INTRODUCTION

In 1988, the World Health Organization, together with Rotary International, UNICEF, and the U.S. Centers for Disease Control and Prevention passed the Global Polio Eradication Initiative, with the goal of eradicating polio by the year 2000. However, in 2011 incidence rates of the disease were dramatically reduced, and with after large reduction again in the early months of 2012, hopes for eliminating polio have been rekindled. India is the newest country to successfully eradicate Polio.

Acute flaccid paralysis (AFP) surveillance was introduced in Pakistan in 1995, and by 1998, staff in all provinces were trained in AFP surveillance and were sending monthly case reports to theExpanded Program on Immunization (EPI) office. AFP surveillance was strengthened through surveillance assessments in many districts and introduction of computerized case line listings at the provincial and national levels. The poliovirus laboratory at the National Institutes of Health in Islamabad serves as both the National Poliomyelitis Laboratory and the WHO Regional Reference Laboratory for Poliomyelitis; it performs primary poliovirus isolation from stool specimens and intratypic differentiation of poliovirus.

To monitor AFP surveillance performance, a reported non-polio AFP rate of greater than or equal to 1 per 100,000 population aged less than 15 years is used to indicate a sensitive AFP surveillance system.

To the end of June 2011, 241 cases globally have been reported (216 wild polio virus type 1 and 25 wild polio virus type 3). This compares with 456 cases reported to the end of May in 2010 (399 type 1 and 57 type 3). Cases have been reported in the four endemic countries -- Pakistan, Afghanistan, Nigeria and India -- as well as in the Democratic Republic of Congo, Chad, Angola, Mali, Cote. Over 80% of all cases seen this year come from three countries: Chad, the Democratic Republic of the Congo and Pakistan. In India, only 1 case of wild poliovirus has been reported.

The situation in Pakistan is complex. The lowest number of cases reported in one year was 32 in 2007. In the first six months of 2011 there were 69 cases (compared with 37 in the same period in 2010). The remaining focuses lie in three parts of Pakistan (Balochistan, Karachi and
At end of 2011 the WHO recorded a total of 650 cases worldwide. 310 of these were considered to be part of outbreaks. 16 countries recorded cases. Pakistan had the greatest number (198)\(^6\).

Present study was designed to determine the status of the AFP surveillance system at Mohmand agency FATA in a sense to improve the sensitivity of the system in 2012.

**RESEARCH METHODOLOGY**

**Design**

Retrospective study

**Sampling**

25 AFP cases

**Duration of study**

Jan to Dec 2011.

Inclusion criteria were all AFP cases reported from the agency or cross reported from other districts/agencies for mohmand agency.

Exclusion criteria was age above 15 years or flaccid cases of duration more than 60 days after paralysis developed.

Procedure and techniques: the rec files of all the AFPs were collected and analyzed for various information’s to be collected. The relevant information were recorded from these cases in accordance to the objectives of the study.

**Data Analysis**

Data was entered in the MS Excel program and analyzed for purposeful information.

**RESULTS**

A total of 25 cases were reported in 2011 in Mohmand agency as AFP cases. Eleven were females (44%) and 14(56%) were males Table I.

The age range of these patients were from 6 months to 56 months of age. Mean age with SD was 37.12±33 months.

The frequency of cases reported from various tehsils were: safi (36%), Pindialy and ekka ghund, Halimzai 16%, Prang ghar and ambar4%, and Khweze/baizai 8% (Table II).

<table>
<thead>
<tr>
<th>Tehsil</th>
<th>No. of AFP cases reported</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambar</td>
<td>01</td>
<td>04</td>
</tr>
<tr>
<td>Halimzai</td>
<td>04</td>
<td>16</td>
</tr>
<tr>
<td>Pindialy</td>
<td>04</td>
<td>16</td>
</tr>
<tr>
<td>Pran Ghar</td>
<td>01</td>
<td>04</td>
</tr>
<tr>
<td>Safi</td>
<td>09</td>
<td>36</td>
</tr>
<tr>
<td>Khweze Baizai</td>
<td>02</td>
<td>08</td>
</tr>
<tr>
<td>Ekka ghund</td>
<td>04</td>
<td>16</td>
</tr>
<tr>
<td>Grand Total</td>
<td>25</td>
<td>100</td>
</tr>
</tbody>
</table>

Map shows the Distribution of the AFP and confirmed polio cases in various tehsils of the mohmand agency (Figure 1).

Fourteen (56%) cases reported as urgent cases (Table III).Four cases were confirmed polio type 1 wild type cases (Table IV).

Majority of the cases (56%) had developed weakness due to injection neuritis and traumatic neuritis, 8% as Guillain barre syndrome, and 8% as meningitis, Table V.

The laboratory findings about virus nature are shown in the table VI. 20% of cases had enteroviruses in its stoll specimen.
doubles its cases, which pass from 4 at this point in 2011 to 8 in 2012. Nigeria has a very big surge of polio in the first part of 2012, with 39 cases as of the 5th of June of this year, compared to only 10 confirmed infections at this point to the precedent year.

16 cases were cross reported from other agencies and the remaining from the agency itself. Ghallani AHQ Hospital, RHC Ekka ghund and Mechany BHU are main diagnostic and referral centers for AFP in the agency.

DISCUSSION
Up to 3rd April four countries have reported cases: Pakistan 15, Nigeria 17, Afghanistan 5 and Chad 3 (total 40). In the same period in 2011 there were 86 cases. As of the 5th of June 2012, the total number of reported cases worldwide stands at 67, compared to 195 at this point in 2011. Pakistan has got a strong decline of cases, 21 compared to 49 at this point in 2011. Afghanistan doubles its cases, which pass from 4 at this point in 2011 to 8 in 2012. Nigeria has a very big surge of polio in the first part of 2012, with 39 cases as of the 5th of June of this year, compared to only 10 confirmed infections at this point to the precedent year.

In our study there were 11(46%) females and 14 males (56%) male to females ration 1.3:1.dose children. And nearly one third of these children were zero. In another study from malaysia it was noted that Thirty-four children with AFP were admitted in hospital in the last three years with the highest number (14) in 1998. The majority of children belonged to the age group 5-9 years with a male female ratio of 1.3:1. Nearly one third of the cases were either partially vaccinated or not vaccinated et al.

In present study 4 cases (16%) out of 25 AFP reported were polio confirmed cases. Another study that included
monthly visits, educational activities, etc. At the result of that study, out of 64 AFP cases 22 were poliomyelitis.

NPEV (Non polio enteric viruses) were isolated from 20 of the sampling received from mohmand agency in the Laboratory. NPEV are a dominant cause of AFP and different serotypes of NPEV are randomly distributed in Pakistan. The untypable isolates need further characterization and analysis in order to determine their association with clinical presentation of a cases. Saeed M et al reported that NPEV-associated AFP were found to be 62%. The paralysis was found asymmetrical in 67% cases, the progression of paralysis to peak within 4 days was found in 72% cases and residual paralysis after 60 days of paralysis onset was observed in 39% cases associated with NPEV. Our NPEV ration is less than the findings of the authors cited above.

In present study 8% of all non AFP cases were Guillan barre syndrome (GBS) of all non polio AFP cases. In a study from latin America GBS were reported, representing 52% of all nonpolio AFP cases. This study confirmed that with the disappearance of polio, GBS arises as the most common cause of AFP. A local study also reported that out of 74 patients presented with AFP 36 were male and 38 were female. Guillain Barre syndrome and enterooviral encephalopathy were the two leading causes of acute flaccid paralysis.

Traumatic neuritis due and injection neuritis more than fifty percent cases. while Alcala H reported that out of 246 children, 42 has poliomyelitis (17%); 156 has Guillain-Barré syndrome (GBS) (63.4%); 16 had traumatic neuritis of the sciatic nerve secondary to IM injections (TNC) (6.5%); five had transverse myelitis (2%); the rest (27) had other diseases misdiagnosed as polio (10.9%).

In January 2012, completion of polio eradication was declared a programmatic emergency for global public health by the Executive Board of the World Health Organization (WHO). Despite major progress since the launch of the Global Polio Eradication Initiative (GPEI) in 1988, circulation of indigenous wild poliovirus (WPV) continues in three countries (Afghanistan, Nigeria, and Pakistan). Although progress toward polio eradication was substantial in 2011, persistent WPV circulation in 2012, particularly in Nigeria and Pakistan, poses an ongoing threat to eradication efforts, underscoring the need for emergency measures by polio-affected countries and those at risk for outbreaks after importation.

CONCLUSIONS
We have at time bit weak surveillance system for AFP and the being a part of FATA and its security volatile situation, all makes it more suitable for the polio virus to circulate. There is low level of awareness and stigma associated with Polio vaccines which is alarming for public health workers. The cross reported cases ration is more which shows its weak catch up. We need to increase the network of the AFP reporting sites. We also need to improve our zero reporting or passive surveillance system which is not functioning at time. Furthermore community surveillance system need to be established. And last but not the least the stigma to be reduced through awareness and social mobilization.

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REFERENCES


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