Research Article

School Operational Room Guidance for Reopening Primary and Secondary Schools During COVID-19 Pandemic Kuwait Experience

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Abstract

Objective: To explain the actions of Ministry Of Health leaders that was taken for the reopening of primary and secondary schools during Covid-19 pandemic under different interventions that create stable school environments associated with academic achievement and parent's confidence. To explore the role of operation rooms in each six-education districts and how the decisions was applied about the protective strategies in schools and when school closures might be necessary.

Background: The spread of COVID-19 all over the world caused by the transmission of severe acute respiratory syndrome cornonavirus2 (SARS.CoV.2) has led to a temporary closure of schools, universities and replaced by distance learning to prevent further transmission and potential spread in school setting.

Schools are an important part of the infrastructure of communities. They provide safe, supportive learning environments for children, adolescents, and staff [1].

The Ministry Of Education in Kuwait government decided to temporarily close all schools as part of national lockdown mitigation strategies to prevent Covid-19 transmission and replace it by distant learning which created a set of challenges and difficulties.

Reopening of schools after relaxation of restriction is another challenge with many new standard operating procedures put in place [2].

The online learning with E-learning tools have become a panacea for this unprecedented global pandemic [2] and online teaching required many different skills and competencies than traditional teaching [3].

Excessive screen time is well known to be associated with poor sleep, sedentary habits, mental health problems and physical health issues [4].

Remote learning exacerbated existing educational inequalities, was determined to the educational attainment of students of all ages, and worsened the growing mental crisis among children and adults [5].

Prolonged school closure can affect children's development and psychological well-being as well as cause several unwanted economic effects. We should force on the learning recovery process from assessing learning consequences during school closures, ensuring their socio-emotional wellbeing and taking measures to address disparities through remedial approaches [6].

Evidence indicates that restoration of functioning of the education system, as it was in pre-Covid times as early as possible appear prudent [7].

Reopening the full time schools safely for all elementary school children should be a top national priority [8].

UNESCO established a framework for reopening schools that mainly centered on "contextualization and continuous adaptation" [9].

Ministry Of Health in all countries recommends schools plan, prepare, and respond using CDC guidance as best practice recommendations to inform their efforts to slow the spread of COVID-19 and protect the health and safety of their school communities [10].

Maintaining safe school operation or reopening schools after closure require many considerations, but if done well can promote public health [11].

One of the main concerns with the full reopening of school transmissions leading to large outbreaks, with onward transmission to household members and potentially into the wider community [12].

Reopening school building for the 2021-2022 school year was the most complex decisions to make from leaders in Ministry Of Education and Ministry Of Health in Kuwait. These decisions were more difficult by the lack of definitive evidence about transmission in children or about protective measures in limiting spread of COVID-19 infection.

The Ministry Of Education in Kuwait took a measured step towards reopening schools between 29 Sept 2021 to 23 June 2022, They allow the school to remain open and safe with appropriate implementation of multi-layered mitigation measures where students participation remain essential.

They allow students to go back to school with alternating classes by splitting students in two groups, each attending lessons during half of the week in the governmental schools including (preschool, primary, middle and high school), while reopening of private schools was earlier including either splitting the students in two groups or using bubble one.

To overcome any challenges, MOH provide a strategic plan guidance to support the education school leaders in this difficult time by managing COVID-19 in the school and endorsing control measures with safety legislation.

Reopening Primary and Secondary schools during COVID-19 infection implemented between 26 Sept 2021 to 23 June 2022 in Kuwait included five components: The design and delivery of operation rooms, the role of Ministry Of Health physicians in operation rooms, the role Ministry Of Education staff in operation rooms, operation room's closure strategy and the monthly reports.

Keywords: COVID-19; School; Operation Rooms; Kuwait

Methods

Study design, setting and duration

This cross-sectional descriptive study targeted implementation of six operational rooms in each Governmental Education districts (Capital, Hawally, Farwaniyah, Jahra, Mubarak-AlKabeer and Ahmadi) and Qualitative and Special Education to reopen Primary and Secondary schools all over the country between 29 Sept 2021 to 23 June 2022 in Kuwait.

Components and details of the instrument

Following permission from the MOH in Kuwait to conduct the study with ethical approval the principal investigator used a data collection of self-administered tables to calculate the number of positive Covid-19 cases, positive suspected cases and the action taken in the operation rooms in the six education districts.

Ethical clearance and approval was obtained from the MOH research Ethics Committee.

Results and Discussion

This study aims to explain the actions of Ministry Of Health leaders that was taken for the reopening of primary and secondary schools during Covid-19 pandemic under different interventions that create stable school environments associated with academic achievement and parents confidence and to explore the role of operation rooms in each six education districts and how the decisions was applied about the protective strategies in schools and when school closures might be necessary [13-23].

Policy implication from Kuwait

Reopening school building for the 2021-2022 school year was the most complex decisions to make from leaders in Ministry Of

Education and Ministry Of Health in Kuwait. These decisions were more difficult by the lack of definitive evidence about transmission in children or about protective measures in limiting spread of COVID-19 infection. To overcome these challenges Ministry Of Health in Kuwait provided a strategic plan guidance to support the education leaders in this difficult time.

Establishing operation rooms in each education district is the most important part in the strategic plan guidance. Six operation rooms was opened in each public education districts and one operation room for Qualitative and Special education.

Each operation rooms consisted of a representative from Ministry Of Education staff, a representative from Ministry Of Health staff (2 physicians) and a liaison officer from preventive department in each health area.

The room was equipped with computer machines and telephones with internet lines.

The role of physicians in the operation room is:

- To receive a daily lists of suspected and confirmed covid-19 cases for students and staff from Ministry Of Health IT department and from school managers.
- To report them to operation room Ministry Of Education staff.
- To inform the preventive department liaison officer daily about the confirmed cases to follow epidemiological investigation for any suspected one regarding confirmed cases outside school.
- To follow daily the school charts for all suspected and confirmed cases in all classes and groups to reach the percentage needed for closure.

The role of Ministry Of Education staff in the operation room:

- To receive a daily Covid-19 suspected cases lists from schools in each education district including (name, ID, Tel no, address, category either student or staff. school, group and classroom).
- To receive a daily Covid-19 confirmed cases from schools in each education district including (name, ID, Tel no, address, category either student or staff. school, group and classroom) and confirm it with the lists received from the physician working in the operation room.

- To deliver daily the Covid-19 suspected and confirmed cases lists to the physician working in the operation room.
- To confirm the presence of the contact lists for each confirmed Covid-19 cases in each school.
- To update the charts regularly for each school in the education district that shows the number of every closed classroom for each group.
- To report the working group in schools for any technical decisions received from the physician working in the operation room.
- To report the working group in schools for any special health precautions and the updated guidelines for confirmed and suspected Covid-19 cases received from the physician working in the operation room.

The operation room closure strategy:

- To isolate the student confirmed case for 10 days if there is at least one confirmed case between students in the classroom who was in contact with other students within 48 hours before starting covid-19 symptoms and close this classroom and change the study to online one or other way the Ministry Of Education recommends and clean and disinfect the classroom according to infection control guidelines.
- To isolate the student groups confirmed cases for 10 days (if there is less than 20% of the total classroom or 3 classroom closure) from the total number of one group study who was in different classrooms in contact with other students within 48 hours before starting covid-19 symptoms and close the same educational level and change the study to online one or other way the MOE recommends and clean and disinfect classes according to infection control guidelines.
- To isolate the total student groups confirmed cases for 10 days (if there is more than 20% of the total classroom or closure of two educational levels) from the total group study who in contact with other students within 48 hours before starting covid-19 symptoms and close the total group in the same education level and change the study to online one or other way the Ministry Of Education recommends and clean and disinfect classes according to infection control guidelines.

- To isolate the staff confirmed cases for 10 days and return the work after finishing 10 days and bringing home isolation certificate.

N.B

- Any suspected Covid-19 cases not allowed to enter the school except after bringing Covid-19 free certificate.

- A 10 days Isolation for confirmed Covid-19 cases changed to 5 days on April 2022 according to Council of Ministers decisions.

- The action taken by the different Operation rooms (Class closure, Phase closure and school closure) was stopped on Feb 2022 and only the confirmed Covid-19 cases was isolated in home for 5 days.

Policy implications from other countries

- In Australia, schools started to open on May 2020 with classes divided into 2 groups. Canada, Italy, Ireland, Turkey, Romania, Bulgaria, Malta and Spain plan to open school on Sept 2021.

- France schools opened on May 2020 and forced to close again due to increased case numbers.

- Germany schools opened on May 2020 and forced to close again due to lockdown.

- India schools opened on July 2020 zone-wise with 30% attendance, younger students to stay home.

- Saud Arabia schools opened from September 2021 until the risk of the coronavirus pandemic is controlled.

- United Kingdom schools opened on June 2021 and reopening again on August 2021.

- United States schools opened on May 2020.

- All countries followed CDC procedures and policies were put in place for the first semester of the 2020-2021 academic year with the argument that online education should continue until the virus is controlled scholars [9].

This study findings highlight the number of staff and students positive and suspected Covid-19 cases, and the action taken by the different Operation rooms (Class closure, Phase closure and school closure).

Regarding the capital education operation room

The total numbers of positive COVID-19 cases in the Capital area was 2083 students and 1704 staff while the total numbers of the suspected COVID-19 cases was nine students and three staff member.

The action taken by the Operation room physicians was class closure in 25 class during the period from 3Oct 2021 to 23 Jun 2022.

	No of Positive Covid-19 cases		No of suspected Covid -19 cases		The Action Taken		
	Students	**Staff**	**Students**	**Staff**	**School closure**	**Phase closure**	**Class closure**
Total	2083	1704	9	3	-	-	25

Table 1: Capital Education Operation Room.

Regarding the Hawally education operation room

The total numbers of positive COVID-19 cases in the Hawally area was1797 students and 1318 staff while the total numbers of the suspected COVID-19 cases was six students and no staff member.

The action taken by the Operation room physicians was class closure in 31 class during the period from 3 Oct 2021 to 23 Jun 2022.

	No of Positive Covid-19 cases		No of suspected Covid-19 cases		The Action Taken		
	Students	**Staff**	**Students**	**Staff**	**School closure**	**Phase closure**	**Class closure**
Total	1797	1318	6	-	-	-	31

Table 2: Hawally Education Operation Room.

Regarding the Farwaniyah education operation room

The total numbers of positive COVID-19 cases in the Farwaniyah area was1664 students and 2120 staff while the total numbers of the suspected COVID-19 cases was four students and no staff member.

The action taken by the Operation room physicians was class closure in 31 class during the period from 3 Oct 2021 to 23 Jun 2022.

	No of Positive Covid-19 cases		No of suspected Covid-19 cases		The Action Taken		
	Students	Staff	Students	Staff	School closure	Phase closure	Class closure
Total	1664	2120	4	-	-	-	31

Table 3: Farwaniyah Education Operation room.

Regarding the Mubarak Al-kabeer education operation room

The total numbers of positive COVID-19 cases in the Mubarak Al-kabeer area was1354 students and 1584 staff while the total numbers of the suspected.

Covid-19 cases was 21students and no staff member.

The action taken by the Operation room physicians was class closure in 13 class during the period from 3 Oct 2021 to 23 Jun 2022.

	No of Positive Covid-19 cases		No of suspected Covid -19 cases		The Action Taken		
	Students	Staff	Students	Staff	School closure	Phase closure	Class closure
Total	1354	1584	21	-	-	-	13

Table 4: Mubarak-Al-Kabeer Education Operation Room.

Regarding the Ahmadi education operation room

The total numbers of positive COVID-19 cases in the Ahmadi area was1736 students and 2184 staff while the total numbers of the suspected COVID-19 cases was seventy-one students and no staff member.

The action taken by the Operation room physicians was class closure in 22 class during the period from 3Oct 2021 to 23 Jun 2022.

	No of Positive Covid-19 cases		No of suspected Covid -19 cases		The Action Taken		
	Students	Staff	Students	Staff	School closure	Phase closure	Class closure
Total	1736	2184	71	-	-	-	22

Table 5: Al-Ahmadi Education Operation Room.

Regarding the Al-Jahra education operation room

The total numbers of positive COVID-19 cases in the Al-Jahra area was 955students and 1173 staff while the total numbers of

the suspected COVID-19 cases was fourteen students and no staff member.

The action taken by the Operation room physicians was class closure in eight class during the period from 3 Oct 2021 to 23 Jun 2022.

	No of Positive Covid-19 cases		No of suspected Covid-19 cases		The Action Taken		
	Students	**Staff**	**Students**	**Staff**	**School closure**	**Phase closure**	**Class closure**
Total	955	1173	14	-	-	-	8

Table 6: Al-Jahra Education Operation Room.

Regarding the qualitative and special education operation room

The total numbers of positive COVID-19 cases in the Qualitative and Special Education Operation Room was10191 students and 429 staff while the total numbers of the suspected COVID-19 cases was 41students and no staff member.

The action taken by the Operation room physicians was class closure in 747 class and 14 Phase closure during the period from 26 Sep 2021 to 23 Jun 2022.

	No of Positive Covid-19 cases		No of suspected Covid -19 cases		The Action Taken		
	Students	**Staff**	**Students**	**Staff**	**School closure**	**Phase closure**	**Class closure**
Total	10191	429	41	-	-	14	747

Table 7: Qualitative and Special Education Operation Room.

Conclusions

- In this cross-sectional survey, conducted during the school reopening during Covid-19 pandemic finding showed that school reopening was successful if the school leaders followed the proper social guidelines and use appropriate protection.

- This study was able to examine all Covid-19 positive cases in school students and staff and gives us objective assessment of the action taken by the physicians in the Operation rooms.

- Successful school opening needs strong support from parents, teachers, students and all levels of educational districts, considering the impact of policies in schools and out of school transmission and risk.

- The educational leaders should weigh the relative health risks of reopening against the educational risks of distant learning based on health regional authorities.

- Making online teaching creative, interactive to continue using it after Covid-19 stopped and normal classes resumed.

- As this is an observation study it cannot show the cause and effect similar to other all observational studies, unmeasured confounders and reverse causality influence findings e.g. higher community prevalence of Covid-19 may related to individual behavior rather than school circumstances.

Recommendation

Policy makers

- Careful monitoring of the prevalence of Covid-19 in the community.

- Ensure appropriate adoption of infection prevention interventions.

- Fast and aggressive tracing and testing of cases to allow their isolation is important issue in reopening the schools.

- Use of preventive measures is critical to manage the pandemic in the future.

- Create challenges for school districts to develop their own policies and procedures that may be specific to their own district or even school building.

- Hand hygiene campaigns are effective in the school re-opening infection control plans and presence of hand sanitizing stations throughout the buildings.

- Update the infection control strategies for school setting as data continue to emerge.

- Train the staff, community and the students about Covid-19 related prevention and health promotion mitigation measures.

Covid-19 vaccine consideration

- Allocate the vaccine for the education sector staff (teachers and support staff member).

- Follow the Advisory Committee on immunization for student immunization.

Other future studies

- Our research recommendation for further studies on the effects of Covid-19 class or school closures on student's achievement in Primary and Secondary education.

- To investigate the mental health effects of the pandemics on the students with different stresses.

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