

Original Research Article

Introduction of near peer assisted learning approach in teaching proper hand scrub technique among undergraduate students

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ABSTRACT

Introduction: In near peer assisted learning (NPAL) tutor is of the same level of education as with one to two years senior but within the same broad grade. Literature suggests that it fosters qualities like leadership, self-confidence and mentoring in tutors with simultaneous provision of a cordial learning environment to tutees. With this study we introduced NPAL in our newly established institute and assessed its feasibility, student's perception, future applicability.

Method: After having ethical clearance from institution, the students and faculty of Department of Obstetrics and Gynaecology were sensitized. The interns posted in labor room were designated as tutors and maternity students were included as tutees. The surgical hand scrub was the topic of teaching. The faculty taught interns and assessed, then interns taught maternity students and they were assessed by faculty members. The interns were again assessed by faculty. Afterwards both these interns and maternity students supposed to work together in labor room, the feedback was taken from all with a structured questionnaire using Likert scale.

Result: The results were encouraging from all the corners, the tutors, tutees and faculty agreed that NPAL is a better method of teaching strongly enhancing the learning of tutors and their communication skills and develops positive attitude towards teaching as a part of their profession. The tutees found a cordial learning environment with a cognitive congruence with their tutors and felt very comfortable while working with them. Faculty also showed a positive attitude towards NPAL.

Conclusion: NPAL is a good adjunct to standard teaching but could not substitute standard teaching.

Keywords: Near peer assisted learning, Tutor, Tutee

INTRODUCTION

Teaching of medical students is one of the prime tasks conferred to all medical teachers along with their valuable contribution in patient care and research. It is reflected by the word itself, as "doctor" comes from the Latin "docere" which means "to teach".¹ But with the transition of time, the teachers working in medical colleges are overburdened with disproportionately increasing patients load leading not only to compromise

in cultivation and upbringing of their teaching skills, but also jeopardize the budding of these skills in future teachers. This seems not only to contradict the etymologic roots but also the competency based learning outcomes. In light of these considerations it seems reasonable to nurture medical students with the teaching skills simultaneously.

Their exposure to this part of their future job from the very beginning of their training in order to instill a life-

long culture of learning and teaching. Peer Assisted Learning (PAL) is an innovative approach of learning where people from similar social groupings who are not professional teachers help each other to learn.¹ The term peer and near peer are often used interchangeably and near peer has recently been described by Bulte et al, as one of the same level of education as tutee with one to two years senior it's within the same broad grade.² Even when student tutors are more seniors they are not meant to be experts as such but more like facilitators and mediators, creating an environment for collaborative learning and guiding tutees through the process of active learning. Literature suggests a lot of beneficial effects of PAL include learning benefits to tutors as by teaching they are blessed to learn twice. Moreover, it fosters qualities like leadership, self-confidence and mentoring. Tutees also gets benefitted by having a cordial learning environment and also learning about hidden curriculum too.¹

The aim of this study was to introduce NPAL as a new teaching modality in our institute. The objectives include the assessment of the feasibility and future applicability of NPAL in our department and assessment of the response of students and faculty towards this new teaching methodology.

METHOD

After clearance from the institutional ethical committee, the faculty in the department of Obstetrics and Gynae was sensitized for the project. In this project the tutees were undergraduate students of MBBS final year during their maternity posting and interns posted in labor room for rotational house-job were tutors for them. The faculty of Gynae department was involved in teaching and performance assessment. Interns had labor room postings on monthly basis rotationally, they conduct deliveries, assists in cesarean sections and management of patients. Maternity students remain posted in labor room for 28 days and stays in labor room monitor the patients and assists in conducting deliveries.

Inculcation of proper aseptic precautions among both interns as well as maternity students is must to prevent puerperal infections. The methodology started by sensitizing interns regarding their role as tutor. The hand scrub technique was demonstrated to them in a stepwise manner including with all do's and don'ts by a faculty member. Then they were asked to read about hand scrub and were assessed next day by practical demonstration and were awarded a score as given below. These trained interns taught same skill to the maternity students posted along with them in labor room.

The skills of maternity students were assessed by a faculty member on the standard stepwise checklist of surgical hand- scrub and scored accordingly. The assessment was conducted with the WHO stepwise pattern of hand-wash (enclosed in last). Tutors were

assessed twice: first before teaching and corrected for mistakes to ensure proper learning and then after teaching to assess the effect of teaching on their learning. After taking adequate amount of soap 9 steps were identified for hand scrub and each step was given 0, 1, 2 marks: 0=if step not performed, 1=step was improperly performed and 2=when step was adequately done.

Similarly, medical students trained by interns were also assessed again on the basis of same assessment method. The score of interns before teaching and after teaching was analyzed for improvement in their skill. The evaluation of teaching intervention was done with questionnaire (by a 5 point Likert questionnaire) from interns as well as maternity students. The feedback from faculty was also taken with questionnaire by a 5 point Likert questionnaire. The data was analyzed statistically and results were interpreted.

RESULT

In this study 44 final year MBBS students were enrolled and 28 interns volunteered for role of tutor. They were selected in such a manner that both tutor and tutee have common working time in labor room so that tutors could ensure job of tutees. The observations made were shown in Figure 1.

The figure demonstrates the effect of NPAL on learning process of interns and maternity students. The handwash skill of interns was found to be improved after maternity teaching and their test scores were also better. The tutors were analyzed for their knowledge before teaching in which 64.3% tutors scored 100% and rest 36.7% tutors scored between 90-100%. The deficiencies of tutors were addressed followed by teaching of tutees by tutors and the tutors were again tested when all did the procedure well and scored 100%. The tutees on assessment by faculty 95.45% scored more than 75% but two students scored less than 75%, they didn't followed time and hand movements were also inadequate. The feedback was given to students (tutors and tutees) simultaneously with assessment and their feedback was also taken regarding the process of NPAL (Figure 1).

Analysis of Figure 2 shows that compared to standard faculty and student teaching technique all the faculty members and tutors agreed that NPAL is a better method of teaching because of active participation of students in their learning. NPAL makes the tutor more efficient by teaching 80% faculty agreed to it. Teaching is also an art and early exposure to this art helped students to develop teaching attitude in them. 72% interns and 80% faculty agreed to it. Figure 3 shows the response of tutees and faculty towards NPAL related issues. Tutees and faculty both agree that NPAL provides a cordial learning environment compared to standard teaching method and improves the professional bonding among tutors as well as tutees.

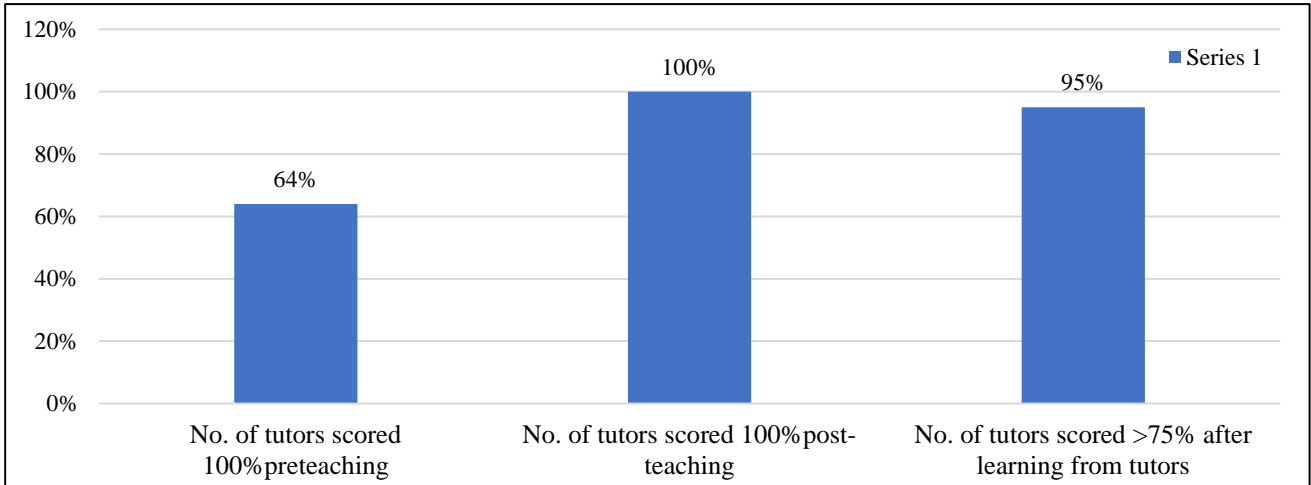


Figure 1: Effect of teaching on tutors skill and learning of tutees.

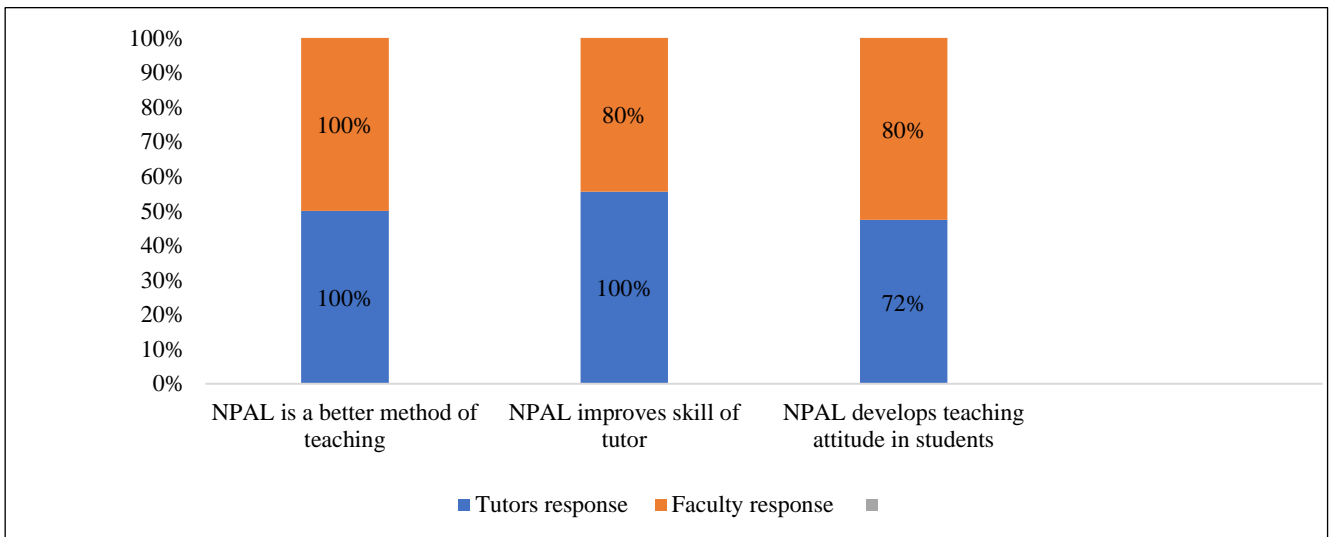


Figure 2: Response of tutors and faculty towards effect of NPAL on tutors.

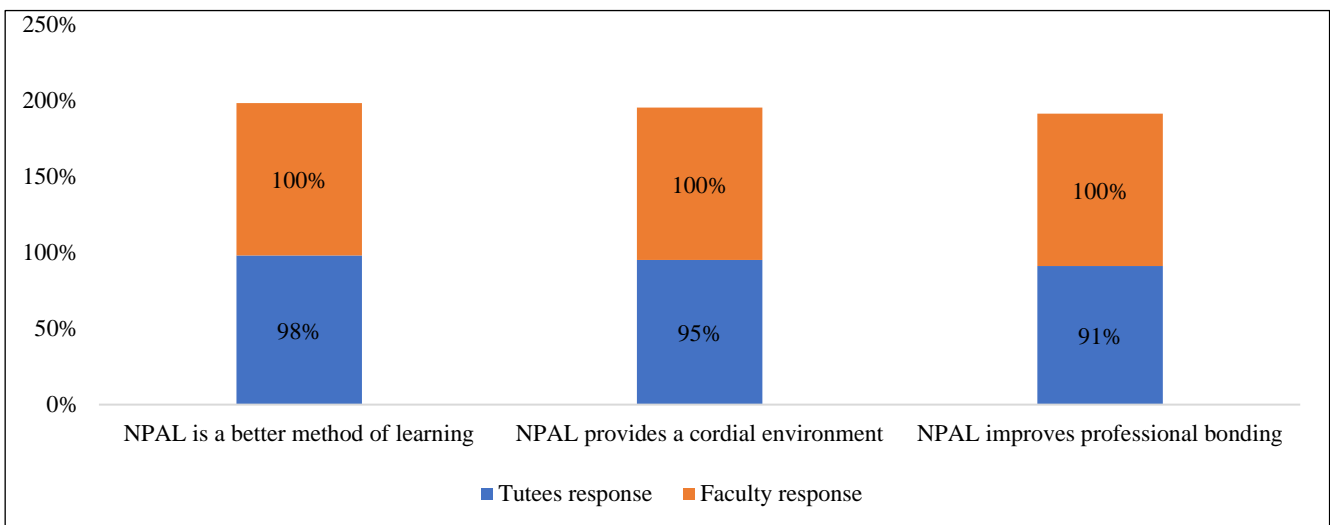
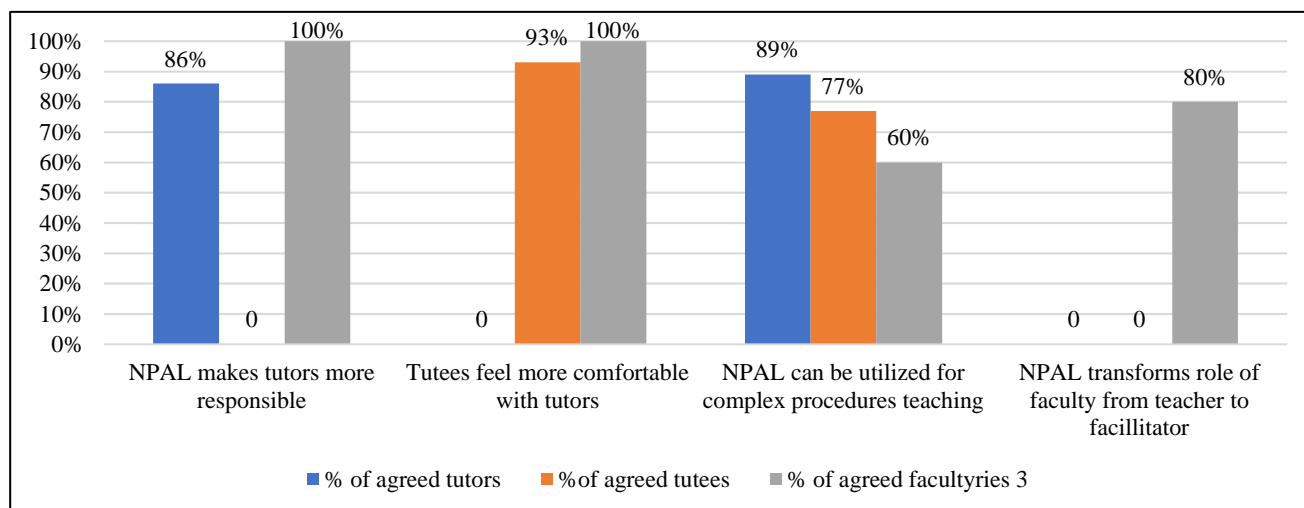


Figure 3: Response of tutees and faculty on effect of NPAL on tutees.

Table 1: Suggestions for improvement in the present methodology.

Suggestions of tutors and tutees	% of responses
NPAL should be used for clinical teaching	66%
Timely reinforcements	49%
Tutors should be adequately trained to make teaching homogenous and should use audiovisual aids	40%
Teachers presence should be there or supervision by teacher is must	20%
Better professional bondage between students and teachers	14%
Assessment should be practical as in NPAL and feedback should be given simultaneously instead of theory and practical exams	09%

**Figure 4: Response of tutors, tutees and faculty towards together working of tutors and tutees.**

With this study we also studied the effect of NPAL on together working of tutors and tutees in labor room as interns and maternity students works together in labor room. The results were presented as a chart in Figure 4 and highlights the positive effects of NPAL. Along with feedback both tutors and tutees were asked for their perceptions and suggestions regarding this technique and its future implementation as shown in Table 1. Thirty-five students expressed their suggestions rest left the column un-answered. 66% students suggested for utilization of this technique further in practical and evening classes for improvement in clinical teaching. A total of 49% students also suggested its application in other skills like cannulation, suturing etc. along with time to time reinforcements. 40% students supported for further improvement in teaching of tutors. However, 20% students emphasized presence of teacher as they found in-homogeneity in teaching by their tutors. All of the faculty members agreed to utilization of NPAL but as an adjunct method not as a replacement of standard methodology.

DISCUSSION

“To teach is to learn twice” near peer assisted learning is teaching where the gap between the tutors and tutees is 2-3 year.^{1,2} Being a newly established institute, the first

batch of MBBS has finished their internship in December 2017. It is a pilot study to instill the concept of NPAL among interns and maternity students during their posting in labor room. We tried to assess feasibility, student’s perception, and future applicability in our department.

The project work was conducted during the routine duty hours of our institute as well as tutors and tutees. On feasibility front the faculty as well as students found it quite comfortable without any disturbance of their routine schedule.

The detailed feedback of both tutors and tutees were recorded along with their views about its benefits and potential of skill improvement. It is a fact framed on pillars of literature that acquisition and retention of knowledge is better by teaching rather than earing a lecture due to variation in amount of efforts to imbibe that knowledge along with demand of the situation to retrieve it also.¹⁻³

The literature suggests that the preparation for teaching affects knowledge acquisition and retention differently as teaching activity stimulates one to study material more meticulously than when merely attending the same class.¹⁻³ In the present study also the performance of

tutors significantly improved after teaching as showed in Figure 1. Besides 71% strongly agreed that teaching improved their own skill.

Buckley et al, found that tutors also get benefitted by NPAL in terms of enhancement of communication skill, development of qualities like leadership, self confidence and it also results in reinforcements of positive attitude towards teaching.⁴

In the present study, also 82% agreed regarding development of qualities of a teacher and 86% agreed to the development of a sense of responsibility towards their work. A total of 50% student tutors strongly agreed for its utilization for complex procedures and all agreed for NPAL being a better method of teaching compare to standard method to varying extents, further opening the gates of its future applicability.

In the present study an attempt was made to assess about social effects of NPAL. Interestingly both tutors as well as tutees agreed about development of a professional bondage among them by this course. The informal environment, nearness of mental levels of tutor and tutees i.e. cognitive congruence and less educational distance between tutors and tutees makes the learning more cordial for tutees.^{1,2,5,6} The learning is also better as 95% students scored more than 75% marks in assessment after teaching from student tutors.

Studies by Werner et al and Keogh et al.^{1,3} revealed that peer tutors acts as role models and they teach students about hidden curriculum and familiarize them with the language and processes of the new environment. Review of literature as well as metanalysis also highlights the bilateral benefit of NPAL both for tutors and tutees.⁷⁻¹⁰ Field M et al, in their study used NPAL for teaching of clinical skills same is done in the present study.¹¹ The quality of teaching in NPAL has been an issue of concern due to well evident difference of teaching experience among the tutors and faculty.^{1,3,6}

In the present study also 89% tutors and 77% tutees were willing for use of NPAL to teach complex procedure. But simultaneously 40% students suggested adequate training of tutors to avoid in-homogenous teaching. Though to avoid any bias all the tutors were taught by same faculty and were asked to follow WHO guidelines but still there is a scope of error due to different levels of perception, varied compliance to standard techniques and difference in communication skills among the tutors.

To ensure a good abidance, not only an adequate training of tutors is mandatory but supervision of their task is equally crucial to avoid any preconception. The department review revealed a satisfactory attitude towards this technique as students gets an exposure to tutorship and faculty promotes to the role of supervision or facilitation. However, utilization of NPAL for complex

procedures is recommended under faculty supervision only.

In the present study, we not only analyzed the teaching methodology but also attempted to analyze its effect on the working environment when tutors and tutees work together.

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