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Exploring the Prevalence of Scabies Infestation among Madrasa Students in a Rural Area of Mymensingh District, Bangladesh

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Abstract

Scabies is a highly prevalent, neglected worldwide distributed disease of children as well as elderly population, attributed to overcrowding, low-socioeconomic status, close contact and lack of personal hygiene. A cross sectional, descriptive study was done among young madrasa students, in a rural area of Mymensingh district of Bangladesh, between July and October of 2022, to explore the prevalence of scabies. 178 students were enrolled in this study through purposive, random sampling method. Data were collected through direct interviewing of the respondents. Age of the participants ranged between 5 and 19 years with mean age 10.13±2.159 years; 10–14 years age group was predominate (52%). Female students (68%) were predominant over male students (32%). Male female ratio was 32:68. Primary level educated students were higher than the secondary level. 54% of the families of madrasa students were poor. A significant association ($p<0.001$) was revealed in between family status and scabies infestation. Literacy level of the father and the mother were found 55% and 57% respectively. Scabies cases were high among the students came from illiterate family. An association ($p<0.001$) revealed in between parents' education and scabies. Scabies is a common health problem, high prevalent among the Madrasha students, attributed with personal hygiene, overcrowding, low socioeconomic status of family, illiteracy of parents and sharing of utensils among themselves. A large number of students knew the mode of transmission of scabies and importance of daily bathing; however, a significant number (65%) respondents did not know the value of not sharing the utensils among themselves.

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Introduction

Scabies is a highly prevalent contagious ecto-parasitic skin disease. It is more prevalent among children as well as elderly people; the World Health Organization (WHO) listed it under neglected tropical disease (NTD). It is distributed all over the world, as WHO estimated more than 400 million people affected in every year. Scabies causes considerable morbidity leads to sever bacterial infections. Scabies is attributed to overcrowded, lower socio-economic community, close contact and poor personal hygienic people.[1,2] Madrasa education is an important system of the three education systems in Bangladesh. About 1.5 million children are accommodated in madrasa all over the country according to World Bank.[3] Scabies are prevalent in densely populated environments like resident schools and madrasas, where close contact facilitates transmission.[1,4,5] Moreover, we assume that madrasa students usually come from lower socioeconomic, rural area and family considerably having low literacy level who are usually unaware of

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scabies infestation. This is the reason for choosing the madrasha students as our study population. This study aims to explore the prevalence of scabies infestation among the rural madrasa students.

Methods

This cross sectional, descriptive study was done among young Madrasa students, in a rural area of Mymensingh district of Bangladesh, between July and October of 2022. A total of 178 students were enrolled in this study through purposive, random sampling method. After getting permission from the madrasa authority, data were collected by direct interviewing using a pre-tested, semi-structured questionnaire. The questionnaire as pre-tested among 40 madrasa students of another rural area in the same district. Knowledge and practice were assessed by score based on correct answer of the respondents.

Following data collection, data input was done. The collected data was assessed for completeness, accuracy, and consistency before analysis. Statistical analysis was carried out using Statistical Package for Social Sciences (SPSS) version 20.0 for windows. Data was expressed as frequency and percentage. Chi-square tests were done to the association between scabies and confounding factors. A p-value <0.05 was considered as statistically significant.

The study was approved by the Ethical Review Committee of Community Based Medical College, Bangladesh (CBMC,B), Mymensingh, Bangladesh.

Results

Of 178 students, the mean age of the students was 10.13±2.159 years; 52.25% belonged to the 10–14 years age group and 44.38% were in 5–9 years age group. 68% were girl students and 32% were boy students. 82.58% were in the primary education level and 17.42% were in secondary level. 53.9% families of madrasa students were poor and remaining 46.1% belonged to the middle class. 56% of the parents were literate and 73% were illiterate. (Table-I). Regarding prevalence of scabies, 56(31.5%) madrasa students were found affected. A significant association was found in between family's economic status and prevalence of scabies (p<0.001) (Table-II). (Table-III). 115(64.61%) students answered correctly about the mode of transmission of scabies, 176(98.88%) knew the importance of daily bathing, and 100(56.18)% knew the value of not sharing articles/utensils among themselves (Table-IV).

Table-I: Sociodemographic data of the madrasa students (n=178)

Variables	Frequency	Percentage
Age group		
5–9 years	79	44.38
10–14 years	93	52.25
15–19 years	6	3.37
Gender		
Male	57	32.0
Female	121	68.0
Education level		
Primary	147	82.58
Secondary	31	17.42
Economic status		
Poor	96	53.9
Middle class	82	46.1
Rich	-	-
Parents' education		
Literate	48	27.0
Illiterate	130	73.0

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Table-II: Association of economic status of the families and scabies

Family's economic status	Scabies present	Scabies absent	Total
Poor	40	56	96
Middle class	16	66	82
Total	56	122	178

Df=1, at 99% CI, Chi-value is 10.06; P<0.001.

Table-III: Association of parents' education status and scabies

Parents' educational status	Scabies present	Scabies absent	Total
Literate	20	110	130
Illiterate	36	12	48
Grant Total	56	122	178

Df=1, at 99% CI, Chi-value is 10.83; P<0.001.

Table-IV: Assessment of knowledge of the madrasa students (n=178)

Knowledge levels	Frequency (Percentage)	
	Correct	Incorrect
Mode of transmission of scabies	115 (64.61)	63 (35.39)
Importance of daily bathing	176 (98.88)	2 (1.12)
Importance of not sharing articles/utensils	100 (56.18)	78 (43.82)

Discussion

In our study, the age of madrasa students ranged between 5 and 16 years, which was similar age group of study conducted in Dhaka city, Bangladesh. In that study, the mean age was 10.13±2.159 years, which was almost similar to age distribution and mean age of the study (mean age was 11.2±2.4 years).[5] The majority of the students in our study were female. Male-female ratio was 32:68. Most of the students (82.58%) were in primary level education. The majority of students belonged to poor (54%) and middle class families (46%). 42 cases of scabies revealed among the students came from poor family. A significant association (p<0.001) found in families' economic status and scabies. More than 55% students came from illiterate parents. The majority of students (91.01%) shared beds among themselves in hostel residence. This is the usual scenario of madrasa hostel in Bangladesh and it was higher than the result observed in another study of our country.[5] In the present study, scabies infestation among madrasa students was 31.5%, which is higher than the findings (23%) of another study done an urban area of Bangladesh.[5] Two different Indians studies reported more or less similar findings (20% to 39%).[6,7] Likewise, another study done in Nepal reported similar prevalence of scabies (32%).[8] In contrast, two other studies done in a different urban area of Bangladesh and Pakistan, reported 61% and 57% prevalence of scabies respectively, which are nearly doubled of our findings.[9,10]

Considering risk factors of scabies, low socioeconomic condition, lack of personal hygiene, sharing articles and utensil, overcrowding which are similar to the risk factors reported in Iranian and Ethiopian studies.[2,11] More than 80% study population of this study have good knowledge about the importance of daily bathing and poor knowledge (less than 60%) about the transmission of scabies and importance of not sharing the articles and utensils.

Conclusion

Madrasa education is a popular education system in Bangladesh. One third of the students in the country study there. Scabies is an ectoparasitic infestation linked with personal cleanliness, overcrowding, and low socioeconomic status. Scabies infestation is among common health problems prevalent in student hostel; specially in madrasa. Madrasa students generally possess shallow knowledge about the causative agent, mode of transmission and prevention of scabies. Madrasa students usually come from poor socioeconomic family, low level of literacy of parents, live in crowded environment in madrasa and share articles/utensils. Addressing those risk factors, we should arrange health education programmes for raising awareness among those students. A large scale study can be conducted

to address the prevention of contagious disease like scabies.

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