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Online education during the pandemic: Experiences of school children in Bihar

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Abstract

This paper examines the landscape of education in Bihar examining the impact of a pandemic on the education of school children. The education system of Bihar has long grappled with deep-rooted inequalities and disparities, which were further exacerbated by the COVID-19 pandemic. The study sheds light on a critical aspect: students in government schools face substantial obstacles in accessing online education. The closure of schools, necessitated by the pandemic, adversely affected these students' well-being and educational journey. A majority of the students studying in government schools belong to marginalized and disadvantaged sections of society and they are disproportionately affected by the circumstances. The findings of this study reveal that the implementation of online education in Bihar during the pandemic encountered multifaceted challenges with the state's digital divide emerging as a formidable obstacle. The study exposes the factors contributing to the lack of success in implementing online education during the COVID-19 pandemic.

Keywords: Online education, COVID-19, government school, students of Bihar, marginalized

Introduction

Due to the rapid development and usage of digital media over the last two decades, access to this media has become crucial to being an active player in our contemporary society. In most developed countries computers and mobile phones have become indispensable to how people communicate, work and learn ^[1]. However, given the rising economic inequalities and persistence of poverty across the world, all individuals and social groups do not have equal access to ICTs. The inequality in access to ICTs is often referred to as the "Digital Divide" ^[2]. The divide was further exacerbated during the pandemic. The pandemic forced almost all countries across the globe to shut down educational institutions. India was among those countries which had the longest days of school closures. According to UNESCO data, the global average of school closures was nearly 35 weeks and it was 73 weeks (full and partial) as of September 30, 2021 in India ^[3]. At the peak of the crisis, 90 per cent of learners worldwide had their education disrupted. Some learners, especially from the most marginalized population groups, were put at risk of permanent dropout, provoking long-term and significant negative effects on children's life-long well-being and the socio-economic development of their communities and countries ^[3]. The situation in Bihar became more vulnerable since using face-to-face and chalk-to-talk methods was restricted. The teachers and the students had to rely on digital devices and Internet facilities for online teaching which was not available for the masses. There were very few or negligible number of students who had access to digital devices for learning. The students who belong to the marginalized and disadvantaged group suffered the most as they had limited resources that could be used for learning at home ^[3,4].

The learning outcomes among school students in Bihar have fallen in the past six years (Indian Express, ASER). Bihar grapples with the lowest literacy rate in the country at 61.8 percent, which is less than the national literacy rate of 74 percent ^[5]. The annual ASER report highlighted the deficiencies in basic infrastructure and facilities within government schools. The absence of quality higher education and professional institutions exacerbates the challenges, prompting students from more affluent backgrounds to seek education in other states. The teachers are not professionally trained to teach the students and classrooms are not equipped with new learning technologies ^[6].

The standard of teaching-learning has continuously declined with time. The year 2020 witnessed a globally declared pandemic COVID-19, which took thousands of lives. Many countries had imposed a total lockdown to tackle the situation. The only way to control and defeat this pandemic was to make people follow social distancing and restrain them from moving out to avoid social connections. The pandemic forced universities and schools around the world to shut down their campuses indefinitely and move their educational activities to online platforms. The digital space is full of educational videos, doing well in this hour of crisis when all schools and educational institutions are closed (Vineet Nayar, 2021) ^[8], highlighted in his journal that despite announcements and claims by state governments of continuing to deliver education during the lockdown through different mediums including TV and online classes, over 80% of parents reported that education was not delivered during the lockdown; in Bihar, this figure was 100%, according to a new survey by Oxfam India.

The widespread availability of smartphones fuels the misconception that access to technology is no longer a barrier. This assertion does not hold for the economically disadvantaged sections especially in rural, semi-urban areas, presenting a stark contrast to the reality of the urban middle-class. Moreover, the experiences of students in private schools significantly diverge from those attending government schools. While online education emerged as the sole alternative to education during the pandemic, India was ill-prepared for this huge educational shift. While online learning served as a panacea in times of crisis, but it was not a solution for the students from poor socioeconomic backgrounds studying in government schools who hardly have access to basic infrastructure and facilities ^[9]. It is an unfortunate reality in India that the students studying in Government schools predominantly belong to poor-income families, many from Below Poverty Line (BPL) families. A report by UNICEF mentioned that nearly 75 lakh children in Bihar experienced learning loss amid the COVID-induced lockdown. This was so because the majority of school students did not have access to digital devices to attend online classes. Providing technology and the internet to vulnerable sectors of our society has always been a challenge.

Amidst the COVID-19 outbreak, with the closure of educational institutions worldwide, the government implemented online education in haste without proper consultation with key stakeholders in the teaching-learning system. The decision overlooked many crucial factors and emerging challenges several students having access to digital devices, access to the internet, access to the digital infrastructure, and teacher's readiness for online education ^[6]. In March 2020 it was observed that there was a lack of resources, lack of awareness, lack of accessibility, and a lot more challenges that were ignored ^[10]. The students did not have suitable resources to continue their education. Government school students encountered a myriad of challenges that impeded their education. Those belonging to impoverished backgrounds and marginalized sections of society faced numerous barriers to accessing quality education, particularly during the pandemic. It is imperative to address these obstacles and make concerted efforts to eliminate them. The transition to online teaching and learning processes had its own set of consequences and setbacks. Available research evidence shows that students

faced many obstacles in a home learning environment, they were not able to attend the online classes effectively due to poor internet connection, unavailability of technical staff, lack of technical support, poor speed of internet, and high internet traffic ^[10, 11, 14, 15].

Low-income and marginalized students suffered the most from these unprecedented changes during covid-19 pandemic. While inequalities and inequities already impact the full realization of the right to education, the COVID-19 pandemic has exacerbated these disparities among students, especially in terms of access and quality. Several research found that many children in Bihar do not have basic infrastructures like television and Internet facilities and there is a huge digital divide ^[16, 21, 23]. The pandemic drew out multiple challenges and highlighted the need to develop policies to reduce the digital gap and improve the delivery of online teaching. Students of Bihar need better access to digital infrastructure and quality education to have a better future. The study highlights the educational situation during the pandemic and the experiences faced by the students of Bihar.

Bihar beyond education: A primer on essential knowledge and insights

Bihar is a state situated in the eastern part of India with a population of approx. 10 crores which is almost 10% of the total Indian population ^[5]. Bihar has 38 districts and 44874 villages being the third most populous state of India with, nearly 89% of its people living in rural settings. The literacy rate of Bihar was 61.80% being the lowest among all other Indian states ^[5]. Bihar is one of the states that have a huge number of people who lie below the poverty line. The Multidimensional Poverty Index (MPI) published by NITI AAYOG stated that 51.91 percent of Bihar is poor, thereby becoming the poorest state in the country. On the other hand, the prevalence of social issues and deep-rooted social problems in Bihar poses significant barriers to its overall development and progress. There are serious problems like gender inequality, early child marriage, caste discrimination, high maternal mortality rate, impoverished families, malnourished children, illiteracy, dowry system, migration, and the count goes on. A massive number of migrant workers from the state gives a picture of the limited resources and opportunities available within the landscape. Some other problems like poverty, unemployment, lack of basic medical facilities, lack of suitable opportunities, and lack of good educational institutions and infrastructure are also prevalent in the state. Bihar and UP are rated as the most poorly governed states of India ^[17, 18]. According to the PLFS data, the state of Bihar experienced a significant rise in its unemployment rate. Specifically, the rate increased from 4.6% between 2020-21 to 5.9% between 2021-22. Lack of employment opportunities pushed migrants from Bihar to leave their native state and relocate to more industrialized states, which harmed the unemployment rate. Bihar had the highest unemployment rate for the last two years. The annual ASER report highlights the deficiencies in basic infrastructure and facilities within government schools. The absence of quality higher education and professional institutions exacerbates the challenges, prompting students from more affluent backgrounds to seek education in other states. The teachers are not professionally trained to teach the students and classrooms are not equipped with new learning technologies ^[7].

To understand the effect and impact of online education during the pandemic on the school students of Bihar, it was essential to have an insight into the background of the study.

Research Objectives

The present study has been conducted keeping in view the following objectives mentioned below.

1. To understand the challenges faced by school students during online education in the pandemic.
2. To examine the impact of school closures on education in the pandemic.

Research Questions

The research questions below have been framed following the research objectives of this study.

1. What were the challenges faced by school students during online education during the pandemic?
2. What was the impact of school closures on education during the pandemic?

Research Methodology

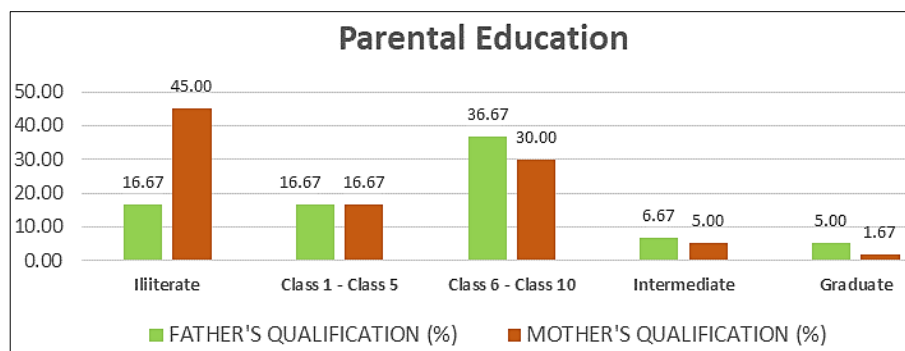
Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically (Kothari, 2004). This research study was exploratory. The sample contains students from government schools of district Munger in Bihar. The sample size contains 100 students from the government schools. Sampling technique used is simple random sampling. The data was collected with the help of self-made questionnaire, telephonic conversations was done to identify and understand the challenges faced by the students and semi-structured interviews were conducted to gain an insight into the perceptions and experiences of

students regarding their education during the pandemic. Furthermore five case studies had been done in support of the study. Percentage analysis has been done to analyse the results.

Challenges faced by school students during online education in the pandemic

It is evident from various researches that socioeconomic status of a child highly affects the educational attainment of an individual. According to American Psychological Association (APA), Socioeconomic status encompasses not just income but also educational attainment, financial security, and subjective perceptions of social status and social class. It can encompass quality of life attributes as well as the opportunities and privileges afforded to people within society. It is well acknowledged that children of parents with higher and intermediate socioeconomic status (SES) are exposed to a learning environment at home that is more favourable since these parents have greater learning resources available to them. Low family SES is often associated with children performing poorly in school, although the mechanisms underlying this link are less obvious^[19]. The pandemic which necessitated the closure of schools worldwide, brought in many unprecedented challenges for every stakeholder of the education system. The most suffered and affected stakeholders were the students. The first objective of this study was to understand the challenges faced by school students in Bihar during online education during the pandemic. So the findings of this research in support of the study objectives are below.

To understand the challenges that the students may have faced during the pandemic data was collected and analysed.



Source: Primary data

Fig 1: Bar graph showing the status of parental education

The study uncovers challenges impeding the online education of children during the pandemic, including the educational background of parents of students in government schools. The data highlighted in Figure 1 suggests that 16.67 percent of fathers and 45 percent of mothers of the sample population are illiterate. The study reveals that illiteracy is very high for the parents of children going to government schools. Most of the times if the parents are not literate it affects the level of educational attainment of the children. The findings of the present study are in conformity with the study conducted by^[25], who found that parents' educational levels positively influence

their children's immediate educational outcomes and educational and vocational achievements into middle adulthood. The majority of literature shows parents' educational levels strongly influence educational and economic opportunities for their children too. The data in this study highlights that the majority of the parents of government school students had a very low level of education or no education at all which implies that the low educational status or lack of availability of adequate educational resources results in low educational status of the child as well and affects the educational attainment of the child.

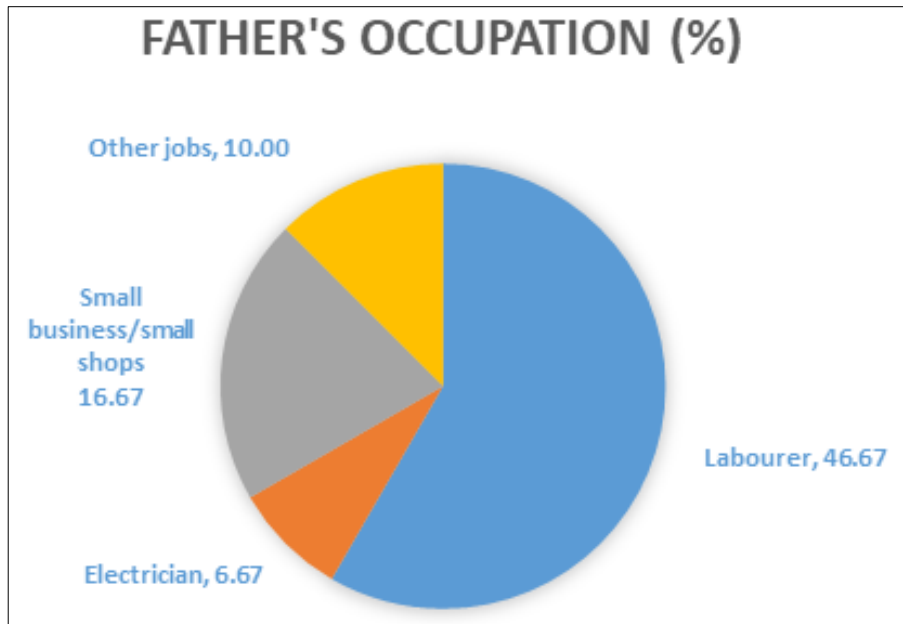
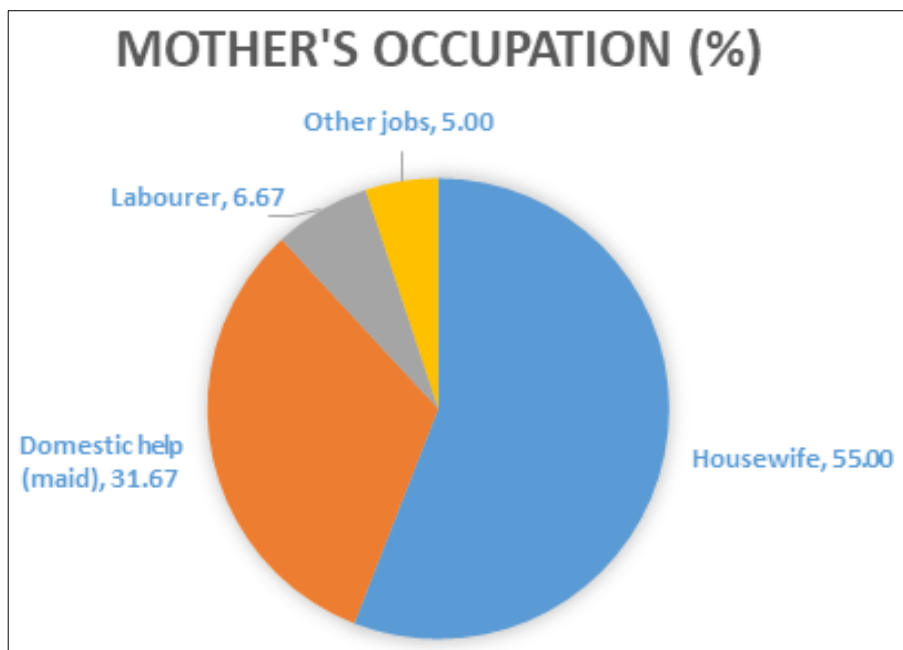


Fig 2: Pie chart showing type of occupations taken up by the father



Source: Primary data

Fig 3: Pie chart showing type of occupations taken up by the mother

The information presented in Figure 2 and Figure 3 above underscores that 46.67 percent of the fathers within the sample population are engaged in labor-intensive or daily wage occupations, primarily working on construction sites or serving as rickshaw pullers. 6.67 percent worked as electricians or as assistants. 16.67 percent run their own small business or shops which include a pan shop, puncture shop, street vendors, tea stalls, food stalls, etc. The rest 10 percent have other jobs like peon, truck driver, cleaning staff, shop assistant and Dhobi, etc. Also, the data indicates that 55 percent of the mothers are housewives, 31.67 percent work as domestic help or maid. 6.67 percent worked as laborers or daily wage workers. The remaining 10 percent worked as cleaning staff at private schools, as cooks, etc. The findings of the research suggest that the majority of the parents have very low income or occupations which are temporary with very low salaries and their economic status

is poor. The results of the study conducted by [25] are supportive of the findings of the present study which states that family income has a significant impact on children's educational level, which is assumed to be elevated with the increasing income and a financially well-off family can give better educational resources. Parents who are stressed about money and employment, working unsocial hours in more than one job, are most likely to have less time to provide their children with an environment conducive for good educational outcomes. The above findings highlight the second challenge, that the lower level of income of parents is another big issue that hampers the education of students of the government school. The parents having poorly paid jobs cannot afford good education and adequate educational resources for their children. The data here suggests that the majority of the parents had occupation with low income and hence they could not provide proper educational resources

and a conducive environment for education to their children.

Table 1: Availability and accessibility of resources

Resources/ Facilities	Yes (%)	No (%)
Smartphones, laptop, computer, tablets, etc.	11.67	88.3
Television and other resources	35	65
Good Internet connectivity	28.3	71.7
Separate study room and conducive environment	0	100
Access to online education during pandemic	0	100

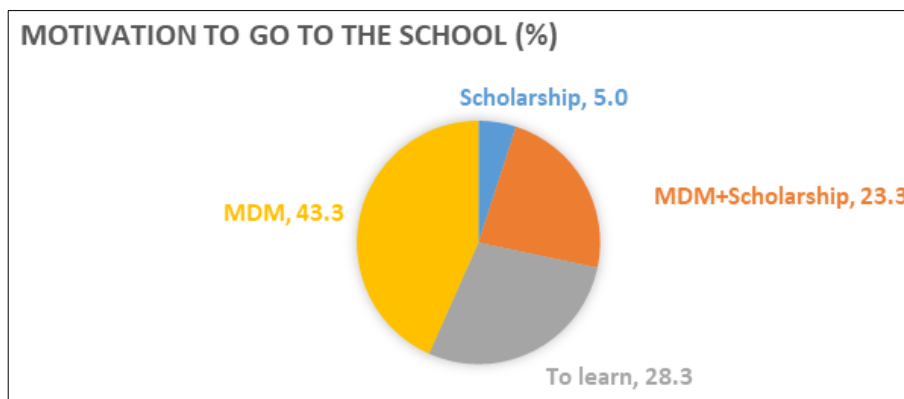
Source: Primary data

The data above in the table 1 indicates that the students faced lot of problems related to availability of resources and accessibility of those resources. The summarised result of the research shows that only around 11.67 percent of the children had access to smartphones, laptops, computer, tablets, etc. and 88.3 percent of the students did not have access to required digital devices. It was further found that those having smartphones did not have adequate internet facility or a very low speed internet. The students did not even have physical conducive setting for their education. The present study is supported by [28], who found in her research that many children in Bihar have homes where television and Internet facilities are not default features but luxuries that they aspire to have someday. She further added that there is a huge digital divide that exists in Bihar and

expects that the migrant population, whose major cause of concern today is their daily sustenance, hardly find ways to make their children digitally connect with schools and teachers or participate in online classes. All the above findings highlight that the availability of electronic gadgets and digital devices is too limited for the students of government schools in Bihar. The majority of the students did not have access to smartphones, computers, internet connection, etc. which is a basic digital infrastructure for online education. Hence the data found in this study suggests that the unavailability of digital and electronic devices along with the basic resources for online education was a significant challenge in access to online education for the students of government schools during the lockdown.

The impact of school closures on education in the pandemic

The impact of the pandemic has reverberated across every facet of human existence, reshaping economies, societies, and individual lives on a global scale. From unprecedented disruptions to healthcare systems and economies to profound changes in social dynamics and everyday routines, it left an irreversible mark on every life, especially the children. The second objective of this study was to examine the impact of school closures on education during the pandemic. Hence, the results of this study in alignment with this objective are as follows.



Source: Primary data

Fig 4: Pie chart showing the reasons for the students to go to the school

The pie chart in fig. 3 suggests that before lockdown 43.3 percent of students went to the schools only for mid-day meals. 23.3 percent of students went to the school to get a mid-day meal along with scholarship money. Only 28.3 percent of students said that they went to the school to learn. The data shows that the majority of the students studying in government schools belong to very poor families with a very low level of income and they majorly depend upon mid-day meals provided by schools for nutrition. The present findings are supported by the results of the study conducted by [26] who found in his study that 115 million children are on the verge of malnourishment due to the interruption of mid-day meals, of which children from Dalit and Adivasi communities are most at risk, given their dependence on MDM for nutrition. [27], also stated that the MDM program in Bihar has proven to be a substitute rather than a supplement for a meal at home. The MDM became the primary factor for the improvement in the number of enrolment, retention, and attendance in government schools. The overall research reveals that out of

the total sample not a single child attended online classes during the pandemic when the schools were closed during lockdown. The data shows that there were many challenges faced by the children of government schools in having access to online education during the pandemic. According to the present study, the parents of the students from the government schools had very low levels of education and very low income. Lack of education leads to a lack of awareness so parents with lower levels of education or no education were unable to help their children with online education. The study also points that only 33 percent of children had access to smartphones, out of them only 28 percent had internet accessibility and only 35 percent of the children had television at their homes. Due to the lack of training and awareness of using phones or television for educational purposes, students were not able to access online education during the pandemic. There was a lack of supportive infrastructure and resources like- no smartphones, in a family where there is more than one child and smartphone only one, limited internet accessibility, and

poor internet connectivity all these account for the challenges faced by the students in online education in government schools.

The findings were supported by the report published by ^[26], over 80 percent of parents reported that education was not being delivered during the lockdown, and in Bihar, this figure was 100 percent. ^[33]. Also has supportive findings which stated that education is delivered predominantly online, only 15% of rural households had access to the internet and this figure was even lower for marginalized social groups such as Dalits, Adivasis, and Muslims. The study reveals that there was no online education for the students of government schools in Bihar. The students were not able to access any kind of electronic material for study during lockdown.

Discussion

The education system in Bihar has been grappling with various challenges for a long time now. Adding to the challenges in education, it was made worse by the COVID-19 pandemic. The pandemic forced universities and schools around the world to shut down their campuses indefinitely and move their educational activities to online platforms. However, it became difficult for students who belong to poor and disadvantaged families to have almost no access to these online platforms and 'new' technologies. The school-going children in Bihar faced multifaceted challenges resulting in deep impacts on their lives. This is a study of how children in a small district of Bihar called Munger struggled to access education during the pandemic. The result of the study is summed up and the following conclusions are drawn from the study. The results of this study unfolded various perspectives on the non-delivery of education during the pandemic, there were majority of background factors that played an effective role in causing such challenges. One of the major challenges was the socio-economic status of the family from which the children came. Before we discuss the socio-economic status and its impact on education we need to understand the concept. According to the American Psychological Association, Socio-economic status is the position of an individual or group on the socioeconomic scale, which is determined by a combination of social and economic factors such as income, amount and kind of education, type, and prestige of occupation, place of residence, and in some societies or parts of society ethnic origin or religious background. It was found that the socio-economic status of a family affects the education of the child. The SES includes the parental education and income generated by the family. The study suggests that the majority of the students studying in government schools belong to poor socio-economic status and hence their educational aspirations, educational attainment, and availability of educational facilities and resources are limited and poorly affected. So the children had very limited or no access to digital infrastructure for online education because parents were not well educated and the income generated was too low to afford the basic digital infrastructure for online education. The majority of the children who study in government schools have poorly educated parents which affects the education of the children. As per the research, at least 73 percent of families from the sample had more than 3 children in the family. This reveals that the majority of the families with poor socio-economic status have more than 3 children. The finding of the research

indicates that families that have more children and have low income tend to provide poor education to their children. The present results are supported by the study conducted by ^[27, 28], who concluded in their study that children with fewer brothers and sisters obtain more schooling than those with more siblings. The parents having more children are most likely to provide fewer educational opportunities and resources to the children. The data in this study shows that at least 73 percent of families had more than 3 children in the family, and parents having more children in the family cannot invest much in the education of the child as those with fewer children can invest more per child. Another big issue revealed in the study was that the majority of the families stay in a house with a single room and more than 53 percent of families live in a house having only two rooms. The number of families staying in houses with three or four rooms is relatively very low. The data shows that the majority of the families with low socio-economic status usually stay in a single room. The number of members in the family are more than the space available in the house and the place is noisy and distracting. Hence the home conditions are not very favourable for one's study. It was also found in the study that additional educational resources were not available to the children and there was lack of proper, accessible educational conditions at home. The data shows that only 46.6 percent of children had available textbooks of the present class, the rest 53.3 percent children either did not have textbooks of the present class. The children did not have access to a separate study room or a dedicated space for study and there was no availability of educational e-resources. The findings of the present study are supported by ^[26], about one-fourth of the 733 students live in a small kutchra or semi pucca one-room houses, with no toilets, and have no space to store even a diary or books safely. The report also mentioned that few parents shared that they had used the cash transferred to their child's account for books and other schooling-related purposes for their survival. All the above study highlights that the students of government schools who usually belong to the marginalized section of society do not have proper home conditions and basic facilities at home. The cash provided to buy books is generally used for other purposes.

Another challenge was having more children in the family. The survey data shows that Bihar is one of the most populous states of India and to be specific the third most populous state of India with approx. population of 10 crores which constitutes almost 9 percent of the country's population ^[5]. This study shows that more than fifty percent of the sample families had three or more children. With increased number of children in a family, resources are distributed more thinly. Consequently, some households possessed only one smartphone, even though the number of children exceeded one, making it challenging to meet their individual needs. Providing each child with a smartphone posed difficulties. The findings highlight that parents with larger families face major constraints in investing significantly in each child's education compared to those with fewer children who can allocate more resources per child. The study reveals that parents having more children in the family are unable to invest much in the education of the child as compared with parents with fewer children.

The next challenge was the home condition and the environment within the household which focuses on the number of rooms in a house and, the type of ownership.

This part centers on identifying whether families own the house they live in or they live in rented houses. Additionally, it seeks to determine the number of rooms within each household and whether a dedicated space was designated for the child's education. The study reveals that the majority of the families lived in rented houses and those who lived in their own house had only one or two rooms in the house which was shared among multiple members of the family. Many of them lived in a joint family in a very congested living area. A small living area with no separate study room or a quiet place to study suggests that the home condition was not conducive to study. The findings of many studies support the importance of having a conducive environment for having long-lasting and effective quality education. Student educational attainment is determined by the idealness of the learning environment^[30]. The studies reviewed all revealed a noteworthy correlation between the learning environment and student's academic achievement in the education system. It is believed that a learning environment with accessible and utilizable facilities will guarantee effective teaching and learning process as well as academic achievements of students^[29]. The study points towards the last challenge which was lack of resources. The term resources here include educational, financial, physical and digital resources. This study reveals that the majority of the students did not have digital infrastructure and the students did not receive any kind of electronic material (e-content) during the nationwide lockdown. Majority of the Children did not have smart phones, the ones who had smartphone did not have internet connection, the ones who had both smartphone and internet connectivity had other sets of challenges which have been mentioned above. So ultimately their education was poorly affected during the pandemic.

The results of the present study reveals that the majority of the students studying in government schools belong to very poor families with a very low level of income and they majorly depend upon mid-day meals provided by schools for nutrition. The study reveals that one of the major impacts was malnourishment. Most of the students were dependent on mid-day-meal for one time meal and school closures impacted their health and nutrition. The assertion that food is a crucial factor with a significant impact on the education of underprivileged and marginalized children is both poignant and well-founded. Access to adequate and nutritious food plays a pivotal role in shaping a child's ability to learn, concentrate, and succeed academically. This situation has disproportionately affected families with limited resources, where providing consistent and nutritious meals may be a formidable challenge. COVID-19 has induced a colossal nutrition crisis and has affected the momentum of almost every nutrition-related program. The pandemic has again underscored the need for strong multi-sectoral convergence among national policies for addressing the nutritional needs of vulnerable groups in society^[31].

The second major impact was learning loss. Already the educational level and status of students of Bihar stands critically low; the lockdown and school closures affected the learning more. The annual ASER report showed that 17 percent of Class VIII in rural schools could not recognize digits, 15 percent could not identify numbers between 10 and 99, while 0.5 percent could not read capital letters in English and 1.2 percent could not read even small letters. According to the official data, Bihar has the worst literacy

rate in the country 61.8 percent lower than the average national literacy rate of 73.8 percent^[5]. The students have forgotten the things learned earlier in previous classes and also have lost interest in going to school after the reopening of the schools after the pandemic. This finding is based on the case study done on five students from different backgrounds which was part of this research. This study was done to find out and understand the challenges faced by the students of government schools in Bihar in online education during the COVID-19 pandemic. It was found that the students have faced several problems during the pandemic and they were not able to access online education during this period. There are various problems with it. It was also observed that most of the students studying in government schools belong to poor socio-economic status and they face adversities of life every day.

Conclusion

This study was done to find out and understand the problems faced by the students of government schools in Bihar in online education during the pandemic. It was found that the students have faced several problems during the pandemic and they were not able to access online education during this period. There are various problems with it. It was also observed that most of the students studying in government schools belong to poor socio-economic status and they face adversities of life every day. Despite frequent discourse by elite educators and experts advocating for equitable educational opportunities, the digital divide exposed during the pandemic emphasizes the substantial journey that lies ahead. This paper has highlighted the challenges faced by the students during the pandemic. The challenges are not restricted to a particular area rather it has deeper roots in other socioeconomic factors of the society. Bihar is among the states urgently requiring special attention to enhance its education system. Immediate efforts are essential to bridge the digital divide and elevate the overall quality of education. The scenario underscores the pressing need for improvements to secure a promising future for the students of Bihar.

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