CHAPTER - I

INTRODUCTION

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1.1 General Introduction

All over this world, there is full of miseries, sorrow, poverty, hunger death, sufferings, diseases, riots, terrorism, etc. The main source of all these evils is ignorance. This ignorance develops non-understanding or misunderstanding among the population, which in turn intensifies human miseries many a fold. Only proper education can dispel human ignorance. So, education has a great role to play. This is the reason that too much importance is being paid to education today, throughout the globe. Now, what is education? According to the great thinker and social reformer of modern times, Swami Vivekananda, “Education is the manifestation of the perfection already in man.” That is, education provides the proper environment required for the maturation and flourishing of all the good potentials with which he/she has born. In order to manifest all the potentials within the child, education has to cover different dimensions or fields. One of these important fields is - Health Education. If, health is not sound, all the other education will prove meaningless. So, Health Education is of prime importance. No surprising, that Health Education starts even before the child set foot on this earth (i.e., when the child is in mother’s womb). After child’s birth, all the attentions are paid only to keep the child away from diseases, and not on any other type of education. So, Health Education starts before child’s cradle age and continues till grave. Many a times, other type of education stops after a certain age, but Health Education never stops. So, in order to explore the potentialities within the children and to draw these out in the matured form, Health Education should be considered as the mother of all other fields of education.

Our Creator has given us vast and endless resources for our proper sustenance and dignified living. These resources are spread all over the nature. Human being has to know / acquire the right type of knowledge or techniques in order to make use of these invaluable resources. If, these resources are properly utilized for the services of the mankind, there would be no want of sustenance, and hence miseries, sorrow, poverty, hunger death, sufferings, etc. will disappear from this world. This is possible only through proper education.

Out of all the resources, human beings are the most important resource. Because, only a certain amount of benefits can be drawn out from other resources, not beyond that, but there is no limit regarding how much benefit can be derived from a human being, if his / her potentials are manifested (developed) properly. So, human resource development should be of major importance. In order to develop the human resource, the pre-condition is to ensure their good health, i.e., Health Education should be paid its due importance. Children are our future, future of human race. So, their health must be ensured first. It is true that every parent wants their children to be disease free and healthy. But, as stated above that ignorance is the root cause of all evils; so, many a times this plays a vital and damaging role here too. Out of many deadly / incurable child diseases polio is one. If, this is not
prevented before it’s infection, child’s whole life become cripple and almost meaningless. In this situation, the children become burden to the society, instead of benefitting / serving it as an important human resource. So, polio which is an incurable fatal disease, if not prevented in time, can shatter our aim and objectives of education, and can bring all sorts of miseries and sorrow to our society. Hence, proper study is required to be carried out on it to find our parents’ knowledge and attitude towards this disease, and hence prepare proper policy-planning in order to achieve our set aim of all round development.

1.2 Polio and Educational Status Trend

Polio is a preventable but non curable fatal disease. So, if it is not prevented at right time (within 5 years of child’s age) through vaccination, then the whole life of the child, including his/her education will be shattered. The society will suffer a lot as it loses an important human resource. As the disease is communicable, so, due to non-vaccination of, even a single child in a society, the whole society will remain at the risk of polio infection at any time. So, it is not an individual problem, but a collective social problem. Every parent is conscious about his/her wards, particularly about their health. But, many a times due to lack of awareness or non-understanding of the problem, they turn blank gesture towards this problem. Sometimes they even resort to oppose the polio vaccination drive strongly (Sengupta, 2011). While in other cases, the parents or local guardians are very much aware about the risk of non-vaccination of children, - but due to lack of comprehensive knowledge about the whole situation, and unwanted mixing of other social / community problems with polio vaccination, or due to unreliable activity records of the polio vaccine sponsoring / funding authority and even of the Government towards a particular community /section of society, – aggravates the situation. Suspicion and misconceptions are there among the people about the Government’s motive regarding polio vaccination (Cohen, 2004).

Three countries in the world – namely Nigeria, Pakistan and Afghanistan are mainly harbouring the polio viruses at present. India was also there in this list of polio endemic countries till a very recent date, when World Health Organization took the name of our country away from it on 25 Feb. 2012, in view of the remarkable progress we have made in this field (Anonymous, 2012 b). This fresh success needs to be sustained forever.

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).

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, 2011 c) & (Anonymous, 2011 b)]. This prompted the State
Govt. to take fresh polio immunization drive in five districts including Kolkata. Other four districts are – Howrah, Hooghly, North 24 pgs., and South 24 pgs. In 2010, a total of eight polio cases were reported in West Bengal; out of which seven cases were from Muslim dominated Murshidabad district and one from Birbhum.

Table 1: Year wise polio cases recorded in India vis-à-vis in West Bengal (Anonymous, n.d., b)

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Polio cases reported in India</th>
<th>No. of Polio cases reported in West Bengal</th>
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</thead>
<tbody>
<tr>
<td>1997</td>
<td>2274</td>
<td>31</td>
</tr>
<tr>
<td>1998</td>
<td>1934</td>
<td>26</td>
</tr>
<tr>
<td>1999</td>
<td>1126</td>
<td>22</td>
</tr>
<tr>
<td>2000</td>
<td>265</td>
<td>8</td>
</tr>
<tr>
<td>2001</td>
<td>268</td>
<td>1</td>
</tr>
<tr>
<td>2002</td>
<td>1600</td>
<td>49</td>
</tr>
<tr>
<td>2003</td>
<td>225</td>
<td>28</td>
</tr>
<tr>
<td>2004</td>
<td>134</td>
<td>2</td>
</tr>
<tr>
<td>2005</td>
<td>66</td>
<td>Not reported</td>
</tr>
<tr>
<td>2006</td>
<td>676</td>
<td>1</td>
</tr>
<tr>
<td>2007</td>
<td>874</td>
<td>1</td>
</tr>
<tr>
<td>2008</td>
<td>559</td>
<td>2</td>
</tr>
<tr>
<td>2009</td>
<td>741</td>
<td>Not reported</td>
</tr>
<tr>
<td>2010</td>
<td>42</td>
<td>8</td>
</tr>
<tr>
<td>2011</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2012</td>
<td>Not reported</td>
<td>Not reported</td>
</tr>
<tr>
<td>2013</td>
<td>Not reported</td>
<td>Not reported</td>
</tr>
<tr>
<td>2014 (Till Now)</td>
<td>Not reported</td>
<td>Not reported</td>
</tr>
</tbody>
</table>

According to a report (Anonymous, 2011 a), in 2011 around 1,200 children in Kaliachak-I block of Muslim dominated Malda district have not been vaccinated against polio, though 10 camps were held to eradicate the disease. What is of more concern is that Kaliachak is adjacent to Murshidabad district, which has bad polio record. The families belonging to a particular community (read Muslim) believe that immunisation drops will lead to infertility.

Until 1995, India recorded between 50,000 and 150,000 cases of polio each year (Denyer, 2012).

In 2012 when WHO has removed the name of our country from the list of polio endemic countries, it warned as, “India will have to remain polio free for the next two years to achieve the polio-free status with concerted efforts and an emergency preparedness and response plan, WHO representative in India, Ms Natela Menabde said.”(Anonymous, 2012 b).
Here, education has a great role to play. Education enlightens a person with awareness and proper comprehensive understanding of the situation. It helps to dispel all myths, suspicions, misconceptions, etc. in the touchstone of scientific reasoning. In general, resistance to polio vaccination does not come from the educated section of the society. Mainly the illiterate masses, and in particular the Muslim community people oppose the vaccination (Roy, 2002).

Even after 67 years of independence our performance in education, the most important base of nation building, is astonishingly neglected. In literacy ranking India stands 134th (74.04% literacy) out of the 179 countries in the world! (Anonymous, 2007). Whereas, small countries like Georgia and Cuba, who achieved independence much after India, have acquired almost cent per cent literacy. Georgia stands first with 100% literacy, whereas Cuba with 99.9% literacy occupied the second position. On the other hand, China with huge population is in double better position (68th rank, 95.9% literacy) compared to ours. Out of the total enrolment in class I, in our country only 5.7% reaches up to class XI. (Anonymous, 2011 d). This poor performance in education of our country is the main reason for harbouring many misconceptions, mistrust, false belief, superstitions, etc. all social evils. The prime reason of persistence presence of polio virus is this misconceptions, mistrust, false belief, superstitions towards polio vaccination. Only those countries which perform bad in education, failed to perform well in polio eradication. And due to this corollary, India’s name was there among only four countries in the list of polio endemic countries, till Feb. 2012. So, it can be said that there is a positive correlation between polio and literacy trend.

1.3 Status of Muslim Community

Muslim community, the followers of the religion named Islam, is an important constituent of the world as well as Indian population. They are the second largest religious community on the face of the earth. Out of every four to five people in the world, one is Muslim. In terms of Indian population also they constitute the second largest religious community with 15% (approx.) of the country’s population on average. Some States in India, including our State, West Bengal have moderately high percentage of Muslim population (30% approx.), in other State (J & K – 68%) and Union Territories (e.g., Lakswadeep – 95.38% - 2001 Census) they constitute absolute majority. Out of total 20 districts in our State, 3 are Muslim dominated (Murshidabad, Malda & North Dinajpur) and 7 have more than 25% Muslim population (Birbhum, North 24-pgs, South 24-pgs, Nadia, Howrah, Cooch Bihar & South Dinajpur) (Census Report, 2011). This important constituent of our country’s population, – Muslims have many things uncommon with the other communities, mainly the Hindu’s here. This contrast arises out of their religious and cultural ways of life. Islam is the most practicing religion in the world and Muslims are the most religion-practicing community. They are very much
respectful and sensitive towards their religion. Any social / community programme in general is bound to fail, if it fails to recognise this very important aspect of our society.

As per the Constitution of India, it is a Secular Democratic Republic. It is a country of multiple language, religion, culture, ethnicity, etc. Being secular in character, it should function in an unbiased manner towards the followers of every religion. But, the real picture of our society tells something else. According to Government of India’s own acknowledgement - “The health of Muslims, especially women, is directly linked to poverty and the absence of basic services like clean drinking water and sanitation” (Sachar, 2006). “Muslim child experiences a significantly greater risk of being underweight or stunted than a child belonging to other Socio Religious Categories.” (Sachar, 2006). “Muslim children are at a slightly higher risk of child malnutrition than ‘Other Hindu’ Children” (Sachar, 2006). The Prime Minister of India, Dr. Manmohan Singh, termed as “a national shame” that 42% of the India’s children are underweight and that it was “unacceptably high” giving the nation’s high GDP growth. The survey found that children from Muslim or SC/ST households generally have worse nutrition indicators than the general population.” (Anonymous a, 2012).

According to Hon’ble Justice Rajender Sachar, discrimination is done against the Muslim community in India and their status is even below the Hindu OBCs (Sachar, 2006). Washington Post reported that there are 500,000 Muslims in the Muslim locality, in the city of Meerut, but there is no proper drainage, no post office, no bank, no government school, no hospital where a mother can take her child. Although, this city is just 45 miles north-east of the capital, New Delhi. (Denyer, 2012). But “In a pluralistic society a reasonable representation of various communities in government sector employment is necessary to enhance participatory governance.” (Sachar, 2006).

Here is an illustration of the ‘representation’ of Muslim community, as the data provided by the Govt. of West Bengal in response to the RTI application filed by Social Activist Sabir Ahamed in 2009:

<table>
<thead>
<tr>
<th>Table 2: Representation of Muslim community in education</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Calcutta University</strong></td>
</tr>
<tr>
<td><strong>Student</strong></td>
</tr>
<tr>
<td><strong>UG</strong></td>
</tr>
<tr>
<td>Total No.</td>
</tr>
<tr>
<td>Muslim No.</td>
</tr>
<tr>
<td>Muslim %</td>
</tr>
</tbody>
</table>
Vidyasagar and Kalyani University did not furnish any data on this. According to the Govt., the situation is more or less same in all over India (Singh, 2009). In the elite IIMs and IITs, Muslim students constitute only 1.3% and 1.7%, respectively (Jayasekera, 2006).

This neglected condition of the community, has developed a sense of suspicion to and insecurity from the majoritarian section of the society. This is clearly reflected when a community leader in Uttar Pradesh, a Muslim population density State in India, Dr Jafari says: "There's a sense of frustration among many Muslims: they tell the health workers, we've never seen anyone coming to take care of us, why are you coming just to give us polio drops?" (Diga, 2006).

To come out of this uneasy state, Justice Rajinder Sachar recommended as - “Teacher training should compulsorily include in its curriculum components which introduce the importance of diversity/plurality within the country and sensitize teachers towards the needs and aspirations of Muslims and other marginalized communities”(Sachar, 2006).

The community throughout the world is suspicious about Jews - Christian community in general and American in particular. The reason for this lack of trust towards them is historical as well as current affairs. In general, Muslim community believes that these people are determined to eliminate them from the globe by harming them in all possible ways, starting from opposing to the Prophet [Muhammad(s)], launching the Crusader war in 10th Century against them, till recently the killings and destruction of Muslims in – Afghanistan, Iraq, Chechnya, Palestine and other parts of the world, – all are part of ‘Clash of Civilization’, the clash between Jews-Christian civilization with that of Islamic one. This theory was propounded by Samuel Huntington and being executed by the western world under the leadership of U.S.A. In this situation, the community became sceptical about anything having Jews – Christian or American origin; polio is one such thing (Anonymous, n.d. b).

The condition is further aggravated by the low literacy level among the Muslim community. They have recorded only 67.6% of literacy, far below the national average (Premi, 2011). UGC maintained that the Gross Enrolment Ratio (GRE) for Muslim is half of national average (Singh, 2009). In premier colleges only one out of 25 under-graduate students and one out of 50 post-graduate students is a Muslim (Anonymous, 2001). Union Human Resources Development Minister, Mr. Kapil Sibal has acknowledged that minority-dominated districts of Malda and Murshidabad have the highest dropout rates in the State, and Malda stood at 10.5 per cent —maximum in the state (Anonymous, 2011 e). According to Hon’ble Justice Rajindar Sachar, “As many as 25 per cent of Muslim children in the 6-14 year age group have either never attended school or have dropped out” (Sachar, 2006). All reflect the poor and crying condition of educational level of the Muslim Community. But, the very first word of Allah to His last messenger, Muhammad (S) was “Read”, i.e., the first commandment in the most sacred scripture, the Holy Qur’an is “Read”. If the Muslim community
would have followed at least the very first word of the Holy Qur’an, which they claim to be the followers, then they would have been in far better position.

1.4 Meaning and Definition of Polio

Polio or Poliomyelitis is a communicable disease caused by a virus that lives in throat and intestinal tract. The term derives from the Greek poliós, meaning "grey", myelós, referring to the "spinal cord", and the suffix -itis, which denotes inflammation (Chamberlin and Narins 2005). It is also called infantile paralysis. It is an acute viral infectious disease spread from person to person, primarily via the faecal-oral route (Cohen, 2004). Poliovirus attacks the nervous system and in some cases can paralyze the victim instantly. There are three types of poliovirus: Type 1 (PV1) or Mahoney; Type 2 (PV2) or Lansing; and Type 3 (PV3) or Leon. It spreads rapidly especially in those communities that are living in very poor hygienic and sanitation conditions. According to the WHO estimates, approximately one out of every 200 children infected suffers from irreversible paralysis, usually in the legs, and 5-10% of those who get paralyzed die mainly due to immobilization of their breathing muscles (WHO, 2010). On the other hand, around 40% of those who managed to survive paralytic polio suffer from post-polio syndrome (15-40 years after the original infection) which causes a new progressive muscle weakness, severe fatigue and pain in the muscles and joints (Heymann, 2006).

All polio infections do not cause symptoms. In about 90% of infections no symptom occur at all, affected individuals can exhibit a range of symptoms if the virus enters the blood stream (Ryan and Ray 2004). In only about 1% of cases, the virus enters the central nervous system, preferentially infecting and destroying motor neurons, leading to muscle weakness and acute flaccid paralysis. Depending upon the nerves involved, a number of paralysis may occur. The most common form is the Spinal polio, which is characterized by asymmetric paralysis and involves the legs. Bulbar polio leads to weakness of muscles innervated by cranial nerves. Bulbospinal polio is a combination of bulbar and spinal paralysis (Atkinson and Wolfe, 2009).

Jakob Heine first recognized Poliomyelitis, a causative agent in 1840 as a distinct condition (Paul, 1971). Karl Landsteiner identified poliovirus in 1908. Although polio is one of the most dreaded childhood diseases but it existed quietly as an endemic pathogen for thousands of years. Its causes were unknown before the late 19th century (1880s), when major epidemics began to occur in Europe; after that, widespread epidemics appeared in the United States (Trevelyan and Cliff, 2005). By 1910, a major part of the world came under the grip of sudden increase in polio cases. Mainly during the summer session, frequent epidemics became regular phenomena. This situation provided the impetus for a "Great Race" towards the development of a vaccine and ultimately it was developed in the 1950s. This vaccine was able to reduce the global number of polio cases per year (Aylward, 2006).
Only intensified vaccination efforts could result in global eradication of this disease, (Heymann, 2006) and McNeil, 2011) and the World Health Organization, UNICEF, and Rotary International are working in this direction.

1.4.1 Causes:

Fig. 1: A TEM micrograph of poliovirus

Poliomyelitis infection is caused by a member of genus Enterovirus known as poliovirus (PV). This group of RNA viruses colonize at the gastrointestinal tract (Cohen, 2004) — specifically the oropharynx and the intestine. The incubation time ranges from 3 - 35 days, whereas, the common span is of 6 - 20 days (Atkinson and Wolfe, 2009). PV infection does occur in human beings alone. It bears a simple structure, composed of a single (+) sense RNA genome enclosed in a protein shell - called a capsid. In addition to protect its genetic materials, the capsid proteins enable poliovirus to infect certain types of cells. All the three types of polio virus, mentioned above, are extremely virulent and can produce the same disease symptoms (Ryan and Ray, 2004). PV1 is the most commonly encountered form, which is most closely associated with paralysis (Ohri and Marquess, 1999).

Mild exposure to the virus, either through infection or by immunization with polio vaccine, develop immunity. An immune individual, develops Ig A antibodies against poliovirus in the tonsils and gastrointestinal tract, which are able to block virus replication; IgG and IgM antibodies against PV can prevent the spread of the virus to motor neurons of the central nervous system. Immunization with one serotype of poliovirus does not provide immunity against other serotypes. For complete immunity immunization / exposure to each serotype is necessary (Kew and Pallansch, 2005).
1.4.2 Transmission

Poliomyelitis is highly contagious disease. It infects via the oral-oral (oropharyngeal source) and faecal-oral (intestinal source) routes (Kew and Pallansch, 2005). In case of endemic, wild polioviruses can infect virtually the entire human population in the area (Parker, 1998). Poliomyelitis is seasonal, in temperate climates, peak transmission occurring in summer and autumn. Whereas, in tropical areas, these seasonal differences are found to be of much less pronounced. Before initial infection, the virus particles are excreted in the faeces for several weeks (Racaniello, 2006). The disease is transmitted mainly through contaminated food or water via the faecal-oral route. Occasionally also transmitted via the oral-oral route, (Ohri and Marquess, 1999) and this mode is especially visible in areas with good sanitation and hygiene. The disease is most infectious between 7 and 10 days before and after the appearance of symptoms respectively. The threat of transmission is there only when the virus remains in the saliva or faeces.

Factors that increase the risk of polio infection or affect the severity of the disease include immune deficiency (Davis and Vickers, 1977), malnutrition (Chandra, 1975), tonsillectomy (Miller, 1952), physical activity immediately following the onset of paralysis (Horstmann, 1950), skeletal muscle injury due to injection of vaccines or therapeutic agents (Gromeier and Wimmer, 1998), and pregnancy (Evans, 1960). Although the virus can cross the placenta during pregnancy, the foetus does not appear to be affected by either maternal infection or polio vaccination (Salisbury and Noakes, 2006). Maternal antibodies also cross the placenta, providing passive immunity that protects the infant from polio infection during the first few months of life (Sauerbrei and Wutzler, 2002). As a precaution against infection, public swimming pools were often closed in affected areas during poliomyelitis epidemics.

Fig. 2: A child with a deformity of her right leg due to polio
Early symptoms of paralytic polio, the worst form of the disease are – headache, high fever, stiffness in the back and neck, sensitivity to touch, asymmetrical weakness of various muscles, irritability, difficulty swallowing, muscle pain, loss of superficial and deep reflexes, paraesthesia (pins and needles), constipation, or difficulty urinating. Within one to ten days of the development of symptoms, generally the paralysis occurs, and is usually completes by the time the fever goes (Silverstein and Nunn, 2001).

The susceptibility of paralytic polio cases increases with age, as well as the extent of paralysis. Although paralysis occurs in only one in 1000 cases of children poliovirus infections, but non-paralytic meningitis is the most likely outcome of CNS involvement. Out of 75 cases in adult infection, paralysis occurs only in one case (Gawne and Halstead, 1995). In children under five years of age, one leg paralysis is the most common development. Whereas in adults, extensive paralysis involving the chest, abdomen and also affecting all four limbs —quadriplegia — is more likely (Young, 1989).

1.4.3 History of Polio:

Polio exists since pre-historic period. The figure below shows how polio was prevalent in the Egyptian paintings and carvings (Paul, 1971). Michael Underwood, an English physician first described the disease clinically in 1789, where he referred polio as "a debility of the lower extremities" (Underwood, 1793). Other physicists, like Jakob Heine in 1840 and Karl Oskar Medin in 1890 called it Heine-Medin disease (Pearce, 2005). The disease, on the basis of its propensity to affect children was later termed as infantile paralysis.

Fig. 3: An Egyptian stele thought to represent a polio victim, 18th Dynasty (1403–1365 BC)

Up to 20th century, polio infections were mainly restricted between six months and four years of age (Robertson, 1993). Constant exposure to the virus in bad sanitation, enhances a natural immunity against the disease. During the late 19th and early 20th centuries, improvements were made in
community sanitation. As a result childhood exposure to the virus was reduced and natural immunity to the disease decreased. In the beginning of 20th century, some small localized paralytic polio began to appear in the epidemic form in Europe and the United States (Trevelyan and Cliff, 2005). By the year 1950, the risk group for polio infection was of five to nine years or greater. Even approximately one-third of the polio cases in America were reported in persons over 15 years of age (Melnick, 1990). The year 1952 witnessed the worst outbreak of polio in U.S.A. In 1957, fifteen scientists were honoured by the Polio Hall of Fame, for their important contributions to the knowledge and treatment of poliomyelitis. In 2008 four organizations (Rotary International, the World Health Organization, the U.S. Centres for Disease Control and UNICEF) were brought under the Hall of Fame (Skinner, 2008).

1.4.4 Prevention:

Polio is not curable but preventable through vaccination. There are two types of vaccine used throughout the world in order to combat polio. Both are meant to enhance immunity to polio, blocking person-to-person transmission of the virus, thereby protecting both individual vaccine recipients and the wider community (so-called herd immunity) (Fine and Carneiro, 1999).

In 1952, virus vaccine was developed by Jonas Salk at the University of Pittsburgh. It was found that about 90% or more individuals develop protective antibody to all three serotypes of poliovirus after only two doses of IPV injection; and after three doses, at least 99% become immune to poliovirus (Atkinson and Wolfe, 2009).

Fig. 4: A child receiving an oral polio vaccine

In the meantime, Albert Sabin developed another live, oral polio vaccine (OPV) (Sabin and Boulger, 1973). Human trials of Sabin's vaccine began in 1957 (Anonymous, 1998). It rapidly became the only polio vaccine used worldwide, with excellent result. But in very rare occasions, about one case per 750,000 vaccine recipients, the attenuated virus in OPV reverts into a form that
can paralyze (Racaniello, 2006). Therefore, most of the advanced countries opt for IPV, as it cannot revert, either as the sole vaccine against poliomyelitis or in combination with oral polio vaccine.

1.4.5 Eradication:

As a result of extensive use of poliovirus vaccine in the mid-1950s, polio is almost eradicated today from the Western world, but unfortunately, it is still endemic to South Asia and Nigeria. In 1988, the World Health Organization, UNICEF, and the Rotary Foundation had initiated a worldwide effort in order to eradicate polio (Mastny, 1999). This brought a very encouraging 99% success result by the year 2001. Polio along with Guinea is the only two diseases presently in the programme of global eradication. Today some success has already been achieved, several regions of the world have been certified as - polio-free. USA was declared polio-free in 1994. Including China and Russia a total of 36 Western Pacific countries were declared as polio-free, in the year 2000. Polio eradicated from Europe by the year 2002 (D'Souza and Watson, 2002). Nigeria, India (specifically Uttar Pradesh, Bihar and West Bengal), Pakistan, and Afghanistan, these four countries only remain endemic of polio till the date when WHO declared India out of the list of Polio endemic countries; although some hidden or re-established transmission it continue to cause epidemics in other nearby countries (Fine, 2009).

1.5 Features of Malda District

Fig. 5: Geography of West Bengal
The latitude range of Malda district of West Bengal state is 24°40’20" N to 25°32’08" N, and the longitude range is 87°45’50" E to 88°28’10" E. The district covers an area of 3,733.66 square kilometres (1,441.6 sq. mi). The Malda city started to grow since 1925-1930. Now nearly a half-million people live in this city. Malda is called the gateway to North Bengal. It was once the capital of Gour Banga with its vast lay of the land classified into Tal, Diara, and Barind.

In 2006 the Ministry of Panchayati Raj named Malda one of the country's 250 most backward districts (out of a total of 640). It is one of the eleven districts in West Bengal currently receiving funds from the Backward Regions Grant Fund Programme (BRGFP). The district comprises two subdivisions: Chanchal and Malda Sadar. Chanchal consists of six community development blocks: Chanchal–I, Chanchal–II, Ratua–I, Ratua–II, Harishchandrapur–I and Harishchandrapur–II. Malda Sadar subdivision consists of Old Malda municipality, English Bazar municipality and nine community development blocks: English Bazar, Gazole, Habibpur, Kaliachak–I, Kaliachak–II, Kaliachak–III, Manickchak, Old Malda and Bamangola. English Bazar is the district-headquarter. There are 11 police stations, 15 development blocks, 2 municipalities, 146 gram panchayats and 3,701 villages in this district (Anonymous, 2009).

According to the 2011 census, Malda district has a population of 3,997,970, roughly equal to the nation of Liberia or the US state of Oregon. This gives it a ranking of 58th in India. The district has a population density of 1,071 inhabitants per square kilometre (2,770 / sq mi), Malda has a sex ratio of 939 females for every 1000 males, and a literacy rate of 62.71%. By religion, it is Muslim dominated district with 52.05% believers of Islam, 46.97% Hindus and 0.98% Others.

Malda has a large diversity of demographics. Various classes and tribes live here. Northern part has dominantly Hindu population. Tribesman, Christian and Sikh people also live here. South Malda is inhabited by large number of Muslim population. Sujapur Idgah is one of the largest in India. Some local forms of Bengali, Maithili, Hindi and Urdu languages are spoken along with original forms. Some regional languages are Kamtapuri, Shershahabadia, Santali, Khotta, etc.

As its majority population is Muslim, they are poor as per Sachar Committee’s findings. Their masses are either illiterate or semi-literate. Poverty comes in their way of availing quality education. They hardly have the access to safe drinking water and healthy hygienic facilities. All these contribute to the development of favourable condition for polio transmission and infection. Moreover, being Muslim dominated district, the worldwide conspiracy theory arisen out of American hatred and mistrust, finds a fertile ground to work here. So, the district is prone to polio infection, which is in conformity with the polio record.
1.6 Need to Prevent Polio

Every human being is invaluable gift from the God. Its proper care, rearing up, etc. are very important, so that the individual and society can get the maximum benefit out of this invaluable resource. Proper education makes a material - a resource. But, the human material (the child) can become human resource only when he/she is protected from harmful diseases. That is why Health Education is of prime importance in the whole domain of education. Polio is a fatal disease, it jeopardise the whole life of the victim. So, protection from this disease is a must. This protection can be only through prior prevention from the disease, as it is infectious and non-curable one.

The infected person becomes practically useless as a whole. The victim becomes a burden to himself / herself and also to others (family & society). In this way, the polio not only destroys the human resource within the victim but also the human resources among his /her dependants and sustainers. This is an invaluable loss to the human society. So, prevention from polio is the only way to check the loss of important human resource and also to check the - would be burden on the society.

1.7 Rationale of the Problem

Muslims of Nigeria believed that the polio vaccine was a conspiracy by the USA and the UNO against the Muslims to sterilize the community. As a result, polio reappeared there and spread to several other countries. In the Organization of Islamic Cooperation (OIC) countries, the number of polio cases has declined from around 35 thousands in 1988 to just about 950 in 2010. Meanwhile, number of polio endemic countries has also declined from 125 in 1988 to just four in 2010. Afghanistan, Pakistan and Nigeria are polio endemic countries even today. India’s name was there just few days earlier. Sixteen countries are experiencing outbreak of poliovirus following an importation. According to the WHO, (Anonymous, 2011 f) countries where transmission of wild poliovirus has never been stopped are classified as endemic. Three out of these 16 importation countries: Angola, Chad and Democratic Republic of Congo are classified as countries with re-established transmission. In 2010, globally there were 950 cases of polio and about 76% of these cases (718 cases) were reported in non-endemic importation countries. In general, during 2010, OIC member countries accounted for more than 75% of total poliovirus cases in the world. Within OIC group, the incidence of polio remained highly skewed towards non-endemic importing countries which accounted for about 73% of OIC total polio cases. Currently, OIC member countries are importing the polio virus both from endemic as well as non-endemic countries. In this year there were 144 poliovirus cases in Pakistan compared to 89 in 2009, corresponding to an increase of 62%. Out of about 73% of OIC total poliovirus cases (in 2010) in ten non-endemic member countries,
three member countries from Europe and Central Asian region are: Kazakhstan, Tajikistan and Turkmenistan. Over the years, these countries have registered quite higher level of immunization coverage and have been largely polio free since late 1990s. According to the CDC report (2010), outbreak of polio in Tajikistan during 2010 was mainly caused by importation from India. On the other hand, Kazakhstan and Turkmenistan imported poliovirus from Tajikistan. According to the GPEI Strategic plan 2010-2012, in importation countries emergence of poliovirus is mainly caused by inadequate immunization coverage and geographical proximity with endemic or infected countries/areas. Therefore, these countries should strive hard to increase the immunization coverage. This will help not only to reduce the incidence of importation but also will minimize the impact if importation occurs.

Keeping in view the prevalence of misunderstandings about the use of polio vaccine among the Muslims, OIC General Secretariat secured religious injunction from the Islamic Fiqh Academy which issued a fatwa to encourage the Muslims to participate and support the national polio vaccination campaigns. Based on the principles of the Quran, this fatwa explained the duty of parents/elders to protect children when the disease is preventable. This fatwa is being proved very helpful to raise awareness in Muslim communities about the benefits of polio immunization campaigns. Today, polio is endemic in only three OIC member countries whereas ten member countries are facing polio outbreaks due to importation. High infant immunization coverage with four doses of Oral Polio Vaccine (OPV) in the first year of life is critical. Therefore, all OIC member countries including the endemic and importation one as well as the countries having adjacent geographical locations (like India) should work hard to increase the immunization coverage through routine immunization of infants and through achieving the highest possible coverage during Supplementary Immunization Activities (SIA’s). But, in some member countries polio immunization activities have been suspended due to the people’s concerns about safety and lack of Muslim community’s faith on the motive of the polio vaccine sponsoring authorities, namely America. As a result, there were new outbreaks and many areas were re-infected. To avoid such issues in future, it’s highly recommended to translate the fatwa of Islamic Fiqh Academy in national/local languages and distribute it especially in endemic areas. Incidence of polio in a country/region/area is closely linked to poverty, level of education, water and sanitation, food safety, and other social and cultural factors. Special attention should be paid to the communities that are either living near the border of an affected/endemic neighbouring country or migrating from that country (Anonymous, 2002).

The post-9/11 fear and hatred of anything American, even medicines, has provoked resistance against polio immunization among a section of mostly poor and illiterate Muslims all over the world, and our West Bengal is not an exception. This has led to an increase in the number of polio cases in
the Muslim dominated districts in the State. ... "Villagers were told that the polio drops were made by the Americans to make the Muslim children infertile. We have come across women who were beaten up for allowing our health workers to administer the polio drops to children," said a Health Officer (Pipes, 2005). "This sort of misinformation has created a mental block against immunization in Murshidabad, Malda and parts of South 24-Parganas. We faced similar attitudes in pockets of Kolkata, including Metiabruz and Garden Reach," he said. Therefore, the state government has initiated a house-to-house immunization campaign with the help of NGOs and Muslim leaders in Murshidabad, Malda and Birbhum districts.

According to Dr Jafari (Diga, 2006), "There's a sense of frustration among many Muslims: they tell the health workers, we've never seen anyone coming to take care of us, why are you coming just to give us polio drops?" ... In a state (U.P.) with a very high population density and poor sanitation, that figure is large enough to ensure that polio — which spreads through contaminated water and contact with excrement — has made a comeback, just when it looked like the net was closing on it in India.

He said that genetic analysis shows that the strain of polio from Uttar Pradesh, in the past couple of years, has left India, and spread to at least three African countries that had made great strides against polio — Angola, Namibia, and the Democratic Republic of Congo. This year, he says, the Uttar Pradesh strain of the polio virus has leapt out of India and re-infected two polio-free neighbouring countries: Bangladesh and Nepal. "This shows that the continuation of polio in one country is a threat to the whole world," he says. ... Some countries are taking the renewed threat of polio very seriously. Last year, Saudi Arabia announced that all travellers from countries with polio, under the age of 15, would have to show valid proofs of vaccination before they got a visa to enter the country.

The polio eradication was on the verge of success when, early in 2003, a conspiracy theory took hold of the Muslim population in northern Nigeria. That conspiracy theory has single-handedly returned polio into epidemic proportions. Sixteen countries where polio had been eradicated, recently reported outbreaks of the disease due to importation. Majority are in Africa (Benin, Botswana, Burkina Faso, Cameroon, Central African Republic, Chad, Ethiopia, Ghana, Guinea, Mali, Sudan, and Togo) and few in Asia (Indonesia, Saudi Arabia, Yemen and Bangladesh). Yemen has had the largest polio outbreak, with more than 83 cases since April (2003). The WHO calls this "a major epidemic."

Polio are now located "almost exclusively in Muslim countries or regions." That's because, scientists hypothesize, the polio infection travelled from Nigeria in a uniquely Muslim way – via the haj, or pilgrimage to Mecca. Testing confirms that all three Asian strains of the disease originated in northern Nigeria (Pipes, 2005).
As the Governments show neglect towards the very basic demands, like drainage, water, education, health, etc. for this (Muslim) community; so people were sceptical. ‘Why does the government only care about polio and not about these things?’ Vaccinators were stoned as they approached Muslim neighbourhoods. “The general mind-set was that the immunization campaign was aimed at ending our lineage,’” Ahmad, a community member said.

In 1988, when the WHO launched the global campaign to eradicate polio, the virus was paralyzing 1,000 children around the world every day, nearly half of them in India. Inspired by the success of the smallpox eradication campaign a decade before, the organization aimed to eliminate polio by 2000. Until 1995, India recorded between 50,000 and 150,000 cases of polio each year. In 2009, 14 years into India’s campaign to eradicate polio, 741 Indian children still contracted the incurable disease, more than anywhere else in the world, and morale was sagging. In 2010, that number had fallen to 42. In 2011, it fell to just a single case, a 2-year-old girl who fell ill in Jan. 13. ‘We needed this kind of success to keep morale up.’ - expressed a Health Ministry Official

But in 2014, the wheel of success seems to be receding when the WHO, alarmed by the spread of polio to several fragile countries, declared a global health emergency on 5th May. 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. In Afghanistan polio returned after 12 years when Sakhina, a 3-year-old girl from Kabul, has contracted the incurable disease. (McNeil D., 2014 and Anonymous, 2014)

Although India is at present out of the list of polio endemic countries, but as our neighbouring countries, Pakistan and Afghanistan are still in the WHO list of polio endemic countries, so, there is no room for complacency regarding war on polio in our country. Moreover, the largest number of world Muslims are Indian citizens and many a times it was found that polio importation into even non-endemic countries was happened primarily through the ‘Islamic way’, i.e., through annual Haj, etc. The Malda district of the state of West Bengal in India, the delimited area of the research problem, is a Muslim dominated one. So, there is high potential for the recurrence of polio disease here.

On the other hand, the communities who were paid less or no attention by the governing authority after independence of our country are up in arms in protest to desist the polio vaccination programme launched by the Government. One important part of this neglected section is Muslim community. They are the victims of national as well as international governing authorities. So, in many parts of the world including my selected research area, they are opposing / boycotting the polio eradication programme, in line of opposing these authorities.
Proper education plays a vital role in developing human temperament conducive to social development. Education helps to solve many difficult social problems. So, there is a need to study the literacy status among the Muslim community people in order to have a clear pathway to eradicate polio disease from the world with the active support of the masses.

Considering all these aspects, there is a very high rationale for studying the impact of literacy status on knowledge, attitude and belief towards polio among Muslim community of Malda District, West Bengal.

Anuradha Gupta, a joint secretary in India’s health ministry, said the mood was now one of hope and enthusiasm, but not smugness, given the risks the disease could still find a way back from abroad.

1.8 Statement of the Problem

The present study attempts to find out the impact of literacy status on knowledge, attitude, and belief towards polio among the people belonging to Muslim community of Malda district in the State of West Bengal. Therefore, the problem under study is titled as – an investigation into “IMPACT OF EDUCATIONAL STATUS ON KNOWLEDGE AND ATTITUDE REGARDING POLIO AMONG THE MUSLIM COMMUNITY OF MALDA DISTRICT, WEST BENGAL”
REFERENCES


Anonymous (b), (26 Feb, 2012), Polio: WHO takes India off endemic list. The Statesman, Kolkata.p.1


Census Report, (2011), Govt. of India.


