

Deadline looms for pneumonia vaccine

PCV13 proven to be effective against pneumococcal infection, provides herd immunity

Pneumonia has been identified as one of the leading causes of death among children in Indonesia. President Joko "Jokowi" Widodo has declared reducing infant mortality as one of his government's top priorities. Efforts through behavioral change and medical treatment targeted at preventing this childhood disease should, therefore, be at the heart of the government's health programs. The Jakarta Post's **Elly Burhaini Faizal** takes a closer look at the issue in this Special Report.

It is good to see that the progress of the country's efforts to solve various health issues has been quite remarkable. A health campaign dubbed the People's Healthy Lifestyle Movement (Germas) was introduced nationally in November 2015 to improve the quality of life and well-being of all Indonesian people. The movement aims to change people's behavior and encourage them to adopt a healthier lifestyle.

In particular reference to combating pneumonia prevalence, the need to convert to a healthy lifestyle was introduced on a massive scale. Campaigns have been launched for mothers to be committed to exclusive breastfeeding and to follow a balanced dietary intake as such measures could help prevent a weak immune system.

Campaigns have also been held for healthy living habits, such as hand washing with soap prior to eating, getting involved in massive tobacco control, as well as creating a healthy environment with zero pollution.

However, various health challenges that continue to hamper society, such as stubbornly high infant and maternal mortality rates, a staggering rate of children with stunted growth and the growing burden of diseases, obviously show that the government's work is far from over.

Apart from behavioral changes, efforts to prevent infant deaths will certainly need medical measures. Specifically for pneumonia, Indonesia is obviously in dire need of new vaccines, such as the pneumococcal conjugate vaccine 13 (PCV13), which has been introduced to reduce pneumonia cases through a PCV immunization pilot project held in the West Nusa Tenggara regencies of East Lombok and West Lombok in October 2017, followed by Bangka Belitung in 2018.

"We need to expand pneumonia vaccination if we want to reduce drastically reduce infant mortality rate," said the National Development Planning Agency's (Bappenas) nutrition and child health director, Pungkas Bahjuri Ali, in

a discussion on drug and vaccine management in Jakarta on Oct. 8.

The 2018 Basic Health Survey (Riskesmas) shows that the prevalence of pneumonia increased last year to 2 percent from 1.85 percent in 2013. Nationwide, confirmed cases of pneumonia in children under 5 stand at about 500,000 per year from 2015 to 2018. Confirmed cases of pediatric pneumonia last year reached 505,331, of which 425 patients died.

Pungkas said the government had also drawn a road map for the inclusion of pneumonia vaccination into its basic, complete immunization program by 2024 at the latest. However, the government's plan to introduce PCV13 is now facing a financial barrier because it might further burden the state budget because of its high cost.

"Pushing forward, health promotion and disease prevention programs are much better because they are more effective and efficient. However, with our limited budget, it becomes a serious challenge for the government to be able to increase health promotion and disease prevention programs amid our tight budget," Pungkas told *The Jakarta Post*.

"The challenge now is how we can make budget spending more efficient. We want to optimize the use of our budget through efficiency in the procurement of drugs and vaccines," he added.

PCV13 was first introduced in the United States in 2000 and has since reached most countries around the world. Indonesian Technical Advisory Group on Immunization (ITAGI) health systems specialist Prof. Soewarta Kosen said it was unfortunate to see that as of today, the government had not yet provided PCV in its immunization programs while in fact, 145 countries had used the vaccine. With its high potential to prevent diseases and lower the cost of health care, PCV13 has been highly recommended by the World Health Organization and other world health bodies to be included in national immunization programs (EPI).

Available vaccines in 2019



Source: Bappenas

JP/Hengky Wijaya

As a so-called "sophisticated" vaccine, PCV, which provides protection against 10 to 13 strains of the (pneumococcus) bacteria, can be manufactured only in the US and Europe, making it difficult for the government to expect a transfer of technology for its state vaccine maker, Bio Farma.

However, Soewarta said, this is not a reason for the government to refuse the inclusion of pneumonia vaccines into its EPI because Gavi, the Vaccine Alliance, has offered PCV13 procurement support under the Advance Market Commitment (AMC) scheme via UNICEF.

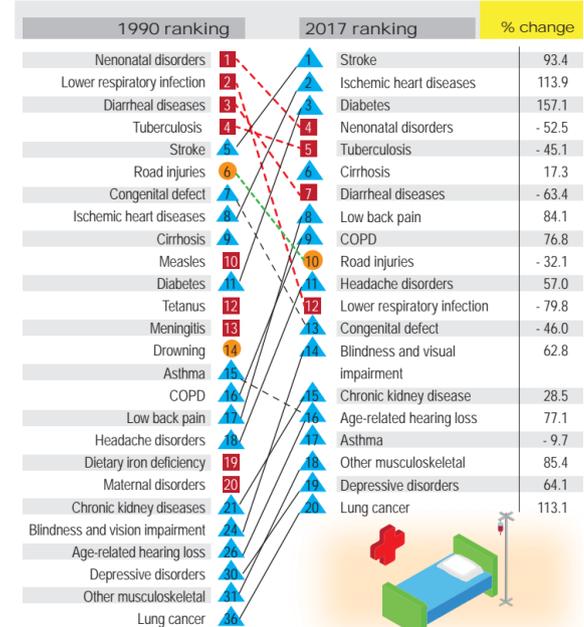
AMC-UNICEF is an agreement to fund the purchase of an as yet unavailable but urgently needed vaccine in a developing country.

Under the AMC-UNICEF scheme, Indonesia can buy PCV13 at only US\$2.93 per dose, far lower than the market price of \$20. As a result, Soewarta said, the government's vaccine cost for three doses of vaccine injections per infant would amount to only Rp 615.3 billion (\$43.95 million). With around 5 million infants needing to get vaccinated per year, the government may save Rp 3.58 trillion annually from vaccine procurement only, the analyst added.

"The new vaccine procurement system, AMC, which has helped countries procure expensive vaccines, including for pneumonia, allows Indonesia to accelerate the adoption of PCV13 — which has been proven effective and provides herd immunity — into its national routine immunization program."

As the Dec. 31 deadline for the government's agreement to par-

20 leading causes of DALY loss, Indonesia 1990 & 2017



Source: Paper titled "Indonesia's procurement system's influence on cost effectiveness analysis for new vaccines", presented by Soewarta Kosen in Jakarta on Nov. 12, based on data from "Global, regional, and national disability-adjusted life-years (DALYs) for 359 diseases and injuries and healthy life expectancy (HALE) for 195 countries and territories, 1990-2017: A systematic analysis for the Global Burden of Disease Study 2017" (Lancet, Vol. 392, Nov. 10, 2018)

JP/Hengky Wijaya

ticipate in the AMC scheme draws nearer, Bappenas, the Finance Ministry, the Health Ministry and the National Procurement Agency (LKPP) have continued their discussion on whether Indonesia will adopt the pneumonia vaccine into its national immunization program.

"We know that from the [AMC price scheme] offered by UNICEF, we can save on costs," Purwanto, director of budgeting for the human development and culture department at the Finance Ministry's Budget Directorate General, told the *Post* recently. In the 2019 state budget, the

Finance Ministry allocated Rp 355.34 billion to procure PCV13 for 1.42 million babies with a vaccine market price of Rp 249,491 per dose. In 2020, the government plans to spend Rp 343.02 billion to procure PCV13 for 1.74 million babies, with a vaccine price of Rp 197,226 per dose.

"If we buy PCV13 by using the AMC scheme, we may need to spend only Rp 75.64 billion, in which the vaccine price will be only Rp 43,500 per dose. We can save Rp 267.38 billion from this scheme," said Purwanto, adding that what the government must first ensure is that the AMC scheme did not contradict with prevailing regulations on the procurement of government goods and services.

According to the LKPP, Presidential Regulation (Perpres) No. 16/2018 on the procurement of goods and services has actually allowed the government to access imported vaccines through international procurement schemes such as the AMC.

"The AMC is a pure business scheme. We refer to them as 'procurement consolidation', in which a business entity sells similar goods in huge quantities, resulting in far lower prices," said Fadli Arief of the LKPP. "This is what we know as 'value of money'."

While praising the AMC scheme, University of Indonesia (UI) public health expert Hasbullah Thabrany said although PCV was very costly, Indonesia should have been able to buy the pneumonia vaccine without having to rely on financial support from international donor groups.

He cited the government's readiness to provide energy subsidies worth Rp 125.3 trillion, almost equal to the government's budgetary allocation for the health sector.

"Why is the government reluctant to invest in people's health through vaccination?" Hasbullah said.

He sees vaccines as a long-term investment, so their benefits should be seen not only from the amount of money the government can save when purchasing them, but also from their effect on people's health, including their high productivity in the future.

"It all depends on how far the government is committed to improving the health of its people," Hasbullah said.

The fight for improved understanding, attitude toward pneumonia

The Jakarta Post

Jakarta

Pneumonia, an acute lower respiratory tract infection caused mainly by bacteria and also viruses, is the leading cause of death in children in low-income communities. In an economically disadvantaged area, where people live in poor sanitation and have limited access to nutritious food and health care, this kind of infection is a primary cause of childhood deaths.

It is unfortunate to see that despite preventive efforts, Indonesia still sees a high prevalence of pneumonia, which has increased to 2.7 percent in 2013 from 2.1 percent in 2007, data from the 2013 Basic Health Survey (Riskesmas) reveals.

Twenty out of 34 provinces in Indonesia have a higher pneumonia prevalence than the national figure. One of them is East Nusa Tenggara (NTT), where pneumonia prevalence is more than double of the national prevalence, according to the Health Ministry's 2013 Health Research and Development Agency data.

One important thing that many people might not know is the fact that stunting is one of the major risk factors for pneumonia mortality. Stunted children may have a weaker immune system, making them more vulnerable to death by infections, including pneumonia. This is why the government's efforts to combat stunting in children with pneumonia should have been conducted in parallel, with nutrition intervention placed at the heart of the program.

Improving child nutrition through breastfeeding and food supplementation is among the key intervention methods of pneumonia, which are structured in the Protect, Prevent and Treat framework developed by Save the Children, a children's rights advocate, as part of its three-year childhood pneumonia program from 2018 to 2020. The framework aims to bring about community behavioral changes that can help prevent childhood pneumonia.

The childhood pneumonia campaign strategy was launched in 2018 to commemorate the 100th anniversary of Save the Children



JP/Wahyoe Boediwardhana

Best shot: A child receives a pneumonia shot at a community health center (Puskesmas) as part of an immunization program in Temengungan village, Udanawu district, Blitar regency, East Java.

International. A string of Protect, Prevent and Treat campaign activities are currently being conducted in West Sumba regency in NTT and Bandung regency in West Java.

"A lack of breastfeeding is among several risk factors, including low immunization coverage among under-5 children, lack of access to pneumonia vaccines and unhealthy living environment due to cultural and social factors, which all can lead to pneumonia," Tata Sudrajat, advocacy and campaign director at Yayasan Sayangi Tunas Cilik (YSTC), a partner foundation of Save the Children International, told *The Jakarta Post* in Jakarta.

Infant and young child nutrition might improve through simpler interventions, namely exclusive breastfeeding, food supplementation and breastfeeding up to 2 years of age. These three methods are the components of the framework's first pillar "to protect", Tata said.

The YSTC reveals in its report, which was developed together with Padjadjaran University in Bandung, that parents in West Sumba and Bandung actually had a good understanding of the importance of exclusive breastfeeding. However, only 60 percent of their children received this treatment during their first 6 months of life, while the remainder got a combination of breastmilk, formula and other types of food, such as porridge and soft rice.

Many women failed to exclusively breastfeed their babies because they had to go to work, their babies refuse to breastfeed and many other reasons. In Bandung, for example, mothers claimed they were unable to produce a sufficient amount of breastmilk, thus impeding exclusive breastfeeding, which according to some research, can reduce pneumonia cases in toddlers.

Among the critical findings of the study include the fact that only around 80 percent of chil-

dren in West Sumba and Bandung have received complete basic and booster immunizations, while the minimum coverage of childhood immunizations, such as BCG, Hepatitis B, DPT-HB-HiB, Polio 4 and measles/Measles Rubella (MR), should stand at 95 percent.

Mothers in the two regencies were found to have been fully aware of the benefit of immunization. Integrated health services posts (Posyandu) have become their primary choice for immunization for their children. Other places to get immunization are community health centers Puskesmas) and midwives who offer private care services.

Hana Wadoe Koedji, a physician with the YSTC advocacy and campaign team, said that in West Sumba, circulating issues related to the haram or halal status of vaccines did not affect parents' strong belief that their children needed to be immunized.

"In Bandung regency, however,

a number of families refused to immunize their children because of concerns over the haram status of vaccines," she told the *Post* in a telephone interview on Nov. 4.

"By sharing the importance of vaccines to protect children from life-threatening diseases, YSTC field workers encouraged parents to vaccinate their children."

Behavioral intervention, Hana explained, could be very effective in preventing diseases, improving people's health and eventually reducing healthcare costs. Apart from immunization, behavioral intervention such as hand washing with soap, better sanitation and reducing pollution at home are also being pushed forward in the second pillar of the YSTC's pneumonia prevention framework, "to prevent".

In Bandung, poor sanitation and low awareness on the importance of washing hands with soap are reported to have likely contributed to the high rate of

worm infestation in West Java. The unhygienic lifestyle was also associated to the high prevalence of stunting in Bandung regency, which stands at 40.7 percent, according to the 2013 Riskesmas.

Hana conceded that some of these habits could be difficult to change because they had been practiced for generations. Rural communities in West Sumba, for example, live in uma (traditional house) where family members gather and conduct all of their daily activities, including cooking, inside.

"Smoke released from a wood stove circulates inside the house, being constantly inhaled by family members," said Hana.

Inhabitants are also continuously exposed to animal feces from livestock they keep in a stable installed right below their house, which also has inadequate ventilation.

Widespread smoking practices among families surveyed have shown that children and other family members are also highly exposed to air pollution. Such unhealthy living patterns have been identified by the YSTC team to "positively correspond" to a high incidence of pediatric pneumonia in West Sumba.

The YSTC pushes forward clearer roles and responsibilities between mothers and fathers in childcare, better access to healthcare facilities for sick children and a more integrated management of pediatric sickness in health facilities in the third pillar of the framework, "to treat". This aims to ensure that children can get immediate treatment and the right medication once they show pneumonia symptoms such as shortness of breathing.

However, it is unfortunate to find out that many Indonesian health workers have little knowledge on both the symptoms and causes of pneumonia. Many of them have never heard the word "pneumonia" and others even cannot differentiate between pneumonia and upper respiratory infections, said Harimawan Latif, senior campaign manager at Save the Children.

— JP/ELLY BURHAINI FAIZAL