Role of Audiovisual Aid as a Teaching - Learning Method for Understanding Mechanism of Labour.

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Abstract:
Introduction: Students have various styles of learning and teachers have to choose different teaching methods to enhance their learning so as to make them acquire knowledge, skills and attitude. In Obstetrics, students have to master the skill of demonstrating the normal mechanism of labour using the dummy pelvis and fetal skull. Role of Video demonstration in addition to conventional teaching method was evaluated in this study.

Objectives:
To evaluate and compare the effectiveness of conventional small group teaching of mechanism of labour using the dummy pelvis and skull reinforcement with video demonstration.

Methodology:
A comparative study was done, involving 60 final year MBBS students, divided into two groups, Group A and Group B, each having 30 students. Both groups had demonstration class by the teacher on the mechanism of labour using the dummy pelvis and fetal skull. Group B students in addition had a video demonstration of mechanism of labour. Students were then evaluated by another teacher using the OSCE. Scores obtained by both the groups were analysed using SPSS software.

Results:
Group B were better performers as compared to Group A with a significant p value of 0.0026.

Conclusion:
Students exposed to the additional teaching learning media had clear understanding and long lasting effect on the must know psychomotor skill being taught. Adopting innovative approaches to teach students some basic skills in Obstetrics could bring revolutions in medical education.

Key words: Teaching aids, audio-visual aids in Obstetrics.

Introduction:
Medical students have different styles of learning which include visual, auditory, read/write and kinesthetic modes of learning¹. Teachers have to choose different teaching methods to enhance learning and make learning more interesting and impact bearing.

Obstetrics is a field of emergencies; we need to train our medical students to emerge as young doctors capable of handling these emergencies.

During the Obstetrics and Gynaecology clinical posting, every student is made to master the skill of demonstrating the normal mechanism of labour using the dummy pelvis and fetal skull.

To understand this mechanism the student needs to know the basic steps, then apply it to demonstrate the skill during the clinical assessment, for which the student will be using cognitive and psychomotor domains of learning. Cognitive domain needs assimilating the knowledge concerning labour mechanism and psychomotor domain is the acquisition of physical abilities, motor or muscular skills, manipulation of materials and objects or acts, requiring a neuromuscular co-ordination to demonstrate the mechanism of labour.²,³

As, medical teachers we have to influence the learning process of the students to meet the educational objectives, which would also influence the educational decision making.

Since ages, mechanism of normal labour has been taught to students using the dummy pelvis and skull and now with the additional use of audio-visual aids, to teach procedural skills to a small group of students will make teaching/learning a great experience for the student and...
the teacher.
It helps the teacher to clarify, establish, correlate and co-
ordinate accurate concepts, interpretations and enable
learning to be made concrete, effective, interesting,
inspirational, meaningful and vivid. Use of multiple
teaching aids will enhance the learning process,
highlighting the important points and brings about
understanding where words fail. Audio visual aids provide a three dimensional view of the
events that take place during labour mimicking real life
situation, so that the student will be able to correlate with
imagination and perform better. These aids complete the
triangular process of learning ie., motivation-
clarification-stimulation needed for adult learning.

We designed this study with a specific learning objective
of teaching a small group of students, the mechanism of
labour by using two different teaching methods and
comparing the impact of each method with respect to
learning effectiveness.

Objectives:
To evaluate and compare the effectiveness of
conventional small group teaching of mechanism of
labour using the dummy pelvis and skull and
reinforcement with video demostration.

Methodology:
The study was conducted on final year MBBS students.
An expressed consent was taken from students who were
willing to participate in the study.

Students were divided into two groups (Group A and
Group B) of 30 each, division was in serial order
depending on their roll numbers. Both the groups had a
demonstration of mechanism of labour using the dummy
pelvis and skull, by the concerned teacher. The set of
information given during demonstration was same for
both the groups. In addition Group B had a short video
demonstration of the mechanism of labour after the
demonstration class. After this, learning ability of
students was assessed by another teacher, using OSCE
with a check list (Table 1). Each student was asked to
demonstrate the mechanism of labour using dummy
pelvis & skull in three minutes and assessed for a total
score of twelve.

For statistical analysis, Chi square test with SPSS
software was used.

Students scoring 7 or more were classified as good
performers and 6 or below scores were considered as
below average performers.

Results
Group B students performed better than group A in all the
steps involving psychomotor domain, whereas at the
cognitive level- defining labour, there was no statistical
difference.

Table - 1 : Comparison of students performance at
various Steps of OSCE.

<table>
<thead>
<tr>
<th>Check List</th>
<th>Group A Performance (%)</th>
<th>Group B Performance (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition</td>
<td>24 (80%)</td>
<td>26 (86%)</td>
</tr>
<tr>
<td>Sequence</td>
<td>14 (46%)</td>
<td>22 (73%)</td>
</tr>
<tr>
<td>Engagement</td>
<td>22 (73%)</td>
<td>23 (76%)</td>
</tr>
<tr>
<td>Descent</td>
<td>13 (42%)</td>
<td>29 (97%)</td>
</tr>
<tr>
<td>Internal Rotation</td>
<td>16 (45%)</td>
<td>27 (90%)</td>
</tr>
<tr>
<td>Flexion</td>
<td>13 (43%)</td>
<td>28 (93%)</td>
</tr>
<tr>
<td>Crowning</td>
<td>16 (49%)</td>
<td>25 (83%)</td>
</tr>
<tr>
<td>Extension</td>
<td>13 (43%)</td>
<td>26 (86%)</td>
</tr>
<tr>
<td>Restitution</td>
<td>18 (60%)</td>
<td>24 (80%)</td>
</tr>
<tr>
<td>External Rotation</td>
<td>19 (63%)</td>
<td>24 (80%)</td>
</tr>
<tr>
<td>Shoulder Delivery</td>
<td>18 (60%)</td>
<td>26 (87%)</td>
</tr>
<tr>
<td>Delivery Of The Body</td>
<td>17 (56%)</td>
<td>28 (93%)</td>
</tr>
</tbody>
</table>

Using the chi square test, p value was 0.0026 which is
statistically significant.

After analyzing both the groups, 53.4% in Group A and
86.6% in Group B were good performers. Below average
performers were 46.6% in Group A & 13.4% in Group B.

Chi square value: 9.07, df:1, p-value:0.0026

Discussion
Assessment drives learning. As per the Miller's pyramid a
student can perform a skill only if he knows it, knows
how, then shows how to perform it for future application
in his medical profession.

As per strict guidelines by the Medical Council of India,
alternative teaching methodology has been incorporated
in the Indian medical teaching system. Here in this study,
Video was taken as an alternative approach to
demonstrate how practical skills of students can be improved.

The present study shows that the efficacy of teaching and delivering information was easier and effective in terms of recollecting facts by students. These can be attributed to the fact that Wernicke's area of brain can integrate the information received via auditory and visual pathway.\(^7\)\(^8\) This information is better understood and registered for a longer time. As per feedback, students enjoyed the audio visual demonstration and it helped them to imagine things in a better way. This study involved a small group of students, further studies involving large number of students are invited.

To the best of our knowledge, literature search using the search engine medline database with the key words audio-visual aids obstetrics, teaching aids obstetrics as on 7.11.13,did not reveal any similar studies for comparison. Aggarwal et al, in their study on evaluating the effectiveness of the use of audio visual aids in hematology laboratory, involving 50 BPT students found that efficacy of teaching and delivery information was easier and effective in terms of recollecting facts by students. Students in the control group performed better with enjoyable new way of learning.\(^9\)

**Conclusion**

This study clearly shows that students exposed to audio-visual method performed better and enjoyed this new way of learning. Audio-visual aids provide significant gains in informational learning, retention and recall, thinking and reasoning, activity, interest, imagination, better assimilation and personal growth and development. The aids are the stimuli for learning 'why', 'how', 'when' and 'where'. The hard to understand principles are usually made clear by the intelligent use of skillfully designed instructional media.

**REFERENCES**


