JICNA® | Journal of the International Child Neurology Association
A peer reviewed open access e-journal in Child Neurology

OPEN ACCESS
Special article

Position statement by the ICNA in Support of vaccinating all children against measles virus.

Pauline Samia[1], Sylvia Tenembaum[2], Anaita Hegde[3], Richard Idro[4] and Jo M. Wilmshurst[5]

[1]Department of Paediatrics, Aga Khan University in Nairobi, Kenya
[2] Department of Neurology, National Pediatric Hospital Dr. J. Garrahan, Buenos Aires, Argentina
[3] Department of Paediatric Neurology Jaslok Hospital and Research Centre, Mumbai, India
[4] Department of Paediatrics and Child Health, College of Health Sciences, Makerere University, Kampala, Uganda
[5] Department of Paediatric Neurology, Red Cross War Memorial Children's Hospital and Neuroscience Institute, University of Cape Town, South Africa
Corresponding author: Pauline Samia; pauline.samia@aku.edu

https://doi.org/10.17724/jicna.2020.188

Received: March 22, 2020
Accepted: September 12, 2020

Position statement

The position statement of the International Child Neurology Association (ICNA) supports routine vaccination of children against all eligible diseases. The ICNA further emphasises the importance of vaccinations that protect against diseases which can cause severe illness, neurological sequelae and death, especially the measles virus.

This position statement targets clinicians involved in early child healthcare, to guide and assist them in promoting the implementation of comprehensive vaccination with the intent to reduce neurology-related morbidity, due to the measles virus infection.

Overview of the measles virus and subacute sclerosing panencephalitis

Measles is a highly infectious, vaccine-preventable illness which remains a major cause of child morbidity worldwide, with more than 100,000 attributable deaths annually [1, 2]. Globally, the incidence of measles cases is heterogeneous, with the majority of infections and deaths occurring in low- and middle-income countries (LMICs), and sporadic epidemics observed in high income countries [1, 2, 3]. Acute causes of death include pneumonia, severe dehydration and encephalitis. Young children are the most vulnerable group.

The neurological complications of measles infections carry a significant health impact; children are at risk of developing both acute (e.g. measles-induced encephalitis) and chronic complications, such as subacute sclerosing panencephalitis (SSPE) [1, 3, 4, 5, 6, 7]. Measles-induced encephalitis occurs more frequently in LMICs as a result of poor vaccination coverage, leading to epidemics or regional outbreaks [1, 2, 3]. SSPE is a rare chronic progressive neurodegenerative disease caused by the measles virus primarily infecting the brain in children and young adults [1, 3, 4, 5, 6, 7]. This condition leads to death in most affected cases [7]. There is no curative therapy.

Creating universal immunity against the measles virus will eliminate these neurological complications [8, 9]. Despite measles being a vaccine-preventable disease with potential for eradication, recent global outbreaks of the measles infection raise concern that there will be an upsurge in children suffering serious neuro-complications in the next decade [3].

Measles elimination: progress and challenges

Obstacles to global measles eradication are perceived to be predominantly political, social and financial [1, 10, 11, 12]. Global priorities aim to improve measles vaccination rates to interrupt transmission in low-income countries. Effective implementation of the measles vaccine reduces morbidity and mortality compared to the pre-vaccine era [1, 8, 9, 13, 14, 15]. However, challenges exist in reaching the required immunisation coverage (95%) and are further compounded by low public awareness about the severity of the disease and efficacy of the immunisation [3, 7, 8]. In the setting of global and regional pandemics, such as COVID-19 and Ebola, respectively, healthcare systems suffer often to the detriment of previously instituted intervention programmes, inclusive of routine vaccinations [15, 16]. Current campaigns by groups with inadequate understanding regarding consequences of the disease have compromised efforts to eradicate the disease further [1, 10, 11, 12, 17]. Recent large-scale

studies have unequivocally shown that there is no association between the measles vaccination and the occurrence of autism spectrum disorder (ASD); hence the benefits of the measles vaccination far outweigh the risks of non-vaccination [12, 13].

Implications of lack of immunisation

Measles outbreaks occur mainly where people were unvaccinated or have only received one of the two required doses of the measles vaccine [1]. Younger children, or children with HIV who are receiving immunosuppressive therapies or are severely malnourished, as well as those who develop SSPE, are at the greatest risk of morbidity and mortality associated with the measles infection [1, 3, 7].

Conclusion

Measles is preventable through the implementation of mandatory immunisation programmes amongst children. In order to eradicate measles, it is critical to universalise implementation of childhood immunisation. Failing to vaccinate children at a young age can lead to severe sequalae or even death associated with acute encephalitis or SSPE.

Clinicians should take a lead in the education of communities on the many benefits of immunisation, and eliminate misconceptions about vaccines and associations with other conditions, especially with the conclusive evidence that there is no link between the measles vaccination and the development of ASD.

The position statement of the ICNA supports routine vaccination of children against all eligible diseases that cause severe neurological sequelae and death, including measles.

Competing interests

None.

Cite this article as:
Samia, P. et al. (2020). Position statement by the ICNA in Support of vaccinating all children against measles virus. Journal of the International Child Neurology Association, 1(1). https://doi.org/10.17724/jicna.2020.188

References

[1] Moss WJ. Measles. The Lancet. 2017;390(10111):2490–2502. **PubMed**.

[2] Cutts FT, Dansereau E, Ferrari MJ, Hanson M, McCarthy KA, Metcalf CJE, et al. Using models to shape measles control and elimination strategies in low- and middle-income countries: A review of recent applications. Vaccine. 2020;38(5):979–992. **PubMed**.

[3] Holzmann H, Hengel H, Tenbusch M, Doerr HW. Eradication of measles: remaining challenges. Medical Microbiology and Immunology. 2016;205(3):201–208. **PubMed**.

[4] Jafri SK, Kumar R, Ibrahim S. Subacute sclerosing panencephalitis - current perspectives. Pediatric Health, Medicine and Therapeutics. 2018;Volume 9:67–71. **PubMed**.

[5] Manning L, Laman M, Edoni H, Mueller I, Karunajeewa HA, Smith D, et al. Subacute Sclerosing Panencephalitis in Papua New Guinean Children: The Cost of Continuing Inadequate Measles Vaccine Coverage. PLoS Neglected Tropical Diseases. 2011;5(1):e932. **PubMed**.

[6] Mekki M, Eley B, Hardie D, Wilmshurst JM. Subacute sclerosing panencephalitis: clinical phenotype, epidemiology, and preventive interventions. Developmental Medicine & Child Neurology. 2019;61(10):1139–1144. **PubMed**.

[7] Aksoy A, Alber M, Altunbasak S, Angay A, Arsene O, Craiu D, et al. A Multinational Survey on Actual Diagnostics and Treatment of Subacute Sclerosing Panencephalitis. Neuropediatrics. 2015;46(06):377–384. **PubMed**.

[8] Edwards KM. Maternal immunisation in pregnancy to protect newborn infants. Archives of Disease in Childhood. 2018;104(4):316–319. **PubMed**.

[9] Lochlainn LMN, de Gier B, van der Maas N, van Binnendijk R, Strebel PM, Goodman T, et al. Effect of measles vaccination in infants younger than 9 months on the immune response to subsequent measles vaccine doses: a systematic review and meta-analysis. The Lancet Infectious Diseases. 2019;19(11):1246–1254. **PubMed**.

[10] Gastañaduy PA, Banerjee E, DeBolt C, Bravo-Alcántara P, Samad SA, Pastor D, et al. Public health responses during measles outbreaks in elimination settings: Strategies and challenges. Human Vaccines & Immunotherapeutics. 2018;14(9):2222–2238. **PubMed**.

[11] Bester JC. Measles and Measles Vaccination. JAMA Pediatrics. 2016 Dec;170(12):1209. **PubMed**.

[12] Lancella L, Camillo CD, Vittucci AC, Boccuzzi E, Bozzola E, Villani A. Measles lessons in an anti-vaccination era: public health is a social duty, not a political option. Italian Journal of Pediatrics. 2017;43(1). **PubMed**.

[13] Lo NC, Hotez PJ. Public Health and Economic Consequences of Vaccine Hesitancy for Measles in the United States. JAMA Pediatrics. 2017;171(9):887. **PubMed**.

[14] Coughlin M, Beck A, Bankamp B, Rota P. Perspective on Global Measles Epidemiology and Control and the Role of Novel Vaccination Strategies. Viruses. 2017;9(1):11. **PubMed**.

[15] Elston JWT, Moosa AJ, Moses F, Walker G, Dotta N, Waldman RJ, et al. Impact of the Ebola outbreak on health systems and population health in Sierra Leone. Journal of Public Health. 2015:fdv158. **PubMed**.

[16] Takahashi S, Metcalf CJE, Ferrari MJ, Moss WJ, Truelove SA, Tatem AJ, et al. Reduced vaccination and the risk of measles and other childhood infections post-Ebola. Science. 2015;347(6227):1240–1242. **PubMed**.

[17] Lancet T. Measles vaccination: global progress, local challenges. The Lancet. 2016;388(10059):2450. **PubMed**.