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Perception of Undergraduate Medical Students about Hands on Basic Suturing Skills Workshop: A Drive towards Competency Based Medical Education

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Abstract

Introduction: Medical faculties need to change present teaching learning practices and use innovative methods so as to impart clinical and procedural skills to the students. To address this issue, we decided to conduct hands on workshop about basic suturing skills for undergraduate medical students.
Aims and objectives: To evaluate perception of undergraduate medical students about hands on workshop on basic suturing skills
Materials and methods: Present study is a Quasi-experimental study conducted at Rural Medical College, Loni BK. As a part of the study, hands on workshop about basic suturing techniques was conducted.
Results: Structured feedback questionnaire containing 10 items with Likert scale was submitted by 113 participants out of 150. More than 97% participants opined that basic procedural skills like suturing are essential for health professional.
Discussion: Medical education being imparted today is mostly knowledge driven with lesser opportunities for building essential procedural skills. Various procedural skills which are supposed to be performed by a graduate are intravenous cannulation, intramuscular injections, suturing, intercostal drainage insertion, intravenous infusion etc.
Conclusion: Medical education needs major reforms and innovative methods to impart procedural skills to the medical students
Keywords: Competency, medical education, innovative teaching, hands on workshop, procedural skills.

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1. Introduction

Medical education must have scope for imparting various skills to the students. Common skills found to be essential includes wound management, insertion of urinary catheters, insertion of nasogastric tube, chest drain insertion etc. Most of the occasions, these procedures are taught to the students during tutorials. In a typical tutorial session, students are usually taught in a classroom usually didactic. Sessions are mostly facilitator centered, knowledge based rather than skill based. Many times, students feel disinterested in the session due to lack of interaction or active participation. Medical faculties need to change present teaching learning practices and use innovative methods so as to arouse student's interest in procedural skills. To address this issue, we decided to conduct hands on workshop about basic suturing skills for undergraduate medical students.

1.1 Aims and objectives

To evaluate perception of undergraduate medical students about hands on basic suturing skills with Workshop.

2. Material and methods

Present study is a Quasi-experimental study conducted at Rural Medical College, Loni BK. As a part of the study, hands on workshop about basic suturing techniques was conducted during Inventum 2018. Inventum 2018 was a National Conference on Research organized by Directorate of research cell, PIMS-DU, Loni BK dated 29th-31st March 2018. Prior ethical approval was taken from institutional ethics committee. Total 150 participants got registered for the workshop from various medical institutions across India. A hand on workshop was conducted on 31st March 2018. Three sessions were conducted. Each session was of 2 hours duration and included 50 participants per batch. Ten tables were allotted with set of instruments and suturing board. Five participants and one resource faculty were allotted per table. Workshop included interactive lecture cum demonstration, introduction to instruments and various basic suturing techniques like simple, intermittent, continuous, horizontal mattress, vertical mattress as well as subcuticular suturing. Resource faculties demonstrated basic suturing techniques to the participants. Followed by, participants performed the basic suturing techniques under faculty observation and assistance following DOAP technique [Demonstration, Observation, Assistance and Performance]. At the end, structured feedback was taken from the participants containing 10 items with Likert scale from 1-5. Out of 150, 113 participants filled the questionnaire. Forms were collected and data was analyzed. (Table 1)

3. Observations

Structured feedback questionnaire containing 10 items with Likert scale was submitted by 113 participants out of 150.

Item 1

Proper knowledge and skills of basic suturing are essential for a health professional:

Out of 113 responses, 91 (More than 80%) responders reported strong agreement with the statement. Participants recognized and established the importance of basic suturing skills as essential part to be health professional

Item 2

Present education format provides adequate platform for acquiring suturing and other procedural skills:

Out of 113 responses, 64 i.e. 50% have expressed agreement with the statement. This suggest that rest 50% participants were not sure or disagree about adequacy of present format to impart procedural skills

Item 3

Workshop on basic suturing skills didn't provide equal and adequate opportunities to acquire necessary skills:

60 i.e. 54% participants reported strong disagreement about the statement. Still, rest of the participants were not sure or agree suggests need of finding out exact problems about equality and adequacy of opportunities

Item 4

Resource faculty of the workshop on basic suturing skills had adequate knowledge and skills about the topic:

More than 94% participants showed strong or agreement with the statement suggested preparedness of resource faculties.

Item 5

Infrastructure and equipments provided during basic suturing skill workshop were adequate and was well planned:

Fifty one and fifty four percent participants reported strong agreement or agreement

Item 6

Acquired essential knowledge and skills of basic suturing by attending basic suturing skills workshop:

More than 90% participants reported that they are strongly agree or agree with the statement

Item 7

Feel confident applying acquired knowledge and skills about basic suturing in actual patient setting:

More than 82% participants reported either agreed or strongly agreed opinion about the statement

Item 8

Workshop on basic suturing skills has helped me to allay my anxiety about acquiring procedural skills:

Almost 96% participants unanimously reported that they agree with the statement

Item 9

Workshop is not an ideal method to acquire procedural skills and needs more effective training format:

Response to the statement was mixed, 50% participants reported disagreement against 35% participants reported that they agree with the statement

Item 10

Would like to participate in the workshop to acquire more procedural skills in future:

Huge response reporting agreement with the statement i.e. more than 96% participants

Table 1: Showing number and percentages of responses to questionnaire on Likert Scale

	Item	1 Strongly agree	2 Agree	3 Not sure	4 Disagree	5 Strongly disagree	Total
1	I think proper knowledge and skills of basic suturing are essential for a health professional	91 (80.53%)	20 (17.69%)			2 (1.76%)	113
2	Present education format provides adequate platform for acquiring suturing and other procedural skills	25 (22.12%)	62 (54.86%)	11 (9.73%)	13 (11.50%)	2 (1.76%)	113
3	Workshop on basic suturing skills didn't provide equal and adequate opportunities to acquire necessary skills	10 (9.09%)	8 (7.27%)	12 (10.90%)	60 (54.54%)	20 (18.18%)	110
4	Resource faculty of the workshop on basic suturing skills had adequate knowledge and skills about the topic	67 (59.29%)	40 (35.39%)	1 (0.88%)	5 (4.42%)		113
5	Infrastructure and equipments provided during basic suturing skill workshop were adequate and was well planned	51 (46.78%)	54 (49.54%)	2 (1.83%)		2 (1.83%)	109
6	I have acquired essential knowledge and skills of basic suturing by attending basic suturing skills workshop	45 (40.17%)	57 (50.89%)	8 (7.14%)	2 (1.78%)		112
7	I feel confident applying acquired knowledge and skills about basic suturing in actual patient setting	32 (30.18%)	50 (47.16%)	20 (18.86%)	4 (3.77%)		106
8	Workshop on basic suturing skills has helped me to allay my anxiety about acquiring procedural skills	43 (38.39%)	53 (47.32%)	13 (11.60%)	2 (1.78%)	1 (0.89%)	112
9	I feel that workshop is not an ideal method to acquire procedural skills and needs more effective training format	15 (14.15%)	16 (15.09%)	21 (19.81%)	32 (30.18%)	22 (20.75%)	106
10	In future, I would like to participate in the workshop to acquire more procedural skills	74 (66.07%)	34 (30.35%)	2 (1.78%)	2 (1.78%)		112

4. Discussion

Present medical education is witnessing paradigm shift and curricular reforms. The word "competency," formulated most literally as "the ability to do something successfully or efficiently" [1] Competency is an ability to perform or complete a task successfully.

"The intended outcome [of CBME] is a health-professional who can practice medicine at a defined level of proficiency, in accord with local conditions, to meet local needs" [2]

"The habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, motions, values, and reflection in daily practice for the benefit of the individual and community being served" [3]

The teaching–learning activities and the assessment methods focus more on knowledge than on attitude and skills. Graduates lack the basic clinical skills required in practice. [4]

Competency is one of the roles given to the Indian Medical Graduate [IMG]. Medical graduate has to be a competent doctor who is able to perform basic skills required in patient care. Competency is further divided in number of small steps i.e. skills. Effort should be made to encourage the use of active methods which assure demonstration and hands on experience. While the curriculum objectives often refer to areas of knowledge or science, they are best taught in a setting of clinical relevance. Students can assimilate and make this knowledge a part of their own working skills. [Medical council of India regulations on Graduate Medical Education, 1997] [5]

The concept of competency-based training began in the 1920s, when U.S. industry and businesses started researching ways of teaching their employees the specific knowledge and skills needed to create a specific product in a standardized manner. Medical education being imparted today is mostly knowledge driven with lesser opportunities for building essential procedural skills. Procedural skills training is a critical component of medical education, but is often lacking in standard clinical curricula. [6]

Various procedural skills which are supposed to be performed by a graduate are intravenous cannulation, intramuscular injections, suturing, intercostal drainage insertion, intravenous infusion etc. Most of these procedural skills are learnt or acquired by students in an opportunistic manner. Most of the teaching learning related to procedures is mostly knowledge based rather than demonstration and performance. These teaching learning encounters don't assure acquaintance of necessary procedural skills by the students. Many of the occasions, students feel anxious or stressed when they are given responsibility of doing

procedures in actual patient setting. Because of inherent fear and lack of essential skills, usually students are afraid of managing patients and they try to shade over patient care responsibility. So, ultimately, procedural skills development mostly remains opportunistic and individual ability.

To address this pertinent issue, we organized and planned an innovative and hands on workshop. Aim was to impart undergraduate participants with necessary basic suturing skills. For teaching basic suturing skills, Peyton's four stage model was adopted. [7] Workshop provided participants a controlled environment [Simulated] to acquire essential suturing skills. Suturing boards were used to create and simulate the natural wound. Basic intent was to provide a safe and anxiety free learning environment to the participants.

Workshop was planned and structured. It included initial didactic lecture followed by central demonstration of basic suturing. Followed by, ample of opportunity for the participants to acquire the skills helped of faculty mentor.

Huge response was received from the participants and more than 150 participants got registered for the workshop. Out of 150, 98 participants were females and 52 participants were males. Average age of the participants was 21 years. Feedback questionnaire was submitted by the 113 participants.

More than 97% participants opined that basic procedural skills like suturing are essential for health professional.

Eighty percent participants reported that present medical education provides opportunity to acquire various procedural skills. This is contrary to the findings of increasing evidence from Europe and Australia that medical schools provide insufficient basic surgical skills (e.g., suturing) learning opportunities for undergraduates. [8]

Strong disagreement to the statement about inadequate or unequal opportunities suggested that they were satisfied by the overall administration.

Facilitation by resource faculties was well appreciated by the participants by reporting more than 80% agreement. Faculty-led surgical workshops for medical students have been shown to increase students' desire to pursue a surgical career in 88% of students. [9]

High point of satisfaction for us was more than 90% participants graded infrastructure and plan as adequate and proper.

It can be seen that more than 90% participants reported that they feel that they have acquired essential suturing skills by attending the workshop. Simple observation of procedures does little to help medical students talk to patients about clinical procedures or confidence to perform them. [10]

More than 80% participants were confident to be applying learnt skills in actual patient setting. Enhancing undergraduate exposure to surgery through skills classes significantly increases student interest in surgery. [10]

Workshop helped majority of the participants to decrease their anxiety about acquiring procedural skills. Study done to assess procedural and interpretive skills of medical students showed majority of fourth-year medical students had performed important procedures. Substantial minority of them had not performed basic procedures. [11]

Study to find out gaps in procedural experience and competency in medical school graduates showed that recent medical school graduates report lack of self-confidence in their ability to perform common procedures upon entering residency training. Major curricular reforms and implementation of a medical school procedure course to increase exposure to procedures may address this challenge. [12]

Medical students usually report poor self-assessment of proficiency, low confidence and high anxiety regarding procedural skills during clinical rotations. Concentrated course in procedural skills significantly improved students' assessment of their proficiency, confidence and anxiety levels. [13]

Mixed response was found by participants about opinion whether workshop is an ideal method to acquire various procedural skills. Last but not the least; almost 97% participants felt that they would like to participate in similar training sessions to acquire more and more procedural skills in future.

5. Conclusion

Medical education needs major reforms and innovative methods to impart procedural skills to the medical students. Simulated hands on training sessions are an effective tool to arouse interest of medical undergraduates in acquiring various procedural skills.

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