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BRIEF REPORT

Back to School in the context of a pandemic - a challenge and several aspects

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Abstract

Objetives: The school reopening, in the context of the COVID 19 pandemic, has worried parents, guardians, and health professionals. This review aims to highlight the different aspects involved in the opening or not of schools, in addition to highlighting successful and unsuccessful experiences by other countries that have chosen to open schools. **Methods:** Descriptive study of literature review. **Results:** The pediatric population presents an epidemiological behavior different from other respiratory viral infections, such as those caused by the influenza virus and in this pandemic children are not part of the COVID-19 risk group. Schools must reopen if the location in question complies with well-defined infection control by COVID-19. Successful international experiences, at school reopening, were those that adopted a restriction on the number of students per room, adequate hygiene measures in addition to use of external areas, for some activities and rooms with open windows and adequate ventilation. It is also noteworthy that the delay in school opening accentuates the social inequalities that already exist, interfering not only in the social context but also in the children's psychic context. **Conclusions:** At this moment, the most important thing is to use the best scientific evidences to guide actions to combat the pandemic, including returning to classes in a safe and planned manner, adapting them to our peculiar Brazilian reality.

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The reopening of schools is the subject that has occupied significant space in the news, and has worried the country and those responsible for it, largely fearful due to the risks involved in returning to school activities. It represents one of the most controversial issues in the context of COVID-19, since healthcare and education professionals are far from a consensus, and publications address the issue on a daily basis with often divergent conclusions. Several complex questions permeate families' thinking and everyone wants to know: if schools reopen, will the environment be safe for students and teachers?

The world is facing a global scale pandemic, caused by the new coronavirus (SARS-CoV-2). Many areas have been affected by the high rate of viral contamination, which has already affected more than 23 million people around the world and 3 million in Brazil[1]. Despite the numerous debates surrounding the disease, one of the few certainties we have is that there is currently no robust evidence on specific antiviral drugs for the treatment of COVID-19[2]. Vaccines will only be available, at best, early next year and children will probably not be a priority at first[3]. For this reason, the return to school routine must be made with caution, following well-defined parameters that include the analysis of the epidemiological situation in each location.

The pediatric population has an epidemiological behavior different from that of other respiratory viral infections, such as those caused by the Influenza virus; and in this pandemic children are not part of the risk group for COVID 19, accounting for only 2% of cases worldwide, a situation similar to that found in Brazil.[4] Children, when infected, present mostly mild or asymptomatic manifestations of the disease.[5-6] Another important fact is that this group of patients, especially those under 12 years of age, has little relevance in the chain of transmissibility and low susceptibility to the disease.[7-9] All these issues have direct implications concerning the decision to go back to school.[10]

Several studies point to a lower rate of transmissibility in the pediatric population.[7-9] Regarding the viral load in this population group, a publication by researchers from Harvard University found that children, symptomatic and in more severe conditions of COVID 19, even present viral load higher than that of adults in the first two days of illness;[11] stressing the potential source of contagion in this group of patients. However, it is noteworthy mentioning the heterogeneity of the study's age group, which extended between 0 and 22 years old, and the small number of children under 10 years of age, and the fact that the transmissibility was not evaluated.[11]

A meta-analysis, published at the beginning of the pandemic in April 2020, analyzed the impact of school activities in the context of other pandemics, such as SARS-CoV-1 and Influenza, and found that school closure alone would only prevent 2-4 % of deaths. Thus, having a much smaller impact than other measures of social isolation.[12]

At first, schools should only reopen if the location in question meets the following criteria: epidemiological scenario with a descending curve; beds in Intensive Care Units (ICUs) with sufficient availability and sustained reduction in the number of deaths.[13] However, current times are opportune for schools and Education Departments to update their protocols for resuming face-to-face school activities in light of new knowledge, since a series of protective measures will need to be implemented to minimize the danger of COVID-19 transmission in Brazilian schools.

In the context of social flexibility, measures such as proper hand washing with soap and water or a 70% alcohol solution, the use of masks according to age group and physical distance of at least 1.5 meters are fundamental measures to prevent the spread of COVID-19. The reopening of school activities infers the systematization of these practices. [14-15] Furthermore, studies point to the importance of a new organization of classes with a reduction in the number of students and the maintenance of the alternation regime between on-site and remote classes.[16-17]

Successful international experiences were those that adopted these measures associated with the use of outdoor areas for some activities and rooms with open windows and adequate ventilation.[17-18] It is also important to emphasize the need to have testing available with RT PCR, an adequate technique, for all contacts of cases that by chance test positive for the disease.[19]

One of the first European countries to resume school activities, Denmark, restarted classes with children up to 11 years old. The activities are designed to limit the spread of the virus as much as possible. The measures adopted by the country, such as the creation of small groups of children for classes and breaks, frequent hand washing, outdoor classes, among others, proved to be effective in controlling the disease.[13]

Also within Europe, a study compared two countries with similar socio-economic profiles, Sweden and Finland, regarding the functioning of schools in the pandemic. The first chose to keep the school activities of children in the first two years of elementary school, while the second suspended their activities. In Sweden, a country where some schools remained open, in addition to having a low number of contagion among people aged 1 to 19 years, teachers had the same risk of illness when compared to other professionals. The study there concluded that closing or not closing schools had no measurable impact on the number of laboratory-confirmed cases in school-age children in Sweden and Finland.[20]

Australia maintained some school activities even during the pandemic. In this country, a study carried out among schools that remained open found that the school environment was not a major focus of coronavirus infection. Only 25 schools in a universe of 7,700 institutions registered cases of infection by COVID 19 - that is, less than 1%. The study reinforced that schools can be safely kept open where mitigation measures result in strong and effective disease control.[21]

On the other hand, Israel was unable to adequately control the transmission of COVID-19 in the school environment after deciding to resume classes in May 2020. Classes with no limitation on the number of students, impossibility of adequate distance in the spaces offered, in addition to closed environments with air conditioning, were some of the points identified that led to a higher rate of contamination in schools in that country. Considering the analysis of this experience, it is imperative and essential to properly plan the prevention of COVID-19 throughout the school year.[22]

Regarding the use of masks, the Brazilian Society of Pediatrics maintains the recommendation that children use this protective equipment from the age of two onwards.[23-24]

The World Health Organization (WHO) made new recommendations indicating its use by all adolescents over twelve years of age. Children between six and eleven years of age, who live in a region with high COVID-19 transmission, have interaction with people at risk, are skilled in using them and have access to masks with regular replacements; and for children over two years of age and below six years of age, the WHO indicates its use in cases where children and/or their contacts are under situations of risk, provided that the child demonstrates the ability to use it correctly, always with the supervision of an adult.[25] With common sense, each case should be individually assessed. According to the child's stage of development, personal and family clinical conditions.

As a counterpoint to the risk of contagion, it is urgent to realize that the absence of a school environment and interaction with the community are extremely harmful for the well-being and development of the pediatric population, especially for those belonging to the less privileged layers of society.[26] However, we emphasize, that all children, regardless of which economic class they belong to, are currently in a situation of greater emotional vulnerability, developing behavioral changes such as excessive fear of the disease, irritability, boredom, anxiety, feeling of loneliness, depression, among others.[27-28] Children need to start to leave the "cloister" imposed by the apparent family protection and, with due care, return to outdoor games, physical activities, in short, to life!

Food security is another worrying topic, even more so in times of economic recession. Many families rely on lunch at school as a complement to the child's diet.[29] On the other hand, we have seen an increase in obesity and a higher use of ultra-processed foods.[30] In addition, staying out of school for such a long time significantly increases the risks of violence and abuse of various kinds, teenage pregnancy and drug use.[31] We can also highlight the danger of increasing school dropout rates, a very common reality in Brazil and which in adolescents aged 15 to 17 years already reaches a worrying rate of approximately 15%.[32]

The quarantine has accentuated the inequalities that have long been seen in Brazil's educational system between students in public and private schools. In public education, thousands of students had the school year completely suspended. Many families do not have access to the internet and computers and the State has not been able to effectively meet this demand.[33] According to data from the United Nations Children's Fund (UNICEF), due to the COVID-19 pandemic, approximately 500 million children and adolescents were excluded from the educational system in 2020 as they were not covered by distance learning (DL). The number corresponds to a third of the school community worldwide.[34] In short, with schools closed, all these vulnerabilities increase and the children are left quite helpless. Therefore, public and private managers need to have a comprehensive view of the problem, which is clearly not limited to the issue of contagion.

At this point, the most important thing is to use the best scientific evidence to guide actions to fight the pandemic, including the safe and planned return to school. It is very important to remember that each child's return to face-to-face activities has to be agreed between the family and the school, and the option of maintaining DL should be offered in cases where the family does not feel safe about this return or there is some medical contraindication for such.

The critical analysis of the various publications that showed the best path in the decision to go back to school in other countries will allow us to avoid the mistakes made and reproduce the best success strategies, adapting them to our peculiar Brazilian reality.[13.20-22.35--40]

The consequences of this pandemic for humanity will last for decades and an entire generation of children who are suffering today will be negatively compromised in the future if all together, family, society, educators, health professionals and governments, do not urgently act on their behalf. This is the first step towards overcoming another stage of the pandemic.

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