CHAPTER – II

REVIEW OF RELATED LITERATURE

- Introduction
- Studies Conducted in India
- Studies Conducted in Abroad
2.1 Introduction:

Nothing can start from nothing. In case of research also this rule applies. Before proceeding to solve the research problem, the researcher must know the up-to-date knowledge, methods, procedures, etc. in the relevant field of study. Otherwise, his/her search effort may end in wilderness, contributing an isolated piece of knowledge having no continuity, no relevance, no acknowledgement to the vast storehouse of existing human knowledge. This type of scattered efforts, bear no significance and give no future direction to the varied fields of human intellectual endeavour throughout the world. Knowledge is continuous; hence any endeavour in seeking new knowledge must follow the continuous pattern of discoveries, adopted so far or being adopted throughout the globe.

The review of related literature which do already exists, ensures the continuity, relevance and acknowledgement of the existing continuous knowledge in the field of study. It also acquaints the researcher about the scientifically verified paths, procedures, techniques, etc. in solving the problem with much efficiency. Hence, this saves time, effort, resources from hitting in the dark by perusing ‘trial and error method’.

Considering the importance of survey of related existing literature, as discussed above, the researcher here, has gone through the vast treasure of literature available in the field of Muslim community people’s attitude towards polio disease and impact of literacy on their knowledge and attitude towards this disease. The researcher has persuaded both the direct (viz., educational literature, i.e., journal, periodicals, books, year books, bulletins, thesis, government publications, etc.) and indirect (viz., educational literature, i.e., encyclopaedias, indiscreet abstracts, bibliographies, etc.) forms of review of related literature. He has tried his level best to collect the most relevant authentic information available from different sources including internet.

This chapter presents an overview of the review of vast literature available related to the research problem of this thesis. This includes literature from both - of studies carried out in India as well as in abroad.

2.2 Studies conducted in India:

Pulse Polio Immunization (PPI) programme in our country was initiated in the year of 1995 – 96. Since then, several studies have been carried out in India and abroad. A select few of these are mentioned below:

Bhasin and Kanan (1997), reported that in Delhi 97.7% of mothers were aware of this special poliomyelitis vaccination program, while 2.3% were unaware of it. 75% of mothers correctly reported the age group of children receiving OPV to be less than 3 years, while 11% reported that it
was being given to all age groups. Moreover, awareness of mothers regarding some aspects of routine OPV immunization was very low. 43% of mothers had incorrect knowledge regarding age of initiation of OPV, and 68% had incorrect knowledge regarding the number of primary doses of OPV.

In 1998, Bhagat and Prayag (1999) found that 68% of global polio cases were present in India. This is an alarming situation! Whereas, our report from National Institute of Health and Family Welfare claims that the PPI programmes cover 85% of eligible population (Bhagat, 1999).

Coutinho and Banerjea (2000) reported that in Dec. 1996, death and illness of some children after being administered the OPV at the first phase of Pulse Polio Immunization (PPI) campaign at Dhulagori village of Howrah District, West Bengal. Due to this, the community had reportedly decided not to participate in the second phase of PPI. Adverse reactions following the administration of a vaccine are considered as one of the significant causes of the negative perception of vaccine [Rogers and Pilgrim (1996), and Nichter (1996)]

In a study by Thaker (2000), the risk of vaccine associated paralytic poliomyelitis (VAPP) has been evaluated and is reported to be 1 case per 4 million doses administered. The risk of VAPP for any individual is greatest with the first dose (1 case per 2 million doses) and decreases with subsequent doses (1 case per 12 million doses).

A study in AIIMS (Anonymous, 2001), reveals that many parents did not understand the rationale for repeated rounds. Misconceptions about OPV and suspicions about motivations behind the campaign emerged, especially in the light of other visible problems (i.e. understaffed clinics, poor roads, other diseases). Misconceptions included: OPV caused illness in children, was ineffective, caused infertility and was part of a plan to curb growth of Muslims and scheduled Hindu castes.

Singh and Mehraet, (2001), conducted a study to assess the awareness about pulse polio immunization among the general population in Delhi and found that 86.2% people were aware of preventing polio. But only 55% opined that it would help preventing polio in other children, eradicate polio by 3.3% and 2.2% believed that it would prevent other diseases besides polio. Regarding knowledge on the identification features of polio, 70.3% knew about paralysis of limbs. Other symptoms cited were fever (14.3%), loose motions (3.8%), convulsions (2.2%), muscle wasting (1.6%) and loss of consciousness (1.1%). Only 25.3% did not have any idea about the signs and symptoms of polio. The nationwide intensive awareness campaign for polio eradication was found to be partially effective in disseminating the information.

Ghosh, (2002) opined that one of the reasons why Murshidabad remains polio affected was its huge population of a minority community. He also reported that "The single case recorded in 2001 was from the Maheshtala block near Kidderpore. And yet, 4,000 families from the same area refused
to get their children vaccinated," According to a health official, the overall social situation, poverty and education in the poorer section of the society, polio eradication becoming difficult.

The Times of India (Anonymous, 2002) reported that "Out of the 26 cases recorded in West Bengal in 1998, 17 were from a minority community. In 1999, all 21 cases recorded were from this community while in 2000, five among the eight cases were from the community. This time too, all the cases are from a minority dominated area,"

Roy, (2002 a) observed that 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 in West Bengal. Villagers feared that the polio drops were made by the Americans to make their children infertile. This sort of misinformation and distrust has created a mental block against immunization in Murshidabad, Malda and parts of South 24-Parganas districts of West Bengal. The Imam of Kolkata's Nakhoda Masjid, has lent his support to the move and video cassettes of his appeal to parents to get their children immunized has helped health workers. But politicians, barring a few exceptions, have been found wanting. "They are reluctant to go against the dominant mood within the community as it may risk their political fortunes," said an official.

Roy, (2002 b), emphasized that the already insecure Muslim populace here, in Bengal, the stepped up activity against terrorists was simply unnerving and held such repercussions against polio vaccination drive.

Times of India (Anonymous, 2003) reported that two new cases of polio have been recorded in Kolkata in the past two months. The disease in all parts of the state was in worrying trend, although, earlier it was thought to be concentrated in Murshidabad, Malda and Birbhum. Though, these three districts still constitute more than 70 per cent of the cases. Thirty cases have been reported from Murshidabad, five from Birbhum and one from Malda. All the cases except two are reported from the minority community is also a cause of concern. "Polio has been eradicated from Bangladesh, but there, Muslims are not minorities. Here, they feel that immunisation programmes are some kind of an attack on their community," a health official said.

The virus remains active in three endemic countries - Afghanistan, Pakistan and Nigeria; all are Muslim dominated countries.

Anandabazar Patrika (Anonymous, 2004 b) reported that Britain has exported 953 vials of deadly 'Mad Cow' virus into India. This stroke out panic among the people here and their suspicion against polio vaccine suddenly rose very high. They feared that the polio vials might contain that deadly 'Mad Cow' virus. The same report was also published in other media including the daily newspaper, Sanbad Pratidin (Anonymous, 2004 a).

Roy, (2004), reported that people do not believe the polio vaccine workers as they approach to them for vaccination of their wards. “You the people and your Govt. treat us as dog / cat. Now all on
Negligence from the part of the authority / Govt. is reflected here as the cause behind the refusal of polio vaccine.

According to Adiga, (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. 70% of those infected with polio this year are Muslim, even though Muslims account for only 13% of India's population. What's even stranger, and frightening, is the reason: some Muslims believe that the polio drops are part of a conspiracy to sterilize their children, and are refusing to let them be vaccinated.

They have lost all the good faiths on the authority and a sense of frustration is prevailing among them. So, they smell something foul when the authority suddenly took a welfare scheme, even to save their children from fatal polio. The report also illustrates that 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."

Unisa, (2006), observed that polio eradication in our country has failed to meet the target because, poverty is the main hindrance here. So, the inequality and poverty resulting from bad / biased governance creates resistance to the success of PPI.

Obregon, et. al. (2009) reported that in India, there were 265 wild polio cases in the year 2000, whereas, in 2007 it raised to 873. Polio cases in India were among children aged less than two years (75%) who lived in mostly poor Muslim communities, lacked access to basic sanitary services, were often missed in OPV rounds. Eighty per cent of the cases were concentrated in Uttar Pradesh.

Anonymous, (2009 k) report states that although West Bengal has undergone numerous rounds of immunizations, yet, the number of missed households has risen in each instance. Even though the number of cases is low, the on-going transmission suggests that children are being missed. Combined with the rising number of refusals, West Bengal presents a significant communication challenge regarding PPI. It is notable that West Bengal was polio free for two years but when a case was reported in 2007 and two in 2008, the region reinvigorated its communication efforts.

A report in the Indian Express (Anonymous, 2010 b) illustrates that the unfortunate death of a six-month-old baby at Gosaintola village in Malda district, West Bengal, after being administered polio drops, triggered peoples’ resentment against polio vaccination. This type of events casts bad shadow on the polio eradication effort.
According to Basu, (2010), a “complacency” among the officials in the State (W.B.) is coming in the way of achieving and sustaining the goal of polio-free state. It also reported that four cases of the dangerous P1 form of the infection have been detected in the state this year out of six in the country — a nosedive after the state recorded zero polio cases last year.

Mishra and Gupta, (2010), carried out a study in Varanasi and Ghazipur districts in U.P. and found that effective education to parents can alter the awareness towards family planning practices and polio immunization of their children both in rural and urban areas.

Nisar and Qadri, (2010), conducted a study on the behavioural pattern of Indian mothers towards immunization against polio and found that 31% mother quit immunization after missing one dose of polio vaccination.

The virus remains active in four endemic countries including India (till WHO declared India non-endemic in 2014), Afghanistan, Pakistan and Nigeria. According to Wilson, (2010) these countries accounted for 85% of all new polio cases worldwide. With the very beginning of 2011, a total of four polio cases are so far reported in Pakistan (The Express Tribune, 2011).

Chaudhury, (2011), reported that the life-threatening disease of poliomyelitis has crippled a child in Howrah on making Bengal the only state in the country to be affected with the polio virus. Howrah and Murshidabad are the two high-risk districts in the state. There were seven cases of polio reported from Murshidabad last year and one in 2006. Besides, instances of infection were also reported from Malda and North Dinajpur. Nearly 222 gram panchayats have been identified in Bengal with a huge migrant population. Most of these gram panchayats and municipal wards are in North Dinajpur, Malda, Birbhum, Howrah, Murshidabad and North and South 24 Parganas. Lack of regular hand-washing, absence of breast-feeding and diarrhoea make children prone to the virus.

Ignorance associated misconceptions about the disease also play a negative role in curbing polio virus. Very recently, in Unsanir Gorfa area, in West Bengal, a Health Worker was physically harassed by the parent of a child who was given polio vaccine (Das, 2011). The parents wrongly feared that their child fall ill due to the vaccine.

According to a report in The Telegraph (Anonymous, 2011 b), about 1,200 children in Kaliachak I block of Malda district, West Bengal had not been brought even once to the pulse polio camps held in 2010. Although, the booths arranged - *khichdi* and boiled eggs for the children. The families belonging to a particular community believe that immunisation drops will lead to infertility.

According to a study conducted by Joseph, et al., (2011), only 10.9% general population in India knew the correct method of transmission of polio virus. So, it is clear that there is an anxious level of misconception and knowledge gap regarding this disease in our country. In India, 733 children with polio were reported in 2009 alone.
A report in *Anandabazar Partika* (Bengali daily, Kolkata) (Anonymous, 2011 c), alerted the world that a polio patient was found in Sahapara village, Panchla, Howrah district of West Bengal state on 13th January 2011 with dangerous type (type-I) polio virus. Interestingly, the one and half year old victim, Rukshah Khatoon again belongs to Muslim community population. Preliminary investigation suggests lack of awareness regarding PPI programme as the cause of poor success of polio eradication programme.

According to a report in *The Statesman* (Anonymous, 2011 d) health workers do not pay their visit to all sections or locality of the society, and this was found as the cause of recurrence of polio virus (type-I) among the Muslim community in Howrah district, which was the first case of reported polio in the state in 2011.

According to Sengupta, (2011), residents of Howrah, Murshidabad, Malda and North Dinajpur districts of West Bengal boycotted the pulse polio programme in protest against lack of basic amenities, like electricity, road, etc. To react on peoples’ protest against polio vaccine, a health official said. "They hardly see us round the year. Suddenly, we reach them with the pulse polio campaign. People have even refused the polio drops protesting against bad roads or water supply." As a result, there has been an increase in the number of polio cases recently in these districts. This is a case of great concern so far the polio eradication programme is concerned.

According to Denyer, (2012), Muslim masses in India “were sceptical” about government’s intension of PPI. A Muslim scholar of Meerut city expressed his agony as, “there are 500,000 Muslims in this area, but there is no proper drainage, no post office, no bank, no government school, no hospital where a mother can take her child. Why does the government only care about polio and not about these things?” they asked.

Commenting on the news that India, overcoming all the hurdles, is going to achieve the status of polio-free country, the joint Secretary, Health Ministry, Govt. of India 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”.

A report in *The Statesman* (Anonymous, 2012) brought a good news for us, “WHO has taken India’s name off the list of polio endemic countries in view of the remarkable progress that we have made during the past one year. There were only four countries in the WHO endemic list, including Pakistan, Nigeria and Afghanistan. After being removed from the list, 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.”

31
Anbarasan and Tamilenthi, (2013) conducted a case study in Namakkal District, Tamilnadu, India and found that people’s awareness does not depend on their economic status or gender but depends upon the nature of family, joint or nuclear family. Regarding impact of literacy on awareness, no comment was there.

2.3 Studies conducted in Abroad:

Quaiyum and Khatun (1997), found that field workers, who regularly visit women at their homes to promote health and family planning services, were the main source of information for the slum women while television was cited as the most important source of information by non-slum women. The study revealed that 88% of children under five years received at least one dose of oral polio vaccine during National Immunization Days, and 67% received two stipulated doses with no significant difference between slum (65%) and non-slum (69%) groups.

Murphy, (1998), reported that the causes of continued polio susceptibility in northern India and northern Nigeria required more detailed data than the epidemiological or coverage information alone could provide. Other kinds of “social” data were needed, which were more readily available through the health communication component of the PEI programme. This required the PEI to re-examine its concepts and practices—notably, to collect additional data and develop new strategic approaches considerably beyond the conventional health communication models applied previously. Central to these strategies was stronger use and linkage of epidemiological, social, and communication data.

Mansuri and Baig (2003), reported that the majority of respondents under study in Pakistan acknowledged the importance of immunization against polio.

According to Motaleb, (2004), a harmful pollutant was found in the polio vaccine in Nigeria. Quoting Dr. Haruna Baito, a faculty dean of Ahmadu Belo University, Nigeria, the reporter feared that the said pollutant can cause dangerous health problems if entered into human body. This strengthened the suspicion and fear theory regarding the content of the polio vaccine.

A Social Science study (Anonymous, 2005) in Islamabad suggests that the communication strategy refocused on reaching women through interpersonal communication with an emphasis on OPV safety and efficacy and its benefits to children. Trained female health workers spearheaded intensified efforts as communication support persons. The female teams were effective in influencing caregivers shown by reports of improvements in attitudes towards OPV and perceptions of risk of polio in target areas. Due to this intensive social mobilization 93% of respondents agreed that polio is a serious health problem compared with 83% in districts without these activities. In some communities, 95% of respondents believed that OPV was safe for children, compared with 88% in districts without.
According to Pipes, (2005), worldwide polio eradication programme was on the verge of success when, early in 2003, a conspiracy theory took hold of the Muslim population in northern Nigeria. The theory goes as – the British imported cholera, malaria and syphilis disease into Egypt after World War II; American infiltrated deadly diseases into Iraq via maggot-ridden cigarettes; Israel transmitted cancer to Palestinians by getting them to take dangerous factory jobs or subjecting them to phosphorous searches. "If America is fighting people in the Middle East, they are fighting Muslims." - they hold. Now, Americans are lacing the polio vaccine with an anti-fertility agent that sterilizes children (or, in an alternate theory, it infects them with AIDS). This conspiracy theory has single-handedly returned polio to epidemic proportions. Sixteen countries where polio had been eradicated have in recent months reported outbreaks of the disease. The incidents of 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.

Various research findings suggest various reasons behind the failure of PPI to achieve desired outcomes. Such as, Kabir, et. al. (2006) reported that in Nigeria, 12.6 – 32.2% people believe that administering more than four doses of polio vaccine is harmful to a child. Few also believe that the vaccine may cause infertility, paralysis, abscess, and infections like HIV/AIDS.

According to a study by Goswami, (2007), the statistics of polio immunization in Muslim countries like Pakistan shows that it is not facing the same problem as in India, so the problem does not lie with community, but it may lie in the communication and advocacy.

According to Lahariya, (2007), the global arena for polio eradication had changed and that better understanding was needed of the populations in which WPV circulation continued.

Qidwai and Ayub, (2007), studied the knowledge, attitude and practice regarding immunization among family practice patients in Pakistan and after identifying major deficiencies in polio vaccination programme, they recommended a strong need for education program for the masses about immunization. They also recommended further studies among the communities along with debate on this important public health issue. Over 90% of respondents were in favour of vaccination and believed that it prevents disease.

According to Leach and Fairhead, (2008), principles underpinning communication strategies regarding polio eradication in India and Pakistan include: i) use of epidemiological, social and behavioural data to assess social /individual constraints, such as knowledge gaps and resistance, to develop effective interventions to reach underserved groups; (ii) development of innovative and intensive interpersonal communication /social mobilization strategies; and (iii) engagement of community and religious leaders.
Shrestha, (2008), carried out a study among the underprivileged Janajati mothers of children of 12-23 months’ age in border district in Nepal and found that in one part of programme area, one fourth of mothers expressed that they vaccinate their kid on/after fourth week of child age. All mothers agreed that child can be given polio vaccine repeatedly. Most of mothers (96%) agreed that the polio vaccine does not harm children. While in another part of programme area, 29% of mothers did not agree that polio is harmless. Mothers’ belief percentage on children who should not receive polio vaccine was high among sick children.

Kelly, et. al. (2009), reported that a disproportionately heavy load of cases were from predominantly Muslim demographic areas, in Nigeria where polio cases were confined to six states in the north with majority Muslim populations, around the epicentre of reservoir in Kano State.

Nikky. (2009), conducted a case study in a hospital in Nigeria and revealed that there was a strong belief among the people that polio vaccine was aimed at reducing their population through birth control. About three years ago the government of Kano State vehemently opposed the administering of the vaccine on the children. The public relation managers addressed the issue by organising public enlighten programmes through radio & TV advertisement; meetings with the stakeholders and health officials, government representatives, council of Ulamas, the village heads; house to house campaign, etc.

In spite of all these there are still recorded cases of polio in the state mostly in many local government of the state and villages surrounding the area.

Sultan and Mansoori, (2009), carried out a study in NWFP Pakistan to explore the effects of electronic media polio immunization campaign on parents at cognitive (awareness/knowledge) and co-native (behaviour/practice/implementation) levels. They found that there was role of TV and radio in awareness about polio immunization campaign by 70.6% and 48% respectively. Higher education, high socio-economic status and well exposure to electronic media were significantly related with this awareness. Around 95.6% of high socioeconomic status families, 95% of well-educated and 91.6% of very/frequent exposures to electronic media had fully immunized their children as compared to 80.8% of low socioeconomic status families, 73.6% of illiterate parents and 69% of no exposure to electronic media.

A report in the Health Protection Report (Anonymous, 2010 a), revealed that there was a polio outbreak in Tajikistan and the Poliovirus was of type 1 which is most closely related to a poliovirus isolated in Uttar Pradesh in India. As of 28 April 2010, 171 cases of acute flaccid paralysis (AFP) had been reported, the majority with onset of paralysis. Polio is a virus transmitted through food and water. So, travellers to areas with on-going polio transmission should practise strict food and water hygiene measures.
According to Taylor and Shimp, (2010), the problem of polio eradication was the persistent immunisation gap of up to 15% (approx.) within the target population in specific areas of the remaining endemic countries. Continued susceptibility among children in a few limited areas was sustaining WPV transmission and thus threatening the outcome of the entire global programme (Taylor, 2003). PPI experiences from India and Nigeria suggest that information, education, awareness, and knowledge have relation to changing behaviour regarding polio vaccination. The complexity of wider ecological conditions influence and limit the individuals to choose and the capacity to choose. More insights are needed as to how a holistic health programme can be adopted in the context of larger social, economic, political, and cultural forces.

Saleem, (2011), reported that in Pakistan a sermon through radio and masjid loudspeakers denounced polio vaccination as an American ploy to sterilize and reduce the population of Muslims. That the vaccinations were made out of pig fat and hence forbidden for Muslims, some of these sermons declared any child who got paralyzed or died of polio a martyr, for refusing to fall for a western conspiracy.

The report also highlights some grave realities in the country; "We have no food or clean water to drink, why is the government so concerned about polio?" – says many Pakistanis. "Some parents go as far as demanding a sack of flour or clean water in return for agreeing to get their children immunized." Political mistrust (especially on America) has started this problem. On the other hand, many Muslim scholars were even quoting verses from the Holy Qur'an about the importance of healing a single human being equal to healing humankind, in order to convince people about the importance of polio vaccination.

In reality - religion, war, poverty and politics are all entangled and the country's problems (especially polio) cannot be solved without addressing all these things.

Sengupta, (2011) reported that Pakistani people are convinced that vaccinations are part of a western conspiracy. Campaigners have to battle rumours that vaccinations have been designed by western organizations to reduce Muslim populations. One of them argues that why the West would be interested in helping Pakistan and continues to harbour his own suspicions voicing the belief common also amongst Islamic fundamentalists in Nigeria that polio vaccines were designed to keep Muslim populations down. They fail to understand, “why are we forced to take the vaccination when we don’t want it?“

According to a GPEI–SESRIC study report (Anonymous, 2011 a), - Afghanistan, India, Pakistan and Nigeria where polio endemic, whereas, 16 countries are experiencing outbreaks of poliovirus following an importation. In 2010, more than 73% of OIC total polio cases were registered in non-endemic importation member countries.
Although door to door campaigns to deliver Oral Polio Vaccine (OPV) in specific areas was organized by GPEI; till 2010, Tajikistan registered the highest number of polio cases (458) followed by Pakistan (144) and Democratic Republic of Congo (93). Immunization coverage estimates over 81% of infants were immunized in Organization of Islamic Cooperation (OIC) member countries in 2009. At the OIC regional level, 96% of infants were immunized against polio in Europe & Central Asia followed by Latin America & Caribbean (92%), East Asia & Pacific (90%), Middle East & North Africa (90%) and South Asia (88%); whereas the coverage rate remained only 65% in Sub-Saharan Africa. Higher immunization coverage rate helped to eradicate the polio disease in OIC member countries.

**Wasif, (2011),** reported that the Speakers of the Pakistan Parliament expressed concern over the increasing number of polio cases in Pakistan. He added that after spending huge funds and resources on the polio immunization programme, we have failed to achieve the required goals. “*The major reason behind the presence of polio in the county is not a shortage of funds and other resources but poor governance and health system,***” said Pakistan Health Policy Forum President. Pakistan is the only country where polio cases are raising. In Sindh the major reason behind this increase is the clash between the common man and the elite. Due to high illiteracy rate, it has become difficult to change the mindset of people on polio vaccination.

According to **Salzberg, (2012),** unfortunately, even here in the U.S. we have our own conspiracy theorists: the anti-vaccination zealots over at Age of Autism, where Dan Olmsted and Mark Blaxill recently posted a series of articles claiming that polio is "a harmless intestinal bug" that only causes disease when triggered by pesticides or by arsenic. Without widespread vaccination in those countries, polio could re-establish itself in any of them. He acknowledged that polio is extremely difficult to control, because a large majority of infected people show no symptoms, but they can still spread the virus. Vaccination campaigns need to treat everyone who comes in contact with an infected individual in order to break the cycle of transmission. This is especially hard to do in remote areas of poor countries, especially when the populace is suspicious and uncooperative.

A fresh report in *The Statesman* (Anonymous, 2013 a) rises our concern about the intensity of opposition towards polio vaccination to the Muslim children. A Pakistan Police had to loss his life in this strong force of opposition.

That the opposition to polio vaccination is persistent in our immediate neighbour Muslim country is further proved by a revelation, again in *The Statesman* in few months back (Anonymous, 2013 b). According to this report, Muslim women in Pakistan are facing death threat everyday as they venture out to vaccinate their wards against polio.
There seems to be no sign to die-down this strong force of polio opposition in Muslim dominated Pakistan. According to *The Express Tribune*, very recently a shocking incident occurred there. The local people physically attacked the polio team in many parts in Pakistan, including Karachi, Mansehra and Panjgur. This led to the death of four people. (Anonymous, 2014 a).

According to a report in *Middle East Health* (Anonymous, 2014 c) the dreaded polio has returned to Iraq after an absence of 14 years, when a six-month-old Moussa Hezam became paralysed this year after contracting polio on the outskirts of Baghdad. This is likely the result of violence and displacement, due to USA led invasion in 2003 which have interrupted immunization campaigns. And despite a massive vaccination campaign, experts believe vaccination alone is not enough to halt the spread of this incurable and highly contagious disease in the country. They say current living conditions – dire poverty, lack of sanitation and contaminated water exacerbate the problem and unless these are resolved, vaccination alone is likely to fail.

McNeil D, (2014) reported that the World Health Organization, alarmed by the spread of polio to several fragile countries, declared a global health emergency on 5\textsuperscript{th} 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 others are Ethiopia, Israel, Nigeria and Somalia. (McNeil D,2014 and Anonymous, 2014 b).

Polio is still with us, and it could return. Besides the 3 countries with endemic polio, 9 other countries continue to suffer polio cases that were imported from endemic countries. Without widespread vaccination in those countries, polio could re-establish itself in any of them.

The above findings suggest that even Intensive Pulse Polio Immunization (IPPI) programme is in run for about two and half decades, it failed to achieve polio-free world till today. Different factors including people’s poor knowledge and understanding of the disease to the negative attitude developed mainly due to unequal developments seem to be the reasons behind this failure. Almost all these cases are concerning the Muslim community people. In our state there is an appreciable percentage of Muslim population (30\% approx.). The fight against polio will be successful only when proper knowledge is provided and right attitude is inculcated among these people. This is the function of Health Education. Before doing that there arises the need to study the knowledge and attitude of the people belonging to Muslim community towards polio.

This research work will try to find out the impact of literacy status on knowledge and attitude towards polio of the Muslim community people. It is expected that the findings will be very much helpful in effectively shaping or rearranging /planning various programmes directed towards the eradication of polio from our country as well as from the world.
References


Anonymous (b), (29 Sept, 2004), Whether ‘Mad Cow’ Virus has Entered in India, Centre Enquiring, *Anandabazar Patrika*, Kolkata, p.11


Anonymous (c), (12 Feb, 2011), Polio patient found in Panchla-village again (ফ্রেন্স গোলিও রোগী মিলল পাঁচলার গামে), Anandabazar Patrika, Kolkata, p.7.


Anonymous (a), (11 Apr, 2013), Pak cop killed in anti-polio team attack, The Statesman, Kolkata, p.8


Anonymous (b), (12-18 May, 2014), Red alert regarding polio (গোলিও নিয়ে লাল সতর্কতা), Natun Gati, Kolkata, p.9.

Anonymous (c), (May – June, 2014), Polio Returns to Iraq, Experts warns vaccination alone not enough to beat the disease, Middle East Health, Hurst Publishing FZE, Creative City Fujairah.


