Perception towards the effects of internet-based education on adolescents’ daily life: A cross-sectional study

Saki J et al

24 Sep 2023

Reviewer A:
The study entitled "Perception towards the effects of internet based education on adolescents' daily life: A cross-sectional study" was done to determine the perception towards the effects of internet based education on adolescents’ daily life.

However, the results don't reflect solely the mentioned objective. The following major observations may improve the manuscript.

Title: Need to revise. The current title indicates that some other group is providing their perception about effects of internet based education on adolescents’ daily life.
- In this study, we included parents and adolescents to provide their perception towards the effects of internet based education on the basis of their practical life experiences. In this title- it has given in the broader observation.
- After the revision of manuscript “the title has not changed” by the investigator.

Abstract: Need to revise in a balanced way. Should describe the methods part more. The conclusion is vague. This statement can be written without doing a study. Need to revise in line with the objectives and results.
- Methodology: (change has made from line 39- line 44)
  - This cross-sectional study was conducted on a higher secondary school of Dhaka city, including 200 participants, 140 adolescents and 60 parents. Both the study site and study participants were selected conveniently. After obtaining informed consent from both groups of participants, data were collected through face-to-face interviews with a semi-structured pretested questionnaire which included background information, information about adolescents’ internet based education, physical, psychological and social effects of internet based education.
- Conclusion: (change has made from line 56- line 57)
  - Despite some drawbacks, which also can be overcome by taking proper steps, IBE is making adolescents’ daily life easier and handy.

Introduction: The rationale has not been stated very well. Why the need to find the answer to the objective is not clearly addressed.
- Rationale: (change has made from line 130- line 144)
  - As internet based education has the effects of merits and demerits, the purpose of the current study was to assess the perception towards the effects of internet based education on adolescents' daily life. By finding the demerits through perception analysis we can go for further researches to overcome the drawbacks. Also finding the merits, will help us to develop the system which will flourish the upcoming generation. We tried to highlight in this study, what do parents perceive about the effects of internet based education on their adolescents and what adolescents themselves think about those effects of internet based education. There are several studies available, as for example, In India, a study found that students have a more favorable opinion of online education than do parents, which reflects favorably for the future of online learning in that country [3]. Also in a Singaporean survey, parents perceive the internet's influence on kids as being better than bad. The Internet's ingenuity was its main advantage [14]. But, according to a research conducted in Egypt, the majority of parents were concerned about their children's internet use and believed that the negative consequences of the Internet outnumbered the beneficial ones [15]. To the best of our knowledge, there hasn’t been a comprehensive study in Bangladesh that delves into the perceptions of parents’ and adolescents’ concerning the implications of internet-based education on their daily lives. This study aims to provide an understanding of the perception towards the effects of internet-based education on adolescents’ daily routines.

Here are some references:

   https://www.researchgate.net/publication/372632548_PARENTS’_AND_STUDENTS’_PERCEPTION_TOWARDS_ONLINE.CLASSES_AMID_COVID19_CLUSTER_LEVEL_STUDY_OF_INDIAN_GOVERNMENT_SCHOOLS


   https://doi.org/10.4103/mmj.mmj_203_18.
Methods:
1. Study period mentioned January 1st to December 31st, 2022 where ethical approval was taken during the study. Approval should be take before data collection and the study period would be the data collection period.
   - (change has made from line 147)
   - In this manuscript the study period mentioned for 1 year which concerned the time allocated for literature review, concept note development, protocol formation, IRB approval, data collection, data analysis, report writing. However, according to suggestion, the 'study period would be the data collection period' which was started from 19th October to 23rd November, 2022 after getting ethical permission from IRB of BSMMU on 4th September, 2022.

2. How the tools were developed? Add references also.
   - Line number 159 (the references of data collection tool has added here).
   - The data collection tool was developed through literature reviews (Hegazy et al., 2019), (Idris et al., 2021), (Fatema et al., 2020), (Guzel et al., 2018), (PONDER, 2020), (Rowlands et al., 2008), (Dron & Anderson, 2014; Greenhow, 2011; Lee & McLoughlin, 2010), (Jackson et al., 2008), (Hameed, 2011) and based on the comments of expertise. Before applying the data collection tool on the study site, it was gone through pretesting. The modification of questionnaire was done where needed on the basis of pretesting result.

3. Overall, need to organize this section so that readers can get a glimpse of the study process.

Results: Results section has updated (line 203-line 226)
1. How can adolescents and parents answer the same question? as their context is different. This is not clear.
   - The purpose of our study was to find out what parents perceive and what adolescents perceive about the effects of internet based education. Although the contexts of parents and adolescents are different, If we not used the same questionnaire we would not conclude the similarity and dissimilarity of perception towards the physical, psychological and social effects of IBE which are presented here. Even living in this era of internet, we still have a negative perception towards internet based education and the positivity of

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<table>
<thead>
<tr>
<th>Reference</th>
<th>Title and Details</th>
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<tr>
<td>PONDER.</td>
<td>The Best Online Extracurricular Activities in 2020. 2020. [<a href="https://www.pondercollege.com/blog/best-online-extracurricular-activities">https://www.pondercollege.com/blog/best-online-extracurricular-activities</a>]</td>
</tr>
</tbody>
</table>
IBE is still under wraps. As the sample adolescents in this study are in their early teenage, they cannot expose their true feelings and conditions properly all the times. In this study, parent’s perception was viewed as a ‘birds eye view’ to validate the perception of adolescents.

2. Author can share the questionnaire for clear understanding
   - Questionnaire for parents and questionnaire for students has shared in attached file.

3. Comparing perception among adolescent and parents is meaningless.
   - Comparing perception among adolescents and parents is the proof of my answer no. 1 in Results section of your comment.

4. The whole message can be explained very straightforward and shortly.

Discussion:
1. Need much improvement and describe in line with the objective.
   - Changes has not made

2. State the challenges and limitations of the study
   - (change has made from line 277 to line 292)
     - Challenges: We were able to include only 60 number of parents in our study due to their busy schedule. It was a big challenge to deal for us. Also, the time allocated for data collection was quite short duration due to beginning of Higher Secondary School Certificate examination.
     - Limitations: The data for this study is collected from specific age group of adolescents of class 8 and 9 enrolled in Kadamtala Purba Basabo School and College of Dhaka city and their parents. So, the finding cannot be generalized for further school system operating in the country (like government schools, partnership schools, schools of rural area).
     Future studies can be directed to collect data from all the age group of adolescents, or a comparison can be done in parents and adolescents perception undertaking private and government schools, or schools of urban and rural area. It will give a better comparative results and deeper view of adolescents and parents perception. The physical and psychosocial negative impacts like rude behavior, loss of motivation and harmful messages through internet may lead to adolescents and parents to have negative perception towards internet based education. Future research can be taken into consideration on how to overcome the mentioned issues as well as develop the system to glorify the brain development effects of internet based education for upcoming generation.

3. State the strength points of this study
   - (change has made from line 294)
     - The strength points of this study
     1. To make internet based education smoother to adolescents
     2. To find out the drawbacks of internet based education which can be overcome by further studies

Conclusion: Should be more specific in line with objective and results
   - (change has made from line 274)
     - Physically and psychologically there are some bad impacts which can be marginalized by further researches. Improvement in psychosocial development is driving this generation towards “a generation of perfectionists”.

Recommendation: Revisions Required

11 Oct 2023
Reviewer B:
Recommendation: Revisions Required
Reviewer comments to the Author Comments:
1) Title: It seems the investigators included parents to achieve their objectives while the title focused only on adolescents. Why did the investigators include parents rather than only focus on the adolescent?
   - The sample adolescents are included in our study are in the age of early teen. Though the study only focused on adolescents’ daily life, we include both adolescents’ and parents’ perception towards the effects of internet based education. The age group we have taken, completely dependent on parents as parents always keep close supervision on their daily activities. As, the adolescents cannot expose their true feelings and conditions properly all the time and living in this era of internet, we still have a negative perception towards internet based education and the positivity of IBE is still under wraps, the need of knowing the parents thinking regarding their adolescent’s use of internet based education. In this case, parents perception towards the effects of internet based education on adolescents’ daily life was viewed as a ‘birds eye view’ to validate the perception of adolescents.

2) Introduction
   - The authors failed to reflect their study’s rationale based on the evidence available in Bangladesh. This reviewer wants to see that the investigators will build their story considering the country's perspective. They only cited a paper by Turkey which is insufficient to say that their findings are important for your country. Some evidences of Bangladesh:
     - Problematic internet use and depressive symptoms among the school-going adolescents in Bangladesh
during the COVID-19 pandemic: A cross-sectional study findings (https://doi.org/10.1002%2Fhsr2.1008)

The investigators may consider the evidence from neighbouring countries.
- The introduction part has updated as per your direction (changes has made in line 117 to 144)

3) Study type and population
- How do the authors decide that 140 adolescents and only 60 parents would be sufficient to draw an inference where the inclusion of the parents is questionable? Kindly add the sample size calculation.
  The sample size calculation was added at line 156
- The sample size calculation was done based on a study of Egypt ‘Parents' perception towards the effect of mobile and internet use on their children’s health’, where a finding was that 43.4% parents thought that the Internet had bad effects that outweighed positive effects. Based on this response, the sample size was calculated. Here is the sample size calculation:
  The sample size of the study was calculated by using the following formula
  \[ N = \frac{Z^2 \times pq}{d^2} \]
  \[ = 1.96^2 \times 0.434 \times 0.566 \div 0.082 \]
  \[ = 3.8416 \times 0.434 \times 0.566 \div 0.0064 \]
  \[ = 0.9437 \div 0.0064 \]
  \[ = 147 \]
  Where, \( N = \) required sample size, \( z = 1.96 \) for 5% level of significance, \( p = 43.4\% \) (according to Hegazy et al., 2019), \( q = 1 - p \), \( d = \) level of absolute error= 0.08.
  The calculated sample size was applied for both group of participants.

- Kindly mention the sampling technique explicitly.
  The description of sampling technique has updated in line 147 to 170
- We used non-probability convenient sampling method for the selection of study site and study population.
  At first, we selected a higher secondary school and college of Dhaka city by convenient sampling technique, in which online education was conducted during and after COVID 19 period.
  Then, obtaining ethical permission of IRB of BSMMU and taking authority’s permission of that educational institution, we conducted the study. For students’ data collection, we invited them to participate in the study. Those who showed willingness to participate in the research, were given a written consent form for parent’s signature for participation in the study. On the data collection day, after collecting signed consent form for each student, and taking assent from them, the interview was conducted. For parents’ data collection, they were invited to attend the interview session on school premises the day before the data collection with the help of school authority. On the day of data collection, the parents who were available at a given time, were requested to sign a consent form for participation in the study. From both group of participants data were collected through face to face interview.

4) Data collection tool and procedure
- Did the investigators recruit parents and adolescents from the same family?
  - No, the investigators did not recruit parents and adolescents from the same family. The investigators recruited them who were available at that time and willingly participated in the study.
- Did the investigators include both father and mother from the same family?
  - No, the investigators included only 1 parent (father/ mother) from a family.

- Why monthly income and family size is important for this study as a sociodemographic factor?
  - Monthly income of a family and family size is important for this study. Because there are some relations which we cannot avoid. As for example, quality of the chair the adolescent is using and backache, resolution quality of the device, the adolescent is using and headache with impaired vision, circumstances of a family of particular adolescent and behavioral abnormality etc. can be a major topic to study as a bigger portrait.
- How do the investigators calculate monthly family income? If the method is not validated, kindly exclude this variable.
  - In this case, for an initial study and small sample size, there is no validated method is used for calculation of monthly family income. So, as per your suggestion, we exclude this variable.
- How physical inactivity was defined?
As an operational definition, physical activity was defined as “for engagement with too much screen time for internet based education for a long duration, adolescents’ movement has decreased, like spending screen time sitting all the time, not playing outdoors/ walking outside (which is less than before) etc”.

What did the investigators mean by using the word ‘adequacy’?

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In this study, the investigators used the word ‘adequacy’ in the meant of whether the data collection tool was being sufficient for the purpose concerned.

Usually pretesting answer the following questions: trends in responses; fundamental flaws with the design or format (whether the data quality match the study design or not?); attractiveness (do the questionnaire materials attract the audience?); comprehension (are the materials adequately understood by the target participants?); acceptance (is there anything in the questionnaire which is not sensitive or unfitting?); and relevance (are the facts ever faced by the participants we are talking about).

This reviewer wants the investigators will mention in a sentence that all of these assumptions were met as they pretested.

-- In the pretesting site, the investigators observed the responses of participants to understand, that in which questionnaires the participants faced understanding problem, if the topics of questionnaire presented more elaborately, it would be more attractive and easily acceptable and also whether the topic of the questionnaire were made in a way that our participants experiences in their daily life.

-Did the reviewer use any validated tools to evaluate the physical and psychological effects, and incorporate them in the questionnaire (any rating)?

--No, there is no validated tools were used to evaluate the physical and `psychological effects. The investigators used a semi structured questionnaire which was made through literature reviews (Hegazy et al., 2019), (Idris et al., 2021), (Fatema et al., 2020), (Guzel et al., 2018), (PONDER, 2020), (Rowlands et al., 2008), (Dron & Anderson, 2014; Greenhow, 2011; Lee & McLoughlin, 2010), (Jackson et al., 2008), (Hameed, 2011) and based on the comments of expertise. Before applying the data collection tool on the study site, it was gone through pretesting. The modification of questionnaire was done where needed on the basis of pretesting result.

5) Ethical considerations: kindly add the ethical approval identification number.
- Ethical approval identification number: *BSMMU/ 2022/ 8892*
6) Statistical analysis
- Line 128: The current elaboration of SPSS is ‘Statistical Product and Service Solutions’. Kindly add it.
  - Updated in manuscript
  --The elaborated form of SPSS- Statistical Product and Service Solution has added.
- The p-value is one-sided or two-sided? Mention it as it tells us whether there is any relationship between P values and confidence intervals.
  ---In this study, the p-value is two-sided.
- It is not clear how the chosen statistical methods help the authors to achieve their objectives. This is because the investigators stated their objectives in the ‘introduction’ section in a broader sense using the word ‘deeper understanding’ (line 89). However, this reviewer assumes there are two objectives of this paper: (i) to assess perception and (ii) to assess the effect. So, I request the investigators to elaborate on how descriptive and inferential statistics help them present their findings in tables and align with the objectives they mentioned.
  - However, in this line (89 line), there was a mistake took place in using the word “and” between the words of “deeper understanding of these perception and the subsequent effects”. The investigators would like to correct the word “and” in exchange of “towards”. Then, the assumption of reviewer about the two objectives of this paper would might be change.
  - As an initial study, the investigators only wanted to see that how parents and adolescents perceive the effects of internet based education and if there are any similarity or dissimilarity present between the groups’ perception. In this study, the frequency and percentage were used to present the what percentage of sample (both parents and adolescents) agreed or disagreed with the statements regarding the effects of IBE. On analyzing the percentages of each statements, we viewed on how much proportion of parents and how much proportion of adolescents keep their perception on each statement and to analyze if there are any similarity or dissimilarity present or absent, Chi square test was used.

7) Results
- Results need to be written succinctly based on objectives. Table-wise result writing is not acceptable as there are standard formats available.
  - The tables are not presented in a standard format. Requesting to following:
      (also aligned with the BSMMU journal guideline)
    - The symbols did not follow international standards. The investigators need to follow ‘Uniform requirements for manuscripts submitted to biomedical journals: Writing and editing for biomedical publication’ (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3142758/)
    - The P-value should be presented according to the following pattern considering BSMMU guidelines:
      - What is the correct way of writing the p-value in statistical analyses?
        (https://scientificpublishing.webshop.elsevier.com/manuscript-review/correct-way-of-writing-p-value-statisticalanalyses/)
      - How should P values be reported? (https://support.jmir.org/hc/en-us/articles/360000002012-How-should-P-values-be-reported)
    - Add a ‘total column where n=200’ in all the tables. Kindly follow the aforementioned suggestion to re-prepare all the tables and write the result part.
      - The results section has updated in the manuscript (changes has made from line 203 to line 226).
      - Tables has re-prepared from line 419 to line 447

8) Conclusion: It is confusing. Requesting to interpret cautiously and draw a valid conclusion.
  - An updated conclusion has uploaded in manuscript (line 287).

11 Oct 2023

C Executive Editor Comments
Additional points from the Editor:
1. Please add Highlights- Highlights has added
2. Add EQUATOR Checklist- Added
3. Looks like you are describing tables in the Results section. Kindly tell your story with the help of the tables, and refer to the tables in parenthesis, e.g., ccccc (Table 1).- Updated in manuscript
5. Line 255: Provide a Memo number and date for the funding- Memo number given in manuscript
6. Line 330: Start the Table on a new page number- Updated in manuscript
7. The column headings of each table have an indication that the results are given in percentages. However, you have provided a % sign again for each table. Please avoid these; a column heading would suffice- Updated in manuscript
8. Tables 2−4: Keep the rows for yes only, and write the results directly in the same row without mentioning "Yes"- Updated in manuscript
For example, Physical inactiveness > 42 (70) > 87 (62.1) > 0.37 (avoid colors for rows).
9. Do not write NS or S for the P values. You have mentioned in the Analysis section that P<0.05 was considered significant - n Updated in manuscript
10. Provide a point-by-point response to the comments given by the reviewer and editor on a separate file.

Point by point response to Minor Revision

1. The Abstract’s word count is 280. It should be 250 or less - The word count of abstract has reduced to 246 from 280 (Line 36 to line 55)
2. Highlights hardly have any highlights - The Highlights has changed (line 69 to line 74)
3. Statistical analysis states that mean and SDs are presented, but I do not see any such results in the tables - Statistical analysis, mean and SD were used for age calculation of the participants. In the result section line 202 to line 205, the personal information of participants (age) has described in mean and SD but it has not shown in tables.
4. Challenges, strengths, and limitations should appear before the subheading for Conclusion. Please visit the Journal’s latest issues to learn more about its style - Changes have made (line 285 to line 305).
5. Authors (Dr Bijoy K Paul, Syed S Islam, and Md Atiqul Haque) have thanked themselves in the Acknowledgement section - The Acknowledgement section has updated (line 311)
6. The Author contribution should follow the Journal’s format. Please check the latest issue of the Journal - The Author contribution section has updated (line 314 to line 316)
7. Provide a Memo number with its issue date in the Funding section - As this is my thesis article, it was funded by BSMMU. According to IRB clearance certificate, the fund was given. So, no memo number was given separately for the funding. The Memo number with its issue date of IRB clearance certificate has give in ethical approval section (line 323 and 324). I am confused what to do. I would like to request you to give me a suggestion about this issue.
8. Provide DOI for Prof Syed S Islam. I am sure he has it - Syed Shariful Islam: https://orcid.org/0000-0002-3199-1076 (line 329)

20 Sep 2023
Executive Editor Comments
1. Thank you for submitting this manuscript to the BSMMU Journal. Kindly take care of the following points for formatting the manuscript:
2. Insert line numbers, and add word counts on the title page.
3. Provide ORCID of authors
4. Use official email IDs of authors, as much as possible. This will make BSMMU more visible.
5. Move the tables to the end of the manuscript (after the reference list)

27 Sep 2023
Executive Editor Comments
Kindly address the following points in seven days:
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7. Provide a Memo number with its issue date in the Funding section.
8. Provide DOI for Prof Syed S Islam. I am sure he has it