

TITLE:

A Micro-study on the Impact of Governance

on the Post-COVID-19 Nutritional Security of Children through Mid-Day Meal Scheme in Coimbatore



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ABSTRACT (200-500 words)



Background: Since it was declared a worldwide pandemic in March, 2020 apart from becoming the 'threat of the century' to public health on a global scale, COVID-19 is being regarded as an indicator of inequity and deficiency of societal development. Above 276 million Indian children and youth were not going to school due to school closures. Education budgets decreased after COVID-19 began in 65 percent of low and lower-middle income countries in comparison to the 33 percent of high and upper-middle-income countries.

In India, there has been a 30 percent reduction in the execution of essential nutrition services including micro-nutrient supplementation, school meal programmes, de-worming drives, and nutrition education during COVID-19. India's mid-day meal scheme was set up to ensure that hunger was not the reason preventing children from missing or skipping school. Therefore, to learn more about the impact of governance on the educational empowerment and nutritional security of rural children this micro-study was conducted.

Method: A cross-sectional study design was carried out in selected areas of the Coimbatore district in 10 government schools and 2 government-aided schools with 7,257 samples from pre-primary to higher-secondary classes aged between 6 to 18 years.

Results: There has been a definite increase in enrolment of children from private schools to government schools in all grades among boys and girls. The bigger difference in this reverse migration trend is maximum among girls (68.4 and 54.0) and least among boys (15.8 and 22) in both 2018 and 2020. There was a 17% increment in enrolment of girls (3490 from 2987) and a 19% in boys (3767 from 3177). There was an even more pronounced and significant increase of children (31%) taking the noon-meal scheme.

Conclusion: The COVID-19 pandemic disrupted food availability and accessibility particularly in countries with severe lockdown measures due to which it became essential for governments to adopt a holistic, sustainable measures to tackle food insecurity in order to soften the blow on the most vulnerable socio-economic groups. As this is the first micro-study with a primary focus on the impact of the COVID-19 pandemic on children's nutritional security, a few recommendations are being put forward. Firstly, even though there is a substantial (60%) increase at noon-meal enrolment in government schools, there needs to be policy-supported budget allocation for the next or coming academic years, with special emphasis on the noon-meal scheme. An increase in the amount of protein from the current 12-20g is recommended. Providing any type of pulse *sundals* as a daily afternoon snack or as a part of the main menu is also advised, along with inclusion of a seasonal fruit to improve immunity through diet variation. In the wake of increase in price of commodities the monetary provision per day per child towards vegetables and groceries may be increased. Thus, in the course of a global crisis it becomes essential for governments to be involved in productive discussions, analyzing research, assessing existing measures and implementing better policies as the way to protect, preserve and promote the future generation.

KEYWORDS (6-8 words): COVID-19, Nutrition Security, Child Nutrition, Mid-Day Meal Scheme, Noon Meal Scheme, Vulnerable children, COVID -19 Research & Response Desk at ICPH

INTRODUCTION



A novel pathogenic virus named 'COVID-19' broke out in December, 2019 near Wuhan City in China, causing it to be declared a worldwide pandemic in March, 2020. The International Committee on Taxonomy of Viruses (ICTV) recorded the virus as 'severe acute respiratory syndrome Corona virus-2' also known as SARS-CoV-2. At first it seemed to be transferred from animals to humans and it became extremely important to recognize the sources, the paths and rates of transmission, the incubation cycle, susceptible community features and the survival rates. Even then, very little clinical knowledge on the disease was accessible. Besides its negative effects on human life, COVID-19 was considered to have the potential of significantly slowing down the economy not only in most affected countries, but throughout the world. Two years and counting, apart from becoming the 'threat of the century' to public health on a global scale, COVID-19 is being regarded as an equal indicator of inequity and deficiency of societal development (Fong et al, 2021 and Chakraborty and Maity, 2020).

For Merrill Singer, 'a syndemic exists when causative factors / co-morbidities are intertwined or interactive or cumulative in worsening the disease burden by additively increasing its negative consequences'. Thus, COVID-19 is likely to be a syndemic that interacts with and aggravates the existing non-communicable diseases (NCDs) and societal conditions, especially among people of minority ethnicities or those who live in highly deprived socio-economic areas, or those in poverty. Such population generally has a greater number of co-existing NCDs, which begin early in life and are more severe. These inequalities in chronic disease conditions occur due to inequalities in exposure to the health's social determinants, 'including working conditions, unemployment, and housing, accessibility of essential goods and services and healthcare of people'. Sometimes, these social determinants of health also co-act to make marginalized communities susceptible to COVID-19 infections even if they have no hidden or undiagnosed health conditions. The pandemic's emergency lockdowns may have unequal health impacts (that range from unequal experiences of lockdowns such as income and job losses, urbanity, overcrowding etc.) or how unequal access to healthcare services exist for non-COVID-19 cases as well due to an overwhelmed system and / or immediate lockdown health impacts such as mental health or violence towards different genders (Bambra et al, 2020).

The social lives of people have been affected due to the corona virus because it has resulted in the closure of schools, universities, colleges, restaurants, cafes, pubs, etc. In their report published in 2020, 'UNESCO has mentioned that over 39 countries have closed schools, colleges and universities, which has impacted over 420 million children and youth' (Singh and Singh, 2020).

Crucial determinants in improving the resilience and enhancing the efficiency of approaches to public health in pandemics like COVID-19 include the psychological and behavioural aspects of both the individuals and communities. Significant stressors such as jejune nutrition, can lead to lasting effects linked to health which is probably why 'poor diet quality' has been linked with physical and mental health. The global pandemic poses challenges to maintain a healthy diet. The lockdowns announced in multiple countries led public and private sector organizations except for health care institutions and some essential services to shut down and try to carry out remote operations. These measures of self-isolation and social distancing can have severe repercussions on both food access and utilization. Optimal nutrition and dietary challenges at the global level include food standards, food distribution and shipping, agreements of food trade, pricing commodities and research and capacity building. Challenges likely to be at the national level include food and agricultural policies, food marketing and media and food assistance programs. Challenges like food accessibility, availability, equity among vulnerable groups, issues of hoarding are part of the community level while issues of food utilization, changes in eating behaviour and physical inactivity are part of individual level. An inadequate intake of energy, protein, vitamins including A, E, B6 and B12 and micronutrients like iron and zinc can cause a depressed immune function with increased infection susceptibility. There are also predictions that point to increased obesity risks due to combined actions of frequent snacking related higher calorie intakes, irregular eating behaviours, and decreased physical activity levels caused due to lockdown-related-confinements (Naja and Hamadeh, 2020).

Vulnerable sections of the population, such as people living in slums, those deprived of freedom, people who are chronically ill, or workers let go from jobs are more vulnerable to food insecurity due to difficulty in income generation from a socio-economic standpoint or impaired physiological use of nutrients or food consumption's chronic deficiencies from a biological standpoint (Pereira and Oliveira, 2020). Being a major determinant of health, the nutritional status of an individual is a critical factor across the stages of a disease, especially among vulnerable people such as elder adults or those with multiple morbidities. Adding to this, parents' online work burdens and school closures heavily affect the daily lives of millions of parents and their children all over the world (Post Acute Care Study Group, 2020).

A study conducted two years ago, mentioned the likely positive and negative impacts of the pandemic on children. The positive impacts include the possibility to learn new educational skills, increased time to build-up self-confidence, forming deeper bonds within the family, and becoming aware of an unknown disease. However, the greater, negative impacts include deprivation and decreased quality of education, increased anxiousness about the future due to delays in new sessions or examinations, issues of health due to social isolation, nutritional deficiencies, lack of outdoor activity, increased aggressive behavioural changes such as frustration, anger, anxiety, irritability, increased addiction to social media and the internet and/or increased risks of child exploitation such as child labour or abuse or deprivation of education.

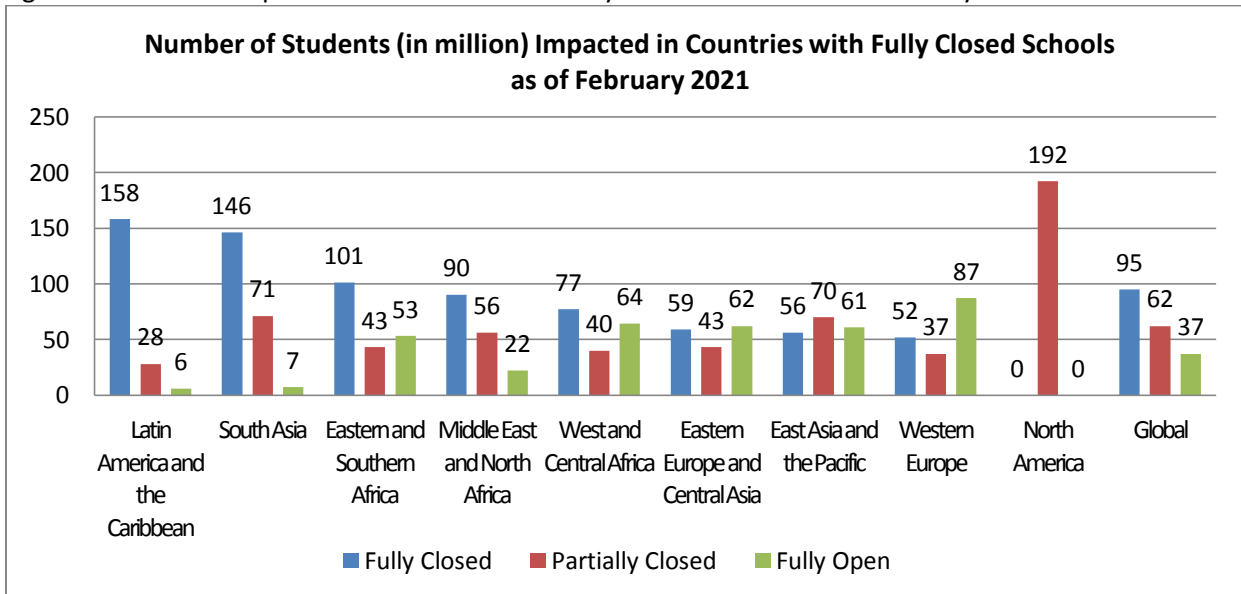
Another study conducted early in 2020 predicted that the trauma related to the pandemic and economic instability would unfairly impact the children from poor families who completely rely on school-based services for their physical, nutritional, mental health and educational needs. The study said that 'unforeseen extended school closures could lead to lower test scores, lower educational attainment, and decreased learning potential' among students. Reliable ingress to digital educational technology, a steady learning environment, and parents with the adequate time and skills to support remote learning is now becoming an undeniable need for students everywhere. Remote learning however, poses greater challenges for such households and is at an 'increased risk for widening educational disparities'. Also, during school closures, school social workers cannot completely 'offer emotional support, observe warning signs, and intervene for at-risk children' who are vulnerable due to 'underlying psychosocial stressors and/or developmental or behavioural disorders'. Infact, the combination of school closures and child poverty is already being described as a social crisis in the making (Masonbrink and Hurley, 2020 and Gupta and Jawanda, 2020).

According to the 'UNESCO Global Monitoring of School Closures caused by COVID-19' (Figure 1), Latin America and the Caribbean had the most number of students (in million) affected due to complete closure of schools while North America and Western Europe were the highest when it came to partially closed and fully open status of schools in the period of March 2020 to February 2021 respectively. The average number of school closure days globally was 96 days, but was 146 days for the South Asian region. This is possibly because of worsening of the pandemic and/or mandatory lockdown periods throughout South Asia. As per a 2021 review article based on a published UNICEF survey, above 276 million Indian children and youth were not going to school due to school closures that occurred during COVID-19. India had zero weeks fully open in this same period due to the lockdown enforced at the time throughout the nation.

SCHOOL CLOSURES



Figure 1 - Students Impacted in Countries with Fully Closed Schools as of February 2021



Capelle et al, also mentions that the pre-existing magnitude of learning loss is likely to have worsened post COVID-19 since it will highly depend on capabilities and effectiveness of governmental and/or school learning programmes (van Capelle, 2021).

World Bank in its publishing on 'Economic Impact of COVID-19' mentioned that since the economic shock of this pandemic lacks precedence there are likely to be significant disruptions in trades, drops in prices of commodities and tautening of countries' financial conditions. This projection was based on recognizing the immense requirement of prioritizing public health emergency responses and strengthening of safe-guarding measures and is likely to decrease or stagnate the funds available for other public investments including education (Al Samaria, 2020). The share for education budgets of countries before and after the COVID-19 pandemic is depicted in Table 1. According to the data available in the Education Finance Watch 2021, more number of lower and lower-middle income countries decreased the amount set for education in their budgets as compared to their high and higher-middle income counterparts when countries were classified according to their income levels by the World Bank and UNESCO. Education budgets decreased after COVID-19 began in 65 percent of low and lower-middle income countries in comparison to the 33 percent of high and upper-middle-income countries. Even though more low and lower-middle-income countries decreased their budgets, the average reductions were smaller after COVID-19 than before COVID-19 (-9.1 versus -3.6 percent). The average increases in budgets for these countries increased slightly after COVID-19 (12.4 versus 8.7 percent). However, these trends were more positive for higher income countries. Although a share of upper-middle and high-income countries increased their budgets, their average increase was higher than in low and lower-middle-income countries (13.8 percent versus 12.4 percent). It should be noted that although there is a general increase to the overall budgets, the portion of the budget dedicated to education has decreased. This can be why the average decrease in countries that decreased their budget shows negative percentages while the average increase in countries that increased their budget remains positive. These deviating trends will worsen the inequalities that already exist between low and lower-middle-income countries and high and upper-middle-income countries with respect to education spending.

EDUCATION BUDGET



Table 1 – Education Budgets Before and After Pandemic

	All Countries		High and Upper Middle Income		Low and Lower Middle Income	
	Pre-covid	Post-covid	Pre-covid	Post-covid	Pre-covid	Post-covid
Total Education Budget						
Change in education budget	1.1	1.0	2.2	6.7	0.3	2.0
Share of countries decreasing education budget	44.8	51.7	41.7	33.3	47.1	64.7
Average decrease in countries that decreased their budget	-8.3	-4.6	-6.9	-7.4	-9.1	-3.6
Average increase in countries that increased their budget	8.7	13.2	8.8	13.8	8.7	12.4

Methods to produce and distribute food to socially and economically vulnerable groups are under operation in various countries in an attempt to provide food security. Other policies aiming to guarantee food access and financial transfers to vulnerable people along with adapted school feeding programmes including distribution of food kits and/or meals to students and their families are also being observed. As an emergency response to control the increasing food process in COVID-19 affected consumption centres, suitable social, food and nutritional protection actions are being considered via monitoring of stock and price related data (Pereira and Oliveira, 2020).

Social protection is defined by the Food and Agricultural Organization (FAO) as ‘a set of interventions whose objective is to reduce social and economic risk and vulnerability and to alleviate extreme poverty and deprivation’. Social protection programmes must achieve at least one out of four objectives, namely protection (relief from poverty and deprivation), prevention (averting deprivation), promotion (increase incomes and capabilities) or transformation (addressing concerns of social equity and exclusion). According to Summerton S.A., ‘the largest initiatives in India seek to achieve protection through cash transfers or promotion through feeding programmes’. But, in India, all ‘four dimensions of food security i.e. the physical availability of food, economic and physical access to food, food utilisation and the stability of these three dimensions over a period of time’ have been negatively impacted due to COVID-19.

UNICEF, from a survey conducted in countries including India has concluded that during COVID-19, there is a 30 percent reduction in the execution of essential nutrition services including ‘school meal programmes, iron and folic acid supplementation, de-worming and nutrition education’ due to lockdowns (UNICEF and Barkowski, 2021).

One such initiative called India’s mid-day meal scheme (MDMS) was set up in 1995 to ensure that hunger was not the reason preventing children from missing or skipping school. The implementation of the scheme is the mandate of individual states with the central government playing a supervisory role. ‘With schools and colleges closing to comply with lockdown restrictions, despite not fulfilling the original objective of ensuring hot nutritious meals, many states have adapted and are instead delivering uncooked rice and potatoes to their beneficiaries’. Despite the economic crisis, currently spread across the world, ‘the development of food and nutrition insecurity policies and the distribution of financial resources to socially vulnerable people in addition to strengthening existing income-transfer policies’ should be encouraged. Thus, political harmony and commitments to social well-being are likely to reduce differences, thereby guaranteeing a fundamental right – adequate food and life (Pereira and Oliveira, 2020).

The MDMS eliminates classroom hunger, while addressing health issues like ‘micronutrient deficiencies’ and ‘mass de-worming’ particularly among economically disadvantaged families. According to the Annual Work Plan and Budget of the

National MDM Programme for 2020 to 2021, the number of working days in schools has been reduced. The Government of Tamil Nadu took efforts to attend to the nutrition of the families by providing 1000 rupees along with 15 kilograms of rice, 1 kilogram of dhal, 1 kilogram of oil and 1 kilogram of sugar at no cost for two months. In addition, community kitchens operated across the state where the employees utilised the noon-meal kitchens and 'provided food to all who were in need' (AWPB, 2020-21). Rather than the school meals being an addition to daily diet, they are more of a substitution, to protect the entire family from hunger. Interrupting of school feeding programmes or inaccessibility of supplementary nutrition programmes through school meals is likely to endanger the already unstable food security for the poor from both urban and rural areas, which may have 'long term health and economic impacts'. It is important to remember that even though health and economy occupy the centre stage, nutritional and educational considerations shouldn't be forsaken so as to avoid undoing 'the hard-earned gains in these sectors over the past few decades' (Alvi and Gupta, 2020).

The '**Noon Meal Programme**' in Tamil Nadu was introduced on first July 1982 for the children in the age group of 2 to 5 years and it has been extended to all children in the age group of 10 to 15 years from fifteenth September 1984. The 'Noon Meal Scheme' in Tamil Nadu pre-dates MDMS. Education lays the foundation for the development of a society and hunger becomes an impediment to learning. The main objective of the programme is to emphasize on educational empowerment along with nutritional security. Under this programme free hot cooked nutritious meal is being provided to children in Government Schools of Tamil Nadu. The goal of the programme is to maximize the enrollment and reduce school dropout, to provide nutrition to the underfed and under nourished children, to encourage children from disadvantaged background to attend the school regularly and to get formal education and to empower women by providing employment opportunities. The total number of children who benefit from the programme today stands at 34, 04,656 and provides employment to 1, 28, 130 women.

Therefore, to learn more about the impact of governance on the nutritional security of rural children in the post COVID 19 scenario this micro-study was initiated by the COVID-19 Research and Response Desk at the International Centre for Child and Public Health (ICPH), Shanti Ashram.

OBJECTIVES OF THE MICRO STUDY:

- **Analyzing** the pattern of reverse migration of children to government schools as evidenced by school enrollment and precipitated by the COVID 19 Pandemic
- **Assessing** the increase or decrease in total numbers of children taking noon meals in government schools currently after pro-longed school closures pandemic precipitated school closures
- **Studying** the impact of governance measures on the nutritional security of rural children with focus on the noon meal scheme (after school re-opening).

METHODOLOGY

This micro-study was a cross-sectional study design carried out in selected areas of the Coimbatore district of the state of Tamil Nadu, namely Perur and Madukkarai blocks. An expert study team at the COVID-19 Research and Response Desk at the International Centre for Child and Public Health (ICPH), Shanti Ashram carried out the study in 10 government schools and 2 government-aided schools. 7,257 samples from 6th to higher-secondary classes aged between 11 to 18 years were recruited as subjects for the study.

The COVID-19 pandemic has resulted in unprecedented research worldwide, and has reaffirmed the importance of research, health infrastructure and robust public health systems in preparing for and responding to crisis. The ultimate mitigation of the COVID-19 pandemic is dependent on an alignment of high-quality research and high-priority societal goals. The COVID-19 Research and Response Desk was created during the pandemic as a wing of ICPH's Public Health Desk¹ at Shanti Ashram. Our research team conducts situational analysis and needs assessment both for our own use and

for the Government of Tamil Nadu. We also carried out research studies that have helped inform the interventions we have enacted on the field during the pandemic;

Employing purposive sampling design, data was collected using the direct interview method after obtaining consent from the necessary authorities and subjects. The data obtained was then appropriately analyzed using statistical tools.

STUDY TEAM:



The combined study team from both institutions carried out the following

- **COVID-19 Research and Response Desk at the International Center for Child and Public Health, Shanti Ashram**
 - Dr.S.R.Subramanian, Head, Sustainable Development Programme, Shanti Ashram
 - Mr.Vijayaragavan, Head, Youth Leadership Programme, Shanti Ashram
 - Ms.Monica, Community Development Organizer, Sustainable Development Programme, Shanti Ashram
 - Ms.Tamilarasi, Team Leader, Community Outreach, ICPH, Shanti Ashram
 - Ms.Ranisha, Nutrition Counselor, ICPH, Shanti Ashram
 - Ms.Devika, Medical Technology Coordinator, ICPH, Shanti Ashram
- **Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore**

RESULTS AND DISCUSSION



Out of all the subjects who participated in the study, almost 6531 (90%) were part of families below poverty line (BPL) while the remaining 726 (10%) were above poverty line (APL), even though all were from rural socio-economic strata of the society. The Annual State of Education Report (ASER) 2020 by Pratham's key findings on the percentages of children enrolled in government and private schools from 2018 to 2020 is recorded in Table 2.

CHILDREN ENROLMENT IN SCHOOLS



Table 2: Enrollment Percentages of Boys and Girls In Government/Private Schools

Class	ASER 2018						ASER 2020					
	Boys			Girls			Boys			Girls		
	Govt.	Pvt.	Total	Govt.	Pvt.	Total	Govt.	Pvt.	Total	Govt.	Pvt.	Total
I – II	57.9	42.1	100	65.1	34.9	100	61.1	38.9	100	66.7	33.4	100
III – V	62.7	37.3	100	71.2	28.8	100	65.6	34.4	100	73.3	26.7	100
VI – VIII	65.8	34.3	100	73.3	26.7	100	68.3	31.7	100	77.0	23.0	100
IX & Above	64.6	35.4	100	68.9	31.2	100	69.7	30.4	100	72.7	27.3	100
All	62.8	37.2	100	70.0	30.0	100	66.4	33.6	100	73.0	27.0	100

The data shows that there has been a definite increase in enrolment of children from private schools to government schools in all grades among boys and girls. The average increase is 18% as compared to the national projection in November, 2021 by the ASER which was only 8%.

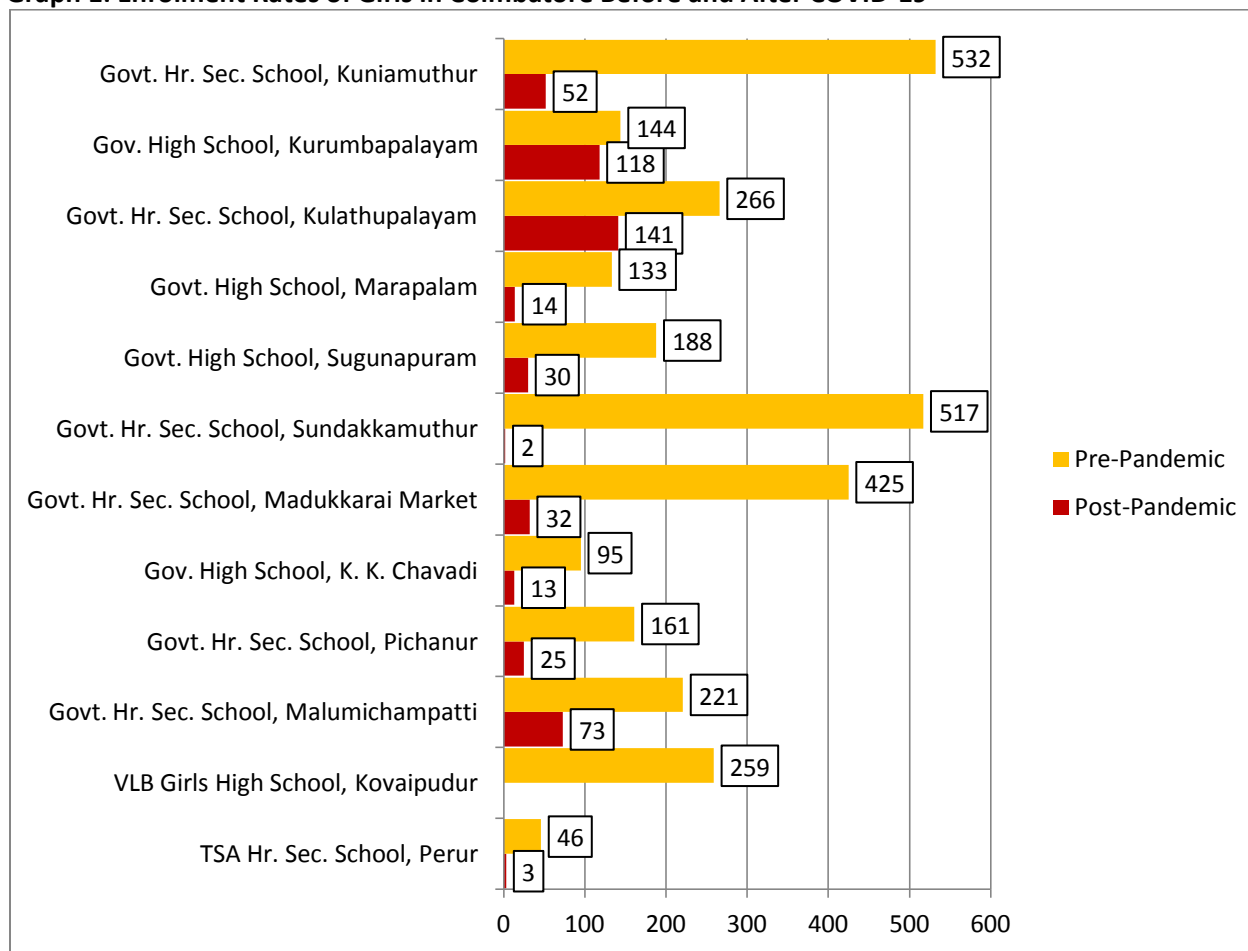
An increase in school dropout rates of older children, especially girls was predicted by the ASER, 2021 due to the pandemic affecting the livelihoods of low-income families with migrant workers which inturn would squeeze family budgets towards education. ASER 2021 had also looked into the probable causes of the reverse migration trend that was occurring in the past 2-3 years. Lack of studies in private schools, pandemic precipitated financial distress in households, free facilities in government schools, current migration of daily-wage or contractual workers were some of the reasons for this case. The report, however notes that it is entirely possible that this trend of reverse migration might go back to

the way it was as and when income recover or private schools become profitable again (ASER 2021). However, it becomes important to note how the bigger difference in this reverse migration trend is maximum among girls (68.4 and 54.0) and least among boys (15.8 and 22) in both 2018 and 2020.

Corresponding to the increase in enrolment; there was an even more pronounced and significant increase of children taking the noon-meal scheme (31%). However, there seems to be a higher number of boys (39%) when compared to girls (24%) who are part of the noon-meal scheme. It is to be noted that through the noon-meal scheme, every child gets 655kcal per day. The recommended level is 1965kcal per day per person.

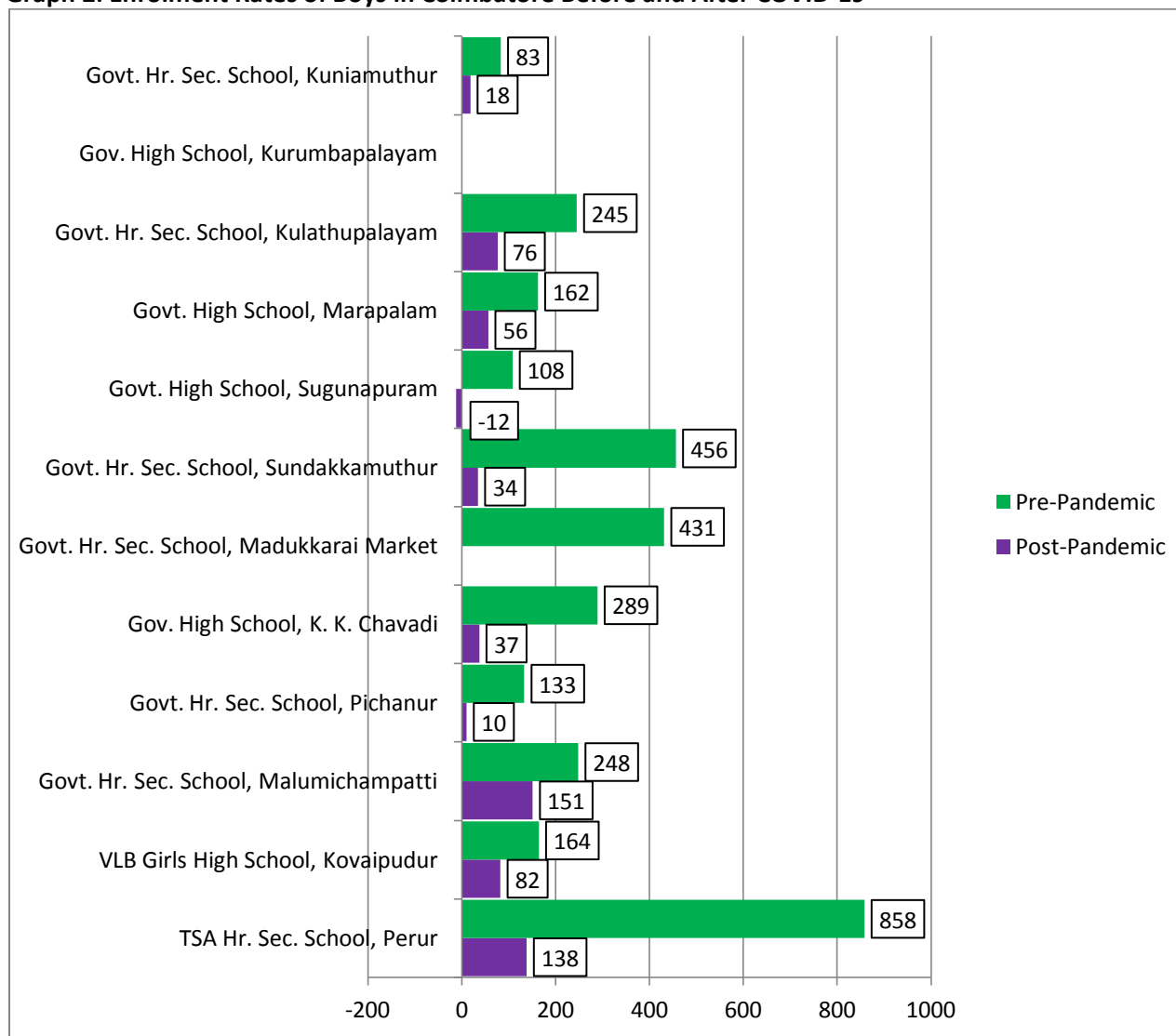
Kang et al reports that even though this pandemic’s impact has extended globally the consequences would have worsened the existing vulnerabilities, affecting the Asian Pacific region more than others. Considering that lockdown disruptions may affect the food security pillars namely ‘availability, accessibility, utilization and stability’, the Asia Pacific region may be the one more exposed to food insecurity. This was more or less seen in India itself as ‘8 out of 10 households reported consuming less food during the country’s initial lockdown’. It was found that reduced food market accessibility and purchasing power along with climbing food prices led to changes in food expenditure, and dietary diversity reduced due to less availability of animal-source based food and foods rich in micronutrients via food supply chains (Kang et al, 2021 and Kim et al, 2020). Another study published in 2020 had mentioned that the disparities preexisting in food insecurity between rural and urban household may worsen and extend to nutritional inequities. According to this study, both rural and urban households are vulnerable to food and nutritional insecurity owing to income and employment loss (Headey, 2020). Hence, providing at least one-third of the total calorie requirement of the child may be the better step to take, to provide food security in rural, school aged children through the noon meal scheme.

Graph 1: Enrolment Rates of Girls in Coimbatore Before and After COVID-19



The graphs 1 and 2 display the enrolment trends seen in selected schools for boys and girls before and after the pandemic. The number of students who enrolled before the pandemic were highest in Government Higher Secondary School, Kuniamuthur while Government Higher Secondary School, Kulathupalayam had the highest number after the pandemic (141 for boys and 151 for girls). There was a 17% increment in enrolment of girls (3490 from 2987) and a 19% in boys (3767 from 3177) which indicated no gender gap in enrolment rates.

Graph 2: Enrolment Rates of Boys in Coimbatore Before and After COVID-19



A study that had discussed intra-household differences with respect to educational expenditures and enrolment for children by birth order and gender, found that girl children face discrimination regarding allocation of household resources, nutrition, and investment towards education. Few reasons for this as per existing literature can be family size, income level, and location of residence from school. From this standpoint, it can be said that even though there may be preference of enrolment towards boys, the girls aren't far behind among the subjects of this micro-study. Just as Tara Kaul, mentions, it may be seen as a relief towards gender equality in the field of education (Kaul, 2018).

CONCLUSION



The COVID-19 pandemic disrupted food availability and accessibility particularly in countries with severe lockdown measures due to which it became essential for governments to adopt a holistic, sustainable measures to tackle food insecurity in order to soften the blow on the most vulnerable socio-economic groups (Kim, 2020). The foundation of global health systems depends on data availability and its effective conversion to information, which is then used in formulation, regular revision of policies (Chauhan, 2021). In India, common sources of health information have been identified as national health programmes, population surveys like the census, hospital records, disease notifications and registers, epidemiological surveillance, records of health services etc. (Park, 2019). As this is the first micro-study with a primary focus on the impact of the COVID-19 pandemic on children's nutritional security, in Tamil Nadu post school opening, a scaled up study to further substantiate the findings may be necessary. There are a few recommendations being put forward on the basis of the findings.

RECOMMENDATIONS



Even though there is a substantial (60%) increase at noon-meal enrolment in government schools, the scheme allocation in general should be increased as evidenced by need. Taking lessons from nations that decreased budget sections dedicated to education there needs to be policy-supported budget allocation for the next or coming academic years, with special emphasis on the noon-meal scheme.

For practice at the grass-root level (the schools) an increase in the amount of protein from the current 12-20g is recommended. The provision of green gram (moong dal) or Bengal gram (chana dal) can be daily instead of the current twice a month. Providing any type of pulse *sundals* as a daily afternoon snack or as a part of the main menu is also advised, along with inclusion of a seasonal fruit to improve immunity through diet variation.

Attempting to provide food and nutrition security to many children on a continuous basis is likely to exhaust the financial resources of the state sooner than later. Hence, in the wake of increase in price of commodities the monetary provision per day per child towards vegetables and groceries may be increased. Although the noon-meal scheme is committed to achieving food security to more vulnerable ages, since the current scheme doesn't include higher secondary ages (eleventh and twelfth classes) this may be considered to increase its community reach.

Thus, in the course of a global crisis it becomes essential for governments, government run organizations, non-governmental organizations, non-profit organizations etc. to be involved in planning of recovery measures to cushion un-expected shocks to the society's vulnerable sections particularly children. Therefore, productive discussions, analyzing research, assessing existing measures and implementing better policies is the way to protect, preserve and promote the future generation.

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¹ **COVID-19 Research and Response Desk at the International Centre for Child and Public Health (ICPH) www.icphhealth.org**

In December of 2019, the first cases of what we now know to be SARS-CoV-2 were reported as fatal pneumonia in Wuhan, China. The first genetic sequence data of the virus was released by the Chinese Government and shared with the rest of the world by GISAID on 10th January 2020. By March 2020, global pharmaceutical companies announced a major commitment to addressing COVID-19, and on December 8th 2020, the first dose of a COVID-19 vaccine went into the arm of a 90 year old woman in the UK. As of June 2021, more than 3 billion vaccine doses have been administered to people across the world.

The COVID-19 pandemic has resulted in unprecedented research worldwide, and has reaffirmed the importance of research, health infrastructure and robust public health systems in preparing for and responding to crisis. The ultimate mitigation of the COVID-19 pandemic is dependent on an alignment of high-quality research and high-priority societal goals. At Shanti Ashram and ICPH, we have always worked at the intersection praxis of theory and practice. We believe that the best practice is informed by sound theory and that theory that does not translate in to practise does not fulfil the mandate of our work. The COVID-19 Research and Response Desk was created during the pandemic as a wing of ICPH's Public Health Desk. Our research team conducts situational analysis and needs assessment both for our own use and for the Government of Tamil Nadu. We also carry out research studies that have helped inform the interventions we have enacted on the field during the pandemic; the primary populations we study are the vulnerable in our service villages, and particular focus is given to researching vulnerable children. The Research Desk also puts out articles on subjects ranging from the mental health impact of COVID-19 on vulnerable children to the contributing factors and social determinants of vaccine hesitancy. Papers, Reflections and ICPH documents resourced for this micro-study:

1. COVID 19 Response - 16 Initiatives for Vulnerable children Final- 2021: <https://www.icphhealth.org/wp-content/uploads/2021/05/COVID-19-Response-Initiatives-for-Vulnerable-children-Final-May-2021.pdf>
2. India's Successful Launch of COVID 19 Vaccination for Adolescents - Field Notes from Week 1: <https://www.icphhealth.org/news-event/indias-successful-launch-of-covid-19-vaccination-for-adolescents-field-notes-from-week-1/>
3. VFA Rural India Initiative - Reaching the Unreached: <https://www.icphhealth.org/case-study/reaching-the-unreached/>
4. Art Therapy for Children - Field Notes from Shanti Ashram in the times of COVID : <https://www.icphhealth.org/case-study/art-therapy-for-children/>
5. Nurturing the many growing children in our midst: <https://www.icphhealth.org/health-perspective/nurturing-the-many-growing-children-in-our-midst/>
6. Disrupting the Epidemic - Science, Spirit and Society together: <https://www.icphhealth.org/health-perspective/disrupting-the-pandemic-science-society-and-solidarity/>
7. Bridging the Digital Divide- A Comprehensive COVID-19 Response: Ensuring Social Safety Nets for Children <https://www.icphhealth.org/news-event/childrens-day-special-bridging-the-digital-divide/>