In The Islamic Republic of The Gambia, vaccines given to children between birth and 12 months of age protect against 11 different diseases. Injectable vaccines are used for 10 of these pathogens. Including all WHO\(^1\) recommended vaccinations in its national immunization schedules, The Gambia has been administering multiple injectable vaccines in a single visit. When they introduced IPV\(^2\) (Inactivated Polio Vaccine) in April 2015, The Gambia increased from 2 to 3 injections at the 4-month vaccination visit.

**MAIN CONCERNS AT THE INITIAL POINT**

Concerns about whether healthcare providers and infant caregivers will accept the administration of increasing numbers of vaccines, especially injectable vaccines, in a single visit have previously influenced the introduction of new injectable vaccines. Previous studies around the world\(^3\) have indicated that healthcare providers and infant caregivers in fact will usually comply with the administration of three or more injectable vaccines to children at a single immunization visit. These studies have all been conducted in high or upper middle income countries. Obtaining insights from a lower income country is important as it could help immunization programs in such settings determine how best to accommodate new injectable vaccines, such as PCV\(^4\) and IPV.

**SNAPSHOT OF THE GAMBIA**

To recall, The Gambia is a small country (11,300 km\(^2\)), with a high population density (194 inhabitants/km\(^2\)) for 1.990,924 inhabitants. This landlocked country, surrounded on three sides by Senegal, and with an economy based on agriculture, is ranked among the last quarter of the poorest of the world (175/188 – World Bank HDI\(^5\)). To our knowledge, this is the first time that such data have been collected and reported in a low income country.

**METHODOLOGY**

Studies were conducted 1 month before and 2 months after IPV introduction, in order to assess the attitudes and practices of both healthcare providers and infant caregivers about adding IPV as the third vaccine injection. Both surveys targeted eligible healthcare providers who had administered vaccinations during at least one routine immunization session in the previous two months and, any adult 18 years of age or above who brought an infant to the health facility for his or her 4-month vaccination visit. For the pre and post introduction survey, a questionnaire was administered to the same health workers in 30% of the total number of facilities within each stratum (urban/rural), and a total of 393 caregivers during Exit interviews.

<table>
<thead>
<tr>
<th>Health Post - Vaccination Point (VP)</th>
<th>TOTAL country</th>
<th>Selected VP(^6) TOTAL selected</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>Rural</td>
<td>Urban</td>
<td>Rural</td>
</tr>
<tr>
<td>Pre-Introduction</td>
<td>28</td>
<td>39</td>
<td>67</td>
</tr>
<tr>
<td>Post-Introduction</td>
<td>28</td>
<td>39</td>
<td>67</td>
</tr>
</tbody>
</table>

Source: Idoko, Hampton and Cie Acceptance of Multiple injections, Gambia 2015

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\(^1\) WHO: World Health Organization

\(^2\) IPV: Inactivated Polio Vaccine (for technicians) or Injectable Polio Vaccine (for large population)


\(^4\) PCV: Pneumococcal Conjugate Vaccine

\(^5\) HDI: World Bank Human Development Index

\(^6\) VP: Vaccination Point
FINDINGS OF THE PRE & POST ASSESSMENT OF THE IPV INTRODUCTION.

HEALTHCARE PROVIDERS

Most healthcare providers interviewed were public health nurses (94.7%) and had been practicing for 5 or fewer years (88.9%). Almost all (97.6%) had received training in IPV administration prior to IPV introduction. It is worthy of note that even though The Gambia is a low-income country, health services at primary level are delivered by professionals with good experience and knowledge of current regulations.

Interestingly, health care providers proved more hesitant about multiple injections after IPV introduction, even though the proportion of those giving more than 3 injections/vaccination visit increased consistently. Causing too much pain and discomfort for the child was cited by approximately 27% of healthcare providers pre- and post-IPV introduction as a reason for their wanting to limit the number of injectable vaccines administered at a single visit.

However, even though 5% of providers were still not comfortable with the official number of injections per visit, they generally believe that the vaccines given were providing maximum protection against diseases.

While concerns about the administration of multiple injectable vaccines at a single visit need to be recognized, results from The Gambia and other countries indicate that such concerns do not translate into reduced uptake of vaccines and should, therefore, not dominate policy-making. The high rate of acceptance by healthcare providers of the administration of three injectable vaccines at a single visit may have been facilitated by the fact that approximately 70% of the surveyed providers reported that they had already administered more than 2 injections in a single visit before the introduction of IPV.

CAREGIVERS

Almost all caregivers interviewed pre and post IPV introduction were the mothers of the vaccinated infants. The encouraging picture is that the children whose caregivers were interviewed pre and post-introduction received all three required vaccinations for that visit. There was high agreement (>95%) among infant caregivers pre- and post-IPV introduction with pre-formulated statements on the questionnaires relating to vaccines protecting children from serious disease and doing more good than harm. Another parent after an immunization session in Wassadu observed: “In the past, measles killed many children in our part of the country but now that is a thing of the past, thanks to the national immunization programme”.

The infant caregivers in The Gambia studies appear to have balanced their concerns about pain from the administration of multiple injectable vaccines with concern about risk of severe disease and the convenience of minimizing the number of visits to the facility. Ensuring that messages to infant caregivers include these latter advantages may be useful for addressing the concerns of future infant caregivers regarding the administration of multiple injectable vaccines.

"After all, everybody who is a mother wants to see the last of children’s illnesses, not to mention that frightful thing called Polio.”

Participant in Banjulinding, West Coast Region.

Source: Idoko, Hamptom & Cie: Acceptance of Multiple injections, Gambia 2015

Prior to IPV introduction | After IPV introduction
---|---
12.0% of infant caregivers stated that they were not willing to accept more than 1 vaccine at a single visit | 8.9% reported not being willing to accept more than 1 injection

The most common reasons cited for hesitation were concern about pain (38.3%) and fever (31.7%) from several injections

The most common reasons cited for hesitation were concern about pain (47.0%) and fever (38.5%) from several injections

90% of infant caregivers agreed that vaccinators could be trusted to know how many vaccines a child should receive in order to be protected

90% of infant caregivers agreed that vaccinators could be trusted to know how many vaccines a child should receive in order to be protected

Source: Idoko, Hamptom & Cie: Acceptance of Multiple injections, Gambia 2015

Gambian child, at an immunization session. Banjul - UNICEF. 2015
Finally, results indicate that statements of concern about the administration of multiple injectable vaccines at a single visit do not reliably predict caregiver actions. While concerns about the administration of multiple injectable vaccines at a single visit need to be recognized, these results and those of others indicate that such concerns do not translate into reduced uptake of vaccines, suggesting that such concerns should not dominate policy-making. Based on these results, the concerns of both healthcare providers and infant caregivers about an increased number of injectable vaccines administered at a single visit can and should be addressed through educational efforts.

**SOURCE OF INFORMATION OF CAREGIVERS**

Similar to the profile of other low income countries, the main source of information for caregivers about immunization is the healthcare provider (>80%). It can be presumed that providers are a trusted source of information on immunization, and that caregivers receive this information when they visit health posts. That said, health facilities should take this opportunity of immunization visits to educate caregivers. Relatives and neighbours are another important source of information (40%) for caregivers who often influence decision-making. At this level, the opinion of someone who knows about these services and their benefits is of more influence than any other. This proves the value of social networks.

**LESSONS LEARNED**

- Caregivers trusted vaccinators regarding the number of vaccines that a child needed
- Concerns (pain, discomfort, fever) do not translate into reduced uptake of vaccines
- Healthcare providers are major source of information on vaccination to caregivers, followed by family members
- Several injectable vaccines at a single visit resulted in better protection from disease
- Healthcare providers used to administer >2 injections in a single visit before the IPV introduction.

**RECOMMENDATIONS**

- Concerns (pain, discomfort, fever) should not dominate policy-making
- Healthcare providers should play a central role in efforts to educate infant caregivers about new vaccines
- Healthcare providers should have confidence in their ability to persuade infant caregivers to accept new vaccines
- Healthcare providers and caregivers concerns about multiple injectable vaccines administered at a single visit should be addressed through educational efforts.

**CONCLUSION**

Despite expressions of concern from some health care providers and infant caregivers about the administration of multiple injectable vaccines to children both before and after the introduction of IPV, all children taken to vaccination clinics in The Gambia for three injectable vaccines received all required vaccines for the visit, as long as the vaccines were available. This acceptance of an increased number of injectable vaccines administered at a single visit occurred in the context of a high level of trust from infant caregivers in healthcare providers. Acceptance might also be a result of a one-day Training Of Trainers for health facility staff at national level, which cascaded to the regional level. The training was on vaccine administration and management, as well as social mobilization. Nevertheless, concerns about an increase in the number of injectable vaccines administered at a single visit can and should be addressed through educational efforts, with evidence-based strategies.