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KEYWORDS: Leadership, Healthcare, Curriculum, Domains

SENSITIZING FIRST YEAR MEDICAL UNDERGRADUATE STUDENTS TO PRINCIPLES OF LEADERSHIP: A CROSS SECTIONAL EXPERIENCES AT A TEACHING HOSPITAL



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**Abstract:**

Background: Literature on implementation leadership programme in undergraduate medical education is lacking in Asian continent. We aim to describe our experience in sensitizing the first-year undergraduate medical students (UGMS) towards the principles of leadership in a medical institution. **Materials and methods:** Each year, one hundred first year UGMS were sensitized towards leadership principles and core domains through interactive sessions, focus group discussion, and short lectures. The students were asked to reflect upon the sessions' activities as well as its follow up usefulness in their day-to-day activities through a structured questionnaire shared via Google forms. **Results:** A high proportion (75%) of students reported an improved perception or knowledge towards leadership principles and practices. Leadership attributes such as team building, decision making, confidence building, motivation, and managing crisis were reported to be very useful by 77.8%, 74.1%, 69.1%, 64.2%, 61.7% of students. On follow up, students described this sensitization exercise to be useful in their academic (16/52, 30.76%), organizational (10/52, 19.2%), sports (6/52, 11.53%), short term research (4/52, 7.7%) activities, and editorial responsibilities (3/52, 5.7%), etc. **Conclusion:** Leadership sensitization workshop helps students adjust to the to the medical school's environment; and this may be incorporated in UG curriculum to strengthen students' leadership potential.

Introduction: Medical profession demands not only the acquisition of knowledge but also the necessary skills and attributes to enable students of medicine to become effective healthcare service providers for the nation at large. The students are expected to be self-directed learners; have the leadership attributes in day-to-day challenging situations; and demonstrate exemplary professional and humanistic qualities when required. Recognizing the fact that 'naïve' first year undergraduate (UG) medical students are from diverse socioeconomic, ethnic, cultural, and premedical educational background, the then Medical Council of India (MCI) in 2016 (now changed as National Medical Commission, NMC) felt the necessity of introducing a month long 'foundation course (including leadership)' starting at the beginning of MBBS curriculum to serve as a bridge for smooth transition and help UG medical students navigate the medical course with confidence [1, 2]. In accordance with the popular notion that leadership is not an inborn trait but an acquired skill, most health care professionals tend to believe that leadership qualities can be developed automatically over a period of time and hence cannot be taught effectively [3]. Over the years, it has been increasingly recognized

that leadership skills can be cultivated through both formal and informal education starting at an early level in UG medical curriculum [4]. While leadership programme as a component of medical curriculum already exists in many centres across the United States of America (USA), the United Kingdom (UK), and other countries across the globe, the same has not been the case in most of the medical institutions in India [5-10]. Therefore, in accordance with NMC norms as well as a part of the institutional administrative policy, we introduced a leadership workshop as a part of the foundation course in an attempt to groom our students for their curricular and extracurricular development as well as become better health care delivery providers. In this manuscript, we describe our experiences on UG leadership sessions at our centre with a focus on its implementation with a brief comprehensive review of the existing practices across the globe.

Materials and methods: Starting from August 2017, an annual four-day sensitization workshop on 'leadership' was conducted for the 1st year UG medical students (100 per year) during the month of August following their admission to the medical college. The students were divided into four subgroups of twenty-five each, who participated in a three-hour post lunch session in a lecture theatre. Prior to these sessions, three faculty members from various specialities who facilitated the sessions were assigned the tasks to formulate a comprehensive lesson plan after discussions with other faculty. The learning objectives, teaching learning (T-L) media, educational content, group activities, time management, and tools for documentation were determined. During the session, the facilitators carefully observed the level of engagement by the students, their active participation, and sharing of their experiences/ideas. Feedback on the overall sessions as per the Kirkpatrick's Four Levels of Training Evaluation model (Reaction, Learning, Behaviour, Result) was collected from each batch of students at the end of the session every day. Subsequently, a structured questionnaire through Google forms was sent to individual batches through email to collect the feedback on the utility of such sessions in the context of their professional activities. The schematic representation of step-by-step methodology followed in the sessions is represented in Figure 1. The Institutional Review Board (IRB) of our institute approved the retrospective review study and waived the requirement for written informed consent (Ref.No:T/IM-NF/Pathol/20/164).

Group dynamics and team building: Each student and facilitator were asked to best describe himself/herself by a single word describing a personal characteristic which was then used consistently throughout the session as individual identity (not original names). Three students voluntarily came forward to lead; who then formed their own team [group 1 (N=8), group 2 (N=8), and group 3 (N=9)] by picking up the above said characters of their

choice. The group leader shared his principles for choosing the team members.

Set induction: A short video clip ("Lead India - The Tree") (5 minutes) was shown which described how a small school going kid inspired adults to come out of their comfort zone to tackle a challenging situation. The students were asked to reflect on the video.

Learning objectives: The objectives of the session were to:

- i. Sensitize the students regarding prevailing leadership theories.
- ii. Identify the potential leadership attributes among them.
- iii. Enable them to appreciate the fact that leadership skills are essential for a medical professional.

Group activity 1: The objective was to engage the students in a discussion to highlight any two well-known personalities (with positive and negative attributes) from all fields, sharing their prior knowledge (recall)/experience obtained during premedical years. The positive and negative qualities of leaders were summarized by student volunteers.

Group activity 2 and 3 (leadership games): The objective of this session was to subject a potential student-leader to different challenging scenarios; and sensitize them towards the necessary attributes required to tackle the situation for a successful result. In both the games, the leader received a prior briefing from the facilitator following which he/she was then asked to lead his/her team members for a successful outcome.

Tools and resource material: Focussed group discussions, experience sharing, briefing and debriefing using blackboard and/or power point, sharing of quotes and literature from the web (Eagle's seven leadership principles, 5C models of Indra Nooyi, different leadership models/styles, etc), display of leadership in real life challenging situations, display of leadership through movie clips.

Observation: The students' perception on existing knowledge, gain in knowledge during the session; and the importance of the session in medical profession is presented in Figures 2a and 2b. The majority of students (70%) didn't have the prior knowledge on the topic except for few (10%) who had some sort of nonformal experience obtained during their school and college days. On the other hand, majority (75%) of the students stated that they had a gain in knowledge on leadership after the session. Most (80%), if not all, appreciated the importance of the topic in future medical practice. When the activity of the students was graded on a 0 to 4 scale, 70% students stated they participated actively to a large extent; 63% felt themselves engaged in different activities, and sharing of experiences/ideas was noted as fair (score 3) and to a large extent (score 4) by 30% and 43% of the students, respectively. As a follow up to sensitization programme, we could obtain *eighty-one* feedback responses from all batches [2017; n=52, 2018; 21, and 2019; 08] while the remainder did not respond. The attributes of leadership which students learnt *during* the sessions and those which they imbibed at present are presented in Figures 3a and 3b, respectively. Five *most common* leadership attributes learnt during sessions were as follows: team building (63/81, 77.8%), decision making (60/81, 74.1%), confidence building (56/81, 69.1%), motivation (52/81, 64.2%), and managing crisis (50/81, 61.7%). Interestingly, the students perceived that leadership games (activity 2 and 3) helped them learn the attributes effectively than activity 1. While more than 50% of students felt that they still imbibe those attributes at present, attributes like accountability (34.6% vs. 50.6%), risk taking (51.9% vs. 59.3%), and conflict management (51.9% vs. 55.6%) saw some improvement.

We did obtain the feedback from 52 students (batch 2017) at the end of their third professional examination to have an idea regarding their change of perception on leadership qualities over the years; and asked them to rate themselves as 'leader' on a five-

point scale: score 1; no or minimal improvement, score 2; improvement to some extent, score 3; improvement to a moderate extent, score 4; improvement to a large extent, and score 5; excellent. While only *four* students (7.5%) felt to have developed leadership qualities to a large extent at the end of first professional period; these numbers *increased* to *sixteen* (29.6%); and *seventeen* (32.1%) at the end of second and final professional exam, respectively. Similarly, the number of students with excellent leadership attributes (score 5) improved from three (2.5%) in first professional to nine (18.5%) at the end of third professional exam (Table-1).

When asked about the utility of leadership workshop in their day to day educational and extracurricular activities in medical college, the students' of 2017 batch (n=52) found this as useful in different ways. Sixteen (30.76%) felt that leadership sessions helped them in routine classroom and out of the classroom academic activities such as preparation and presentation at a student seminar, class room presentations during integrated teaching sessions, leading the group academic group discussion both during anatomy dissections, practical laboratory postings as well as bed site case presentation/discussion, organizing and conducting quiz, and interaction with community during their field trips, etc. While another ten students (19.2%) found themselves in leadership roles while organizing intercollege students' meet; seven (13.46%) felt leadership sensitization workshop early in their career helped them better as a class representative (CR); six (11.53%) used the principles in organizing intra and inter batch sports events; four (7.7%) got benefitted in doing short term student research projects; three (5.7%) carried out their responsibility as editor for student magazine; and remainder six (11.5%) used their leadership qualities in performing miscellaneous activities. As we received very few feedbacks from other two batches (2018, 2019), we excluded them from our preview.

Discussion:

We aimed to sensitize the naïve first year MBBS students towards the concept of leadership and leadership roles immediately after their entry into the medical college with a futuristic goal of preparing them for the upcoming educational and extracurricular activities during their 1st, 2nd, and 3rd professional period. We found a significant improvement in students' perception towards different leadership principles. We ensured active student participation through group discussions, interactive sessions, and sharing of personal ideas with faculty briefings. The initial group activity witnessed the emphasis on essential qualities of leaders from all spheres of life through role models (transformational leaders). During the group activities such as leadership games, the students got to know the various leadership roles in different situations (situational leadership) such as importance of meticulous planning, coordinated teamwork, higher order thinking, effective communication with the team members, confidence building, adaptability, giving correct directions, courage of risk taking, and the last but not the least the art of acceptance of failure. In addition, students found attributes like accountability and conflict management very useful in their day to day curricular and extracurricular activities in the medical college career.

Nearly fifty percent of the students of the senior most batch (2017) perceived an improvement in their leadership abilities over the years which they described useful in carrying out academic/educational activities pertinent to initial formative years such as class room presentations and student seminars, moderating a group discussions, leading the fellow group mates in demonstrating practical skills during cadaveric dissections, laboratory experiments in pre and paraclinical subjects, bed site patient examinations, and carrying out IEC (information, education, and communication) activities during their community posting.

When we compared our leadership implementation exercise with different studies (both undergraduate and graduate) published in

the literature, we noted some similarity in the approach [8, 9, 11-17]. Webb *et al* presented a systematic review on the existence of twenty-four UG leadership curricula across the globe (USA, UK, Canada, Switzerland, Sweden, and Israel) over the last 34 years (1980-2014) [7]. In most of the centres (17/24, 71%), the programmes were conducted semester wise (longitudinally) in both preclinical and clinical years in conventional class room environment (50%) as workshops and/or lectures; in clinical care setting; or using simulation methods. While faculty from different medical specialities such as laboratory sciences, community and family medicine, clinics, as well as administrative heads participated in our centre, many centres employed the involvement of community leaders as well as faculty from Humanities, Education, etc. to supplement the medical faculty. The Medical Leadership Competency Framework (MLCF) domains, most commonly highlighted were as follows: working with others (88%), managing people and resources (79%), improving patient safety and quality (63%); personal integrity (54%), and setting the goal. On evaluation of programme effectiveness, 10/24 (42%) reported a change in learners' attitude; change in behaviour as a result of learning (25%); and an observed change in organizational practice, quality, and efficiency was reported in 17% [7].

Our leadership exercise was mostly in conformity to that of Brian Clyne and colleagues who successfully introduced a structured leadership programme (Leadership in Health Care) at UG level as a part of four-year integrated course starting early in their preclinical years [11]. This was based mainly on the leadership theories (transformational, situational, and servant) and fourteen core competencies which were delivered via classroom exercise on personal core values, guided discussions, and panel discussion; though outcome evaluation was not reported [11]. A 2017 nationwide web-based survey across USA reported that formal longitudinal leadership curriculum does exist as an 'educational priority' in more than half (54.5%, 45/88) of their institutions [13]. Nearly 35% of such curricula were "mandatory for all"; another 35% were "elective" (student participation ranging from 20 to 40%); and remainder 30% reported these as "both mandatory and elective". The mode of content delivery was diverse across institutions in the form of mentoring programme (65%), dual degree programme (58%), workshops (48.8%), seminar/lecture series (42%), course based (41.9%), single seminars (18.6%), and other activities (32.6%) [13]. Ginzburg *et al* (2018) reported their assessment on ongoing problem based/case-based leadership programme using Leadership Trait Questionnaire. Medical students in their study demonstrated development of several important leadership traits during the first 2 years of medical school, such as self-assurance, persistence, determination, and outgoing quality [14]. Another qualitative study from UK reported the students' attitude and opinion towards leadership and management in UG curriculum in terms of team working skills, decision making and negotiating skills, and patient safety [8]. Structured observation, reflection, critical appraisal and analysis of mistakes at all levels were mentioned by students as existing opportunities for integrating leadership and management education. The University of Buckingham Medical School study also reported a significant improvement in students' perception towards leadership principles at the end of a week-long programme delivered through lectures, focussed groups, and short interview sessions highlighting their hospital values [15]. When compared with undergraduate curricula, we also noted that graduate leadership programmes across USA (twelve prospective, three retrospective) were more or less similar in terms of format, content, and duration; and the majority focussed on conflict management, interpersonal skills, and stress management. Seven used pre- and post-test surveys, while seven used course evaluations. Only three curricula had follow-up evaluations after 6 months to 1 year [16]. We did not find any published data pertaining to implementation of leadership programmes and/or their evaluation from most of the medical institutions across India. We could find leadership sessions are conducted only a few premier Indian institutions such as Jawahar Institute of Postgraduate

Medical Education and Research (JIPMER), Pondicherry, and Christian Medical College (CMC), Vellore as a part of formal class room sessions stretched over one hour which mainly highlights team building, change management, and different leadership attributes, etc (data unpublished).

Strength and limitation:

From a faculty perspective, conducting such sessions were initially challenging in 2017 as these required rigorous and meticulous planning and practice, time management, and gathering of appropriate resource/teaching material for dissemination of ideas to naïve MBBS students in a simplified and practical manner to be useful in their medical college environment. However, once properly formulated, both faculty and students in each batch found these sessions highly enriching and useful. Moreover, these sessions were successfully conducted in the classroom environment of lecture theatres with minimal logistic requirements ensuring active participation and exchange of ideas.

Though implementation has been successful over the years, evaluation of such programme's usefulness has not been properly standardized. Though we could obtain some students' feedback across batches, those were not representative of entire students. We also are of the opinion that conducting such workshops at different specified time intervals of undergraduate curriculum (entry, midterm, during exit) using varied T-L methods could be a better approach in sensitizing the students and evaluating the usefulness of the programme.

Conclusion:

We described our experiences in conducting the leadership sessions for the first-year undergraduate medical students at our center which, to the best of our knowledge, is possibly the first of such kind in Eastern India. Students perceived that leadership sensitization workshop helps them adjust to the to the medical school's environment. Sensitizing MBBS students towards the principles of leadership is necessary; and this should be a part of undergraduate as well as postgraduate medical curriculum which could perhaps lead to better healthcare delivery outcomes since most of the times the doctor is the team leader for these teams.

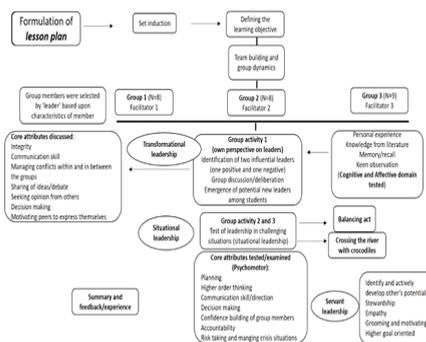


Figure 1: An algorithmic approach to our detailed lesson plan on leadership. Note the different steps of methodology, various leadership theories, and different leadership domains highlighted. The entire session was conducted over three hours for four consecutive days in lecture theater.

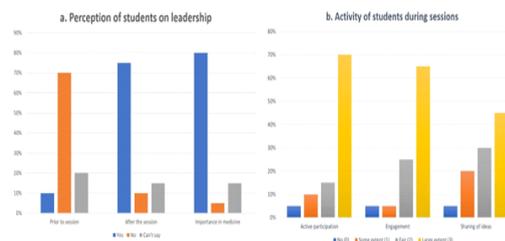


Figure 2: Student's perception (knowledge) on leadership (a) and their level of participation during the entire sessions (b) (N=100).

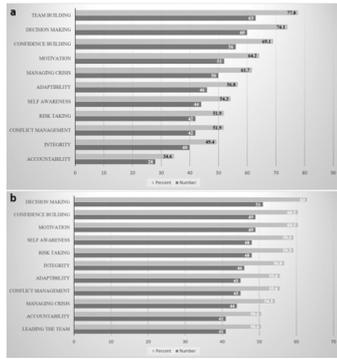


Figure 3: Leadership attributes learnt by students during the session (a). Five most common leadership attributes learnt were as follows: team building, decision making, confidence building, motivation, and managing crisis. Leadership attributes which students still imbibe today (at 1 year, 2 years, and 3 years) are presented in figure. Note that attributes like accountability, risk taking, and conflict management saw some improvement over the years (b) (N=81 responses).

Table-1: Trend in perception of leadership qualities among final year MBBS students (Batch 2017) on follow up over a period of three years (2017-2019) (N=52/100).

Score	End of 1st professional exam. (n, %)	End of 2nd professional exam. (n, %)	End of 3rd professional exam. (n, %)
1	5 (10.0)	5 (10.0)	6 (12.3)
2	14 (27.0)	5 (10.0)	3 (4.9)
3	26 (50.0)	24 (46.9)	17 (32.1)
4	4 (7.5)	16 (29.6)	17 (32.1)
5	3 (2.5)	2 (3.7)	9 (18.5)

Note: score 1; no or minimal improvement, score 2; improvement to some extent, score 3; improvement to a moderate extent, score 4; improvement to a large extent, and score 5; excellent.

References:

- Chaturvedi R, Gupta RR. Foundation course for undergraduate medical education program: a stitch in time. *J Med Acad* 2019; 2:37–38. DOI:10.5005/jp-journals-10070-0040
- Singh S, Ghosh S, Pandya H. Foundation course for MBBS students at entry level: experience at an Indian medical school. *South East Asian Journal of Medical Education* 2016; 1:33–37.
- Chen TY. Medical leadership: an important and required competency for medical students. *Tzu Chi Medical Journal* 2018; 30:66–70. DOI: 10.4103/tcmj.tcmj_26_18
- Till A, McKimm J, Swanwick T. Twelve tips for integrating leadership development into undergraduate medical education. *Med Teach* 2018; 40:1214–1220. DOI: 10.1080/0142159X.2017.1392009
- Sitkin SB, Lind EA, Siang S. The six domains of leadership. *Lead Lead* 2009; 2006 (51):27–33.
- Varkey P, Peloquin J, Reed D, Lindor K, Harris I. Leadership curriculum in undergraduate medical education: a study of student and faculty perspectives. *Med Teach* 2009; 31:244–250. DOI: 10.1080/01421590802144278
- Webb AM, Tsipis NE, McClellan TR, McNeil MJ, Xu M, Doty JP, Taylor DC. A first step toward understanding best practices in leadership training in undergraduate medical education: a systematic review. *Acad Med* 2014; 89:1563–1570. DOI: 10.1097/ACM.0000000000000502
- Quince T, Abbas M, Murugesu S, Crawley F, Hyde S, Wood D, Benson J. Leadership and management in the undergraduate medical curriculum: a qualitative study of students' attitudes and opinions at one UK medical school. *BMJ Open* 2014; 4: e005353. DOI: 10.1136/bmjopen-2014-005353
- Jardine D, Correa R, Schultz H, et al. The need for a leadership curriculum for residents. *J Grad Med Educ* 2015; 7:307–309. DOI: 10.4300/JGME-07-02-31
- Mafe C, Menyah E, Nkeme M. A proposal for health care management and leadership education within the UK undergraduate medical curriculum. *Adv Med Edu Pract* 2016; 7:87–89. DOI: 10.2147/AMEP.S96781
- Clyne B, Rapoza B, George P. Leadership in undergraduate medical education: training future physician leaders. *RI Med J* (2013) 2015; 98:36–40.
- Stringfellow TD, Rohrer RM, Loewenthal L, et al. Defining the structure of undergraduate medical leadership and management teaching and assessment in the UK. *Med Teach* 2015; 37:747–754. DOI: 10.3109/0142159X.2014.971723
- Neeley SM, Clyne B, Resnick-Ault D. The state of leadership education in US medical schools: results of a national survey. *Med Edu Online* 2017; 22: 1301697. DOI: 10.1080/10872981.2017.1301697
- Ginzburg SB, Schwartz J, Gerber R, et al. Assessment of medical students' leadership traits in a problem/case-based learning program. *Med Edu Online* 2018; 23:1542923.

DOI:10.1080/10872981.2018.1542923

- Selway JL, Ellis J, Thomas P, On behalf of MED15 Health Leadership students. Embedding leadership in undergraduate medical students: an active approach. *BMJ Leader* 2019; 0:1–2. DOI: 10.1136/leader-2018-000109
- Kumar B, Swee ML, Suneja M. Leadership training programs in graduate medical education: a systematic review. *BMC Medical Education* 2020; 20:175. DOI: 10.1186/s12909-020-02089-2
- Jobe AC, Coale MM, Kolasa K, Willis L, Irons TG. Leadership development for medical students—beyond the prescription pad. *Fam Med* 1993; 25:179–181.
- Hargett CW, Doty JP, Hauck JN, et al. Developing a model for effective leadership in healthcare: a concept mapping approach. *J Healthc Leadersh* 2017; 9:69–78. DOI: 10.2147/JHL.S141664.