DIRECTION OF NATIONAL VACCINE PROGRAM AND ROLE OF ADVERSE EVENTS FOLLOWING IMMUNIZATION

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For Myanmar, the National Committee for Immunization Practice (NCIP), a central body established in 2007, guides the National Vaccine Program. Representatives include pediatricians, public health personnel, scientists, and non-government medical professions. The main roles are to formulate optimal immunization policies, monitor progress, conduct research, and update with new vaccines.

The Expanded Program of Immunization in Myanmar began in 1978 to provide BCG vaccine, Diphtheria-Pertussis-Tetanus vaccine (DTP) and Tetanus toxoid. In 1987, measles and polio vaccines was added, follow by hepatitis B vaccine in 2004. There was an increased incidence of measles in 2009 following a temporary cessation of this vaccine a few years earlier. In most parts of Myanmar, EPI coverage runs more than 80% of target population.

In 2012, a pentavalent vaccine, including DTP, hepatitis B and *Haemophilus influenzae* B, was introduced. Mass measles campaigns, which provided a second dose of measles for children 18 months old and intensification of routine immunization, were also implemented in 2012 (MOH, 2013). The next strategy is to eliminate measles by 2015, maintain zero maternal-neonatal tetanus status, regain polio transmission-free standing, and to make evidence-based decision making on how to introduce new vaccines, including Japanese encephalitis vaccine, rotavirus vaccine, pneumococcal conjugate vaccine, rubella vaccine and human papilloma virus vaccine. Taking into account that Myanmar is a GAVI eligible country, pneumococcal conjugate vaccine is being considered as a priority. Data are being collated to determine the incidence of acute respiratory infection related to this group of bacteria.

An important point for consideration is adverse events following immunization (AEFI), which is defined as a medical incident that takes place after an immunization, causes concern, and is believed to be caused by the immunization (Table 1). There is still no consensus on the duration of the onset; however, most agree on one month.

The balance between disease and vaccine side effects is considered at each new vaccine introduction and mass campaign. Unsatisfactory monitoring, investigation, and causality analysis lead to questionable vaccine safety and AEFI handling, which in turn causes the public to lose faith in the immunization program and an increase in disease incidence. It is imperative therefore to organize an all-rounded system to deal with AEFI, covering the detection, communication, management, and evalu-

Table 1
Classification of adverse events following immunization (AEFI).

Type of AEFI	Definition	Example
Vaccine reaction	An event caused or precipitated by a vaccine when given correctly. This is due to the inherent properties of the vaccine.	Anaphylaxis due to measles vaccine.
Program error	An event caused by an error in vaccine preparation, handling, or administration.	Bacterial abscess due to non-sterile injection.
Co-incidental	An event that occurs after immunization but is not caused by the vaccine. This is due to a chance association.	Pneumonia that occurred 4 days after oral polio vaccine administration.
Injection reaction	An event from anxiety about or pain from the injection itself, rather than the vaccine.	Fainting spell in a teenager after immunization.
Unknown	Cause of event cannot be determined.	

ation dimensions. For Myanmar, the AEFI surveillance system is under the NCIP, which ensures the quality of immunization service and reduces the negative impact, maintains confidence, identifies program errors, and creates awareness.

Important steps for AEFI system are what to report and how to go about it. In Myanmar, it is required to report severe local reaction, injection site abscesses, BCG lymphadenitis, severe or unusual health events that the health care worker or community thinks was caused by the vaccine including but not limited to hospitalization or death. When an AEFI is identified, it is mandatory for the health worker to make a report within 24 hours, usually to the township health officer. At the central level, there is an AEFI expert review committee to investigate and analyse data at a country level. During 2002-2011, there were reports up to 8 deaths per year as severe AEFI cases. Three serious cases of AEFI were reported immediately after the introduction of pentavalent vaccine. The systematic causality assessment was done promptly by AEFI surveillance committees, all were categorized as unrelated events.

In summary the National Committee for Immunization Practice in Myanmar is established and has an important role to formulate the optimal immunization policy, monitor progress, conduct research, and update with new vaccines. Adverse events following immunization is defined as a medical incident that takes place after an immunization, causes concern and is believed to be caused by the immunization (WHO, 2012). AEFI could lead to a loss of confidence in immunization program and subsequent rise in disease incidence. Therefore, the AEFI surveillance system should be implemented in the national vaccination program to ensure the quality of immunization service, reduce the negative impact, maintain confidence,

identify program errors, and create awareness (Table 1).

REFERENCES

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