

Review Article

APPA Program Focus: Answer to The Region's Unique Challenges

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Abstract:

The Asia Pacific region consists of 48 countries and hosts the world's most populous countries. With heterogeneous socioeconomic conditions, health inequities are easy to observe yet challenging to overcome. For the past 30 years, The Asia Pacific Pediatric Association (APPA) thrived to increase children's health and welfare through regional collaboration. Health inequalities occur among and within regions of Asia Pacific; steps must be taken to minimize it by acknowledging the social determinants of health. The APPA program focus was initiated in 2018 to determine priority areas in child health, including the first thousand days of life, non-communicable diseases, tuberculosis, and adolescent health. Low birth weight, malnutrition, and stunting are amongst the health problems in many Asia Pacific countries. Over 56% of stunted children under five live in the Asia Pacific region. Exclusive breastfeeding rates range from less than 10% to almost 90%. Newborn screening is an integral part of child health to prevent mortality and morbidity, but is not yet a priority in many developing countries in Asia Pacific. Almost all areas in Asia Pacific suffer from double burden of disease; as the region still carries the highest incidence of tuberculosis (TB) and MDR-TB, non-communicable diseases (NCDs) start to impact youth. The major risk factors of NCDs in youth are tobacco use, unhealthy diet, physical inactivity, and childhood obesity. Amongst the adolescent health issues in the region are teenage marriage and risky behaviors. . Pediatricians in the region must dedicate all efforts to ensure children's future.

Keywords: Asia Pacific, Asia Pacific Pediatric Association, child health, first thousand days of life, non-communicable diseases, tuberculosis, adolescent health

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Introduction

Child health has been a priority in both the Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs). World Health Organization (WHO) defined child health as a state of physical, mental, intellectual, social and emotional well-being and not merely the absence of disease or infirmity. Amongst the health targets in the SDGs are Goal 2 : “Zero hunger” and Goal 3: “ensure healthy lives and promotion of wellbeing for all ages”, which include to end preventable deaths and to reduce mortality of newborns and under-five children. Social determinants of health – defined as the conditions in which people are born, grow, live, work, and aged responsible for most health inequities – are addressed in Goal 5 “Gender Equality” and Goal 10: “Reduced inequalities”.¹ To achieve these goals, partnership between governments, private sectors, and the society is required. For the past 30 years, the Asia Pacific Pediatric Association (APPA) had strived to improve the health status of children living in the region and surrounding areas. APPA believes that all pediatricians in the region will dedicate their efforts to reach SDGs, although this cannot be done alone.

Asia Pacific Pediatric Association (APPA): A brief history

APPA, previously known as the Association of Pediatric Societies of the South East Asian Region (APSSEAR), was founded on the 30th April 1974. The objectives of APSSEAR were to promote research in all aspects of pediatrics, disseminate knowledge in child health, organize Asian Congress of Pediatrics triennially, and enhance national pediatric meetings. At that time, membership was confined to 10 national pediatric societies: Australia, China, Hong Kong, Philippines, Indonesia, Thailand, Singapore, India, Japan, and Pakistan. Later on, the organization grew into 15 member countries by the third congress and now in 2019 consists of 23 members. Because APPSEAR covered two WHO regions – South East Asia and West Pacific regions – its name was changed into APPA in 2003.,

The first Asian Congress of Pediatrics was held in Manila, Philippines in 1974 with the theme “Towards Optimum Health for Asian Children.” The congress was a landmark in the development of pediatrics in South East Asia and encouraged the association to organize the congress triennially. From the twelfth congress in 2007, held in Sri Lanka, the name of the congress was changed into the Asia Pacific Congress of Pediatrics. To date, sixteen congresses had been successfully held, the latest took place in Bali, Indonesia in 2018.³

APPA continues to expand its scope. To achieve one of the association’s main objectives which is promoting research in the field of pediatrics, APPA launched its first online journal titled “Asia Pacific Journal of Pediatrics and Child Health” in 2018.

Currently, the mission of APPA is protecting children in the region against diseases, and to bring to them the blessings of good health and a better quality of life; in line with the principles and policies enunciated by the International Pediatric Association (IPA) and other like-minded institutions. APPA believes that the success of children and mankind depends on respect cum application of human rights; that scientific progress should

benefit all children in Asia Pacific; that all pediatricians in the region will dedicate efforts through research and scientific meetings; that all APPA-affiliated national pediatric societies will adopt new knowledge and skills to local conditions and will be on alert on new morbidities affecting children, and that all societies will take part in advocating and enforcing laws to ensure children's health and welfare.

Health inequalities and social determinants of health

Health inequities occur worldwide between and within countries, including within the Asia Pacific region. An example can be drawn from the 20-year gap of life expectancy between the population in Japan (84 years) and Afghanistan (63.7 years). In Indonesia, over one third of fully immunized children lived in Java; immunization coverage was lower in the more rural areas of Maluku and Papua with the odds of being unimmunized could be threefold higher.

Acknowledging an established fact, the social determinants of health (SDH) are needed to improve health outcomes. Social determinants of health are the condition in which people are born, grow, work, live, and age. Commission on Social Determinants of Health (CSDH) described social determinants of health as complex, integrated, and overlapping social structures and economic systems, which play roles in health inequities. In 2011, during the WHO Conference on SDH, a declaration was made for global commitment to implement an SDH-based approach to reduce health inequalities.

WHO and CSDH gave three recommendations to close the gap in health inequities: (1) improve daily living conditions, (2) tackle the inequitable distribution of power, money, and resources globally, nationally, and locally, and (3) measure and understand the problem and assess the impact of action.⁹

APPA Program Focus

In the 2018 APPA Strategic Meeting, priority areas on child health were proposed: (1) Non-communicable diseases, (2) Tuberculosis control, (3) HIV, (4) Accessibility of medical services, (5) Adolescent health, (6) Teenage pregnancy, (7) Immunization, (8) Newborn screening, (9) Stunting, (10) First 1000 days of life, (11) Disease case registry of APPA, (12) Research and publications, (13) Health for refugee children, and (14) Sub-speciality. After brainstorming, the APPA agenda for 2018-2021 was narrowed into seven areas: first 1000 days of life, non-communicable diseases, tuberculosis control, teenage pregnancy/adolescent health, burden of diseases and registry, research and publications, and the publication of position statement.

First 1000 days of life

Child mortality in Asia has declined in the past decade. According to WHO, infant mortality rate in South-East Asia declined from 46.9 in 2007 to 29.4 per 1000 live births in 2017. Similarly, the under-five mortality rate in 2007 and 2017 decreased from 61.3 to 36 per 1000 live births. Nevertheless, these numbers are still higher compared to Europe and the Americas.

The Global Health Metrics in 2016 reported that discrepancy in stillbirth rates can be seen across regions in the Asia Pacific, ranging from 3.5 per 1000 in Malaysia to 25.9 per 1000 in Pakistan. Furthermore, 24.8% of deaths in children under five years of age occurred in South Asia. Hence, child mortality and morbidity remains a big problem in the Asia Pacific region.

Newborn screening

Newborn screening (NBS) is an ongoing process in Asia Pacific. In this region, blood spot screening began in the 1960s in New Zealand and Australia. In the 1980s, congenital hypothyroidism screening had been mandatory in Taiwan, Hong Kong, Shanghai, India, and Malaysia. In the present time, NBS coverage ranges from >90% in developed countries to <5% in lower income countries such as Bangladesh, Cambodia, India, and Indonesia. In Indonesia, the law for mandatory congenital hypothyroidism (CH) screening was passed by the Ministry of Health in 2014. But, CH neonatal screening coverage in Indonesia remains low as the examination is not yet funded by the national health insurance.

Pulungan et al found that late initiation of treatment in CH patients in Jakarta, Indonesia had a significant negative correlation with intellectual abilities. Out of 25 patients, 18 was diagnosed with intellectual disability (total IQ Score <70). All patients presented with developmental delay, other symptoms include feeding problems, constipation, jaundice, and umbilical hernia. This study shows the high incidence of full-blown CH patients in Indonesia compared to countries with routine NBS. Neonatal screening is important to prevent intellectual disabilities and to improve the quality of life of CH patients, thus the pressing need to design and execute it as a national government program.

Exclusive breastfeeding

Exclusive breastfeeding rates vary from 90% in Korea to 10% in Thailand. In Indonesia, exclusive breastfeeding rate and the proportion of newborns who received initial breastfeeding in infants aged 0-5 months in 2017 was 61.33% and 73.06%, respectively. Lenggogeni et al reported that characteristics of Indonesian mothers who are more likely to exclusively breastfeed are older age, unemployed, higher education, high economic status, and underwent early initiation of breastfeeding.

Stunting

Stunting remains one of the most urgent problems of the first 1000 days of life. Globally, around 155 million children under five are stunted. Based on the 2016 WHO data, 56% of these children live in Asia. In Indonesia, the percentage of under-five children with short and very short stature reached 30.8% in 2018, but the exact number of stunting is unknown. Stunting leads to decreased intellectual function, and increment of future non-communicable diseases (NCDs),

Actions to improve stunting rates are needed, including evaluating the need for national growth charts, such as in Japan. Most countries in the Asia-Pacific use the WHO standard chart to determine stunting in children, including Indonesia. Pulungan, et al generated Indonesian synthetic growth charts based on the 2013 Indonesian Basic Health Research and found marked mismatch between WHO standards and Indonesian data. The average height of Indonesian children was clearly lower than standard, but BMI data did not show

significant deviation. Growth of Indonesian children resembled healthy Japanese children based on their national growth curve. Hence, the term “stunting” based on standard curves should be re-considered for public health policy making.

Noncommunicable Diseases

Children and adolescents are heavily impacted by noncommunicable diseases (NCDs). NCDs in young people include cardiovascular diseases, diabetes, cancer, chronic respiratory diseases, as well as injury and violence. NCD child reported that almost half (41%) of the world population is under 25 years old and that 82% of all premature deaths caused by NCD occur in lower-middle income countries. Each year, half of deaths related to NCD are associated with various health behaviors starting in adolescence. By 2030, as much as 52 million NCD-related deaths are predicted to occur.

More than 25% of obese children have signs of diabetes by age of 15, and survival for child cancer is lower in developing countries. WHO estimated that over 41 million children under five years of age are overweight in 2016, with half of them living in Asia and estimated to be higher in developed compared compared to developing countries. De Onis, et al studied the global prevalence of overweight and obesity in preschool children. In 2010, the estimated prevalence of childhood overweight and obesity in developing and developed countries were 11.7% and 6.1%, respectively. However, a higher increment was observed in developing countries; during 1990-2010, a 65% increase occurred in developing countries while in developed countries the increase was lower (48%). In Asia, the prevalence of overweight and obese preschool children in 2010 was estimated to be 4.9% and projected to increase to 6.8% by 2020.

Pulungan et al reported that insulin resistance occurred in 38% obese adolescents in Jakarta, Indonesia. Insulin resistance was highest in girls, subjects with family history of obesity, and the presence of acanthosis nigricans. Acanthosis nigricans appears as an early manifestation of obesity and may help identify the risk of dyslipidemia, hypertension, and insulin resistance. Obesity and insulin resistance may lead to non-communicable diseases such as glucose intolerance, Type-2 Diabetes Mellitus (T2DM), and dyslipidemia.

The incidence of pediatric T2DM in Asia Pacific has increased significantly over the last two decades, although the real number is difficult to obtain due to poor registration especially in developing countries.

Approaches to prevent, diagnose, and manage NCDs are needed to improve health outcomes and increase productivity. Pediatricians need to address NCD risk and management in children and adolescents; one of the proposed step is, advocating to policymakers to create health-promoting environments.

Tuberculosis

The Asia Pacific region carries 58% of the global tuberculosis burden, although under-reporting hides the true burden of disease. According to the global tuberculosis report, two third of the global tuberculosis cases were in eight countries; out of which six were in the Asia Pacific region: India (27%), China (9%), Indonesia

(8%), The Philippines (6%), Pakistan (5%), and Bangladesh (4%). In 2017, the incidence of tuberculosis in children below 14 years old in the SEARO and WPR was 362,000 and 207,000, consecutively.

Jenkins, et al estimated that 25,000-32,000 children globally develop multi drug resistant tuberculosis (MDR-TB) each year, with the mortality rate of approximately 21%. In South-East Asia and Western Pacific, the estimated incident of pediatric MDR-TB cases based on 2010 data were 10,000 and 8,349, respectively.

Challenges in pediatric tuberculosis treatment and management have been increasing in the Asia Pacific, as it is an important treatable and preventable cause of morbidity and mortality in infants and children in endemic settings. Tuberculosis in young children reflects transmission and has unique treatment needs. Fuady et al reported that education level affected knowledge and perception on tuberculosis.

Adolescent health

One of six of the world's population groups is adolescents. UNICEF recently reported that more than half of all adolescents globally live in Asia. As the survival of infants into childhood and adolescence increase in developing countries, the proportion of adolescents is greater compared to high-income countries. However, the condition of adolescent health in these countries is often overlooked. In 2015, more than 2/3 of adolescent deaths occur in lower- and middle-income countries in Africa and South-East Asia. Boys have higher rate of mortality and morbidity from violence, accidents, and suicide. Health problems in girls are mainly related to reproductive tract and pregnancy-related causes. In both genders, mental health issues also demand increasing attention from pediatricians.

Globally, 1 in 5 boys aged 13-15 years use tobacco. Tobacco consumption in adolescence increases the risk of nicotine addiction, leading to regular tobacco use in adulthood. Similarly, adolescents who drink alcohol before the age of 15 are four times more likely to develop alcohol dependence and engage in risky behaviors. Based on the 2018 National Basic Health Survey, the prevalence of smoking in teenagers aged 10-18 years in Indonesia increased from 7.2% in 2013 to 9.1% in 2018.¹² This trend was also observed in Singapore; the proportion of young women smokers increased from 5.2% in 1998 to 6.6% in 2004. Baggchi reported that tobacco product consumption in 13-15 years old males was 36% in Indonesia, 30% in Myanmar, 25% in Nepal, and 19% in India.

Based on international agreements, marriage for girls under 18 years may violate their human rights. However, in ten out of 37 countries in the Asia-Pacific, the legal age to get married in girls and/or boys is under 18 years. Almost all countries in the region permit marriage under 18 years old boys and girls in special circumstances. In Indonesia, the minimum age for marriage is 16 years for girls and 19 years for boys. WHO reported in 2010 that in the South East Asia region, around 6 million adolescents give birth each year which is 16% of all births, ranging from 4-5% in Maldives, Myanmar, and Sri Lanka to 21% in Nepal. In Indonesia, 9% of females aged 15-19 years were married in 2017 and 7% had either already given birth or was pregnant with the first child.

Teenage marriage-related problems include higher mortality in babies born to mothers under 20 compared to older women, complications during pregnancy and childbirth, domestic violence, and lower educational attainment. A systematic review by de Azevedo, et al described that fetal complications among teenage mothers include premature births, low or very low weight babies, and higher mortality. The most common maternal complications described were abortion, pre-eclampsia, eclampsia, HELLP (hemolysis, elevated liver enzyme, low platelet) syndrome, urinary infection, and premature rupture of membranes. Prenatal care was also found to be inadequate in teenage mothers, emphasizing the need of prenatal visits to prevent pregnancy and birth related complications.

Conclusion

With the many unique challenges of child health in Asia Pacific, pediatricians play important roles to increase children's well-being. The first thousand days of life, non-communicable diseases, tuberculosis, and adolescent health are only a few of the many issues to tackle. Each nation's government and stakeholders must participate in solving these issues; our role as pediatricians being: to prevent and to treat, as well as to advocate and raise awareness.

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