# *Conference Reports…*

## The Seychelles Child Development Virtual Symposium 9 December 2021

The COVID pandemic has set limitations on on-site physical meetings. Consequently, the Seychelles Child Development Study (SCDS) organized its very first virtual symposium for scientists in Seychelles and collaborating institutions, as well as for policy makers and stakeholders. Over 50 attendees were present on a zoom platform to participate and contribute to topics that were centered around issues of Seychellois children's development and fish consumption, as well as recent findings from the research work of the international multidisciplinary team in the fields of epidemiology, nutrition, genetics, environmental exposures and sustainability. Opening the Symposium, Dr. Bernard Valentin, Principal Secretary, Ministry of Health, applauded the international collaboration that has shed important light on the state of health of children and young people in Seychelles. He stressed the importance of sustainability of fish stocks and highlighted the challenges to the health of the Seychellois population in the face of the decrease in fish consumption.

The symposium lasted for two hours and was divided into two sessions. The first session was given to three presenters from Seychelles.

First of all, Dr. Jude Gedeon, Public Health Commissioner, who has been leading the national response to COVID-19, focused on the Impact of COVID on Seychellois children. 13% of reported COVID cases have been among persons aged below 18 years of age, with the age group 10-17 being the most affected. Preliminary data from a seroprevalance survey revealed that 34% of children surveyed showed antibody evidence of previous infection with COVID-19. However, almost half had no previous knowledge of being infected, either through symptoms and/or testing. Records collected by the Ministry of Health also show that unvaccinated children are at higher risk of getting infected. Dr. Gedeon also discussed the impact of the pandemic on education, making the point that school closures and switching to digital teaching platforms added additional stress for both students and education staff. Importantly, adverse effects on learning are likely to be more pronounced among children who are already economically and socially disadvantaged.

Next, Dr. Emelyn Shroff presented results from a survey carried out among Seychellois school children that assessed fish knowledge and consumption. The children had good knowledge on the importance of eating fish and its health benefits, as well as issues relating to climate change and sustainability. Greater knowledge correlated with children that were in secondary

schools and had a high participation rate in sports, knew how to swim and had previous experience of fishing compared to those that did not. The study has also pointed to a decline in reported fish consumption as well as an erosion in culture and the need of more multidisciplinary efforts to address this decline.

Finally, Sheena Talma addressed the issue of growing concern of the decrease in fish stocks due to increased pressure from economic activities. Her preliminary data, from a feasibility study, assessed different stakeholders on the concept of introducing a labelling system that uses a traffic-light system to rate specific fishery species' sustainability that consumers would use to inform their purchasing and consumption choices. Initial findings from fishers' perspectives showed that although a high percentage consider fish according to the market value of fish, most are willing to adopt or switch fish species that are more sustainable. They would agree to having a programme in place that will help Seychelles adopt more sustainable measures. Ms. Talma stressed the importance of this initiative, also taking into consideration the ecological and social aspects and ensuring that the fishers' livelihoods are also protected in the process.

Session two was taken up by the international partners of the SCDS.

First, Dr. Edwin van Wijngaarden of Rochester University gave an update on the Seychelles Child Development Study and an overview of the ongoing Seychelles Study Infrastructure Project. The SCDS started in the mid 1980s to investigate the child development implications of the potential neurotoxicity of antenatal exposure to methyl mercury arising from high fish consumption during pregnancy. Multiple cohorts of mother-child pairs have been studied and, to date, no consistent evidence of adverse effect has been seen on the neurodevelopment of over 3000 children. Rather, there are beneficial effects due to important nutrients in fish that can outweigh potential mercury toxicity. The study, over time, has progressed to look at genetic modifiers that may explain resilience or susceptibility to exposure risks. Dr. Wijngaarden noted the impact that the study has had on international public health policies and fish consumption guidelines. Furthermore, the study has made an immense contribution to the scientific community and literature, and been innovative in providing a diverse perspective of information which tends to be otherwise Western-centric. There are more areas to explore, and it is critical that we understand the effect of fish consumption on health across a life span. The current phase of the study seeks to collect more data and also consolidate the wealth of resources and data collected over more than 30 years in order to promote and facilitate further scientific collaboration.

Next, Dr. Alison Yeates of Ulster University presented findings on the importance of fish consumption during pregnancy for child neurodevelopment. Fish consumption among pregnant Seychellois women is higher than most global intakes, and mothers who ate more

fish had higher levels of critical nutrients such as iron, zinc and selenium. The findings showed that there was a positive association between mothers who ate more fish and increase in child intelligence. The impact of the Seychelles study has shown that maternal fish consumption has a beneficial association with child neurodevelopment and this finding is important for guidelines and policies of fish consumption during pregnancy.

Following this, Professor Karin Broberg of Karolinska Institute shared lessons learned from genetic studies involving exposure to methyl mercury. Underlying genetics may contribute to understanding why humans differ in their susceptibility to methyl mercury exposure. The study has shown children's genes may influence how much methyl mercury is transported and accumulated. However, findings have also shown that methyl mercury exposure at birth may have an effect on risk for chronic diseases later on in life. Thus there is a need for continued research and follow up of these cohorts to acquire a better understanding.

In his closing remarks Dr. Conrad Shamlaye, who has been involved in the SCDS since it started, thanked the organizing committee for making this virtual event possible. He acknowledged the support of the Ministry of Health and the US National Institute of Environmental Sciences that has been key to the success of the SCDS over the past 35 years. The international SCDS team would like to encourage the sustained interest among Seychellois and international researchers, and will seek to organize future virtual symposiums to continue the sharing of scientific knowledge.

A recording of the presentations can be viewed at:
https://www.urmc.rochester.edu/labs/seychelles/news.aspx

**Dr Emelyn Shroff**