

# Seropositivity, Sociodemographic Status and Risk Factors of HIV among Rohingya-Forcibly Displaced Myanmar Nationals and Their Accompanying Relatives

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## Abstract

**Introduction:** The increasing incidence of HIV worldwide are impending threats resulting in significant morbidity and mortality. Refugees like popularly known as Rohingya are a vulnerable group to transmitting diseases in Bangladesh as they come from a higher prevalent region. This study aimed to analyze the association of sociodemographic status and risk factors HIV seropositivity in the Rohingya-forcibly displaced Myanmar nationals (FDMN).

**Methods:** This cross-sectional observational study was conducted in the Department of Medicine, Surgery and Gynecology, Chittagong Medical College Hospital, Chattogram, Bangladesh, from May 2017 to January 2018. A total of 93 patients were selected as study subjects by purposive nonprobability sampling method. Data were collected in a preformed questionnaire. Different statistical analysis method was followed in this study. Data was analyzed using SPSS –IBM version 20.

**Result:** The majority of the patients (55, 59.1%) were in the 25-50 years age group. The median age was 29.50 years, a majority 81.0% of the patients were male, and the rest 19.0% were female. HIV screening was done in 93 patients and out of them only one person (1.07%) showed positive results. Regarding the presence of risk factors for getting HIV infection the most prevalent factors were H/O circumcision (85.0%) and ear pricking (7.5%). There was no statistically significant association between sociodemographic status and other variables with HIV seropositivity.

**Conclusion:** FDMN (Rohingya) are working in different regions of Bangladesh and some are getting married to Bangladeshi people, thus contributing to the disease spread. However, there was no statistically significant association between sociodemographic status and other variables with HIV seropositivity.

**Keywords:** Socio-demography, Seropositivity, Risk factor, HIV

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## I. Introduction

Myanmar, a neighboring country of Bangladesh increased its military presence in northern Rakhine State and justified the exercise as a fortification against Rohingya Muslims which resulted in forced relocation. [1] Due to the recent violence in August 2017 instigated the migration of 6,93,000 additional Rohingyas into

Bangladesh and as of June 2018, around one million Rohingya refugees were residing in Bangladesh. [2] The residents of refugee camps have a poor quality of life. Moreover, high illiteracy and unemployment rates in the district, are contributing to a growth of hostility towards the refugees, affecting the unregistered population in particular.[3] The HIV genome comprises of two identical single-stranded RNA molecules that are enclosed within the core of the virus particle. The genome of the HIV provirus is generated by the reverse transcription of the viral RNA genome into DNA, degradation of the RNA and integration of the double-stranded HIV DNA into the human genome. [4] Untreated HIV replication causes progressive CD4<sup>+</sup> T cell loss and an extensive range of immunological abnormalities, leading to an amplified risk of infectious and oncological difficulties. [5] According to UNAID the highest number of patients is reported from sub-Saharan Africa. Outside Africa, Asia is a potential breeding ground for an epidemic. There are several risk factors in the region favoring an epidemic of HIV, such as illiteracy, poor socio-economic status, poor sanitary system, inadequate health facilities, and social taboos on discussion of sex. [6] Close to a million of people has been infected and a half million people died of AIDS annually in Asia. Myanmar is facing a serious epidemic. The high HIV infection levels were found in the high-risk groups among them. [7,8] As people who live close to one another, they spread diseases more quickly and easily and slums are extremely vulnerable to infectious diseases. So, it is highly likely to have an increased incidence of infections like HIV in these refugee camps. Eastern and southern Africa is the most prevalent area accounting for about 19.4 million people with HIV and half (59%) of them are women and girls. Around 5.1 million people live with HIV in Asia and the Pacific. [9] study aimed to observe the association of sociodemographic status and risk factors of HIV seropositivity in the Rohingya population.

## **II. Objective**

### **General Objective**

- To analyze the association of sociodemographic status and risk factors with HIV seropositivity in the FDMN.

### **Specific Objectives**

- To see the age and gender distribution of the respondents.
- To observe the risk factors among the study subjects.

## **III. Methods**

This cross-sectional observational study was conducted in the Department of Medicine, Surgery and Gynecology, Chittagong Medical College Hospital (CMCH), Chattogram, Bangladesh, from May 2017 to January 2018. Rohingya patients and their accompanying relatives admitted to different departments of CMCH were considered as the study population. A total of 93 patients were selected as study subjects by purposive nonprobability sampling method as per inclusion and exclusion criteria.

### **Inclusion Criteria**

- FDMN (Rohingya) admitted to Chittagong Medical College Hospital and their accompanying Rohingya relatives.
- Patients who had given consent to participate in the study.

### **Exclusion Criteria**

- Relatives of Rohingya patients who are not Rohingya.
- Patients who did not give consent to participate in the study.

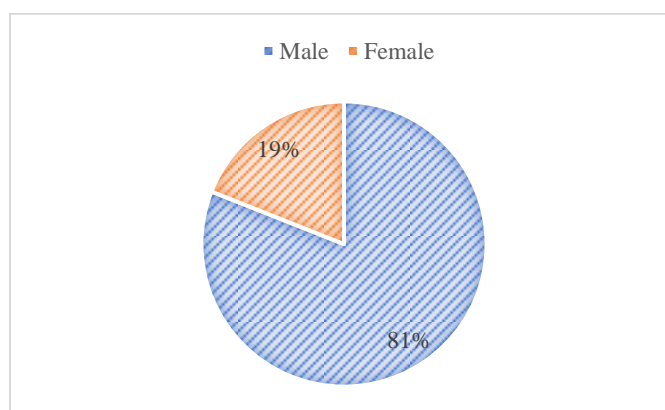
All necessary investigations were done. Data were mostly collected from the patients through face-to-face interviews and some from the laboratory reports of investigation, and then placed into a performed questionnaire. Data were processed and analyzed by using computer-based software SPSS- 20 (Statistical Package for Social Science) and Microsoft Office tools. Different methods were applied for data analysis. The p-value was considered statistically significant when it was less than 0.05. After analysis, the data were presented in tables and diagrams. Informed written consent was obtained from all study subjects. Ethical clearance was taken from the ethical committee of CMCH.

#### IV. Results

**Table 1:** Age distribution of the respondents (N=93)

Age (years)	n	%
<25 years	28	30.1
25-50 years	55	59.1
≥50 years	10	10.7

The majority of the patients (55, 59.1%) were in the 25-50 years of age group. The median age of the study subjects was 29.50 years (range 8-80 years) (Mean 33.1±14.83 years). [Table 1]



**Figure 1:** Gender distribution among the study subjects (N=93)

In this series, a majority 81.0% of the patients were male, and the rest 19.0% were female. [Figure 1]

**Table 2:** Socio-demographic and marital status of the study population (N=93)

Variables		n	%
Marital status	Unmarried	32	34.4
	Married	61	65.5
Occupation	Unemployed	4	4.3
	Cultivator	71	76.3
	Housewife	6	6.4
	Laborer	15	16.1
	Shopkeeper	3	3.2
	Retired	1	1.0

Concerning the socio-demographic and marital status, about 34.4% were unmarried and 65.5% were married. Most of the respondents were farmers (76.3%), followed by day laborer (16.1%) and housewife (6.4%). [Table 2]

**Table 3:** Prevalence of risk factors for infection among the study population (N=93)

Risk factors	n	%
Unsafe sexual exposure	3	3.22
Presence of tattoo mark	0	0.0
H/O IV drug abuse	0	0.0
H/O surgery	1	1.07
H/O circumcision	79	85.0
H/O ear pricking	7	7.5
H/O blood transfusion	2	2.15
Family history of the disease	1	1.07

Regarding the presence of risk factors for getting HIV infection the most prevalent factors were H/O circumcision (85.0%) and ear pricking (7.5%). Only 3.22% of patients had a history of unsafe sexual exposure, 2.15% had a history of blood transfusion. [Table 3]

**Table 4:** Association of sociodemographic and other variables with HIV seropositivity (N=93)

Variables		HIV seropositivity status				P value
		Seropositive		Seronegative		
Age group	<25 years	0	0.0	27	100.0	0.716*
	25-50 years	1	1.8	55	98.2	

	≥25 years	0	0.0	10	100.0	
Gender	Male	1	1.3	75	98.7	0.63*
	Female	0	0.0	17	100.0	
Marital status	Unmarried	0	00.0	25	100.0	1*
	Married	1	1.5	67	98.5	
Occupation	Unemployed	0	0.0	11	100.0	1*
	Farmer	0	0.0	12	100.0	
	Housewife	0	0.0	18	100.0	
	Labourer	1	1.5	47	97.9	
	Shopkeeper	0	0.0	2	100.0	
	Retired	0	0.0	2	100.0	
H/O sexual exposure	Yes	0	0.0	2	100.0	1*
	No	1	1.1	90	98.9	
Circumcision	Yes	1	1.3	75	98.7	1*
	No	0	0.0	17	100.0	
Ear prick	Yes	0	0.0	10	100.0	1*
	No	1	1.2	82	98.8	
H/O blood transfusion	Yes	0	0.0	1	100.0	1*
	No	1	1.1	91	98.9	
Family history	Yes	0	0.0	1	100.0	1*
	No	1	1.1	91	98.9	

\*Not significant by Fischer Exact test

In the present study, there was no statistically significant association between sociodemographic status and other variables with HIV seropositivity. [Table 4]

## V. Discussion

In Bangladesh HIV prevalence is <0.1% of adult population. [10] In Myanmar, 12 incident cases were detected among 279 clients receiving ≥2 tests (incidence = 10.1 per 100 person-years) [11] According to a study of Myanmar, of 642 PWID (People who inject drugs), 578 (90.0%) were tested for HIV, HBV and/or HCV. Overall, 404 (69.9%) were infected: 316 (78.2%) had one infection and the remainder had dual/triple infections. [12] So, this study analyzed the frequency of HIV seropositivity among the forcibly displaced Myanmar nationals (FDMN). The majority of the patients (55, 59.1%) were in the 25-50 years of age group in the present study. The median age of the study subjects was 29.50 years (range 8-80 years) (Mean 33.1±14.83 years). In this series, a majority 81.0% of the patients were male, and the rest 19.0% were female. Concerning the socio-demographic and marital status, about 34.4% were unmarried and 65.5% were married. Most of the respondents were farmers (76.3%), followed by day laborer (16.1%) and housewife (6.4%). Somewhat similar sociodemographic findings were seen in other studies. [13,14] Regarding the presence of risk factors for getting HIV infection the most prevalent factors were H/O circumcision (85.0%) and ear pricking (7.5%). Only 3.22% of patients had a history of unsafe sexual exposure, 2.15% had a history of blood transfusion. HIV screening was done in 93 patients and out of them only one person (1.07%) showed positive results in this series. In the present study, there was no statistically significant association between sociodemographic status and other variables with HIV seropositivity. A recent study conducted among the newly arrived refugees said that at least 62 Rohingya Refugees Have HIV/AIDS. It is estimated that at least 5,000 Rohingya, who have arrived in Bangladesh since August 25, 2017 are HIV-positive. [15] Potential risk factors include exposure to non-sterile injection equipment by non-qualified health-care practitioners or during injection drug use; exposure to contaminated personal care items (e.g., instruments during shaving at barber shops); circumcision by traditional practitioners; and cosmetic procedures (e.g., ear and nose piercing). Females are also at an increased risk of exposure resulting from injuries from gender-based violence, and unsafe obstetric and gynecological procedures. [16,17] Another study amongst 970 refugees from the Central African Republic living in Cameroon reported a prevalence of 7.7%; risk factors included age 20–39 years, self-employment, previous surgery, and multiple sex partners. [18] Similar results to the present study were also seen in the study of Uddin AM et al. and Mohd Hanapi IR et al. [19,20]

### Limitations of The Study

The study was conducted in a single hospital with a small sample size for a short duration. Therefore, it couldn't reveal the overall picture of the forcibly displaced Myanmar nationals (FDMN). The study would have been more generalized if it had been conducted in refugee camps.

## VI. Conclusion

forcibly displaced Myanmar nationals (FDMN) are working in different regions of Bangladesh and some are getting married to Bangladeshi people, thus contributing to the disease spread. However, there was no statistically significant association between sociodemographic status and other variables with HIV seropositivity.

## VII. Recommendation

The affected individual should undergo complete evaluation to guide the treatment which will help to decrease the morbidity and mortality. Proper education to enrich the knowledge regarding the disease spread, treatment, and complications will slow down the asymptomatic spread and help on a greater scale to reduce the disease burden. To get robust data, further studies should be conducted involving a large sample size and multiple centers in this context.

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**Conflict of interest:** None declared

**Ethical approval:** The study was approved by the Institutional Ethics Committee

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