

According to respondents opinion mental stress factors represents that

- Sometimes occurred serious physical illness of a family members because of living unhealthy environment but they do not give importance on it. Because of maximum respondents had financial loss and having large amount of debt. As a result, they cannot afford proper treatment. Physical illness of someone in a family helps to increase mental stress also for the both of married and unmarried climate migrant women.
- Early marriage is a common scenario in the slum areas of Dhaka city. But the measurement of mental stress level of same age, married and unmarried climate migrant women shown different score in total.
- Threat to personal safety is a vital factor for unmarried climate migrant women faced in slum areas. Besides, broken engagement occurs with unmarried women because their dowry. Unmarried climate migrant women family had financial loss and having large amount of debt. As a result, they are not capable to give such amount of money.
- The present study shows that extreme workload of maximum married climate migrant women. Because of maximum respondents had financial loss and having large amount of debt. But this extreme workload create some of them major surgery (remove uterus) which make them work less. This will create more financial loss for their family.

Limitations of the study

It was difficult to assess to get information sometimes because of giving respondents own suitable place and time. The sample of the respondent were found non co-operative and failed to adequately reveal the fact lying at times. On the other hand, only 60 respondents are not enough for representing the actual scenario of this study. Finally, they study will be more efficient to represent various aspect of community if I get enough time and money.

Recommendations and Conclusion

Decentralization of slum settlements to nearby cities can be considered. Internal migration within Bangladesh also requires more attention, with many migrants facing challenges due to the lack of services, resources and employment opportunities. Strategies that assist migrants, including education programmes, training and affordable accommodation will be required for an effective adaptation plan.

Sufferings of such people considering recent and future urban hazards need to be integrated during policy preparation. Supportive adaptation measures of climate change help to make planned migration of climate induce displacement. To relocate to safer areas for climate affected people.

GO and NGOs should take income generating activities and microcredit facilities for women in the climate affected areas. Local administration should take strong initiatives for women to avoid the events of physical abuse or assault and threat to personal safety other unexpected events during disasters and after migration. Policy makers should take argent plan for better mental health care and prevention programs in slum dwellers.

More and more research should be conducted to find out the coping and mitigation strategy and other relevant issues for the climate affected areas of Bangladesh.

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