

Safe Schooling- Reopening of Schools

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Covid Burden in Children and Adolescents

- Millions of cases worldwide including significant number of younger ages.
- Mortality was high in USA, Europe initially less in children and also mild in younger ages.
- Initially Schools closure was done to control spread of virus during lockdown.
- Vaccines were developed which made control possible but does not reduce the importance of NPI.
- Now schools are being reopened in many countries and the consequences are not that dangerous.
- In Kerala school reopening is planned by November 1st.

Positives & Negatives of infections in younger ages ¹⁻⁴

- Burden was less (<5%)(Do not know exact)
- Less ACE receptors
- More robust immunity
- Less comorbidities more viral coinfections
- Severity was less
- Lung involvement & long Covid syndrome less(But other long term immunological problems expected)
- Asymptomatic infections more (infectiousness not known)
- Detection difficult
- Symptomatic children spread disease but number is less
- Evidence for Dynamics of transmission in schools less
- Viral load is same in children and adults
- Serological surveys show comparable and significant prevalence of antibodies among younger ages

School closure –Experience from West

- Reduced spread in early phase.
- Mostly in houses so difficult to assess gravity of school based transmission.
- School opening was planned due to,
Less severity among younger age, psychosocial problems increased during lockdown.
- Disruptive in learning 90% (UNESCO, April 2020).
- Loss both in economic and social fields .
- Food assistance, child abuse and homelessness.
- Mental health issues un-recognized.
- Lack of access to medical services.

India: Special problems and strategies

Special Problems

- **Nutrition issues**
- **Child protection(abuse, child marriage, labour)**
- **Mental health Issues-**
 - No physical access to friends.
 - No outdoor play and socialization - angry and frustrated.
 - Overuse of mobile phones and impact on functioning (Suvarna, [2020](#)).
 - Distress spreads 'emotional contagion' (Gao et al, [2020](#)).
 - Children who have lost one or both parents highly vulnerable. post-traumatic stress disorder (Jacob et al., [2020](#)).
 - Financial insecurity
 - Addictions, behavioral problems

Strategies

- Safe reopening
- Remote learning
- Restructuring of curriculum

Challenges

- Implement preventive measures when reopening schools.
- Manage potential cases and outbreaks (Easy because to be in contact with local health management team).
- Reduce the transmission of COVID-19 at household (Children being transmitters).
- Protecting vulnerable groups.
- Keep schools open and uninterrupted learning strategies.

School closure/reopening the transmission in the community

Conflicting and equivocal [[2](#),[5](#)]

- Few SARS-CoV-2 outbreaks in schools
- Secondary cases more in teaching and administrative staff.
- Within-school transmission in 55 (31%) of 177 instances in children
- Higher in secondary schools (seven [39%] of 18 events) than in primary schools (27 [26%] of 102 events), in spite of lower attendance rates in secondary schools (Ismail)
- Modelling studies indicated that school closures avoid only 2–4% of deaths

Sweden Model

- Epidemic was severe in adults
- Kept preprimary & primary schools open, did not report greater numbers of hospitalized children .
- Indirect data suggest that children in Sweden were infected considerably more than similar countries, such as Finland

Outbreaks in schools

The number of cases was lower compared to before school closures, thus indicating that containment measures in schools may be effective and should be implemented in the best possible way [[6](#),[8](#)].

Comparison data needed(Creating evidence base)

Low transmissibility (Ismail et al)

- Effective school hygiene resulted in lower rates of infection.
- Asymptomatic, cases may be missed.
- High probability of Secondary students to introduce infection to households.

How we will fare ?

- Being safe, slow and smart (Efficient).
- Vaccines: safe(?) and efficient(?) also supply is the problem and equity issue.
- NPI(Non-pharmacological intervention): safe and efficient but adherence is the problem.

Decision making for reopening

- Regional variation and flexibility.
- Responding to the needs of students, families, and staff.
- Expertise in public health, infectious disease, and education and the community's values and priorities.
- It also requires a protocol for monitoring data on the virus to track community spread.

1. *Decision to reopen*

- Districts should weigh the relative health risks of reopening against the educational risks of providing no in-person instruction
- Prioritize reopening with an emphasis on providing full-time, in-person instruction in primary grades and for students with special needs who would be best served by in-person instruction.

2. Precautions for Reopening

- To reopen during the pandemic, schools and districts should provide surgical masks for all teachers and staff, as well as supplies for effective hand hygiene for all people who enter school buildings.

3. School Districts and Public Health Officials

- Assess school facilities to ensure that they meet the minimum health and safety
- Develop a protocol for monitoring data on the virus in order to
 - Track community spread and
 - Make decisions about changes
- Design and deliver COVID-19–related prevention and health promotion training to staff, community, and students

4. *Access to Public Health Expertise*

Access to the ongoing support from public health officials that is needed to monitor and maintain the health of students and staff.

5. Decision-Making Coalitions

Cross sector task force should determine educational priorities and community values related to,

- Opening schools
- Be explicit about financial, staffing, and facilities-related constraints
- Determine a plan for informing ongoing decisions about schools
- Establish a plan for communication

6. Equity in Reopening

- Across schools

Plans need to address disparities in school facilities, staffing shortages, overcrowding, and remote learning infrastructures.

- Within schools

Plans should address disparities in resources for students and families.

These issues might include access to technology, health services, masks, sanitizers, teaching aids etc

7. Addressing Financial Burdens for Schools and Districts

- Schools will not be able to take on the entire financial burden of implementing control.
- Governments should provide significant resources to districts and schools.
- Additional financial support to bring facilities to basic health and safety standards.

School based non-pharmacological interventions



8. High-Priority Mitigation Strategies SMS

- Prioritize mask wearing, providing healthy hand hygiene solutions
- Physical distancing and limiting large gatherings.
- Cleaning, ventilation, and air filtration
- Creating small cohorts of students

Table 4. Preventive measures: rapid systematic review.

Author	Minimum Physical Distance	Mask at School: Staff	Mask at School: Students
Bonell et al. [47]	2 m between desks	N95 surgical masks (where supplies are short should be prioritized for clinical and social care staff)	In secondary schools
Cohen et al. [49]	NA	Mandatory at all times	In secondary schools. Less restrictive in classes where physical distancing is possible
Ghate et al. [46]	Always at least 1 m for all	Compulsory for all	Compulsory for all
Johansen et al. [45]	At least 1 m for all	Only when pupils/staff become ill and it is not possible to maintain a distance of 2 m	Only when pupils/staff become ill and it is not possible to maintain a distance of 2 m
Simon et al. [48]	1.5 m if high rates of transmission ¹	Cloth face mask if distance rules cannot be observed	>10 years: recommended 6–10 years: recommended if high rates of transmission ¹

Abbreviations: NA, Not Available ¹ Defined as >50 new cases per 100.000 inhabitants of confirmed COVID-19 cases within the district in last 7 days.

Table 5. Management of a student with symptoms at school: official documentation released by government institutions.

Country	COVID Contact Person at School	Pre-Identified Isolation Room/Area	Student Equipment	Staff Equipment	First Call to a Doctor or Dedicated Service	Waiting for Results: Isolation of Other People	Return to School (If Not Tested Positive)
France [23]	NA	NA	If age > 6 years: mask	Mask	Home	NA	If not tested: Parents must certify they have consulted a doctor. Otherwise, after 7 days if symptoms disappeared.
Ireland [27,28,30]	Yes	Yes	Mask	Mask, at least 2 m	Home	Household members (removed from schools)	If tested negative: return when clinically well enough (all diarrhoea symptoms need to have been resolved for 48 h prior to return). Doctor's certificate not required; only details as necessary for safe management are shared.
Italy [34]	Yes	Yes	If aged > 6 years: mask (in absence of mask: respiratory hygiene)	Mask, at least 1 m	Home	NA	If tested negative: stay home until symptoms disappearance. The doctor can decide to repeat the test after 2–3 days. Doctor's certificate required.
Luxembourg [24,25]	NA	NA	NA	NA	Home	No	NA
Malta [26]	Yes	Yes	Mask	NA	Home	NA	Stay home until 24 h after symptoms resolve or as directed by public health authorities. Doctor's certificate may be required.
Portugal [36,37]	Yes	Yes	Mask	Mask	School	Decision by Local Health Authority	NA
Spain [42,43]	Yes	Yes	Mask	Mask	Home	Siblings	If tested negative: return.
UK [39,40]	NA	Yes	NA	2 m distancing, if not possible: suitable PPE	Home	Household members	If tested negative: return when no more symptoms.

Abbreviations: NA, Not Available; PPE, Personal Protective Equipment.

Table 6. Management of a student confirmed positive: official documentation released by government institutions.

Country	Return to School	Main Strategies
France [23]	Student cannot return before the timing defined by the doctor (as soon as possible, 7 days after the test or onset of symptoms).	Staff/students of high school in the contact list must self-isolate and be tested 7 days after the last contact to return to school. Other students in the list: isolation for 7 days, test is not mandatory.
Ireland [27,28,30]	NA	Public health services discuss with the school any appropriate quarantine. Every facility will be unique. Close contacts: self-isolated, tested (at day 0 and 7) (no blanket policy to quarantine/test entire classes or years).
Italy [34]	Student returns if no symptoms and two negative tests at 24-h intervals.	Close contacts: 14 days of quarantine starting from the last contact. Prevention Department decides the most appropriate strategies for possible tests in students/staff.
Luxembourg [24,25]	NA	The entire class should be tested, staff included (no later than 6 days after the last contact). No isolation but more restrictive preventive measures until the results.
Malta [26]	NA	Students/staff that were contacts would need to go into quarantine.
Portugal [36,37]	Isolation until 3 consecutive days without fever and 1 negative rRT-PCR at least 14 days from the onset of symptoms (if no hospitalization) or 2 consecutive negative rRT-PCR (if hospitalization).	Local Health Authority can decide: contacts isolation and epidemiological investigation, closure of classroom/specific areas, environmental isolation.
Spain [42,43]	Isolation until 3 days after the disappearance of symptoms and a minimum of 10 days from the onset of symptoms.	Close contacts: 10 days quarantine from the last contact; recommended test after 10 days from the last contact; if the test is performed before the 10th day, the quarantine must be followed until the 10th day. The classroom will be closed for 10 days if the case belonged to a bubble. If the case did not belong to bubble: quarantine of close contacts only.
UK [39,40]	Isolation at least 10 days from the onset of symptoms; students return only if they do not have symptoms other than cough or loss of sense of smell/taste.	Close contacts should self-isolate for 14 days from last contact. If close contacts develop symptoms in the 14 days, they should get tested: -if negative, isolation for the remainder of the 14 days; -if positive, inform their setting and isolate for at least 10 days from the onset of their symptoms and their household should self-isolate for at least 14 days from when the symptomatic person first had symptoms.

Abbreviations: NA, Not Available.

Table 7. Management of a student with symptoms at school: rapid systematic review.

Author	COVID Contact Person at School	Pre-Identified Isolation Room/Area	Student Equipment	Staff Equipment	First Call to a Doctor or Dedicated Service	Waiting for Results: Isolation of Other People	Return to School (If Not Tested Positive)
Cohen et al. [49]	NA	NA	NA	NA	NA	NA	Stay home until symptoms resolve. If symptoms last for >3 days perform testing
Ghate et al. [46]	NA	Yes	NA	NA	NA	NA	NA
Johansen et al. [45]	NA	No	Age > 7: mask Age < 7: mask if pupil is comfortable	Mask if 2 m distance not possible	NA	NA	NA
Orscheln et al. [50]	NA	NA	NA	NA	NA	NA	If exposure to confirmed case, the student should be tested: if negative, return after 24 h without fever and symptoms improving If no exposure, evaluation by healthcare provider to get tested
Simon et al. [48]	Yes	NA	NA	NA	Home	NA	Stay home until 24 h symptoms resolve. Parents must confirm their child was free of symptoms for 24 h before being readmitted

Abbreviations: NA, Not Available.

9. *Urgent Research*

- Children and transmission of COVID-19.
- The role of reopening schools in contributing to the spread of COVID-19 in communities
- The role of airborne transmission of COVID-19.
- The effectiveness of different mitigation strategies.
- Surface sanitization and transmission through fomites.

Grey areas

- Role of children in household transmission
- Criteria for the return to school of students that tested positive
- Flexibility between attendance at school and remote education for high-risk children
- Internet connectivity for all children and equity issues
- Parental support in teaching learning in virtual platforms

GOI guidelines

- Two parts

1. Health& safety

2. Teaching/assessment

- Quarantine centers-sanitize/deep clean all of these schools
- Safe and consistent and aligned with India's overall COVID-19 health response
- Checklists for parents, schools, students
- Special importance to mental health
- Written consent

In the campus and class rooms

- No enforcement of attendance
- Staggered timetables
- 6 feet distance
- Hostels
- Midday meals
- Special education



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Kerala State Guidelines

- With in the framework of GOI directives.
- Staggered reopening in phased manner
- Provision of sanitizers, masks etc.
- Schools in Kerala would be reopened in hybrid mode.
- Online classes for those unable to reach school directly.
- Initially batches to limit the number of children in classes. (10 -20/class)
- All staff to get two doses against the COVID-19
- A school-level helpline be set up.
- All teachers are required to attend school on weekdays.
- Schools should keep a medical examination register and prepare sick rooms for children with symptoms.

Challenges

- Liberal use of test for school entry is not that practical as is in west.
- Parental consent and shared decision making
- Transport to and from school is a problem: Schools can be far away also, unlike west -transport own drop etc. How far is safe transport possible in India.
- Mitigation practices in the campus: avoiding crowding, Keeping in small groups, safe distancing etc.
- Practice of hand hygiene and covid appropriate behavior.
- Sanitizing premises and surfaces, object etc.
- Academic – Instructions, learning methods, assignments
- Assessing stress of students Psycho-social interventions.

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11. Kerala State Guidelines for school reopening

Thank You