Original Research Article

Narrative as a Powerful Tool in Medical Education

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Abstract:
Background: "Narrative" refers to the use of storytelling techniques and personal narratives. It involves presenting medical concepts, experiences and scenarios in a narrative format to engage learners on an emotional and intellectual level. This study aimed to evaluate the effectiveness of narrative as a tool for teaching first year MBBS students and to know the feedback about narrative from faculty and students.
Methods: This study was conducted in Anatomy department of American International Institute of Medical Sciences, Udaipur from May 2022-July 2022 in 120 first year students and five faculties. Mammary gland and venous drainage of lower limb was taught through narratives. ANOVA test was used for assessment and feedback was taken from faculty and students using questionnaire.
Results: Students scored better in the assessment who were taught using narrative as a teaching mode. The results were statistically significant.
Conclusion: The study concluded that narrative is a useful tool for learning in basic medical sciences.
Keywords: Narrative, Didactic, Curriculum, Assessment, Feedback.

Introduction

NMC in awareness of its responsibilities of creating "a trained health manpower" has always been involved in improvising the curriculum. The responsibility of creating an Indian Medical Graduate lies not just in the hands of commission but also the faculties of medical colleges [1]. Implementation of new curricula (CBME) is a welcome step, but it needs to be planned methodically. One such step is strengthening learning approaches and focusing on developing patient centric approaches. Narrative based teaching learning mode involves equal participation of student as well as faculty.'Narrative' refers to the use of storytelling techniques and personal narratives to convey medical knowledge, enhance understanding, and foster empathy among healthcare professionals and students. It involves presenting medical concepts, experiences, and scenarios in a narrative format to engage learners on emotional and intellectual level [2].

The key concepts in narrative based teaching in medical education are following: 1) It keeps the student involved and helps in retaining the knowledge delivered through stories. 2) It helps learners to apply the concepts in real life situations thereby helping in connecting both theory and practice. 3) It helps to learn the pain a patient goes through starting from the diagnosis to the treatment. 4) It helps in developing critical thinking skills, problem solving capabilities. 5) It helps in improving communication skills. 6) It also helps in self-reflection, allowing learners to analyze their own beliefs, biases and values in context of medical practice. 7) It also helps in ethical decision-making in health care.

Since narratives have been used in medicine to make the subject or clinical understanding better, here we have employed it in basic medical sciences like anatomy [3]. Stories have been of great interest as when we were children, and we realize it has a great impact on us and its morals (summary) being told by the teachers or grandmothers at school or home. So, using this as our tool in medical educa-

tion can be of great help. The study was aimed to evaluate the effectiveness of narrative as a tool for teaching first year MBBS students and to know the feedback about narrative from faculty and students.

Materials and Methods

This random controlled trial with cross over was carried out on first year MBBS students, in Department of Anatomy, American International Institute of Medical Sciences, Udaipur Rajasthan. The institutional ethical clearance was (AIIMSUDR/2022/3532) obtained before starting the study. The study was carried out between May-July 2022. The number of students who participated in the study was 120. Five faculty members participated in the study. All the faculty members were first well primed as to how to conduct the lectures. A teaching-learning module was developed for the topics viz; mammary gland and venous drainage of lower limb. (Table 1).

Table 1: Module for narrative based teaching learning method for teaching anatomy to first year MBBS students

Sr. No.	Name of the topic	Competency number	Learning Objectives	Mode of teaching	Assessment
1.	Mammary gland	AN 9.2	At the end of the session the student should be able to describe and demonstrate - location, extent, deep relations, structure, age changes, blood supply, lymphatic drainage, microanatomy and applied anatomy of breast	Narrative based teaching	Multiple choice questions, Reflective writing
2.	Venous drainage of lower limb	AN 20.3	At the end of the session the student should be able to - Describe actors helping venous return in lower limb Describe and demonstrate the long and short saphenous veins, deep veins and perforators Demonstrate test on competency of valves of the veins	Narrative based teaching	Multiple choice questions, Reflective writing

The students were divided randomly into two group A (n=60) and group B (n=60). Initially group A was taught the lectures in conventional didactic lectures and at the same time group B was taught the same topic 'Mammary gland' using narrative. We provided them with a clinician's narrative.

First narrative title was "Mary's Journey: Unraveling the intricacies of the mammary gland"

Mary, a 35-year-old lady, was able to locate a small lump on breast self-examination. She consulted her physician Dr. Harry. After examination, Dr. Harry explained the anatomy of the tissue and kept on comforting her that she had reported early, will be of great help in treatment. To explain more elaborately, audio-visual aids were used. After undergoing series of investigations including tissue biopsy, it was found that Mary was suffering from Benign fibroadenoma of breast.

After narrating the above story, the faculty and the students discussed the topic more elaborately. Students were asked to present the anatomy of mammary gland taught to them. Group A will now be taught through narrative and Group B will shift to didactic lecture.

The next topic was "Venous drainage of lower limb"

For this session group B was taught the topic through a didactic lecture. Group A was taught venous drainage of lower limb using narrative as a teaching learning mode. Narrative used here was 'Role play and simulations in teaching venous drainage of lower limb.Students were divided into 3 small groups and assigned a specific role- patients, physician and students. The clinical condition used here was deep vein thrombosis (DVT). Faculty worked as a facilitator for all three groups. Part 1 students acted as patient and were guided regarding the role of patient i.e they should know the symptoms of DVT. Parts 2 played the role of physicians and were guided by the faculties as to what are the signs of DVT and clinical tests to be performed. We created a simulated environment where part 2 students performed the mock examinations on part 1 students based on their role. All this was being observed by Part 3 students.

 Once the task was over, the remaining knowledge was supplemented by the respective faculties in the form of A-V aids. Now, the part 3 students were

asked to reflect what they had learnt through the role play and reflect. This was followed by discussions amongst the students and faculties.

All the groups were assessed through multiple choice questions (MCQs). Ten questions were given; five were directly related to the topic and re-

maining five were from higher cognitive domains i.e to analyze and interpret.

A feedback questionnaire was given to both the students and the faculties and was placed on the Likert' scale. (Table 2)

Table 2: Faculty and students feedback questionnaire items

| Faculty's feedback Questionnaire items	
F1	Is it more time consuming in preparing the class?
F2	Did it help in creating a team work job in the department?
F3	Did it help you in learning more rather than just conducting the didactic lectures ?
F4	Do you think that these sessions contributed to the new curricula of CBME by NMC ?
F5	Do these kinds of sessions demand more resources (Faculty)?
F6	Will you prefer to include this mode of teaching in some other topics?
F7	Were you satisfied with the attention span of students by including narrative?
F8	Were the students enthusiastic that they were learning something interesting?
Students' feedback Questionnaire items	
S1	Was this mode of teaching helped you in understanding the topic?
S2	Was it helpful in developing professional code of conduct?
S3	Was it helpful in correlating anatomy and its application in clinical subjects?
S4	Did you understand the concept of empathy towards the patient?
S5	Will you prefer simulations techniques in teaching?
S6	Was it holistic mode of development as clinician?
S7	Do you think we can implement this mode of teaching in other subjects?

Statistical Analysis

Statistical tool was used to deduce their assessment both after conventional and narrative mode of teaching which was assessed through percentile distribution and ANOVA test was used to test the significance. P value less than 0.05 was considered as significant.

Results

The scores of the two groups Group A and Group B are tabulated and interpreted. 10% of the students have scored below 3 for Didactic Method while they scored below 6 for the Narrative Method.

About 50% of the subjects scored 8 for both the methods. Similarly, about 25% of the subjects scored 10. (Figure 1)
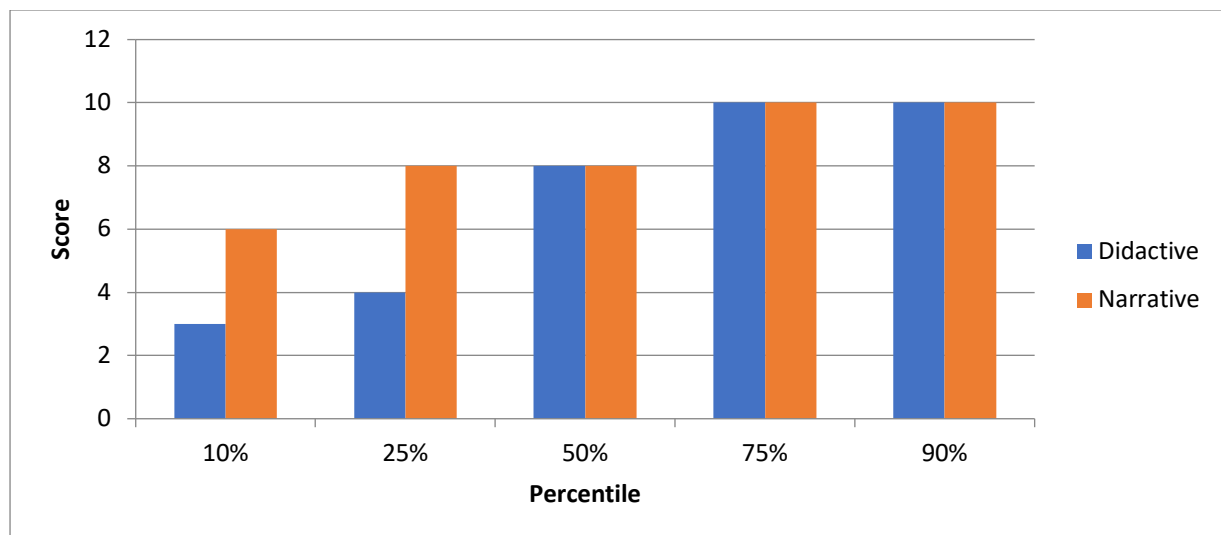
Figure 1: Percentile distribution of scores of Didactic and Narrative methods - Group A

10% of the students have scored below 2 for Didactive Method while they scored below 5 for the Narrative Method. About 50% of the subjects scored 6 for the Didactic method while 50% scored 10. (Figure 2)
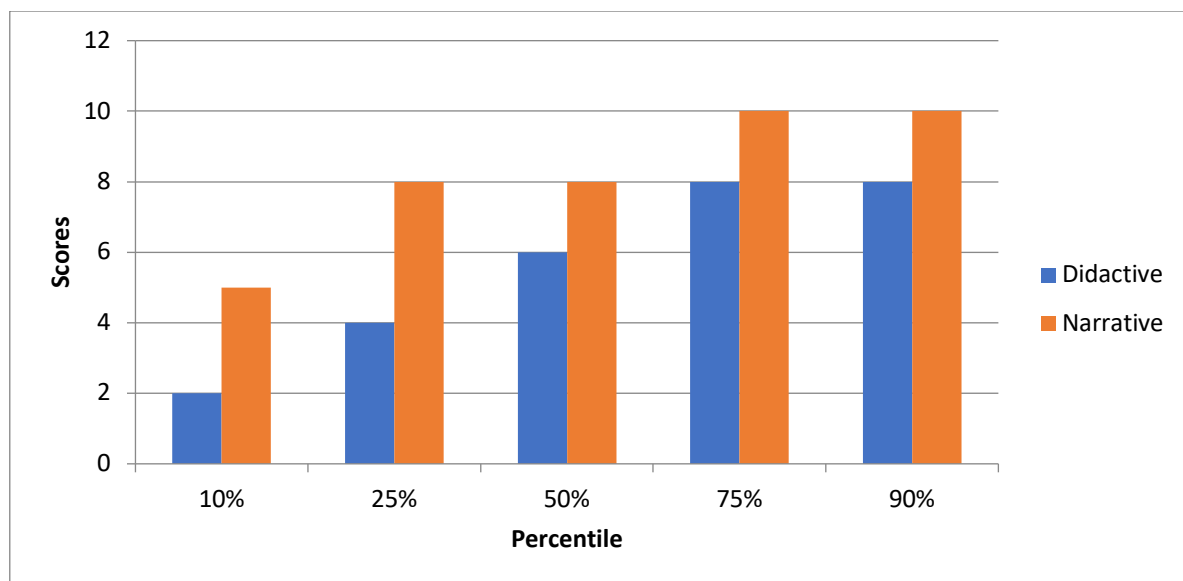
Figure 2: Percentile distribution of scores of Didactive and Narrative methods- Group B

The mean score differed significantly between Group A and Group B. Similarly, the scores differed by the type of methods (Didactic and Narrative). The interaction being significant implies that while Group B students scored less for Didactic method, they scored equal for Narrative method. This should be viewed that Narrative method is superior as compared to Didactic method. (Table 3)

Table 3: Comparison between the two teaching tools

Descriptive Statistics								
Factor	*Group*	*Sample size*	*Mean*	*Variance*	*Standard Deviation*			
GROUP	*A*	120	7.45	6.84	2.61			
GROUP	*B*	120	8.36	3.91	1.98			
METHOD	*DIDACTIC*	120	7.44	8.18	2.86			
METHOD	*NARRATIVE*	120	8.37	2.55	1.60			
GROUP x METHOD	*A x DIDACTIC*	60	6.53	9.51	3.08			
GROUP x METHOD	*A x NARRATIVE*	60	8.37	2.58	1.60			
GROUP x METHOD	*B x DIDACTIC*	60	8.35	5.32	2.31			
GROUP x METHOD	*B x NARRATIVE*	60	8.37	2.58	1.60			
ANOVA								
Source of Variation	*SS*	*d.f.*	*MS*	*F*	*p-value*	*F crit*	*Omega Sqr.*	
Factor #1 (GROUP)	49.50	1	49.50	9.91	0.00	3.88	0.03	
Factor #2 (METHOD)	51.34	1	51.34	10.28	0.00	3.88	0.03	
Factor #1 + #2 (GROUP x METHOD)	49.50	1	49.50	9.91	0.00	3.88	0.03	
Within Groups	1,178.45	236	4.99					
Total	1,328.80	239	5.56					
Omega squared for combined effect	0.10							

The Mean and SD scores are given by the Group of students and by the method of teaching. (Table 4)

Table 4: Mean, Median and standard deviation of the two groups and the teaching tools

	Parameter	**Didactic**	**Narrative**
Group A (n=60)	Mean	6.5	8.4
	SD	3.08	1.60
	Median	8	8
Group B (n=60)	Mean	5.7	8.4
	SD	2.74	2.31
	Median	6	10

The assessment and the feedback obtained from the students approved that the students of both the groups found that the topics learnt through narratives was easier to understand and it enhanced their performance. (Figure 3) The faculty's feedback suggests that it was highly resource intensive but was interesting. This new teaching tool in anatomy demanded the whole department to work as a team. (Figure 4)
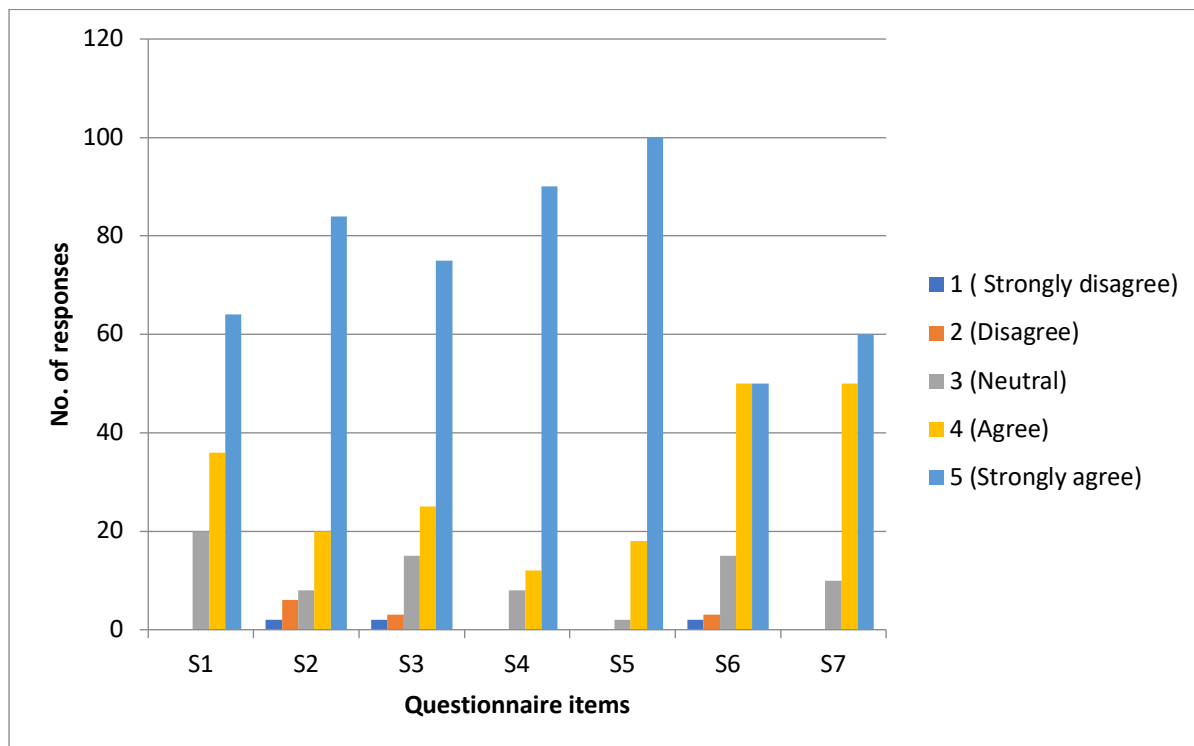

Figure 3: Feedback of students of Likerts's scale (n=120)
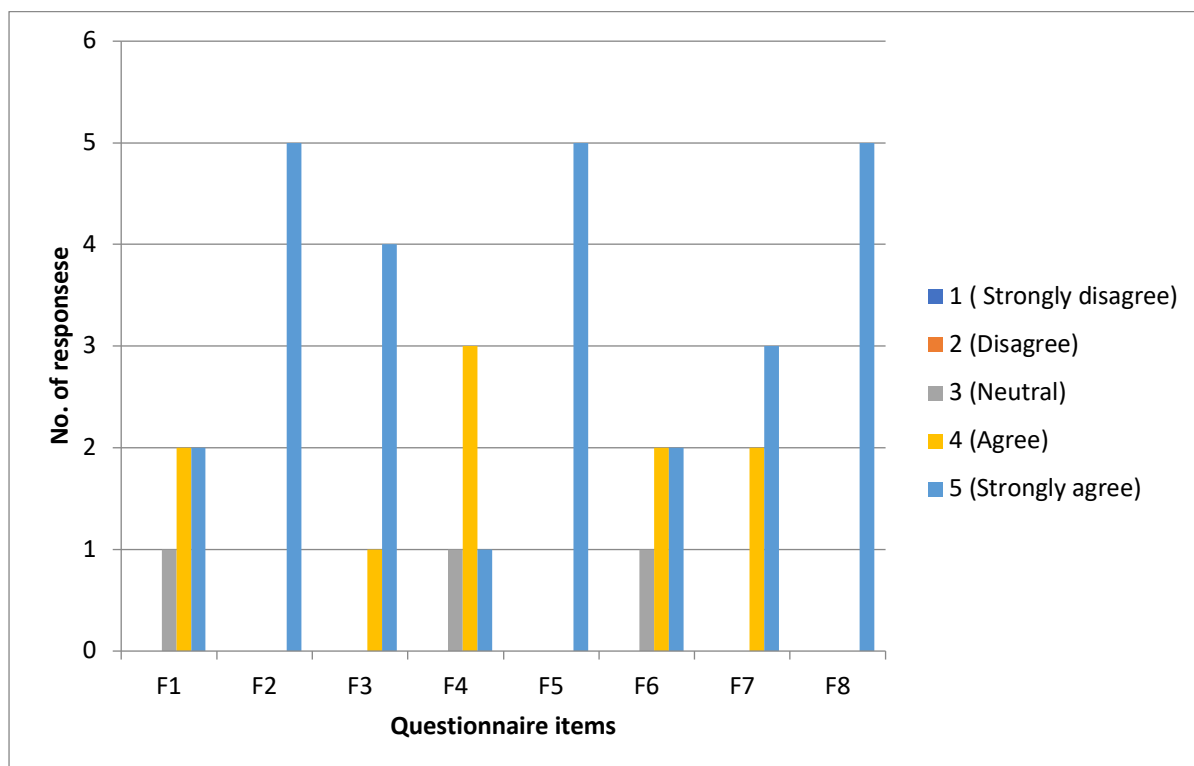

Figure 4: Feedback of faculty on Likert's scale (n=5)

Discussion

Lectures provide factual details but it needs to be planned accordingly. It needs lots of efforts not only from the teacher's but colleges providing appropriate teaching aids and student's expectations have to be considered [4].

Faculties involved in training medical graduates can employ the use of narratives. The study conducted by us helped the students in making the anatomical topics to be related clinically as well as the students could connect with character and scenarios, were more engrossed and were able to recall key points. Numerous studies conducted earlier had proved the same [3,5,6].

Our findings support existing literature which suggests that narratives may be a useful tool for learning in medicine [5]. It suggests that narratives lead us to several key learning processes and provides relevant context for understanding, engaging the learners as well as facilitators and lastly in helping the student's retention and recall.

The study involved two different types of narratives and both the sessions involved different styles of teaching where one group was given a hypothetical case scenario (mammary gland and in the other one it was role play in a simulated environment. Narratives are relevant in promoting humanistic aspects of medicine, including professional identity and empathy.

Rodrigo et al conducted similar study in Cancer pathology from diagnosis to cure to death to teach seven cancer-related themes. Three fictional patients with different cancers and different presentations were given and were subjected to group activities. The students' feedback was positive that though only three types of patients were there but what they learnt was applicable on multiple cases [5].

The assessment scores indicated that narrative mode helped the students in scoring better, as they were conceptually clearer and the sessions were interactive. Group B though scored less in didactic lectures as compared to group A but when narrative was introduced to them they performed better.

Feedback from the faculty also supports the students' scores, that though it is highly resource intense session and demanding involvement of all the faculty members they too were keen to looking forward in future for such classes.

The clinical review by Zaharias defined narrative based medicine and its benefits. He elaborated those narratives played a role in patient centered care and evidence base medicine. It has been beautifully explained using an example whereby just with elaborate history given by the patient to the doctor, relieved her from physical ailments mirrored by her psychosocial domain. He emphasized practical ways where general practitioners can learn to use it on patients and not be in a haste to give a diagnosis [6-8].

Narratives help in recovering the patient from addictions and coming out of their guilt and lead a better life [9]. It is important to understand the needs of the upcoming students regarding the introduction of new teaching learning tools and their preferences [10].

Conclusion

Narratives have the power to engage the learners on an emotional level by learning through real life examples. Visualization stimulates cognitive processes, whereas didactic lectures have the capability of providing lots of information in a short duration, they are at times monotonous at the receiving end. They are resource intensive teaching tool but still can be used in a blended mode along with didactic lectures.

References

1. Competency Based Undergraduate Curriculum. Available from: https://www.nmc.org.in/wp-content/uploads/2020/01/UG-Curriculum-Vol-I.pdf (Accessed on March 23, 2023)
2. Easton G. How medical teachers use narratives inlectures: a qualitative study. BMC Medical Education 2016;16:3.
3. Moon J, Fowler J. There is a story to be told: A framework for the conception of story in higher education and professional development. Nurse Education Today 2008:28:232–9.
4. Kurle DG, Goyal SG, Joshi SS, Singh KNM, Sarkate PV. Perception of students and teachers of a good lecture: A questionnaire-based cross-sectional study in a tertiary care teaching hospital. Natl J Physiol Pharm Pharmacol 2018;8(3):4406-411.
5. Rodrigo C, Tedla N, Thomas S, Polly P, Herbert C, Velan G, Saunders DN. Using Narratives to Teach Students Enrolled in Science and Medical Science Bachelor's Degree Programs. Medical Science Educator 2019;29:357–61.
6. Zaharias G. Narrative-based medicine and the general practice consultation. Narrative-based medicine 2. Can Fam Physician 2018;64:286-90.
7. Zaharias G. What is narrative-based medicine? Narrative-based medicine 1.Can Fam Physician 2018;64:176-80.
8. Zaharias G. Learning narrative-based medicine skills. Narrative based Medicine 3. Can Fam Physician 2018;64:352-6.
9. Hanninen V, Koski-Jannes A. Narratives of recovery from addictive behaviours. Addiction. 1999;94(12):1837–48.

10. Fazeel ZA, D Prashant. Questionnaire feedback from second year medical students regarding current teaching methodologies and their opinion for perspective changes. International Journal of Research in Pharmacology & Pharmacotherapeutics 2019;8(3):302-10.