Special Article

A Perspective of COVID-19 Preparedness in Thai Schools

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Students, especially those in preschool and kindergarten, are exceedingly good at spreading respiratory and fecal-oral infection.[1] Children do not typically adhere to hand hygiene and physical distancing, and mask use but are better encouraged when parents and guardians are motivated. In addition, there is an uncertainty in the natural history of COVID-19, including the infectivity of asymptomatic and pre-symptomatic children in school as well as the frequency of within-school transmission of COVID-19. This has resulted in strict infection control measures taken at schools to ensure the safest environment for both students and teachers. According to COVID-Net,[2] around 0.00044 percent of children under the age of 18 are hospitalized with COVID-19 in the US. This proportion is considered to be very small compared to other age groups. Furthermore, according to infoplease,[3] the population under the age of 18 is around 80 million, inferable that around 35,000 people under the age of 18 are hospitalized with COVID-19. With the death count of 386, far below 1% of children under 18 years old who are infected with COVID-19 have a chance of dying (Table 1).

Table 1 COVID-19 Deaths by Age in the US Population as of June 30th 2021

Age Group in Years	Number of Deaths	Proportion of Total, %
0 - 4	119	0.020
5 - 18	267	0.045
19 - 44	16,040	2.7
45 - 64	105,868	18
65 - 74	132,611	22
75 and over	340,182	57
Total	595,087	≈ 100

Note: Denominator = total US population stratified according to age group

Children are commonly asymptomatic making them become a silent source of COVID-19 spreading. Children, on average, also are in contact with more people compared to the rest of the population. Naturally, they are more likely to disobey safety rules and regulations created to prevent the spread, making the school community very dangerous and become an easy site of transmission. As asymptomatic transmitters, children also pose risk to unaware clusters and spread of COVID-19, making them the best transmission agent of COVID-19. They can come in contact with COVID-19 from

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school but show no symptoms which create a risk of transmission to individuals who are in proximity to school children like parents or grandparents, who hold more risks of getting severe symptoms from COVID-19 like pneumonia. They also play at parks and play areas that have a high chance of contact with others. University students can transmit and get COVID-19 from dormitories where students live in close proximity to each other.

The new normal of hand washing, wearing masks, and social distancing should be followed in both family and school communities. We see eye to eye that these practices are carried out by children when they are heavily encouraged by adults. We performed a survey to evaluate students' and teachers' emotional health and infection control practices regarding COVID-19.[4] From our study, having continuous education regarding infection control practices (eg. hand hygiene, social distancing, universal masking) at school leads to a significant increase of up to 83.2% of participants who engage in infection prevention practices within the community. However, most school children do not follow the infection control policies religiously. In fact, those who report no anxiety are less likely to wear a mask or practice physical distancing (aOR, 0.46; 95%CI: 0.27 - 0.77). With the knowledge that children are extremely good at spreading infections, and come in contact with a wide range of people, we believe that it would be beneficial for them to receive COVID-19 vaccinations. Information regarding COVID-19 vaccination in children remains limited. Although there are risks associated with the vaccine, it still serves as an alternative option as we cannot ensure that students follow infection control policies.

From our study, we found that receiving education on infection prevention measures at school led to changing behaviors regarding hand hygiene (aOR, 1.26; 95%CI: 1.1 - 4.9), wearing a mask (aOR, 1.3; 95%CI: 1.2 - 2.2), and physical distancing (aOR, 2.3; 95%CI: 1.3 - 4.1) in the community, while having regular workshop discussions on COVID-19 prevention in school was associated with improved hand washing (aOR, 1.2; 95%CI: 1.1 - 3.6) and wearing a mask (aOR, 2.1; 95%CI: 1.9 - 4.7) in the community. From these findings, it can be assumed that workshops within the school community regarding COVID-19 prevention can promote the practice of the 3 new normal behaviors. Continuous education via workshops at school to teachers and students allow them to be more aware and more likely to change their behaviors. This could eventually lead to a safer environment at school during the COVID-19 pandemic.

COVID-19 vaccines may take a longer time to distribute in developing countries like Thailand. Several vaccines including influenza and pneumococcal vaccines should be encouraged during the pandemic amongst the school population. According to Centers for Diseases Control and Preventions,[5] influenza vaccination could reduce the burden of influenza illnesses, hospitalization, and mortality, which would allow the conservation of scarce medical resources to be used for COVID-19 patients. Although controversial, pneumococcal vaccines should be promoted amongst teachers who are more than 60 years old. Additional studies are needed to evaluate the intervention to improve compliance with infection control practices as well as COVID-19 and influenza vaccination uptake amongst students and teachers.

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