

# Assessment of the Impact of COVID-19 Pandemic on The Education and Psychosocial Wellbeing of School-Going Children in Bududa District, Uganda

Charles Batte (✉ [cbatte@treeadoptionuganda.org](mailto:cbatte@treeadoptionuganda.org))

Tree Adoption Uganda

**Andrew Weil Semulimi**

Makerere University

**Ronald Kasoma Mutebi**

Makerere University

**John Mukisa**

Makerere University

**Ronald Olum**

Makerere University

**Felix Bongomin**

Gulu University

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## Research Article

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# Abstract

**Background:** The coronavirus disease – 2019 (COVID-19) pandemic has caused devastating effects across all sectors. The closure of schools negatively affected school going children globally. The present study sought to assess the effect of the ongoing COVID-19 pandemic and measures put in place to curb its spread on the psychosocial wellbeing of school going children in Bududa District, in Uganda.

**Methods:** This was a cross-sectional study in which randomly enrolled school-going children from three conveniently selected sub-counties, Bukalasi, Bushiyi, and Bushika, in Bududa District, Uganda. Pretested standardised semi-structured questionnaires were used to collect data on the impact of COVID-19 pandemic on education and psychosocial status of the participants.

**Results:** A total of 210 participants were studied. Of this, 122 (53.3%) were male, 203 (96.7%) lived in rural settings, and 155 (73.8%) were staying with both parents. The median age of the participants was 12 (interquartile range: 9 -15) years. One hundred ninety one (90.9%) participants were in primary school. Overall, 154 (73.3%) were worried about not going back to school during the lock down, however, 109 (51.9%) were able to return to school after the easing of the lockdown. Eighty-five (40.5%) participants received reading material at home during lockdown with 64 (30.5%) of the participants accessing teachings through radio. Of the 210 participants, 174 (82.9%) felt worried about the future, 172 (81.9%) felt like they were going to die during lockdown, 141 (67.1%) felt lonely at times, and 129 (61.4%) felt sad or low sometimes during the COVID-19 pandemic. A quarter (54) of 210 participants faced abuse of which 42 (77.8%) faced physical abuse from parents. Of 31 participants who sought help, 19 (61.3%) went to their parents with none getting help from non-governmental organisations. Fifty (23.8%) participants were engaged in work; 33 (66%) were paid, 4 (8%) were forced to work, and 22 (44%) faced physical challenges at their jobs.

**Conclusion:** There was a substantial impact of the COVID-19 pandemic on the education and psychosocial wellbeing of school-going children in Bududa District. A comprehensive child psychological support service should be scaled up to provide support to school going children in vulnerable communities.

## Background

The coronavirus disease – 2019 (COVID-19) pandemic is a major global health problem, which has had far reaching impact on all sectors globally (1). The highly infectious airborne disease is responsible for over 174 million confirmed cases and 3.78 million deaths globally (2). Africa accounts for 2% of the global cases of which Uganda has reported 58,515 confirmed cases and 408 deaths (2, 3). In order to curb the spread of COVID-19, stringent public health measures such as closure of schools and restriction of movements were initiated (4–6). In addition, on 10th March 2021 vaccination of the most at-risk population was started in Uganda. The Ministry of Health estimated that vaccinating 4.38 million people in the first phase (7) would confer herd immunity to the population, however, to date on 13th June 2021

which is 1.63% of the population at risk has received the COVID-19 vaccine (2) which derails efforts to curb further spread of the disease.

Social distancing measures set up to curtail the spread of COVID-19 caused a disruption in schooling activities which negatively affected school going children (6, 8–11). School going children were at a greater risk of mental health disorders (10, 12, 13), relapse of existing psychiatric disorders (10, 14, 15), abuse (16, 17), and body weight problems due to the reduction in physical activity (8, 18) during the pandemic. This may be attributed to stress, reduction in physical activity, and limitations in the interactions between peers and teachers (8, 10, 12). In addition, progression of students to the next level of education was hindered as a result of cancellation or postponement of examinations which further caused anxiety (10).

In an effort to support the provision of education during the pandemic, countries adopted digital and long-distance learning through the use of multimedia tools (19, 20). The government of Uganda supplied printable reading materials to learners and also made efforts to distribute radios countrywide while higher institutions of learning adopted the emergency open distance e-learning guidelines issued by National Council for Higher Education (NCHE) (21) to foster continuity of learning. However, these measures met a number of challenges. In a study by Olum and colleagues, 50% of the 214 participants believed that e-learning platforms reduced the quality of knowledge attained and was not an efficient method of teaching, 93% of the participants cited internet connectivity as a major barrier to e-learning access (22). However, this study was conducted among university studies who reside within or in the outskirts of Kampala, the capital city of Uganda, which has an improved information and communication technology network, thus not applicable to the rural population in hard-to-reach areas such as Bududa.

Bududa district found in Eastern Uganda on the slopes of mount Elgon is a disaster-prone area which is still recovering from the deleterious effects of landslides (23, 24). The devastating effects of the unprecedented COVID-19 pandemic could have further exacerbated the vulnerability of school going children to psychological issues and discontinuation of education. Therefore, this study aimed to assess the impact of COVID-19 pandemic on education and psychosocial wellbeing of school going children in Bududa district.

## **Methods**

## **Methods**

## **Study design**

This was a descriptive cross-sectional study employing quantitative techniques that was conducted in May 2021 in three purposely-selected sub-counties of Bududa district.

## **Study setting**

Bududa District is located within the mountainous areas and slopes of Mountain Elgon in the Eastern region of Uganda. It is bordered by Sironko District to the north, Republic of Kenya to the east, Manafwa District to the south, and Mbale District to the west. The district headquarters at Bududa are located approximately 36 kilometres (22 miles), by road, south-east of Mbale, the largest city in the sub-region. The district has 15 sub-counties and one town council and its population is estimated at 210,173 of which 86.1% and 37% of the population were attending primary and secondary school respectively (25). The commonest language is Lumasaaba. Bududa is well-known for the historical 2010 landslide that left over 400 people dead. It is also faced with frequent floods and landslides (23). Over the past 24 months, a program on building resilience and restoring environmental stewardship for smallholder farmers' households – the Manafwa Watershed Restoration and Stewardship (MWARES) project has been implemented in villages in 3 sub-counties; Bukalasi, Bushiyi and Bushika which are the study sites chosen because of the experience of the team in working in these areas.

## **Study population:**

The study recruited school going children from households in Bukalasi, Bushiyi, and Bushika sub-counties.

## **Inclusion Criteria**

- School-going child,
- Aged 8–17 years old.
- Written informed assent from the child and written informed consent from the parent/guardian.

## **Exclusion Criteria**

- Children unable to comprehend the content of the questionnaire.

## **Participant sampling:**

A convenient sample of 210 households were enrolled. At least 40 households were selected from each of the 3 sub-counties where the MWARES Project is implemented. Households in each sub county were recruited randomly with a research assistant tossing a coin to determine the direction of movement. The household close to the urban centre were considered as starting point.

### **Data collection procedures.**

The questionnaire used in the study was developed based on a review of existing literature on the possible effects of COVID-19 on children (8). It consisted of the demographics, impact on education, and psychosocial impact sub-sections. The questionnaires were translated to Lumasaaba which is the commonest language in Bududa District and well trained research assistants conducted the data collection. The junior agronomist from the MWARES project facilitated community entry by introducing the research team to the local leaders. The data was collected through interviewer-guided interviews at

household levels, which was entered on an offline version of the electronic questionnaire downloaded on tablet-based application, KoBoToolbox. All school going children from the household were identified, assessed for eligibility and assent was obtained from the child while the consent was received from the parents before administration of the questionnaire. For households that had more than one school going child, the eldest child was enrolled. Upon completion of the interview, the participant was given 2.81 USD only to compensate for time. After completion of the data collection exercise, the research assistants returned to the MWARES field office where they uploaded the offline version into a cloud database.

## Data management and Analysis

Data was collected using an electronic questionnaire and uploaded to an online database which had limited access. Daily back up of the collected data was done which was stored on the principal investigator's password protected personal computer and google drive. The cloud database was encrypted with password protection to inhibit access by any other unauthorized person. The data was cleaned, coded and exported to STATA 16.0 (StataCorp LLC, College Station, Texas, USA) statistical software for analysis. Descriptive statistics were employed to analyse the data. At univariate analysis, categorical and numerical data was summarized as counts (percentages) and mean (standard deviation) or median (interquartile range, IQR), respectively.

## Quality control measures

Questionnaires were pre-tested to ensure that they capture all the data required to answer the research objectives and checks were set up in the electronic version of the questionnaires to ensure completion of the questionnaires. The research assistants were fluent in both English and Lumasaaba. All research assistants were trained prior to the commencement of the study in Human Subjects Protection short course, the different research procedure, and the full research protocol. Daily meetings were held with the research assistants at the end of each data collection exercise to check for incomplete questionnaires, uploading of the questionnaires, and also address any challenges faced. Research assistants were given a brief introduction to the project area by the MWARES project junior agronomists who were already working and had vast experience of the area and the households. The research assistants were transported to the target sub counties by the MWARES project driver who had diverse knowledge of the area on intended locations. This was coordinated with the MWARES field team in the project area.

## Results

### Socio-demographics:

A total of 210 school going children participated. The socio-demographic characteristics are presented in **Table 1**. One hundred twenty-two (53.3%) of the participants were male, with 203 (96.7%) living in rural settings. The median age of the participants was 12 (IQR: 9, 15) years with 155 (73.8%) of the children staying with both parents. Of the 210 participants, 191 (90.9%) were in primary school.

### The Impact of COVID-19 pandemic on education

Of the 210 children interviewed, 154 (73.3%) reported that during the lockdown, they were worried about not going back to school. However, 109 (51.9%) were able to return to school after the easing of the lockdown. 85 (40.5%) received reading material at home during the COVID-19 pandemic. Although a large number of households, 145 (69.1%), owned a phone, only 7 (3.3%) had access to Internet. **Table 2** highlights the impact of the pandemic on education. **Figure 1** illustrates the different platforms used to access teaching where 64 (30.5%) of the school going children accessed teachings through radio.

### **Biopsychosocial impact of COVID-19 pandemic on the participants**

**Table 3** illustrates the biopsychosocial impact of COVID-19 on school going children.

Majority of the participants, 174 (82.9%) felt worried about the future and 172 (81.9%) of them felt like they were going to die during the lock down. Of the 210 participants, 141 (67.1%) felt lonely at times and 129 (61.4%) felt sad or low sometimes during the COVID-19 pandemic.

Regarding abuse, a quarter (54) of 210 reported that they faced some form of abuse of which, 42 (77.8%) faced physical abuse from parents. Thirty one participants sought help, of which 19 (61.3%) went to their parents with none getting help from NGOs. Fifty (23.8%) of the school going children engaged in work of which 33 (66%) were paid and four (8%) were forced to work. Twenty-two (44%) participants faced challenges at their jobs with most facing physical challenges.

## **Discussion**

The impact of the on-going COVID-19 pandemic on education and psychosocial wellbeing of children in Uganda is not fully quantified and may be exacerbated by the current second wave of the infection in the country. In this study, we aimed to provide insights on the effects of the COVID-19 pandemic on school going children in a vulnerable community in Uganda.

We report several important findings. Firstly, over 70% of the school-going children were worried about not returning to school. In addition, majority of participants missed school during the lock down. Prolonged school breaks are likely to reduce socialisation between school going children, cause boredom, and disrupt creativity (8, 10). In addition, school going children were at a risk of food insecurity since most schools offer free meals (11) further instigating worry among the participants. Despite earlier fears that there would a reduction in physical activity among children during the lockdown (8, 18), most of the participants reported that they engaged in physical activity or play while at home. This may be explained by the increase in the number of children in the households during the lockdown as movements were restricted. More than half of the participants were able to return to school when the lockdown was eased. This is because schools were opened in phases beginning with candidate classes (primary seven, senior four, and senior six). However, some of the children might not have resumed school due to their fear of re-establishing relationships with their teachers and peers (10) or the inability of their parents to afford the school fees required.

Academic institutions in Uganda were directed to close on March 18th, 2020 to avert the spread of COVID-19 sending learners for an indefinite school leave. This was the case in almost 138 countries which stalled the education progress of 80% of children worldwide (11). As a result of the discontinuation of education, school going children had their education disrupted and their psychological wellbeing was at a risk of deterioration (8, 10, 11).

Distance learning was adopted to ensure continuity in the education program with the government of Uganda endeavouring to provide printable reading materials to learners and also utilising multimedia platforms such as radios and television to offer learning services. In this study, less than half of the participants received the printable learning material at home during the lockdown and the radio was the main platform used to access teachings. We also found that most of the households own radios (25) which could explain why the pupils and students were able to receive their lessons through radios. However, Bududa district is found in the mountainous areas with hard to reach areas whose transport system was destroyed by the recurrent floods and landslides (23) which might have contributed to low number of learners receiving printable learning material.

The survey found out that most of the school going children were worried about their future and feared that they were going to die which is similar to what other researchers stated (8, 9). Additionally, most of the children felt lonely and sad sometimes. In order to curb the spread of COVID-19, schools were closed indefinitely with no specific time frame given on when and how schools will open and the ever rising cases of COVID-19 and its high mortality rate, the social isolation due to the school closure could explain the worry school going children had (26, 27). The postponement of examinations could have further exacerbated the worry among the students (9). Moreover, widespread misinformation about COVID-19 may have led to the anxiety and fear (28) .

Unlike other settings where school going children were sexually abused with others married off (16, 17), in Bududa, most of the school going children reported physical abuse from their parents with only two (3.7%) reporting sexual abuse. This greatly differs from what was reported in other regions of the country (29, 30) where 60% of the children faced sexual abuses (29) and may be attributed to the increased dissemination efforts geared towards discouraging early marriages in Bududa District. Additionally, majority of the participants reported that they lived with both their parents which could have provided a form of protection from sexual abuse. The high number of children reporting physical abuse from parents could possibly be due to the highly sensitive nature of children to minor domestic issues (31, 32) and cases of disciplining by caning which are common in the communities. However, during the pandemic, children were at a risk of abuse because of the absence of social support and economic hardships leading to high stress levels among the parents (33). Shockingly, when children were reportedly abused, help was sought from parents with none seeking help from non-government organisations which may have probably stemmed from the absence of such bodies or distrust the communities have in the existing ones. Most of the respondents did not engage in work and those who did, majority consented to take part in the work and were paid which is different from fears earlier raised (34) where 56% of respondents

interviewed reportedly engaged in different kinds of work during the lock down to support their families during the pandemic (29, 33).

Our study has some limitations. Participants were derived from already a vulnerable setting with background educational and psychosocial challenges, which we were unable to account for. Therefore, our findings may not be generalizable to other parts of the country. Secondly, there is a high likelihood of a recall bias of earlier events during the onset of the lockdown in Uganda as the participants were interviewed over 12 months later. However, our findings highlight key challenges, which may be targeted for interventions by various stakeholders.

## Conclusion

Our study has shown that closure of schools caused significant disruption in the learning process of school going children in the selected sub-counties in Bududa district. Distance learning was not successfully implemented during the COVID-19 pandemic in Bududa District. The psychological wellbeing of school going children was greatly affected by the COVID-19 pandemic, and measures put in place to curb its spread however, reported cases of child abuse were low in Bududa District. The government and other stakeholders should scale up child psychological services in hard to reach areas. There is need to improve infrastructure and access to internet services to boost the adoption of distance learning in rural areas.

## List Of Abbreviations

<b>COVID-19</b>	<b>Coronavirus disease-2019</b>
HSP	Human Subject Protection
MWARES	Manafwa Watershed Restoration and Stewardship
RA	Research Assistants
NCHE	National Council for Higher Education
UBOS	Uganda Bureau of Statistics
UNCST	Uganda National Council for Science and Technology

## Declarations

### Ethical Consideration

Ethical clearance was sought from Makerere University School of Biomedical Sciences Research Ethics Committee for review and approval, approval number, SBS-2021-15. Further approval was sought from Uganda National Council of Science and Technology (UNCST), number, SS789ES. The study was conducted according to the Declaration of Helsinki and the principles of Good Clinical Practice. All participants were required to provide a written informed consent and assent before participating in the

study. To increase comprehension before enrolment of study participants, informed consent and assent forms were in Lumasaaba. The privacy and confidentiality of all participants were upheld at all times. No personal identifiers for example name, ID number, home address or any other data were collected.

**Consent for publication:** Not applicable.

**Availability of data and materials:** The data supporting the research findings is available from the corresponding author (CB) on reasonable request.

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**Authors' contributions:** CB conceived the idea. FB, RO, JM, and CB drafted the study protocol, while CB, AWS, RKM participated in data acquisition. JM, CB, AWS, RKM, RO, and FB participated analysis, interpretation of data and drafting of the manuscript. All authors read and approved the final version of the manuscript.

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**Author information:** CB: Charles Batte, FB: Felix Bongomin, RO: Ronald Olum, JM: John Mukisa, RKM: Ronald Kasoma Mutebi, AWS: Andrew Weil Semulimi.

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## Tables

Table 1: Socio-demographic characteristics of the participants

<b>Characteristics</b>	<b>Frequency, N (%)</b>
<b>Sub county</b>	
Bakalasi	49 (23.3)
Bushika	59 (28.1)
Bushiya	102 (48.6)
<b>Gender</b>	
Female	98 (46.7)
Male	112 (53.3)
<b>Age of the child</b>	
Range (minimum-Maximum)	8-17
Median, Interquartile range	12, 9-15
<b>Settlement</b>	
Urban	7 (3.3)
Rural	203 (96.7)
<b>Level of education</b>	
None	3 (1.4)
Primary	191 (90.9)
Secondary	16 (7.6)
<b>Who do you live with?</b>	
Both parents	155 (73.8)
Father only	6 (2.9)
Guardian	28 (13.3)
Mother only	21 (10.0)

Table 2: The impact of COVID-19 pandemic on education

<b>Characteristic</b>	<b>Frequency, N (%)</b>
<b>Able to go back to school after lock down</b>	
No	101 (48.1)
Yes	109 (51.9)
<b>Did you receive reading materials while at home during the COVID-19</b>	
No	125 (59.5)
Yes	85 (40.5)
<b>Have you had enough time to play or do physical exercises while at home</b>	
No	36 (17.1)
Yes	174 (82.9)
<b>Do you miss school now or during the lock down?</b>	
No	22 (10.5)
Yes	188 (89.5)
<b>Have you been worried about not going back to school again</b>	
No	56 (26.7)
Yes	154 (73.3)
<b>Do you have the following items at home? (n=210)*</b>	
Radio, yes	128 (60.9)
TV, yes	10 (4.8)
Phone, yes	145 (69.1)
Smart phone, yes	20 (9.5)
Computer, yes	2 (1.0)
<b>Do you have access to internet?</b>	
No	203 (96.7)
Yes	7 (3.3)
<b>Did you have access to teaching via any of the following?*</b>	
Radio, yes	64 (30.5)
TV, yes	4 (1.9)
Phone, yes	14 (6.7)

Smart phone, yes	4 (1.9)
Computer, yes	1 (0.5)

\*had multiple items and so percentages based yes/210

Table 3: Biopsychosocial impact of COVID-19 impact on the participants

<b>Characteristic</b>	<b>Frequency, N (%)</b>
<b>Felt worried about the future during the during the COVID-19 pandemic lockdown</b>	
No	36 (17.1)
Yes	174 (82.9)
<b>Felt like you were going to die during the COVID-19 pandemic</b>	
No	38 (18.1)
Yes	172 (81.9)
<b>Felt lonely at any moment during the COVID-19 pandemic</b>	
No	69 (32.9)
Yes	141 (67.1)
<b>Felt sad or low during the COVID-19 pandemic</b>	
Always	43 (20.5)
Never	38 (18.1)
Sometimes	129 (61.4)
<b>Faced any form of abuse from anyone during the pandemic</b>	
No	156(74.3)
Yes	54 (25.7)
<b>If yes what form of abuse**</b>	
<b>Physical abuse, yes**</b>	42 (77.8)
<b>Source of physical abuse (n=42)</b>	
Parent	26 (61.9)
Guardian	7 (16.7)
Child	8 (19.1)
Another adult	1 (2.3)
<b>Sexual abuse, yes**</b>	2 (3.7)
<b>Source of sexual abuse, (n=2)</b>	
Child	2 (100.0)
<b>Neglect , yes**</b>	17 (31.5)
<b>Source of neglect(n=17)</b>	

Parent	12 (70.6)
Guardian	5 (29.4)
<b>Psychological abuse, yes**</b>	23 (42.6)
Source of psychological abuse ,(n=23)	
Parent	8 (34.8)
Guardian	6 (26.1)
Child	2 (14.3)
Another adult	8 (34.8)
<b>Did you get any form of help if you faced abuse?, yes **</b>	31(57.4)
Source of help (n=31)	
Parents, yes***	19 (61.3)
Relatives, yes***	13 (41.9)
Local leaders, yes***	6 (19.4)
Police, yes***	2 (6.5)
NGO, yes***	00(0.0)
Other (neighbour, friends of the family), yes***	2 (6.5)
<b>Did you take up a job during the lockdown</b>	
No	160(76.2)
Yes	50 (23.8)
<b>Were you paid for the job? (n=50)</b>	
No	17 (34.0)
Yes	33 (66 .0)
<b>Was the job forceful or with consent? (n=50)</b>	
Forceful	4 (8.0)
With consent	46 (92.0)
<b>Did you experience challenges on the job? yes</b>	22 (44.0)
Types of challenges experienced (n=22)	
Physical, yes****	14 (63.6)
Social, yes****	12 (54.5)

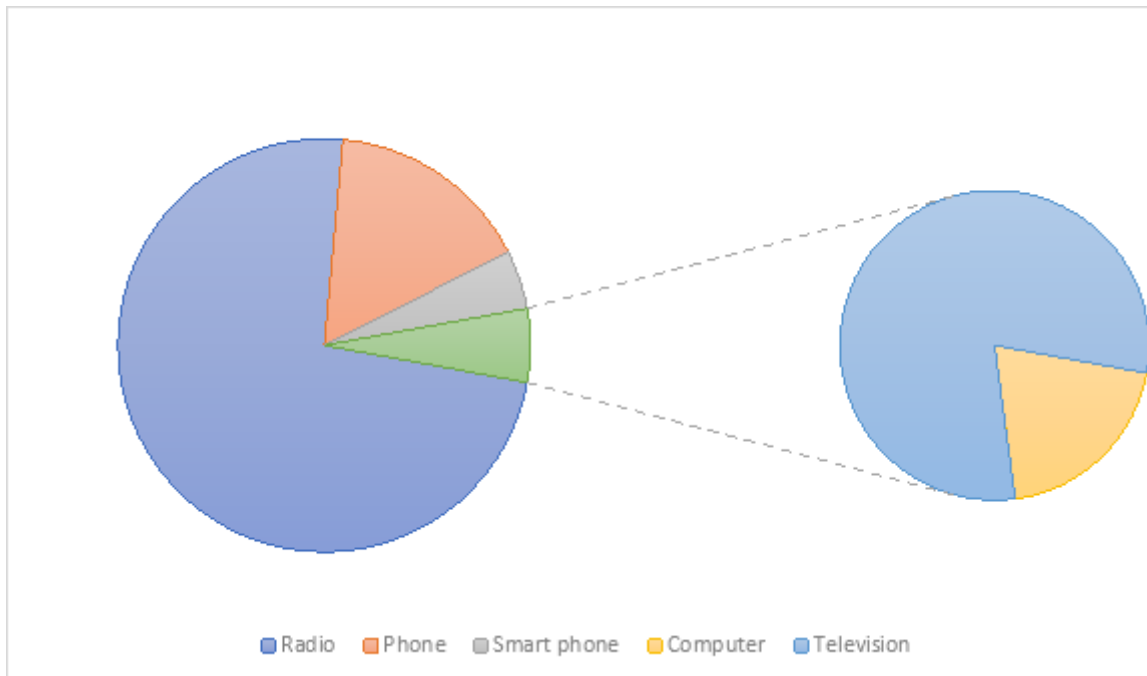
Psychological, yes****	10 (45.5)
Lack of play time, yes****	11(50.0)
No food, yes****	10 (45.5)
Health challenges, yes****	11(50.0)

\*\*Participants faced multiple forms of abuse (percentage based on the number/54)

\*\*\*participants sought help from multiple sources (percentage based on the number/31)

\*\*\*\*participants experienced multiple challenges (percentage is based on the number/22)

## Figures



**Figure 1**

Different modes used to access teachings during the COVID-19 pandemic