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Knowledge and Attitude towards Polio among Muslim Community: A Correlative Study

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Abstract
The Malda district in the state of West Bengal is a poor, Muslim dominated backward district. In 2006 the Ministry of Panchayati Raj named Malda district as one of the country's 250 most backward districts. According to 2011 Census, the literacy rate of this district is 62.71%, less than National average of 74.04. By religion, it is Muslim dominated district with 52.05% believers of Islam, 46.97% Hindus and 0.98% Others. In this context, the present study was carried out in Malda district of West Bengal to find out the correlation, if any, between knowledge and attitude towards polio due to location variation and gender among Muslim community people in Malda district, West Bengal.
Purposive random sampling method was employed for data collection from Muslim community people of Malda district, West Bengal with the help of self-constructed tools for knowledge and attitude towards polio. A low and positive correlation was found between knowledge and attitude towards polio among the rural male Muslim community people. The magnitude of knowledge and attitude increases with the increase of educational status. Similar result was found in case of their female counterpart, but the change in the score value with the increase of educational status was not uniform, slight variation was noted. Urban male and female shows the same trend of low positive correlation with slight non-uniformity of increase in score value in case of former type of population.

Keywords: Knowledge, Attitude, Polio, Muslim community

1. Introduction
Polio or poliomyelitis disease is caused by a RNA virus known as polio virus. It is an infectious disease, usually spreads through mouth. Facially contaminated food, water, flies, contaminated swimming pool, etc., act as media to spread this disease. There are three types of polio virus; exposure to one type develops immunity to that type of virus only. The person still remains susceptible to be infected by other types of virus. Fortunately enough, not all exposure to the virus cause serious effect or disease. About 95% of the exposures do not cause the disease or any symptom. Although, the virus can attack anybody at any age, but results show that in more than 50% of cases the victims are children in the age group of three to five years. In small percentage of cases (about 4%) the exposure causes symptoms, such as flue like fever (abortive flue), non-paralytic aseptic meningitis, etc. The virus infection affects the human elementary tract and in very small percentage (less than one per cent) of cases it infects the central nervous system, causing varying degrees of paralysis and sometimes death.
The symptoms do not appear immediately after the exposure to the polio virus. It takes an 'incubation period' of three to thirty five days, for the symptoms to appear. In this period, the person can spread the disease. There is no successful treatment to polio disease. Prior vaccination is the only option to tackle this disease.
India has had a large number of polio cases. In 1999, there were 1126 reported cases of polio and 88% of those cases were confined to just 4 states (Uttar Pradesh, Bihar, Delhi and West Bengal) [Thaker, 2000] [12]. Even in 2011, the most dangerous and most infectious polio virus (P-3 type) was found in a child, in Panchla village of Howrah District, West Bengal. In the same village, one polio case was also reported in 2008 [Anonymous, 2011b and Anonymous, 2011c] [3, 4]. In 2009, a total of eight polio cases were reported in West Bengal; out of which seven cases were from Murshidabad district and one from Birbhum [Anonymous, 2011 b] [3].

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According to a report in The Telegraph, [Anonymous, 2011a] [2] around 1,200 children in Kaliachak-I block of Malda district have not been vaccinated against polio, though 10 camps were held to eradicate the disease. The families belonging to Muslim community believe that immunisation drops will lead to infertility.

At present, three countries in the world – namely Pakistan, Afghanistan and Nigeria are mainly harbouring the polio viruses. India's name was also there till WHO declared it polio free on26 Feb., 2012. These are either Muslim majority countries or have large number of Muslim population. In our country and also in our State mainly the Muslim dominated states or the districts having majority percentages of Muslim population recorded the largest number of polio cases. Whereas, results show that in Pakistan polio cases are declining faster and our neighbouring Bangladesh, another Muslim majority country has achieved polio-free status. This clearly indicates that religion is not in any way the hindrance towards Pulse Polio Immunization (PPI). Pakistan's Health Policy Forum President opined, - the major reason behind the presence of polio in the country is not shortage of funds and other resources but poor governance and health system [Wasif, 2011] [14].

The apparent success of checking polio disease in our country encountered a big blow when WHO, alarmed by the spread of polio to several fragile countries, declared a global health emergency on 5th May, 2014. The polio viruses from Pakistan, Syria and Cameroon have recently spread — to Afghanistan, Iraq and Equatorial Guinea, respectively. The WHO has declared red alert on polio in total ten countries; four other countries are Ethiopia, Israel, Nigeria and Somalia [McNeil, 2014 and Anonymous, 2014b] [10, 5]. On the other hand, there are many instances that polio, the highly infectious disease returned back after a long period of polio-free status [Basu, 2014] [7]. This was due to non-maintenance of continuous vaccination effort in those countries, which was a result of self-complacent human nature. According to this report, polio returned in China after a long period of 17 years. Bangladesh, which was declared polio free, but the disease reappeared there in 2006, after a gap of 5 years! [UNICEF, 2008] [13]

Suspicion and misconceptions are there among the people about the polio vaccine [Anonymous, 2011b]. [3] Which are directly linked to the knowledge and attitude possessed by the parents. People's decisions are guided by his/her attitude towards the subject. Attitude depends on knowledge the individual has access to. Muslim community being backward in our country possess less than average level of knowledge and attitude in general and regarding polio in particular. There is a need to study the correlation between knowledge and attitude towards polio. As the disease is more prevalent among the Muslim community, hence, the Muslim community people of Malda district, West Bengal was chosen for this study.

2. Objective of the study
The study was framed to explore into the knowledge and attitude on polio among Muslim community people in the rural and urban areas of Malda district of West Bengal. The following objectives were constructed for carrying out the investigations -

1. to find out the correlation, if any, between knowledge and attitude towards polio among rural male Muslim community people.
2. to find out whether there is any correlation between knowledge and attitude regarding polio among rural female Muslim community people.
3. to find out the correlation, if any, in knowledge and attitude regarding polio among urban male Muslim community people.
4. to find out the correlation, if any, in knowledge and attitude regarding polio among urban female Muslim community people.

3. Material and methods
3.1 Sample
Purposive random sampling method was employed for the present study. The sample for this study was 1240 Muslim community people of Malda district, West Bengal. The sample was grouped in accordance to their educational status (illiterate, primary educated, secondary educated and higher educated), gender (male and female) and locational variations (rural and urban). Illiterate: in the present study it denotes people who are unable to read and write. Primary educated: denotes up to class VIII pass. Secondary educated: denotes those having educational qualification up to class XII pass, and higher educated are those samples whose educational qualification is above class XII pass. Data collection was done in June - September 2013. The detail breakup of the sample is given in Figure 1 below -
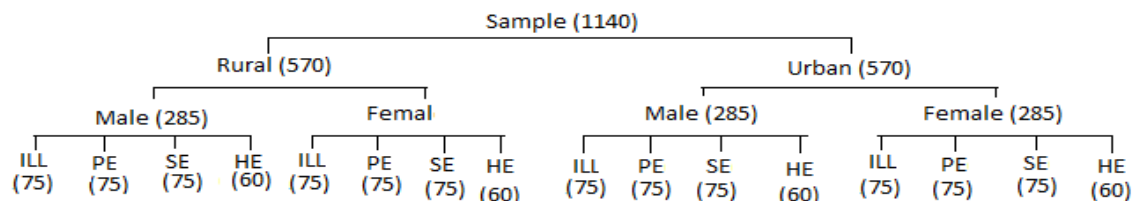

Fig 1: Schematic depiction of representation of the sample
ILL = Illiterate, PE = Primary Educated, SE = Secondary Educated, HE = Higher Educated

3.2 Tools
Self-constructed and standardized tools for knowledge and attitude were used for the present study. Both knowledge and attitude scale consisted of three point Likert type with each statement provided with three alternative responses viz. strongly agree (SA), partially agree (PA) and disagree (DA). The knowledge scale consisted of fifty two items covering ten dimensions (Education, Superstition, Prevention, Transmission, Location, Prognosis, Nutrition, Information, Socio-Economic Status and Recovery). There were twenty six favourable and twenty six unfavourable items in the final form of the knowledge scale. While constructing the attitude scale, a number of factors, like – area of habitation, gender, economic condition, literacy status, religion, etc. of the respondents were taken into consideration. Other factors such as, time, cost, manpower, method of scoring, other

resources, and other properties of attitude – like; direction, effectiveness in magnitude, intensity, cognitive complexity, ambivalence, salience, overtness, flexibility, etc., were also given due consideration. In the attitude scale, there were thirty one items (15 favourable and 16 unfavourable). The scale has good content validity. Its reliability was calculated by test-retest method and found to be of high value +0.96 on knowledge and +0.94 on attitude scale [Ali, 2014] [1].

The subjects were approached personally in their residential area and after establishing rapport, knowledge and attitude scale was administered one by one in a convenient groups of 20 people at a time. The scoring was done with the help of scoring key for the knowledge and attitude scale.

Analysis of the raw scores were done to make them meaningful and draw some useful results. Descriptive and correlation statistics were done using SPSS statistics (Version 17).

(a) *Correlation of knowledge and attitude towards polio among rural male Muslim community people*
In order to find out if knowledge and attitude score were in any way correlated, the four independent variables in accordance to educational status (viz. illiterate, primary educated, secondary educated and higher educated) were plotted against the dependent variables knowledge and attitude score in case of rural male people (independent variables gender and location variation).

4. Results

Table 1: Correlation between knowledge and attitude towards polio among different educational status group of rural male belonging to Muslim community

Variables		Illiterate		Primary educated		Secondary educated		Higher educated		Correlation Coefficient (r)	Remark
		Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.		
Knowledge score		110.64	6.94	112.25	7.81	115.88	8.70	122.70	10.12	0.32	Positively correlated
Attitude score		70.19	8.26	73.07	9.46	74.77	9.58	78.35	9.27		

The correlation coefficient was 0.32 (Table 1) which indicates low and positive correlation between the two variables - knowledge and attitude score. Figure 2 depicts the graphical representation of the relation between the two variables considered
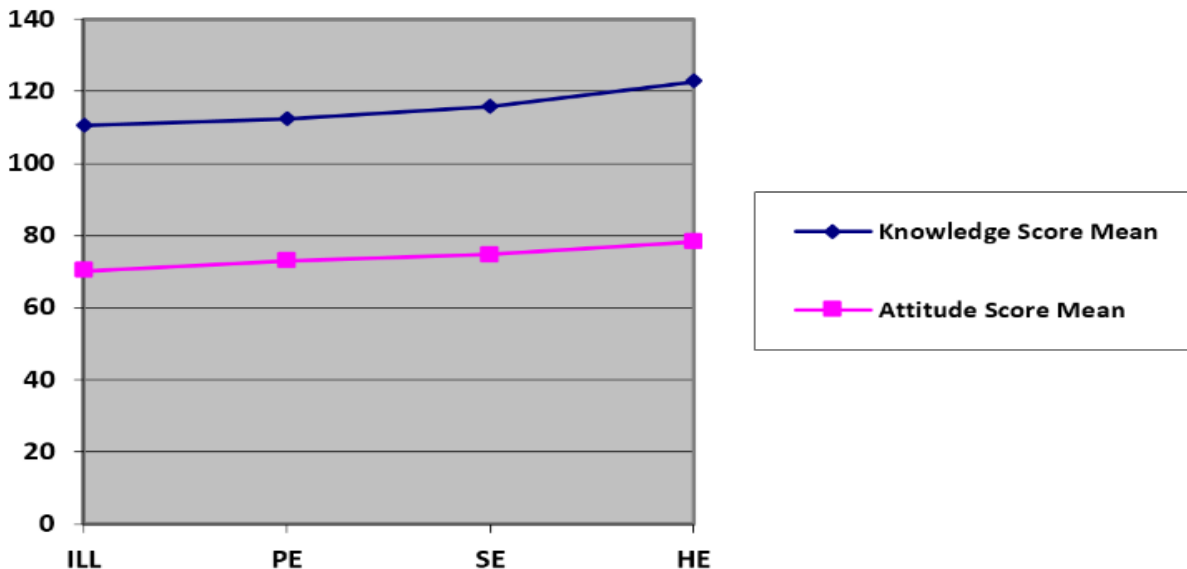

Fig 2: Knowledge and attitude score plotted against the four independent variables in accordance to literacy status (viz. illiterate, primary educated, secondary educated and higher educated) in case of rural male.

(b) Correlation between knowledge and attitude regarding polio among rural female Muslim community people
Similar attempt was made to find out if knowledge and attitude scores were in any way correlated here, the four independent variables in accordance to educational status (viz. illiterate, primary educated, secondary educated and higher educated) were plotted against the

Table 2: Correlation between knowledge and attitude towards polio among different educational status group of rural female belonging to Muslim community

Variables	Illiterate		Primary educated		Secondary educated		Higher educated		Correlation Coefficient (r)	Remark
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.		
Knowledge score	113.21	6.92	111.95	15.70	114.23	12.54	122.92	11.25	0.35	Positively correlated
Attitude score	70.16	8.12	76.08	8.09	74.64	7.71	84.13	8.54		

dependent variables knowledge and attitude score in case of rural female (independent variables: gender and location variation). The correlation coefficient was 0.35 (Table 2), which indicates low correlation between the two variables. Figure 3 depicts the graphical representation of the relation between the two variables considered.
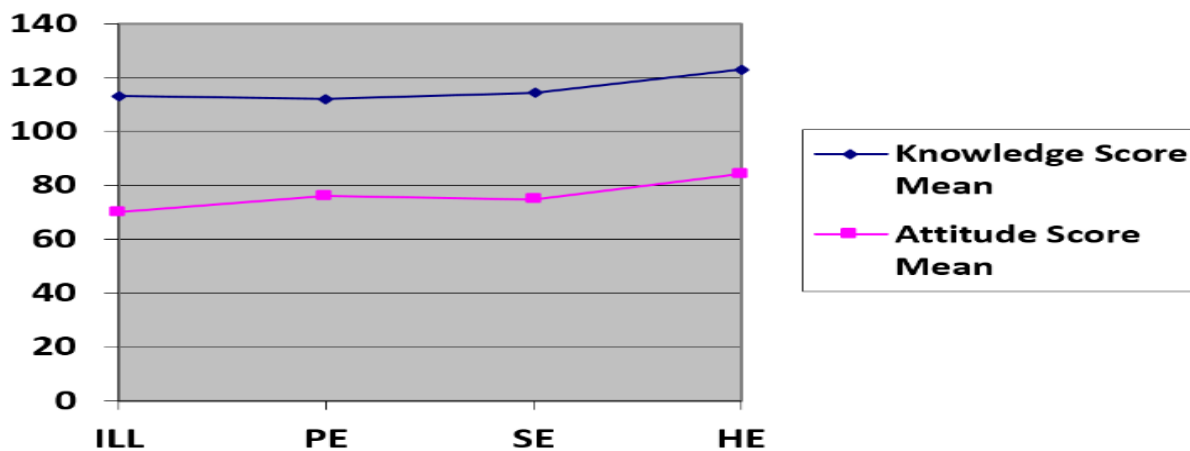

Fig 3: Knowledge and attitude scores plotted against the four independent variables in accordance to educational status (viz. illiterate, primary educated, secondary educated and higher educated) in case of rural female.

(c) *Correlation of knowledge and attitude towards polio among urban male Muslim community people*
To find out if knowledge and attitude scores were in any way correlated, the four independent variables in accordance to educational status (viz. illiterate, primary educated, secondary educated and higher educated) were plotted against the dependent variables knowledge and attitude score in case of urban male (independent variables: gender and location variation) Muslim community people. The correlation coefficient was 0.20 (Table 3) which indicates low correlation between the two variables. Figure 4 depicts the graphical representation of the relation between the two variables considered.

Table 3: Correlation between knowledge and attitude towards polio among different educational status groups of urban male Muslim community people

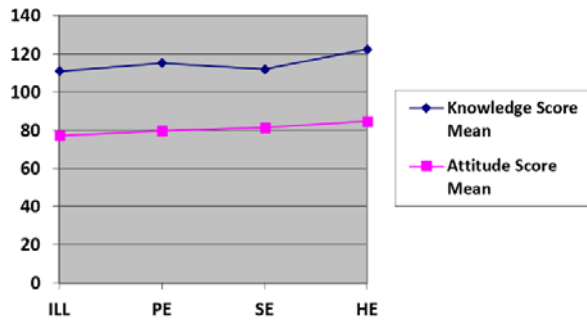| Variables	Illiterate		Primary educated		Secondary educated		Higher educated		Correlation Coefficient (r)	Remark
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.		
Knowledge score	110.81	7.32	115.17	8.21	111.92	5.94	122.43	9.39	0.20	Positively correlated
Attitude score	77.19	10.62	79.63	7.25	81.41	7.66	84.62	8.11		

Fig 4: Knowledge and attitude score plotted against the four independent variables in accordance to educational status (viz. illiterate, primary educated, secondary educated and higher educated) in case of urban male.

(c) *Correlation of knowledge and attitude towards polio among urban female Muslim community people*

In order to find out if knowledge and attitude score were in any way correlated, the four independent variables in accordance to educational status (viz. illiterate, primary educated, secondary educated and higher educated) were plotted against the dependent variables knowledge and attitude score in case of urban female (independent variables: gender and location variation). The correlation coefficient was 0.26 (Table 4), which indicates low correlation between the two variables. Figure 5 depicts the graphical representation of the relation between the two variables considered.

Table 4: Correlation of knowledge and attitude regarding polio among different educational status groups of urban female Muslim community people

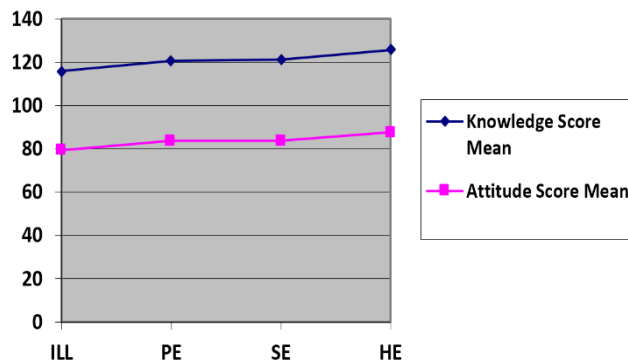| Variables		Illiterate		Primary educated		Secondary educated		Higher educated		Correlation Coefficient (r)	Remark
		Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.		
Knowledge score		115.89	9.71	120.6	7.26	121.17	8.81	125.75	8.37	0.26	Positively correlated
Attitude score		79.23	9.04	83.76	8.84	83.80	6.56	87.62	5.81		

Fig 5: Knowledge and attitude score plotted against the four independent variables in accordance to educational status (viz. illiterate, primary educated, secondary educated and higher educated) in case of urban.

5. Discussion

Generally knowledge guides man's action. It is not always true that the brain rules over the heart, as often experienced that in a myriad of the incidence it's the heart that triumphs over the brain. Knowledge if not translated into action is knowledge of no use. In all such contradiction it is necessary to determine which of the above phrases will be applicable to awareness about polio disease. Will expansion of knowledge uplift action through attitude? Or are these two attributes independent like two tributaries of a river, each following its own course independent of each other. Our quest to analyse and give direction to the problem led us to explore the possible correlation between knowledge and attitude, if any, regarding polio disease. For this the four independent variables in accordance to educational status (viz. illiterate, primary educated, secondary educated and higher educated) were plotted against the dependent variables knowledge and attitude (mean) score keeping the other two independent variables constant (i.e. gender and location variation). Interestingly all the data irrespective of gender biasness found these two attributes to be positively correlated (Figures 2– 5) but in low extent (Tables 1 – 4).

This study shows that mean attitude scores towards polio bear a positive correlation with knowledge about it. So, in the tune of Upadhyay (2009) [9], we also can hope that desirable attitude towards polio can be cultivated through the elevation of peoples knowledge level. The major part of the community's attitude towards polio which remains unaffected by knowledge, is influenced by the social relation with the other communities living there, belief and reliability on the ruling section of the society, their own culture and religion, etc. [Babastikou, *et. al.,* 2010] [6].

Our findings saw that knowledge and attitude towards polio in general was correlative with educational status irrespective of gender, with urban dwellers having an advantage over their rural counter parts. [Rasheed, S and Calivis, M., 2003] [11]. This only reassured that the path set in this venture to consolidate our fight against the disease and attain the ultimate goal of polio-free world, could be achieved through spread of knowledge which would increase awareness in the long run. It was also encouraging to see the fairer section of our society too was gearing up for the ultimate goal. The role of women education with its positive signs was revealed in our data. However, there seems to be increased need of knowledge in our rural areas. Spread of both electronic and print media has been achieved to a great success in rural

areas however directed and proper interpretation of information needs to be ensured in these areas to bridge the existing gaps between the two location variables.

Exploring into the attitude of mass with respect to educational status we found this variable was correlative with educational hierarchy irrespective of gender or location variations. [Dalhatu, *et. al.,* 2015] [8]. This information coupled with the fact that knowledge and attitude being correlated made the general course of remedial action more pinpointed with increased credibility and reliability on the governing authority at national and international arena.

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