MOVING TO ONLINE: THE TRANSITION SEEN IN PHYSIOTHERAPY EDUCATION DURING COVID 19 PANDEMIC.

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ABSTRACT

Covid-19 pandemic modified traditional education system with introductions of many new-normals. Social distancing, isolation, use of information and communication technologies to support teaching and learning etc. are few needs to be mentioned. Lokmanya medical college of Physiotherapy is using online communication to support, sustain and enhance teaching and learning during Covid-19 pandemic.

This study aims to explore point of view of physiotherapy students’ on the advantages and disadvantages of online education experienced during Covid-19 pandemic. Students views will help to improve future conduction of online education and its success. Overall satisfaction and adaptation level of current online education was tested with help of self made questionnaire. Questionnaire was designed and validated with help of experts in the field and by conducting pilot study. Questionnaire was tested for reliability using Cronbach’s alpha 0.91 reading show high reliability. Purposive sampling was employed to ensure maximum participation.

Total 117 physiotherapy students voluntarily responded questionnaire. Students reported higher efforts requirement during online sessions, this may be due to lack of typical environment, full of distraction while attending online sessions. However knowledge enhancement noted after online sessions, which enlighten need of online education during such pandemics to continue with teaching learning process. Teachers pledge and hard work towards betterment of education sector by providing well-timed online teaching was appreciated by students. Overall satisfaction of students warrants technology adaptation in physiotherapy curriculum to benefit all stakeholders of education sector in future.

Key words: e learning, health science education, learning of physiotherapist.

I. INTRODUCTION

Covid -19 pandemic presented itself as a unique and special situation. Field of Education transformed in this period. Certain changes came into play in this pandemic; one of it was increase use of technology in education sector. This new addition is here to stay. This research paper is part of larger project which is designed to assess effects of Covid-19 pandemic on education field. We studied perception of physiotherapy students ¹, management students ² on online exam. We compared their point of view ³ as well. In new ventures we are targeting flip classrooms ⁴, blended learning ⁵ to deliver better education in future.

Physiotherapy education is always been a dynamically evolving field. It has adopted newer education techniques and enriched teaching as well as learning experience. Covid -19 pandemic demanded modification of traditional ways of Teaching, learning and assessment.

This research paper designed to give detailed information about which parts of the online teaching learning systems are vital and which parts of the systems should be developed or revised to accomplish future extensive acceptance and use.
To become accustomed with e-learning system, our institute undertook literature review. With available resources sustainable and ever evolving learning management system was adopted. Through this study we are aiming to evaluate perspective of our students’ on online education experienced by them during covid 19 pandemic.

E-learning is not only creating good content but commitment of providing a complete learning envionment. Harris in 1999 suggested three layer model for ideal e-learning, which includes a content layer, an interface layer and an infrastructure layer. The content layer is ‘the material that the instructor creates ... to create a learning situation.’ The interface layer ‘delivers the content’ and, these days, is accommodated within the delivery software, such as email, web browsers, learning management systems and so on. The infrastructure layer ‘supports the interface’ and includes the hardware, software, network connections and Internet services. Infrastructure layer have potential make and break role in success of e learning suggested by Harris and supported by Brewer et al.

We designed questionnaire in such a way that it will evaluate all three layers mentioned by Harris. In addition to this we also included open ended questions for future betterment.

Aim
To explore Physiotherapy students’ perception towards online education introduced during Covid-19 pandemic.

II. OBJECTIVES OF THE STUDY
1. To study the students’ perception towards online education in physiotherapy field during covid 19 pandemic.
2. To evaluate the contentment Level of Current Online education in physiotherapy field during covid 19 pandemic.
3. To identify measures for enhanced version of online education in future.

Methodology
Cross sectional survey study planned to gather student’s perception. survey questionnaire designed with 13 questions. Questionnaire content a mix of questions to examine the students’ experience and perceptions of:

- lecture content and delivery (the content layer);
- the online methods used to deliver the content (within the interface layer);
- the online methods to conduct online tutorials (also in the interface layer);
- Accessibility of the learning environment (the infrastructure layer).

The survey was anonymous and delivered online using Google forms. A variety of question types were used. These included rating, option and short answer questions, and not all questions required a response.

The convenient sampling method is used to collect the Primary data. Form links were circulated among the student population who has experienced online education during Covid -19 pandemic, through Lokmanya Medical College of Physiotherapy. No incentives were offered to complete the survey. Responses collected and analyzed with mean, standard deviation and percentage value.

Reliability
Reliability refers to the consistency of responses over time. In order to assess the reliability of this questionnaire, a pilot study was undertaken with five students randomly chosen from the population. Cronbach’s alpha coefficient was calculated for questions with Likert scale in a questionnaire. Next, Cronbach’s alpha* coefficient was also assessed for the actual study responses.

<table>
<thead>
<tr>
<th>Cronbach’s Alpha*</th>
<th>0.91</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inference</td>
<td>Excellent internal consistency</td>
</tr>
</tbody>
</table>

All items are responded to on a Likert scale of 1-5, where 5 = Strongly agree and 1 = Strongly disagree. Where effort was concern Likert scale of 1-5, where 5= Very High and 1 = Very Low.
From table no. 1 we can infer that, questionnaire was reliable and dependable on response gathered for analysis. \(^9\) Thus the reliability level of this research was consistently excellent. Data from the open-ended responses were used for qualitative analysis.

**Data analysis**

<table>
<thead>
<tr>
<th>Effort Requirement</th>
<th>Physiotherapy</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Lecture Preparation</td>
<td>3.15</td>
<td>0.78</td>
</tr>
<tr>
<td>Actual Lecture</td>
<td>3.37</td>
<td>0.86</td>
</tr>
</tbody>
</table>

Likert’s scale of 1-5, where 5 = Very High and 1 = Very Low.

**Inference** - Students were required to put more efforts, during online sessions compare to preparation for them.

**Graph 1. Knowledge gained during online sessions**

<table>
<thead>
<tr>
<th>Knowledge gained</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>At Start</td>
<td>3.18</td>
<td>0.83</td>
</tr>
<tr>
<td>At End</td>
<td>3.48</td>
<td>0.79</td>
</tr>
</tbody>
</table>

Likert’s scale of 1-5, where 5 = Very High and 1 = Very Low.

**Inference** – Significant knowledge gained during online sessions.

**Table 4.** Skill and responsiveness demonstrated by the teachers in online format

<table>
<thead>
<tr>
<th>Questions</th>
<th>Physiotherapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructors were an effective lecturer/demonstrator</td>
<td>3.8</td>
</tr>
</tbody>
</table>
Presentations was clear and organized | 3.9 | 0.84 |
Instructors stimulated students interest | 3.6 | 0.88 |
Instructors effectively used time during class periods | 3.8 | 0.85 |
Instructors were available and helpful to solve doubts | 3.8 | 0.97 |

Likert scale of 1-5, where 5= Very High and 1 = Very Low.

**Inference – Students’ appreciated teachers online sessions plan and execution.**

**Table 5.** Overall satisfaction with online sessions

<table>
<thead>
<tr>
<th>Overall satisfaction with online lectures</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Likert scale of 1-5, where 5= Very High and 1 = Very Low.

**Inference – Overall Students’ were highly satisfied with online sessions.**

### III. DISCUSSION

This research which is actually the part of a bigger project, aims to study Covid-19 pandemic effect on field of health science education.

We tried to study perception of online learning sessions on these students of Physiotherapy. Results discussed here are only for online learning sessions adopted during Covid-19 pandemic situation. Authors wanted to analyze students view as well as give suggestion to help future reforms in educational field.

Statistical analyses represented in table 1, infer that questionnaire was designed carefully and had high reliability. Validity and reliability are two fundamental elements in the evaluation of a measurement instrument. Validity is concerned with the extent to which an instrument measures what it is intended to measure. Reliability is concerned with the ability of an instrument to measure consistently. It should be noted that the reliability of an instrument is closely associated with its validity. An instrument cannot be valid unless it is reliable.

In near future this reliable questionnaire can be adapted to study other diverse group of students; analysis of larger population will help to reform the processes in the education field post Covid-19.

Let us start with Demographic details of sample; total 117 students voluntarily participated in this study, which had experienced online education during Covid-19 pandemic. All were undergraduate physiotherapy students from first year to fourth year of Lokmanya Medical College of Physiotherapy, kharghar, Navi Mumbai. Study populations demographic characteristics are exclusive and make it homogenous.

Table no. 2, demonstrates that students required more efforts during online sessions. Compared to its preparation like pre reading, home assignments etc. Literature also support this finding, in pre Covid situation studies suggested that experience with a new learning tool needs to be given to students prior to actual online Learning. This suggests that students need to use the online learning tool before the start of online program in some capacity. In future when dealing with pandemic like situations efforts need to be made within the curriculum to provide them with time to become familiar themselves with the learning tools without pressure.

Online learning was adopted to continue teaching learning process in pandemic situation. As shown in table no. 3, students gained significant knowledge through online sessions. This promising result makes online learning strong partner of traditional learning in future.
As revealed in table no. 4, teachers planning and execution of online learning were appreciated by students. Teachers demonstrated great commitment by adopting new technology in short span of time. As well as creating a strong content for enriching knowledge of students with limited resources. In other studies effective online practical teaching methods have been researched at present Pre-recorded video is as effective as a live demonstration. Heterogeneous group study is necessary for further analysis. In future regular use of technology will surely enrich content develop by teachers.

To conclude homogeneous population of students in this study graded high satisfaction level about online sessions taken place during Covid 19 pandemic as seen in table no. 5.

In future research, effect of other external factors on student’s e learning outside the control of the institute should be focused upon.

IV. CONCLUSION

When students’ perception towards online learning introduced during Covid- 19 pandemic, was investigated through survey they showed positive attitude towards it. Results analysis from physiotherapy students shows evidence and need towards curriculum redesign in the form of introduction of technology in day to day teaching learning process. Universities need to explore and adopt platforms which will help in the conduction of online learning for large population of students with low dependability on internet and gadgets. Teachers need supplementary training to develop effective online teaching tools using various technologies, which can be adopted in difficult pandemic times.

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