ABSTRACT

Teaching and learning are equally important for the teacher. For teaching to be effective, whereby participants learn better, training of teachers is imperative. Teacher’s training is one of the important aspects of faculty development at Chitwan Medical College (CMC) and this study was done to assess the effectiveness of the teachers’ training pre test, post test experimental group design. In pre test, only 5.6% of the participants had adequate knowledge whereas after teacher’s training, 27.7% had adequate knowledge. The mean (±SD) knowledge score before and after the intervention was 26.7±5.6 and 33.6±5.6 respectively. The percent change in knowledge after intervention was 25.8 which suggesting that the teachers’ training was an effective intervention.

Key words: Faculty development, pre test, Post test, Teachers’ training.

INTRODUCTION

Teaching and learning are two side of the same coin. There are various methods of teaching such as lecture, problem based learning, group discussion, individual presentation, assignment, seminar, workshop, conference, brain storming sessions, role play, case study, etc. A variety of methods are explored for teaching practices depending on the nature of study, number of participants and facilities available. No method is perfect but all methods have pros and cons. When teachers think the best in terms of improving their teaching method, their content and knowledge have to be conveyed in the simplest manner to the participants. Teaching is essential for healthcare professionals to enhance their knowledge, practice and skill in their professional life. Effective teachers motivate, educate, and research and administrative skills for development of the institution. Effective teaching is positively correlated with participants’ learning. Training and seminars etc can be integral for comprehensive quality improvement for faculty. The activities like health training, workshops, seminars, short courses, site visits, fellowships and other longitudinal programs have been designed to improve teacher effectiveness across the medical education continuum and they have been offered to healthcare professionals at local, regional and national levels. Teachers need to instruct to participants in effective ways of giving precise feedback that addresses specific aspects of their learning experience. Professional development for teacher reveals that there is a long way to go in understanding methods of effective practices with respect to the various activities on teaching and learning. Effective teachers motivate, educate, and
exhilarate their participants in the subject matter. For
the teachers to be effective, the teacher must acquire
adequate knowledge, skills and have appropriate
attitude. Teachers’ training is one of the innovative
strategies to enhance knowledge and update teaching
skills of health-professionals who can then exert a
positive impact on health care of the society.

The objective of this study was to assess the
improvement in knowledge of health care profession
teacher after the teachers’ training

METHODS AND MATERIALS

This study was an experimental study with pre-test,
post-test design.

The intervention i.e. teachers’ training was conducted
from Sep 22 to Sep 28, 2014 in Chitwan Medical
College Bharatpur, Nepal. Altogether, 18 participants
participated in the training from clinical sciences,
basic science, public health and nursing departments.
Ten national and international resource persons
facilitated the training besides local facilitators. The
behavioral objective, principles of adult learning,
learning style, teaching and learning methods,
communication skill, feedback skill, problem base
learning, micro teaching and assessments were the
main sessions of training.

Hypothesis of this study was that, there will be
significant gain in knowledge score of participants
after the teachers’ training. To assess knowledge,
a semi structured self-administered questionnaire
was used. There were true/ false, multiple choice,
multiple response and rating scale questionnaires.
Questionnaires were prepared on the basis of
objective of intervention where as various methods of
teaching were introduced for effective teaching. For
statistical analysis, one mark was given for correct
answer and zero mark for incorrect answer and for
non response. To identify the level of knowledge,
<50% were categorized as inadequate, (50 - 75)
% were categorized as moderate and >75 % were
categorized as adequate level of knowledge.

Data management and analysis

The collected data was checked for completeness,
accuracy and consistency. The collected data was
coded and entered in Epi Data 3.1 and exported
to IBMS SPSS version 20 for analysis. Data were
analyzed in descriptive and inferential statistics. The
total knowledge score of pre test and post test was
not statistically significant by kolmogorov smirnov
test as p-value was 0.2. As the data was normal and
hence paired t test and independent t test were used.
Paired t- test was used to ascertain differences in
mean scores between the written pretest and post test.
Results were expressed and reported as a mean of
right answers ± SD. A p- value < 0.05 was considered
statistically significant.

RESULTS

Out of the total 18 participants, 14 (72.8%) were male
and 4 (22.2%) female. The mean age of participants
was 36.44±10.12 (SD) years, whereas minimum and
maximum age was 27 and 70 years respectively. Nine
(50.0%) were from clinical sciences, 6 (33.3%) from
basic sciences and 3(16.7%) from nursing and public
health faculty. A majority (72.2%) of the participants
had completed their highest academic degree in
recent past (after 2010 AD), remaining 5(27.8%) had
completed their highest academic degree between
1978- 2010 AD. Out of the total 18 participants, 10
(55.5%) participants had previous work experience
varying from one to forty years.

In pre test, 5.6 % had adequate knowledge, 72.2 %
participants had moderate knowledge, and 22.2 %
had inadequate knowledge. After the intervention,
27.7% had adequate knowledge, 66.7% had
moderate knowledge, and only 5.6% had inadequate
knowledge. (Table: 1)

Table 1: Assessment of pre test and post test level
of knowledge regarding various teaching method

<table>
<thead>
<tr>
<th>Level of Knowledge</th>
<th>Pre test</th>
<th>Post test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequate</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Moderate</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>Inadequate</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

The mean knowledge score pre and post intervention
was 26.7±5.0 and 33.6±5.6 respectively. Paired
t–test was used to compare the effectiveness of
intervention. The percent change in knowledge after
intervention was 25.8 % with 95 % CI (0.056-0.46).
The knowledge after the intervention was statistically
significant at 1% level of significance (p value <0.001). Thus, the post intervention knowledge score was better than the pre intervention knowledge score. Hence, the intervention was an effective. (Table: 2)

**Table: 2 Comparison of mean scores of knowledge before and after teaching**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre test (Mean± SD)</th>
<th>Post test (Mean± SD)</th>
<th>t value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total knowledge score</td>
<td>26.7±5.0</td>
<td>33.6±5.6</td>
<td>-4.34</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

The mean knowledge score of the participants in both pre and post test interventions was not statistically significant with sex of the participant and with Previous work experience. (Table 3)

**Table: 3 Comparison of knowledge before and after intervention regarding sex and work employment status**

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Pre test</th>
<th></th>
<th>P test</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean ± SD</td>
<td>t-value</td>
<td>P-value</td>
<td>Mean ± SD</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>14</td>
<td>26.1±4.2</td>
<td>-0.92</td>
<td>0.374</td>
<td>33.0±5.8</td>
</tr>
<tr>
<td>Female</td>
<td>4</td>
<td>28.8 ±7.6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The overall increase in knowledge of the different teaching methods, after intervention, was found to be greater in participants from the clinical sciences faculty than in participants from the basic science, nursing and public health faculty, whereas the baseline knowledge (pre-intervention) was better in the basic science, nursing and public health faculty than in the clinical faculty. (Figure 1)

**Note: Compared with independent sample t test,**

![Figure 1: Total Knowledge score of Pre test and Post test regarding educational background of the participants](image-url)
DISCUSSION

The findings of the present study are discussed with reference to the objective and hypothesis. This study shows that most of the participants significantly improved their knowledge after the 6 days training. The study showed that 27.7% participants had adequate knowledge after the intervention while only 5.6% had adequate knowledge before the intervention. The percent change in knowledge after intervention was 25.8 %. The findings of this study were similar to the study conducted by M. Stein et al.8, Y. Steinert et al.6 and B. Muneeswari10 which reported significant changes in learning and behavior. The teacher training program appears to be consistently associated with effectiveness, thus improves the learning ability of participants.3, 6, 8, 10,11 This study shows no significant difference in pre and post knowledge of participants by sex and previous work experience.

After the six days of intervention, the participant’s knowledge was slightly higher among clinical sciences faculty than those of basic science, nursing and public health faculty whereas the baseline knowledge was comparably better of the basic sciences, nursing and public health faculty than of the clinical sciences faculty. This finding is somewhat consistent with the finding of Maharjan et al.5 The study conducted by Maharjan et al showed the pre test knowledge of doctor and senior nurses was better than junior nurses and medical students. However the post test knowledge was statistically significant found only for junior nurses and medical students.

CONCLUSION

The percent change in knowledge after intervention was 25.8 %. The difference of mean knowledge after intervention was statistically significant at p value <0.001. It means the teachers’ training was an effective intervention.

LIMITATION

This study did not measure the effectiveness of individual method of teachers training.

ACKNOWLEDGEMENT

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REFERENCES

1. Shahida S. Effective teaching methods at higher education level, Department of Special Education, University of Karachi, Pakistan.

2. Maryellen W. Effective Strategies for Improving College Teaching and Learning Available online at: www.FacultyFocus.com


