Perception, burden and satisfaction of parents of children attending online classes during COVID-19 lockdown: A cross-sectional survey

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Abstract

Introduction: Coronavirus has spread havoc globally, resulting in the closure of all sectors including education. Therefore, to continue a child's learning, the government started online classes from home by involving parents. This new learning method might be hectic and challenging for parents; therefore, this study aimed to assess the perception, burden, and satisfaction of parents of children attending online classes. Methods: A cross-sectional online survey was conducted in three schools of Rishikesh, Uttarakhand. A total of 220 parents of children attending online classes and studying between first and fifth standard responded voluntarily. Google Form was used to assess perception, burden, and satisfaction regarding online classes and analyzed using descriptive and inferential statistics. Results: The mean age of parents was 34.1 ± 5 years, and most of the respondents were mothers. Out of 220 parents, 52% showed negative perception, 42% experienced moderate to severe burden, and 51% were highly satisfied with the online classes during COVID-19 lockdown. Pearson’s correlation coefficient showed a positive correlation between perception and satisfaction of parents (P = 0.000, r = 0.616 *). Parental role and preferred teaching method had a significant association with parental perception (P < 0.01, P < 0.05). The app used and preferred teaching method during the pandemic had a significant association with parental satisfaction regarding online classes (P < 0.01, P < 0.05). Conclusion: Parents had negative perception and experienced moderate to severe burden concerning online classes. At the same time, they were highly satisfied with achieving educational objectives to some extent during the COVID-19 pandemic.

Keywords: Burden, COVID 19 pandemic, online classes, parents, perception, satisfaction

Introduction

The Coronavirus outbreak began in Wuhan, a city in the Hubei province of China, and the outbreak was declared a Public Health Emergency of International Concern on January 2020. The pandemic surely harmed health, but along with that it did not leave behind the financial, commercial, food, and educational sectors from its effect. UNESCO announced on March 18th, 2020, the closure of all schools in 107 countries owing to pandemic.[1] India also could not escape the havoc of the Coronavirus and since March 16, an estimated 25 crore school children in 15 lakh Indian schools have been forced to stay at home.[2] The Uttarakhand state government had also announced a lockdown from March 22nd, 2020[3] and closed schools in the state.[4] Therefore, to ensure the continuity of learning during

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the pandemic the central and state government embarked on technological platforms to deliver online classes to students.

The rapid transition to remote learning had placed parents and guardians in a position where they had to take on more responsibility for their children’s education. Parents had ambiguous feelings about remote learning. They experienced a lot of barriers such as personal barriers, technical barriers, logistical barriers, and financial barriers in the online learning system which had posed a burden on them. Contrary to this, parents were satisfied with the teacher and student’s computer competence and support ed online classes because of the safe educational environment, and an individualized learning pace for their child.

As guardians have now become children’s principal mentors in the educational instructions at home, their mental stress due to barriers in online learning indirectly affects child’s education. Hence the primary physicians are needed to be acquainted with the perception and burden of parents regarding online classes.

It is all the more significant to conduct this study so that the outcome can help in identifying the lacunas and issues faced by the parents to deliver the best classes for their children. The study results will act as an input for the educationalist and policymakers as well, to do necessary modifications in delivering online classes globally. This study might also help open much more scope for the future regarding the use of online classes.

Materials and Methods

A Cross-sectional Online survey (Google form) design was issued to parents of children attending online classes and studying in 1st–5th standards at three selected schools of Rishikesh, Uttarakhand. Parents having a smartphone with internet access, mostly accompanying the child during online classes, and having given consent for participation in the study were included by using non-probability volunteer sampling. Parents who could not read or type either Hindi or English and any caretaker other than the parent were excluded from the study. The link of the questionnaire was sent to 1120 parents, out of which, a total of 220 responded (response rate 19.7%).

Data collection tools

Socio-demographic profile of parents

The information of parent such as age, religion, habitat, education of parent, monthly income of the family, working status, job status, number of child/children attending online classes, child/children academic class, education board, accompanying parent during online classes, the device used by the child for online classes, the app used by child/children for online classes, method of teaching preferred for the child during the pandemic were collected using this tool.

Perception of parents of children regarding online classes during COVID-19 lockdown

Self-structured Likert scale consisting of sixteen items under six domains which included safety (three items), content delivery (two items), evaluation (four items), poor social relationship (two items), internet addiction (two items), health effect (three items), measured on five-point Likert scale rated as 1 (strongly disagree) to 5 (strongly agree) where the minimum and maximum score of 16 to 80 was developed to assess perception. The level of perception was computed by using the median score and categorized as: Positive perception (≥ median 43) and Negative perception (≤ median 43). The Cronbach’s α value for the reliability of the tool was 0.67.

Satisfaction of parents of children regarding online classes during COVID-19 lockdown

A self-structured Likert scale with ten items rated as 1 (strongly dissatisfied) to 5 (Strongly satisfied) and categorized as low (≤10), moderate (11-20), high (21-30), and extreme (31-40) level of satisfaction with a reliability of 0.73 by (Cronbach’s α).

Statistical analysis

The collected data, entered on Microsoft Excel, and analyzed using IBM SPSS Statistics for Windows, Version 23.0. Descriptive statistics, frequencies, and percentages was used to present the socio-demographic characteristics and Karl-Pearson test was used to find out the correlation between perception and satisfaction (P-value = <0.001). The Mann-Whitney U test and Kruskal-Wallis test were used to determine the association of research variables with selected socio-demographic variables. The level of significance was set at a P value of <0.05. Binary logistic regression analysis was used to quantify the strength of the association between socio-demographic variables of parents, their perception, and satisfaction.

Results

Among 220 participants, 139 (63%) were mothers, and the mean age was 34.1 ± five years. The majority, 214 (97%) of the participants belonged to the Hindu religion and 114 (52%) of them reside in urban area. 119 (54%) were educated up to graduate and above and 94 (43%) were earning a monthly family income of Rs. ≥ 7533. Most of the participants—137 (62%)—did not go to their job during the lockdown. Out of 220 participants, 131 (60%) reported that their two children were attending online classes during the lockdown and 64 (29%) of them were studying in the 5th class. Mostly mothers, 197 (90%) were accompanying the child during those classes. 189 (86%) children were getting their education from the CBSE board, followed by the State board 23 (10%), and only 8 (4%) from the ICSE board. 172 (78%)
children attended classes through WhatsApp with recorded videos, the remaining 46 (21%) through Google meet, and 2 (1%) through Zoom App. 164 (75%) participants’ preferred teaching mode during this COVID-19 lockdown was online [Table 1].

A statistically significant association was found between parent role and preferred teaching method during the pandemic with negative perception regarding online classes. (P= <0.01, P < 0.05). Furthermore, there was a significant association of app used for online classes and the preferred teaching method during the pandemic with a high level of satisfaction towards online classes (P≤ 0.01, P < 0.05) [Table 1].

The binary logistic regression analysis was also carried out and the variables that showed significant association were entered into the binomial logistic regression model. The regression model revealed that in the parent role, having a father role significantly decreases the likelihood of negatively perceiving online classes by 44% (OR = 0.447, CI: 0.251- 0.798, P = 0.006) and changing from offline to online as a preferred method of teaching during a pandemic, increases the likelihood of negative perception by three times (OR: 3.057, CI: 1.568-5.960, P = 0.001) [Table 2].

The regression model of satisfaction as a dependent variable revealed that using WhatsApp decreases the likelihood of dissatisfaction towards online classes by 48% (OR = 0.487, CI: 0.260 – 0.911, P = 0.024) whereas, the preferred teaching method is not a significant predictor of dissatisfaction towards online classes (P - 0.077) [Table 2].

Perception of parents of children attending online classes results revealed that 105 (48%) participants had perceived online classes for their children during the COVID-19 pandemic positively, and 115 (52%) had perceived it negatively. Along with this, domain wise analysis results showed that participants had positively perceived online classes in terms of safety (mean %‑80) followed by content delivery (mean %‑54), then evaluation (mean %‑50), and negatively in terms of poor social relationships (means %‑52); internet addiction and health effect (mean %‐50) [Table 3].

Out of 220 participants, 92 (42%) had experienced moderate to severe burden, 71 (32%) experienced mild to moderate burden, 30 (14%) severe burden, and 27 (12%) had experienced no burden. Along with it, domain wise ranking of type of burden results showed that participants’ burden regarding online classes during the COVID-19 pandemic was highest (mean ± SD of 12.10 ± 5.396), followed by technological burden (mean ± SD of 8.3205 ± 3.563), and economic burden (mean ± SD of 5.250 ± 2.950) [Table 4].

The majority of the participants, 113 (51%) were highly satisfied, 72 (33%) were moderately satisfied, 24 (11%) had a low level of satisfaction, and only 11 (5%) participants had extreme satisfaction regarding online classes during COVID-19 lockdown [Table 5].

A positive correlation was present between perception and satisfaction among parents of children attending online classes, which states that though parents had negative perceptions, at the same time, they were satisfied with online classes during this pandemic [Table 6].

Discussion

The present study permits a broad discussion about the perception, burden, and satisfaction of parents of children attending online classes during COVID-19 lockdown. A majority (66%) of the current study participants fall in the age-group of 31–40 years. A similar result was found in studies conducted by Bhamani et al[9] and Dong et al[10] where most of the respondents fall in the age-group of 35–40 years and 30–39 years respectively. In the current study, 139 (63%) participants were mothers, and 119 i.e., more than half (54%) were educated up to graduate and above. A study by Garbe et al[11] and Lau et al[12] give similar results where 116 (95%) and 6702 (93%) of the parents were mothers respectively and 55 (45%) participants from Garbe’s study reported having a graduate degree (Master’s or above).

Smartphone/cell phone was the most common 216 (98%) device used by children to attend online classes and Bokayev et al[13] present similar results where 24,414 (78%) parents primarily provide a cell phone to their child for online classes. Online classes were the preferred mode of teaching by 165 (74%) participants during this COVID-19 pandemic in the present study. Similarly, in another study, 1500 (75%) parents were also satisfied with online classes during COVID.[14]

Among 220 participants, 115 (52.3%) had perceived online classes during the COVID-19 pandemic negatively. Unlike, Chinese parents also had a negative perception of online-based learning.[9] The parents in Ngewo J et al. study perceived that online learning adds no value to education; it was costly and had no specific impact on the child.[15] In another study, participants asked for blend learning because children were not paying attention at home, and their screen time had also increased.[16]

Present study parents reported the least effect on the vision of the child due to online classes, but contrary to this, Chinese parents considered online classes dangerous to their children’s eyes.[9] Half (50.1%) of the current study participants perceived that social relationship with peers was prohibited due to online classes. Similar findings were demonstrated in a study where participants were concerned that online classes had lost the communication their children had with their peers.[9]

Present study results showed that participants had positively perceived online classes in terms of safety (mean %‑80) as a priority. Hamaidi AD et al. reported similar findings that parents’ perceptions related to the physical components and the distance learning environment were highly satisfactory.[9]

In the present study, 53.8% (mean %) of the participants believe that online classes push children towards sedentary lifestyle behavior. Supporting this previous study also commented that...
Table 1: Association of perception, burden, and satisfaction with socio-demographic variables among parents of children attending online classes (n=220)

| Variables                                           | F (%) | Perception |           | Burden |           | Satisfaction |           |
|-----------------------------------------------------|-------|------------|-----------|--------|-----------|--------------|-----------|
|                                                     |       | Median     | P         | Median  | P         | Median       | P         |
| Parent role as                                      |       |            |           |        |           |              |           |
| Father                                              | 081 (37) | 41.14*      | 0.004*    | 25.67* | 0.826     | 20.20*       | 0.071     |
| Mother                                              | 139 (63) | 44.67*      |           | 26.00* |           | 23.00*       |           |
| Age (yrs; mean: 34.1±5)                             |       |            | 0.443     |        | 0.709     | 0.291        |           |
| 20-30                                               | 027 (12) | 43.5*       |           | 26.0*  |           | 24.33*       |           |
| 31-40                                               | 145 (66) | 43.0*       |           | 25.67* |           | 21.88*       |           |
| >40                                                 | 048 (22) | 42.0*       |           | 26.80* |           | 19.33*       |           |
| Religion                                            |       |            | 0.138     |        | 0.751     | 0.417        |           |
| Hindu                                               | 214 (97) | 42.92*      |           | 25.79* |           | 21.85*       |           |
| Non-Hindu                                          | 006 (03) | 36.00*      |           | 27.50* |           | 20.00*       |           |
| Habitat                                             |       |            | 0.158     |        | 0.793     | 0.497        |           |
| Rural                                               | 106 (48) | 42.23*      |           | 26.25* |           | 21.30*       |           |
| Urban                                               | 114 (52) | 43.67*      |           | 25.64* |           | 22.13*       |           |
| Parental Education                                  |       |            | 0.329     |        | 0.867     | 0.329        |           |
| Primary                                             | 019 (09) | 42.29*      |           | 27.00* |           | 22.33*       |           |
| Intermediate                                        | 020 (09) | 39.67*      |           | 23.67* |           | 22.50*       |           |
| Secondary                                           | 028 (12) | 42.75*      |           | 25.67* |           | 19.00*       |           |
| Senior secondary                                    | 034 (16) | 42.00*      |           | 26.75* |           | 23.33*       |           |
| Graduation and above                                | 119 (54) | 43.75*      |           | 26.18* |           | 21.77*       |           |
| Family Monthly Income*                              |       |            | 0.198     |        | 0.522     | 0.268        |           |
| ≥7533                                               | 094 (43) | 44.17*      |           | 26.90* |           | 23.14*       |           |
| 3766-7532                                          | 038 (17) | 40.67*      |           | 28.00* |           | 21.50*       |           |
| 2260-3765                                          | 026 (11) | 40.00*      |           | 25.00* |           | 21.00*       |           |
| 1130-2259                                          | 032 (15) | 42.00*      |           | 24.67* |           | 20.67*       |           |
| ≤1129                                              | 030 (14) | 41.71*      |           | 22.50* |           | 20.33*       |           |
| Working parents                                     |       |            |           |        |           |              |           |
| Yes                                                 | 102 (46) | 42.93*      | 0.954     | 25.75* | 0.516     | 22.00*       | 0.433     |
| No                                                  | 118 (54) | 42.73*      |           | 26.00* |           | 21.45*       |           |
| Continuing job during lockdown                       |       |            |           |        |           |              |           |
| Yes                                                 | 083 (38) | 43.00*      | 0.923     | 25.00* | 0.363     | 22.22*       | 0.483     |
| No                                                  | 137 (62) | 42.71*      |           | 26.23* |           | 21.46*       |           |
| No. Children Attending Online Classes                |       |            |           |        |           |              |           |
| 1                                                   | 066 (30) | 42.33*      | 0.119     | 26.55* | 0.450     | 23.00*       | 0.302     |
| 2                                                   | 131 (60) | 41.00*      |           | 26.00* |           | 18.20*       |           |
| ≥3                                                  | 023 (16) | 42.84*      |           | 25.89* |           | 21.73*       |           |
| Child's academic class                              |       |            | 0.675     |        | 0.176     | 0.166        |           |
| I                                                   | 046 (21) | 42.50*      |           | 24.50* |           | 20.00*       |           |
| II                                                  | 039 (18) | 42.57*      |           | 26.00* |           | 24.00*       |           |
| III                                                 | 036 (16) | 44.67*      |           | 24.00* |           | 22.00*       |           |
| IV                                                  | 035 (16) | 41.71*      |           | 32.0*  |           | 19.33*       |           |
| V                                                   | 064 (29) | 44.00*      |           | 26.50* |           | 23.17*       |           |
| Education Board                                     |       |            | 0.191     |        | 0.639     | 0.861        |           |
| CBSE                                                | 189 (86) | 43.27*      |           | 25.88* |           | 21.67*       |           |
| ICSE                                                | 099 (04) | 43.00*      |           | 30.0*  |           | 21.33*       |           |
| State Board                                         | 022 (10) | 39.73*      |           | 25.00* |           | 22.67*       |           |
| Accompanying parent                                 |       |            |           |        |           |              |           |
| Father                                              | 023 (10) | 43.50*      | 0.852     | 29.80* | 0.150     | 19.20*       | 0.276     |
| Mother                                              | 197 (90) | 42.73*      |           | 25.50* |           | 22.15*       |           |
| Device used                                         |       |            |           |        |           |              |           |
| Smartphone                                          | 216 (98) | 42.38*      | 0.355     | 25.72* | 0.874     | 21.82*       | 0.396     |
| Tablet/laptop                                       | 004 (02) | 45.50*      |           | 28.00* |           | 17.00*       |           |
| App used                                            |       |            |           |        |           |              |           |
| What's app with recorded videos                     | 172 (78) | 42.24*      | 0.07      | 25.60* | 0.994     | 20.71*       | 0.021*    |
| Zoom/Google meet                                    | 048 (22) | 46.00*      |           | 26.40* |           | 24.86*       |           |
| Preferred teaching method during the pandemic       |       |            |           |        |           |              |           |
| Online                                              | 165 (75) | 44.19*      | 0.000*    | 25.31* | 0.142     | 23.64*       | 0.001*    |
| Offline (Physical classroom)                        | 055 (25) | 38.27*      |           | 27.33* |           | 18.67*       |           |

*BG Prasad Socio-economic scale & significant P<0.01, P<0.05; $Mann Whitney U test, $Kruskal Wallis test.
The personal burden was the highest perceived burden in the present study (mean % 61). Likewise, results were shown in the previous study where the working parent i.e., the father was worried about his office and his first-grade child’s online classes.\[7\] Balancing work and child’s online classes was a burden for 58% (mean %) of the participants of the study. Garbe \[11\] had presented similar results where 72% of participants had also faced issues in balancing their responsibilities.

Strong internet connectivity requirement for online classes was the highest perceived burden item by 78% of the participants in the study. Supporting statement such as to download the app for online classes there was a requirement of strong internet connection. It had created a lot of economic burden on the parents and insufficient connectivity issue was reported by 34% of participants, especially during the COVID scenario in the previous studies.\[15,17\]

The present study evidenced that increased internet cost and continuous monitoring of children had posed a high level of burden on parents. A study by Delipiter Lase \[9\] showed similar results where parents complained of raised education costs and difficulty to maintain a balance between accompanying their children to study and the daily chores.\[9\]

According to 58.5% (mean %) of participants of the present study, online classes had motivated children to follow daily routines even during the COVID-19 pandemic, and they were satisfied with it. Contrary to this, Bhramani \[9\] study had shown that children were following hygiene routines, but learning routine was lacking. Online classes had provided the opportunity to enhance the family-child bond, as revealed by 48% (mean %) of satisfied current study participants. A previous study explains that though peer bond had decreased, it could be turned into an opportunity to improve the family bond.\[9\] Nearly half of current study participants (mean % - 48) were satisfied with the achievement of their child’s educational objectives even during the pandemic. On the contrary, a study conducted by Abuhammad, S. participants were dissatisfied and felt that online classes were not meeting the educational needs of the students.\[9\]

Parents of the current study were highly satisfied 113 (51%) with their children’s online classes during the COVID-19 pandemic. Cui S., Zhang C., Wang S. \[9\] presented results similar to that of the current study concerning satisfaction, where 675 (77.9%) were satisfied with the online learning courses.\[9\]

**Limitations**

The study was limited to selected schools of Rishikesh, and the response rate from only 220 parents out of 1120 approached, which questions the generalizability of study results. Perception, burden, and satisfaction were assessed by self-reported tools, which might have been biased. The study was limited to parents who had Smartphones, email-id, and the ability to understand the Hindi language.

**Conclusion**

The sudden shift to online learning had created a burden for the students and parents as well, as they had to balance their responsibilities, access resources for providing online classes to their
children, etc., Though parents had perceived it negatively, they were highly satisfied. As well, considering the safety of their child and the achievement of educational objectives during the pandemic. Parents lack the technological skills needed for their children's online classes, so it is recommended that school authorities and teachers must guide and update them regarding the new learning system as this is going to be a part of the future children’s learning. In-depth qualitative studies can be done with larger sample sizes in the future to understand the depth of parental views, their struggles, and satisfaction.

Additional Information

Disclosures

Human subjects: The Institutional Ethics Committee (IEC) at AIIMS approved the study (AIIMS/IEC/20/779). Informed consent was obtained from parents through appended consent form at the beginning of the online survey.

Declaration of participant consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the participant(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The participants understand that their names and initials will not be published, and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

References

1. Coronavirus -Wikipedia. Available from: https://en.wikipedia.org/wiki/Coronavirus.
2. Mohan BS, Nambiar V. COVID-19: An insight into SARS-CoV2 pandemic originated at Wuhan city in Hubei province of China. J Infect Dis Epidemiol 2020;6:146.
3. Abuhammad S. Barriers to distance learning during the COVID-19 outbreak: A qualitative review from parents’ perspective. Heliyon 2020;6:e05482. doi: 10.1016/j.heliyon.2020.e05482.
4. Coronavirus | What must school do before reopening? Available from: https://www.thehindu.com/education/schools/coronavirus-what-must-schools-do-before-reopening/article31822337.ece.
5. Uttarakhand Government’s response to the COVID-19 pandemic (March 2020-April 15, 2020). Available from: https://www.prsindia.org/theprsblog/Uttarakhand-government’s-response-covid-19-pandemic-march-2020-april-15-2020.
6. Coronavirus pandemic: Uttarakhand closed schools till March 31. Available from: https://www.newindianexpress.com/nation/2020/mar/13/coronavirus-pandemic-uttarakhand-close-schools-till-march-31-2115962-.html
7. Brom C, Lukavský J, Greger D, Hannemann T, Straková J, Švaříček R. Mandatory home education during the COVID-19 lockdown in the Czech Republic: A rapid survey of 1st-9th graders' parents. Front Educ 2020;5:1-14.
8. Vanderhost, Joanne, "Parents’ perceived benefits of full-time online K-12 education as an educational replacement option” (2017). Theses and Dissertations. 870. Available from: https://digitalcommons.pepperdine.edu/etd/870. [Last accessed on 2020 May 14].
9. Bhamani S, Makhdoom AZ, Bharuchi V, Ali N, Kaleem S, Ahmed D. Home learning in times of COVID: Experiences of parents. J Educ Educ Dev 2020;7:9-26.
10. Dong C, Cao S, Li H. Young children’s online learning during COVID-19 pandemic: Chinese parents’ beliefs and attitudes. Child Youth Serv Rev 2020;118:105440.
11. Garbe A, Ogurlu U, Logan N, Cook P. Parents’ experiences with remote education during COVID-19 school closures. Am J Qual Res 2020;4(5):65.
12. Lau EY, Lee K. Parents’ views on young children’s distance learning and screen time during COVID-19 class suspension in Hong Kong. Early Educ Dev 2020;32:863-80.
13. Bokayev B, Torebekova Z, Davletbaeva Z, Zhakypova F. Distance learning in Kazakhstan: Estimating parents’ satisfaction of educational quality during the coronavirus. Technol Pedagog Educ 2020;30:27-39.
14. Malik S. A study of parent’s opinion on online teaching in Delhi-NCR schools. Indian J Sci Technol 2020;13:4351-63.
15. Ngeywo J, Maizs E. Managing the financing of home-based learning and teaching in Kenya Amid Covid 19: Perception and challenges. Int J Rec Res So Sci Humanit 2020;7:106-9.
16. Hamaidi DA, Arouri YM, Noufa RK, Aldrouj IT. Parents’ perceptions of their children’s experiences with distance learning during the COVID-19 pandemic. Int Rev Res Open Distance Learn 2021;22:224-41.
17. Zaki H. The implementation of online-based learning method in Madrasah Ibtidaiyah Negeri 2 Mataram. J Tatsqif 2020;18:36-59.
18. Lase D, Zega TG, Daelli DO. Parents’ perceptions of distance learning during COVID-19 pandemic in rural Indonesia. SSRN Electron J 2021;13:101-11.
19. Cui S, Zhang C, Wang S, Zhang X, Wang L, Zhang L, et al. Experiences and attitudes of elementary school students and their parents toward online learning in China during the COVID-19 pandemic: Questionnaire study. J Med Internet Res 2021;23:1-12.