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Review Article

Schools as stakeholders in health promotion: a review before and in the midst of the pandemic COVID-19 with reference to India and Odisha state

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ABSTRACT

Schools are educational hubs, which in developed countries have been very aptly used for the health promotion of simple endemic diseases and advocating levels of prevention. The infrastructure and in-depth curriculum are often instrumental in targeting good knowledge of health and disease, which can be achieved at an early age. Thus, this helps in curbing the transmission and addresses preventive strategies. In India, which strongly represents the developing world; even though the schools do not impress in terms of infrastructure, the integration with the health sector is remarkable at the programmatic and health policy level. The article essays the roles for which schools have been used appreciably, more in the context of safety during trying conditions, and takes a sneak peek into the newer roles and challenges poised during the pandemic of COVID-19.

Keywords: Schools, Levels of prevention, Nutritional programmes, COVID appropriate behaviour, Online teaching

INTRODUCTION

A school is a social institution that provides a learning space and environment, where children and adolescents (even adults) of various ages gain appropriate knowledge. This includes pre-schools, primary-elementary schools, secondary-high schools, and universities.[1] Its linkage with health is in terms of generating awareness for health promotion and, since the curricula demand the occupants to stay together on the premises for a long time, the premises often becomes a perpetrator of various diseases.[2]

The concept of schools was conceived with the idea to offer homes away from homes. School safety, thus becomes a priority, and enabling a safe environment for children ushering from their homes to their schools and back is a daunting yet unavoidable task. This includes safety against large-scale natural hazards either of geological/climatic origin or human-made risks, pandemics, other related emergencies, and environmental threats that can adversely affect the lives of children.

Maintaining a safe and secure environment remains a forever challenge for the institute. The creation and maintenance of such an environment are further compromised by the lack of an effective enforcement system, lack of knowledge and information, and lack of training and practice of appropriate health standards.[3,4] Minimum norms and standards with regards infrastructure, manpower and quality of schools have been laid down, such that no school shall be established, or recognized unless it fulfils the norms and standards specified in the schedule and they vary from region to region and may be primed by the cultural practices of the inhabitants of the region.[5] In India and in many other countries of the developing world, poorly maintained school buildings, and hardly any ready plans for safety to deal with increased population are a common sight. Government schools are barely able to provide basic infrastructure including the

means to reach school safely.[6] There is a lack of safe drinking water, hygienic sanitation, and clean toilets, especially for girls in these schools. The 2011 Global Monitoring Report examined the devastating effects of inappropriate education policies of armed conflict on education, with 42% of out-of-school children living in conflict-affected countries. This calls for schools to have necessary interventions to increase awareness and understanding of threat from different quarters, as a safe and hygienic environment in school has an effective role in a student's health.[7]

In India, schools, to begin with, were education drivers, with little emphasis on safety standards. Much later, with the coming up of School Health and its reinforcement in 1995, nutritional upliftment was added to the agendas of schools. This compounded the food safety norms to the school general safety concerns.[8]

Among most schools of Asian countries, Indian government schools poise a sorry picture of sheer neglect and callousness. Most of the challenges posed by the disasters have in a way forced the government to be more stringent on school safety norms and bring forth some regulatory reinforcements in schools.[9,10] The National Policy on Disaster Management, 2009 highlights the need for structural as well as non-structural safety in schools and educational institutions. The concepts of school safety and student's health are attaining priority in our country. The recent pandemic has given the country a chance to introspect and rebuild the school norms as well as infrastructure to suit the current health scenario.[11]

This review article explores the sync between school safety and hygiene, education system and preparedness of school, with a special focus on pandemic with an ultimate aim of student well-being. The write up includes an overview of several research findings which address (a) safety measures in school pre and in midst of the pandemic in India and in state of Odisha; (b) concerns of various schools on reopening after the peaks in pandemic. This article summarises the conditions that make a school safe, discusses the implications for school policies and hygiene practices in school and provide recommendations for future research.

OVERVIEW IN GENERAL ACROSS THE WORLD

Schools are critical infrastructure entrusted with the responsibility of creating citizens of tomorrow. A safe and secure environment is a prerequisite for effective teaching and learning.[11] "School safety" has been defined as creating a safe environment for children, starting from their homes to their schools and back. This includes safety from disaster natural and manmade, fire, and transportation. Emotional safety too is especially important because it is often difficult for teachers and parents to detect emotional problems and difficulties in children.[12] Bullying can cause victimized students to suffer from lower self-esteem and daily stress about their well-being.[13,14] To avoid dangers of physical and psychological infirmity, awareness generation, ensuring communication, school preparedness plans, capacity building of students and teachers, rehearsals and mock drills, etc. are conducted. Building safe schools will not only ensure the safety of children in disasters but will also promote faster rehabilitation post-disaster. The policies, rules, and regulations to keep a check on the negative environment in school should not only be proposed and implemented, rather the practice should be regularly and efficiently monitored.

To make sure that every student is safe inside the school premises as well as while traveling to or from the institute some critical guidelines the schools can follow to ensure the proper safety of children once they leave their home for school is essential.[15] Figure 1 gives a comprehensive presentation of cumulative forms of safety essential for every child who sets forward for school.

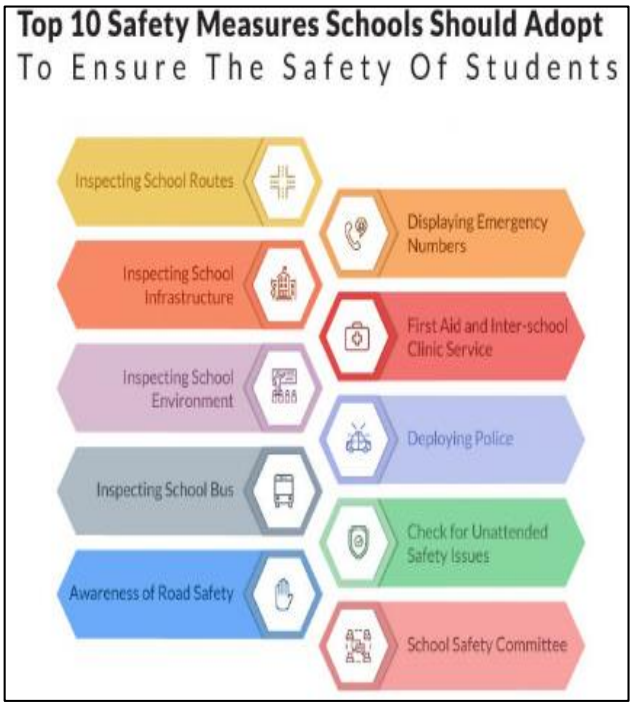

Figure 1: The measures a school should adopt to ensure safety of students.

COVID-19 pandemic is once in a century of its kind. It is definitely a big challenge for the entire world and its impact is no different in India. The pandemic has seen an unprecedented shutdown of society. Among the various safety measures taken, much attention has been given to school closure as a non-pharmaceutical mitigation tool to curb the spread of the disease through ensuring 'social' (physical) distancing.[16,17] Since its outbreak in late December 2019, it has wreaked havoc across the world and like any critical sector, education has been hit hard. School closure has affected 1.6 billion learners and more than 100 million teachers and educators worldwide.[18] According to the UNESCO, over 800 million learners from around the world have been affected, 1 in 5 learners cannot attend

school, 1 in 4 cannot attend higher education classes, and over 102 countries have ordered nationwide school closures while 11 have implemented localised school closure by March 2020. Countries around the world have developed health and safety protocols in an effort to safely keep schools open and protect students, teachers and other educational staff from the transmission of COVID-19.[18,19] As schools are the second home to students, they tend to learn and experience most culture, behaviour and ideal living ways including hygiene and nutrition. Students must be educated and well trained regarding adequate wash practice, nutritious food, self defence and security and importance of positive health. In schools, provision for safe drinking water, proper hand washing, waste disposal and first aid should be available and well maintained to keep the students in a clean and safe environment. Sanitary pad vending machine and pad disposal bags/ bins must be installed to support girls and female staffs in schools. This may ensure higher attendance and hygiene of girl students in schools during their menstruation period. A ban on processed and packed food in school premises promotes healthy eating habit in children from a very early age and this will ensure prevention of childhood obesity. After about 2 years of struggle with the recent pandemic, significant progress has been achieved to reopen schools and/or implement solutions for hybrid education to ensure the continuation of teaching and learning despite closures. This was largely made possible due to the development of rigorous health and safety protocols like the traffic light monitoring systems developed during COVID 19 pandemic in countries like Brazil, France, Mexico and Palestine (City Today media 2020). Ideally, schools should be the last institute to reopen so as to prevent the vulnerable group in mass from any communicable infection.

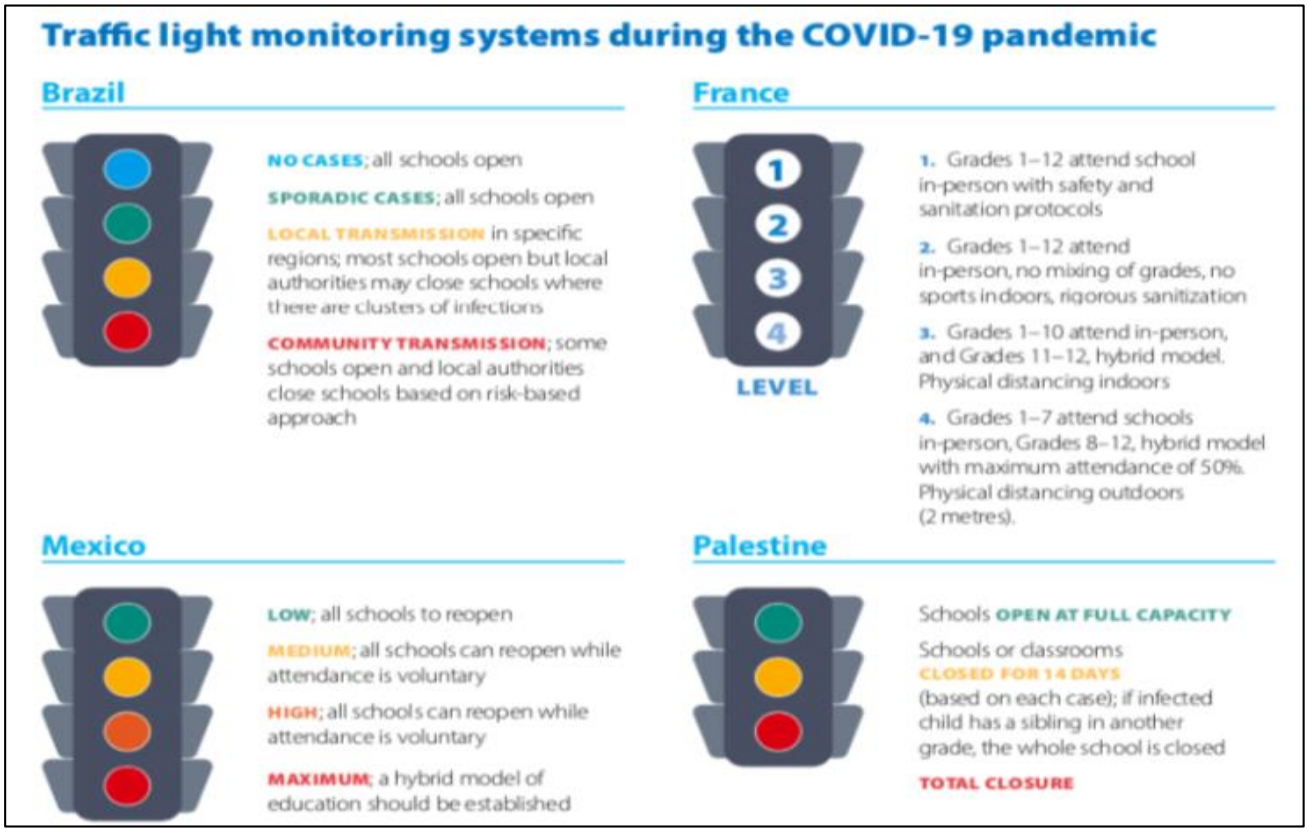

Figure 2: Traffic light monitoring systems to signal closures.

INDIAN SCHOOLS OVERVIEW

Indian schools have grappled with gaps in offering continued education and digital solutions to the pandemic lockdown strategies. Being a younger nation, it has had a myriad of short term trysts with natural and manmade disasters hitting school functioning like fires, earthquakes, cyclones and sporadic disease outbreaks, which have given evidences and lessons to the country, as explained above to enforce norms on school safety standards. The standards were not uniformly implemented across the country, as education is a state subject (India is a union of 30 states) and the revamping demanded good fund allocation and political will, thus explaining the wide disparity seen across the country. With the surgency of COVID-19 pandemic in 2020, WHO recommended activities to halt or stop that had potential to spread infection in mass crowd, leading to the suspension of conventional classroom teaching, campus curriculum and face to face learning, This strategy in most countries, especially in India was for the longest period like over a year, compounded by two subsequent waves of the pandemic, delayed vaccination policy for the school going age groups and also a wait and watch policy to check the virulence of the newer strains of

the virus. This forced to a shift towards online classes and staggering offline classes for essential high school batches including conduct of exams. Studies suggest that this shift witnessed an economical and technology based divide among the student population, wherein some could access online education by proper means of communication and with adequate connectivity while many could not.[20] More than the students, the teachers too faced huge challenges in coping with online classes besides being hit by economic insecurity.[21,22] Schools constitute the major stakeholders for both educational and social activities in India and thus, the risk associated as well as the impact of this pandemic in schools cannot be simply ignored. They had become in the past, shelters for large scale gathering, at times during various natural calamities like cyclone, floods, etc. and also during social events like elections or camps and in the current situation of health pandemic, wherein the school buildings were used as multipurpose COVID isolation or quarantine centres.[23] Many school buildings were converted into Temporary Medical Centre (TMC)/ COVID Care Centres (CCC). The staffs and teachers were also engaged in disease surveillance and relief distribution during COVID-19.[24,25] This is also an additional factor of worry from the safety point of view for both the students, their parents visiting the schools as the post exercise sanitation and repositioning of the infrastructure is mostly unattended or done inadequately. Thus, it is all the more necessary for schools to adopt special precautionary measures towards checking the spread of infectious diseases (COVID-19 in particular) in the post pandemic scenario.[26]

Schools usually offer a stress buster for parents, both working and engaged in any general work by offering a support to take care of children for stipulated hours, besides teaching curriculums. The online teaching ushered in an era of sedentary habits among children of all age groups, wherein children were confined to homes and desks with least outdoor activity. Like all others, for Indian parents too this was an uncomforting situation and reports of heightened stress, conflicts and complaints regarding inability to bear online maintenance costs have been reported from all parts of the country.[27-29] Competitive level exams, which are timely and organized in the end of an annual sessions for entry into professional courses in the country, were in complete disarray, causing delays in uptake of these students, severe anxiety due to frequent and unprecedented postponement, both among parents and students. Such was the mental turmoil that as per official reports India reported one of highest number of suicides among students.[30-32]

How the country stayed united and tided over these most uncertain times is now a talk of history. Battling the main alpha strain COVID-19 pandemic, the delta and then omicron, India stood steady across the years of pandemic. Schools for senior secondary students were opened briefly in April 2021 but then closed for delta wave and then again opened in November 2021, again to be closed by December 2021 for omicron variant affected cases. COVID-19 Vaccination of children in the age-group of 15-18 years to be started from 3rd January 2022. For such beneficiaries, vaccination option was 'Covaxin' only, the indigenously manufactured vaccine by Bharat Biotech. By 16th March 2022 vaccination was started for 12 to 14 year olds in the country and they were to be given Corbevax, manufactured by Biological Limited, Hyderabad. The schools were started on restricted terms and conditions like waiver of school assembly, limited timings to expedite courses, sanitizers and masks encouraged among both teachers, students and staff alike. Personal transport was encouraged and school transport was restricted for some time to avoid violation of social distancing. Anyone with cold like symptoms were discouraged to come to school. Gradually by April 2022, use of masks were no longer compulsory and normalcy returned to all school activity and COVID pandemic was obscured by the effects of heat wave that was taking over the country. Online class option too was restricted, and the offline classroom sessions started, much to the relief of everyone.

IMPACT ON MENTAL HEALTH OF THE STUDENTS AND THEIR COPING STRATEGIES

Students are exposed to various stress factors throughout their years of schooling. These are mostly consequences of inability to cope with studies, constant competition, bullying or isolation and pressure from peer and family causing insomnia, irritability, anxiety, depression, or eating disorders. 1 in 4 students are found to have diagnosable mental illness (National Alliance on Mental Illness (NAMI).

Moreover, when schools witnessed shift to online teaching during COVID-19 pandemic, students from the poorest households witness school dropout.[33] This evidence was important for minimising the likely impact of school closure during any epidemic or pandemic on the vulnerable or under privileged by providing a sustainable plan, including technical and financial support. This support would prevent drop out from schools or complacency to study online among these groups. In accordance to this, previous studies shows a complete loss of learning gains for those without books and reading materials at home and learning loss over school holidays to be very common.[34,35]

The isolation during online schooling seems like the main contributing factor towards depression. Without satisfactory mental health it is impossible to develop the adolescent cognitive abilities. This issue is a growing concern among the adolescents in the school and for community counsellors and teachers as well.

Hence, those working in a school should be trained adequately to recognize the signs of distress in the students and expand mental health services in schools from mental illness screening, suicide prevention training to the use of telemedicine and in person counselling. Here, telemedicine refers to a special hotline/ helpline for students who need to speak to a counsellor or health worker.

ODISHA (STATE IN THE RESEARCH ARTICLE) OVERVIEW

Previously a neglected aspect of the Indian Central government, Education in Odisha, a state in Eastern India, is witnessing a rapid transformation. Its capital city, Bhubaneswar, is emerging as a knowledge hub in India with several new public and private universities, including the establishment of an Indian Institute of Technology and a Central Medical School called All India Institute of Medical Sciences (AIIMS) after five decades of demand.

Odisha has fared reasonably well in terms of literacy rates. The overall literacy rate according to Census 2011 is 73.5%, which is marginally behind of the national average of 74.04%. As per the Census 2011, the state of Odisha has the third highest percentage of tribal population in the country i.e. 22; unique distinction of having 62 different tribal communities spread over 30 districts and 314 blocks. Given the geographical and social challenges, the prompt political environment in the state since a decade has shown a turnaround in the development indicators. In all its strategies, it has used education and schools to augment its developmental goals.

The Right to Children to Free and Compulsory Education (RCFCE Act) was introduced in 2009. It guarantees free and compulsory education to all children in the age group of 6-14 years. Non-formal and adult literacy programs are run in various districts and are at different stages of implementation. Out of 30 districts, 9 are continuing total literacy campaign (TLC). 10 districts are either continuing or awaiting approval of post literacy program (PLP).

Odisha offers a bright and replicable example of changing behaviours using the school platform. Schools have been the medium to initiate and motivate most of the health initiatives in the state. The robust network of Aanganwadi Centres (AWC), a proxy for prenursery schools for the underserved population for the country, have been optimally used to augment immunization drives for the basic immunization for children in case of Cholera and polio outbreaks.[36] Then as stated above, the mid-day meal concepts were integrated into primary and secondary school to address absenteeism and improve nutrition standards in the state.[37,38]

The state overcame its biggest challenge of beating open field defecation and propagating safe sanitation practices as well as safe water intake by model experiments in school children, who in turn became harbingers of change.[37-40] Popularization and ensuring iron folic acid to combat childhood anemia was also countered by school dissemination if blue IFA among adolescents.[41-43] Other public health problems at large like vector borne diseases, eye and oral health were also advocated using the school health platform.[44-46] Interestingly the current pandemic has introduced Odisha and its schools towards e health and digitalization of education. The baby steps towards this were pronounced into a giant leap to match the COVID appropriate norms and closure or partial closure of school.[47,48] Thus interestingly the platform of schools which were criticized for their sub optimum provisions, became the means of transition in health promoting behaviour and dissemination of universal health services.

While the pandemic will be blamed for the stir it created in terms of dismantling normal human life, it probably will be the preacher of some preventive and promotive medicine and utilizing common social based institutions like schools for propagating health and safe behaviour again gained ground.

CONCLUSION

In the current context of natural hazards like the COVID-19 pandemic or man-made events like the Ukraine war, to ensure the continuity of education, including blended learning, remains a top priority for policy makers. The enforced strategies of lockdowns and shutdowns imposed by all Governments including that of India, calls for an urgency to invest efforts to offset the learning losses, minimize drop-out rates and thus, mitigate the student population to their respective education Institutes. Now when the count of cases are falling and vaccines are available for some group of school going children the anxiety and anticipation of the parents stand mitigated for the time being.

Recommendations

The challenges and chances before the teachers and the school authorities, the efforts and enthusiasm of the students coming to the school are pointers that school safety measures are here to stay. Safe drinking water, sanitation, food and personal hygiene of students remains under the limelight and added to it are the urban riders of digitization, crash courses, relevant trimmed courses and making the children prepared and ready for any aftermath by arming them with the basic practices of hygiene, healthy lifestyle and surveillance.

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