HOW WE TEACH | Classroom and Laboratory Research Projects

“Thinking ethics”: a novel, pilot, proof-of-concept program of integrating ethics into the Physiology curriculum in South India

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D Savitha, Vaz M, Vaz M. “Thinking ethics”: a novel, pilot, proof-of-concept program of integrating ethics into the Physiology curriculum in South India. Adv Physiol Educ 41: 306–311, 2017; doi:10.1152/advan.00183.2016.—Integrating medical ethics into the physiology teaching-learning program has been largely unexplored in India. The objective of this exercise was to introduce an interactive and integrated ethics program into the Physiology course of first-year medical students and to evaluate their perceptions. Sixty medical students (30 men, 30 women) underwent 11 sessions over a 7-mo period. Two of the Physiology faculty conducted these sessions (20–30 min each) during the routine physiology (theory/practicals) classes that were of shorter duration and could, therefore, accommodate the discussion of related ethical issues. This exercise was in addition to the separate ethics classes conducted by the Medical Ethics department. The sessions were open ended, student centered, and designed to stimulate critical thinking. The students’ perceptions were obtained through a semistructured questionnaire and focused group discussions. The students found the program unique, thought provoking, fully integrated, and relevant. It seldom interfered with the physiology teaching. They felt that the program sensitized them about ethical issues and prepared them for their clinical years, to be “ethical doctors.” Neutral observers who evaluated each session felt that the integrated program was relevant to the preclinical year and that the program was appropriate in its content, delivery, and student involvement. An ethics course taught in integration with Physiology curriculum was found to be beneficial, feasible, and compatible with Physiology by students as well as neutral observers.

MEDICAL ETHICS IS THE MORAL conduct and principles that govern the medical profession (35). Since medicine, to paraphrase the late hematologist Jean Bernard, is fundamentally about humans, and ethics is mainly about how we should interact with others, medicine and ethics are inseparable bedfellows (34).

Ethics as a separate subject in the medical curriculum serves to emphasize the importance of the subject, allows for a comprehensive curriculum to be developed, and is facilitated by people specially trained in the subject. This approach, in isolation, that is, when implemented as separate ethics classes, without integration into the other subjects of the curriculum, has many limitations. It reinforces the notion of medical ethics as an exclusive specialization, the domain of a few, and a punctuated exposure rather than the “lived experience” of every practicing doctor (11). Furthermore, studies have indicated that the teaching of ethics is unlikely to create an ethical doctor in of itself (4), given that medical students are exposed to a “hidden curriculum” (13, 18). Medical ethics is now a part of the curriculum in medical colleges in many countries. In the U.S., bedside medical ethics teaching was implemented as early as 1978. (8, 34) There is now a more unified approach to medical ethics education (16). Medical educators in Canada, the UK, Australia, and South and East Asian countries have a separate medical ethics course in their respective countries (3, 14, 16, 24). In India, however, while some medical colleges have introduced formal medical ethics teaching (28, 29), it is yet to materialize in others. The Medical Council of India (MCI) expects doctors to be ethical and follow its ethical code, but has only recently envisioned ethics as an integral part of the curriculum (19–21). Although the MCI has suggested the implementation of a course on “Attitude and Communication Skills (AT-COM)” in the medical curriculum and the introduction of formal ethics teaching right from the preclinical years (23), this has yet to be formally and universally introduced in all medical colleges. There are thus no prescribed methods, and the decision to opt for such a course is currently left to individual institutions.

With “integrated” approach to medical ethics, i.e., where teaching of ethics is embedded within the “mainstream,” subjects taught in the traditional curriculum would expose students to a more continuous and enriched experience of the application of ethics in medicine across various disciplines (8, 22). Examples of well-integrated ethics programs have been mostly limited to Western industrialized countries (24, 34). The integrated approach would supplement, rather than replace, formal, dedicated ethics courses in the medical curriculum, thus adding value to it. In India, the importance of an integrated approach to medical ethics education has been recognized by Kalantri (15). In the early 1990s, a report from India recognized the need to introduce medical ethics during the early preclinical stage (25). This is particularly relevant since there has been some concern that the preclinical course dehumanizes (12, 38) medical students through its emphasis on animal experiments (now discontinued) and its focus on excessively reductionist cellular biology. Integration of ethics into the Physiology curriculum is particularly relevant, since the first-year medical students are fairly open minded, and it would be good to start this exposure early in the medical course. The exposure to experimental physiology and reference to animal experiments allows for a discussion on research ethics as well as research

Address for reprint requests and other correspondence: Savitha D, Dept. of Physiology, St. Johns Medical College, John Nagar, Bangalore 560034, Karnataka, India (e-mail: haisavitha@yahoo.com).
using animals. The systemic Physiology course lends itself to the integration of ethics into clinical problems. Students are introduced to clinical examination for the first time in their medical curriculum as part of the physiology practicals, and this provides an opportunity to discuss the issues of doctor-patient relationships and of communication.

We aimed to integrate ethical issues into the Physiology course for the first-year medical students in the form of short modules entitled “thinking ethics,” by discussing ethical dilemmas at key points in the physiology teaching schedule so that the students were exposed to a variety of ethical issues to reflect upon and stimulate their thoughts. The ethical issues did not always have clear solutions, and the students’ horizons were broadened from the collective sharing of views about a given situation. The exercise also allowed the faculty to identify opportunities within the course where thinking about ethics could be reinforced.

METHODS

The program was introduced in a private, not-for-profit, Catholic medical college in Karnataka state of South India. At the time of this program, the college admitted students from all over India through an entrance exam in 11 centers across India. One-third of the students were from Karnataka. As a religious minority institution, 75% of the students were Catholic, including religious nuns. All students paid fees, and these fees were higher than those of government colleges, but lower than those of other private medical institutions. Since limited scholarships, based on both number and amount, were available, it would be fair to assume that students belonged, to a large measure, to the middle-class stratum. All of the first-year medical students (preclinical year) \( n = 60 \) (30 men, 30 women; the equal sex distribution is in keeping with institutional admission policy), aged 18–20 yr \( (n = 57) \) and 24–36 yr \( (n = 3) \] of the 2015 batch were exposed to the integrated ethics program following a departmental meeting ensuring consensus from the faculty of the Physiology department. The study was approved by the Institutional Ethics Committee. Written, informed consent was obtained from the students.

The ethics program aimed to ensure that the sessions were fully integrated and did not interfere with the existing physiology course work. This program was conceptualized and delivered by two of the departmental faculty (authors 1 and 3) to ensure uniformity. One of the faculty (author 1) is a member of the Institutional Ethics Committee. The other (author 3) is head of the Division of Health and Humanities, within which research in bioethics has a prominent role. Relevant literature was referenced, and the ethical issues to be addressed in relation to physiology in theory and practical modules were finalized. Although this paper outlines specific topics that were discussed, we do not mean to be prescriptive. The topics that institutions choose to discuss must reflect their own social realities and the emphasis that they feel is necessary. Each theory lecture in Physiology lasted for 1 h, and the practical class for 3 h. The integrated ethics session lasted for 20–30 min in duration and was conducted within the theory or practical class. To do this without any disruption to the physiology teaching-learning program, the ethics sessions were embedded in those classes that had smaller topics and were thus of shorter durations. Thus all of the integrated ethics sessions were conducted within the time allocated for physiology teaching. Objectives for each of the ethics sessions were listed, and the method or process to be followed was clearly documented. Each session had a trigger in the form of a case scenario, a story, a question, or even a simple reference to what the students had learned in the theory class or had just completed doing in a practical class. This was followed by an interactive discussion; students were encouraged to voice their views, no matter how diverse. Faculty involved in this program functioned as facilitators rather than experts and took special care not to be prescriptive in their approach. Sessions were conducted once every 2–3 wk, with a total of 11 sessions in a 7-mo period (September 2015 to February 2016). External observers who were teachers from other departments within the same institution, including some formally trained in bioethics, were invited for each session. They gave their feedback on the content, delivery, and student participation during each session. When the sessions were held during practical time, the number of students for each session was 30. The comprehensive work plan is given in Table 1.

Keeping in mind the objectives of the program, the focus of the evaluation of the program was not on testing knowledge, but on evaluating perceptions. Additional feedback on how the modules were structured was sought. Three methods of evaluation, a semistructured questionnaire (containing open-ended questions and closed responses, some of which required a response on a five-point Likert scale), focused group discussions (FGDs) with students, and the observer feedback forms, were used. The semistructured feedback questionnaire was filled out by all students at the end of the program. It addressed the following: enumeration of the key ethical issues that students felt had deep impact, recall of key ethical concepts discussed during the various sessions, feedback on the extent to which effective integration into the physiology course was achieved, whether the program interfered with the teaching of physiology, and suggestions to improve the program. Once all of the students gave feedback by filling out the semistructured questionnaire, the students were invited to participate in a FGD on a voluntary basis. This was to ensure that there was no compulsion for them to participate if they did not wish to openly discuss their views. Data saturation was achieved with the four FGDs. Separate FGDs were held with men and women to allow free discussion. The author who conducted the FGDs (author 2, who was not part of the implementation of the program and who is well versed with qualitative research methods) assigned groups 1–4 in the order in which the FGDs were conducted. Based on the sex distribution, group 1 with all women was coded as G1, group 2 with all men as B2, G3 was the all-women third group, and B4 was the fourth group with all men. The focus was to explore the relevance, impact, perceived usefulness and meaningfulness of the course, and an elaboration of their feedback and suggestions for the improvement of the program. The FGDs were audio recorded after getting the students’ consent and ensuring maintenance of confidentiality. Feedback from the observers was captured as written comments on the conduct of the session by the faculty, student participation, and responses. All quantitative data were analyzed using descriptive statistics and percentages. Qualitative data from the feedback questionnaires and the observers’ forms were content analyzed. The FGD audio data were transcribed and checked for accuracy by two authors. The transcripts were reread along with the facilitator’s field notes. Broad codes and subcodes were developed and were iterated between authors before being finalized. Coding was done manually. Themes that emerged were mainly along the lines of the feedback form, with some specific new themes that mark the uniqueness of this program. Triangulation of the three modes of data collection was done to validate synergies and divergence.

RESULTS

Profile of the students. The socio-demographic profile of the students in FGDs is given in Table 2. The qualitative data obtained from feedback questionnaire are presented as "M" for feedback from male students and “F” for feedback from female students.

Relevance of the program. All 60 students felt that the program was relevant to them. The students felt it was actually the right time for the course and that it was a good preparation before clinical exposure in the second year: "no... because once..."
you tend to have it, it is hard to break it. Because when you form a habit, it is something you tend to carry it longer...” (G1). A common comment by the observers was that the sessions were “relevant” to the target group (Bachelor of Medicine, Bachelor of Surgery I students). One of the observers commented, “Students appeared to be able to relate to the situation which is likely a critical factor in driving home the point. The students were very engaged and enjoyed the enactment of the situations.”

**Effective integration of the program.** Most of the students (56 of 60; 93%) agreed that the ethical issues were effectively integrated into the program. The students were very engaged and enjoyed the enactment of the situations.

### Table 1. Broad overview of the “thinking ethics” program

<table>
<thead>
<tr>
<th>Session (Main Theme)</th>
<th>Trigger</th>
<th>When Conducted, Theory/Practical Class</th>
<th>Method (Discussion Linked To)</th>
<th>Additional Reading (Ref. Nos.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethical issues related to residual/waste samples</td>
<td>Analysis of a blood sample for hemoglobin from the blood bank</td>
<td>Practical</td>
<td>Power point presentation of the story of Henrietta Lacks and the HeLa cell line</td>
<td>30, 33</td>
</tr>
<tr>
<td>Anonymity and confidentiality of data sets</td>
<td>Student data of hemoglobin values on the blackboard with identifier links to roll numbers as identifiers</td>
<td>Practical</td>
<td>Documentation of hemoglobin and red blood cells on blackboard for statistical analysis of sex and hematological differences in hematological indexes</td>
<td>36</td>
</tr>
<tr>
<td>Informed consent and personal autonomy</td>
<td>Theory class on lymphatics</td>
<td>Theory</td>
<td>Case history of a patient who required lymph node biopsy. Enumeration of elements of a consent form by the students</td>
<td>36</td>
</tr>
<tr>
<td>Social justice–affordable care</td>
<td>Theory class on the physiology of the neuromuscular junction</td>
<td>Theory</td>
<td>Case history of a patient with Myasthenia gravis requiring ventilator support</td>
<td>9</td>
</tr>
<tr>
<td>Labeling patient with a diagnosis</td>
<td>Practical class on blood pressure recording</td>
<td>Practical</td>
<td>Case history of a patient diagnosed with hypertension but not counseled</td>
<td>26</td>
</tr>
<tr>
<td>Research using animals</td>
<td>Demonstration of amphibian recording muscle and nerve and cardiovascular experiments through video recording</td>
<td>Practical</td>
<td>Power point presentation on the use/abuse of animals in research</td>
<td>32</td>
</tr>
<tr>
<td>Ethical challenges related to end-of-life care</td>
<td>Theory class: Applied Physiology of Gastrointestinal Tract</td>
<td>Theory</td>
<td>Case history of a patient who is terminally ill with intestinal cancer, leading to issues related to withdrawal of treatment and the debate around a “good” death</td>
<td>5</td>
</tr>
<tr>
<td>Ethical issues related to clinical examination of a patient</td>
<td>Clinical physiology practical where students volunteer to be examined by their peers</td>
<td>Practical</td>
<td>Interactive session using blackboard on issues of “greater good” and “putting yourself into the shoes of the other”</td>
<td>31</td>
</tr>
<tr>
<td>Ethical issues related to stigma</td>
<td>Theory class on endocrine disorders, namely gigantism, dwarfism, cretinism</td>
<td>Practical</td>
<td>Power point presentation with a discussion on the impact of stigma (often related to visible physical disability) on health issues</td>
<td>37</td>
</tr>
<tr>
<td>Affordable care: ethical dilemma for a doctor in resource-poor conditions</td>
<td>Theory class on renal dialysis</td>
<td>Practical</td>
<td>Interview with a clinician and a social worker addressing ethical issues, namely of social responsibility, full disclosure of situation, and limitations of a doctor</td>
<td>6, 27</td>
</tr>
<tr>
<td>Summarizing session and preparation: Preparation of the students for clinical exposure</td>
<td>Toward the end of the preclinical year</td>
<td>Practical</td>
<td>Power point presentation of recap of all the above sessions, followed by interactive session by a Professor of Medicine and Ethics on the transition from preclinical to clinical training</td>
<td>26</td>
</tr>
</tbody>
</table>

### Table 2. Socio-demographics of the participants in the focus group discussions

<table>
<thead>
<tr>
<th>Groups</th>
<th>G1</th>
<th>B2</th>
<th>G3</th>
<th>B4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students, n</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Sex</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
</tr>
<tr>
<td>Place (n)*</td>
<td>Karnataka (6)</td>
<td>Karnataka (3)</td>
<td>Karnataka (4)</td>
<td>Karnataka (3)</td>
</tr>
<tr>
<td></td>
<td>Other states (2)</td>
<td>Other states (4)</td>
<td>Other states (2)</td>
<td>Other states (2)</td>
</tr>
</tbody>
</table>

n, No. of students. F, female; M, male; G1, group 1 with all women; B2, group 2 with all men; G3, group 3 with all women; B4, group 4 with all men. *State where the medical school is located.
integrated into the Physiology course. Students firmly indicated that the topics taken up in the ethics sessions were related to the on-going topics, in either theory or practical modules of physiology.

“Yeah, it was always based on what we have learnt on that day or what we have learnt just 2-3 days prior in Physiology theory or practical classes” (G3).

Interference with teaching of physiology. Around 43 of 60 (72%) students felt that introduction of these sessions on ethics did not interfere in any way with the teachings of physiology. They felt that “it was definitely not a waste of time.” They added that they “had lot of time to finish the practical and these sessions were conducted with prior intimation; happened after the practical or theory; and added value to what they learnt that day” (G1). Twelve (F = 3, M = 9) of them felt that it did interfere with a few sessions, and only four (M = 2, F = 2) felt that it interfered with most of the sessions, as expressed in the feedback forms. While these particular students may not have been part of the FGDs, the possible reasoning behind this perspective was probed with the group participants who suggested that it was either due to “an exam motivated mentality” or “differing priorities.”

Unique features of the program. The students further said that the program was “novel” in several ways, which made them receptive to the program. Several themes emerged when this was probed during the focus group discussion. These included the following; i.e.:

1. Made them think: The emphasis on the impact that the sessions had on the thinking of students came through from the observer’s comments and the qualitative data from the students. While it is likely that discussions were not necessarily completed during the allocated time, feedback during the FGDs suggested that the sessions left students thinking and discussing the issues for several days after the specific session, thus fulfilling the intent of the program: “thinking ethics.” The observers opined that “it was a commendable effort to make students think towards ethical issues from the very beginning.”

“Thinking ethics—each session paused with a thought, for us to carry on” (F). “The way sessions were planned and questions asked, made us think” (M).

“We could carry a bit of information from each and every single class and these classes gave us a context from where we could start thinking” (G1).

2. Was an eye opener: The students said that the sessions were an “eye opener,” “we never knew that ethics had so many dimensions” (G1), “happy death’ was an awesome idea” (F).

3. Sensitized them to moral issues: The students opined that these sessions created “sensitization and awareness” to a whole new spectrum of issues, “it was more like pointers that we should actually take notice of rather than just ignore and go past” (G1). “These things we know; it is just that the perceptions towards the thing has changed” (B2).

4. Served as a “moral compass”: The students indicated that it, “helps us to reflect on our attitude towards patients and know how to treat them as individuals” (F). “We will think of our patients not only from a medical perspective but also ethical!” (M). “Gives a touch of humanities to a course that requires a lot of it” (G1). “So basically, these classes make us more humane and humble. They will tell us how to deal with patients...” (B4).

5. Prepared them for the future: The students felt that “it bridged the gap between preclinical and clinical years” (M), and that “it laid a strong foundation for the clinical years” (F).

“I think this little piece of information is there in my head, like when I go to the clinics next year, it will be there, telling me, you need to look at this person as a person and not as a case” (G1).

6. Was interactive and challenging: Feedback from students was that “it [the program] was highly interactive and challenging” (M = 17, F = 14). The observers opined that the students were well engaged and showed keen interest. They indicated that the student participation in the discussions was excellent, and that a lot of brainstorming was done.

“It was an interactive session, where you could raise your opinion, it was almost like a debate happening. Opinions were not given by the teacher, it was through the students talking. You thus got exposed to various ideas and how other people think...” (B4).

7. Highlighted the issue of ethical dilemmas: Most students felt inspired that they were able to handle dilemmas to varying extents and reinforced the connection between “ethics” and “thinking.” A few students did not like the dilemmas (F = 6, M = 1) and felt uncomfortable with being confused.

“There were less right and wrong answers with these classes more understandable and relatable” (G3).

“After these sessions, we were actually left very inconclusive as this was an open ended thing. There was no final decision, we were disturbed. I think that this was exactly thinking ethics not teaching ethics” (G1).

“Not particularly a good thing. We will be confused what side we are supposed to go. And most often we are confused after the session and not before it...” (B4).

Feedback on teaching methodology and structuring of the modules. All 60 students mentioned that they liked the methodology of teaching all the sessions on “thinking ethics.” When asked as to specifically whether there were aspects that they did not like about the program, most of the students mentioned that there was nothing to dislike. Ten students (M = 4, F = 6) specifically mentioned that the sessions were very well structured, and thus there was nothing to dislike. They qualified this by stating that the presentations were excellent and well delivered. Observers too felt that by using audio-visual aids and interactive talks, the content for each topic was “apt,” “well designed,” “interactive,” and “brief and to the point.”

A small number (n = 5) of students felt that a few of the sessions were slightly monotonous, and others (n = 3) felt that the time available was too short for adequate interactions. Open-ended ethical dilemmas for which there were no clear solutions also made some uncomfortable (M = 4, F = 3). A couple of observers suggested that small-group discussions would improve the student’s involvement.

Key ethical issues that had particular impact as recalled by the students. Of the ethical issues to which the students were exposed, those that had a particular impact on the students were the issue of affordability of health care (25 of 60; 42%),...
issues on informed consent (11 of 60; 18%), stigma (11 of 60; 18%), implications of labeling an individual with a diagnosis (11 of 60; 18%), the idea of the patient being a person and not a “case” (11 of 60; 18%), ethical issues in clinical physiology (8 of 60; 13%), and poverty as a health care determinant (6 of 60; 10%). In addition, an average of 37 of 60 (61%) students recalled the specific ethical issues that were addressed during each session. Some students highlighted ethical issues based on their introspection of the topic, which were not specifically raised by the teacher conducting the session, but were relevant to it.

Future prospects. Fifty-seven of sixty (96%) students felt that it would be definitely beneficial to continue the program as they proceeded through the course, as well as for their batch and for future batches during the physiology course. They believed that it would lay a strong foundation; and “would provide continuous enriched ethical dimensions to medical education.”

“We should not stop it at first year physiology itself, we need to continue it as a follow up in the next year also. If we are not doing it again, if we don’t have a follow up properly, we may not be taking the proper benefit of this” (G1).

To summarize, the students and the observers emphasized that the “thinking ethics” program was thought provoking, novel, relevant, and effectively integrated. They felt that mainly it did not interfere with the physiology course and should be continued in future years.

DISCUSSION

“Thinking ethics,” a program that integrated ethics into the physiology course of first-year medical students, was a novel idea that elicited a largely positive response from the students. The students recognized the need for integration of ethics during their first-year medical course and felt that it should be an on-going, thought-provoking process. This fits in well with the advantages listed for bedside medical ethics teaching, as proposed by Mark Seigler (see Ref. 34), which has been implemented in US and UK medical schools as “doing” medical ethics rather than merely “studying medical ethics” (1, 11, 17, 22). The students further emphasized that the integrated ethics sessions disturbed them a little, made them think a lot, created awareness and sensitized them about several ethical issues, and had a deep impact on their thinking. They also perceived that these sessions prepared them for future years, both in the preparation for clinical exposure (12) in the short term and in the making of an “ethical doctor” in the long term (11, 35). The students felt challenged by the very open-ended nature of the sessions in which the discussion on ethical issues was largely student centered and at times not completely conclusive. Most of the students embraced the fact that these sessions were meant to sensitize them about these ethical challenges, while a few of them wanted the sessions to be more prescriptive. Most of them indicated that the integration of ethics should not be limited to physiology alone, but that it needed to be integrated into other subjects of the curriculum so that thinking on ethical issues became a continuous on-going process and an integral part of medical training (8, 11, 22). The feedback from the observers further emphasized the fact that integrated ethics teaching in physiology was relevant and apt for the preclinical year, and that the contents, methodology of teaching, and student involvement were relevant and effective.

There has been much debate on the need to apply adult education principles to ethics teaching with regards to resources, academic expertise, integration into the curriculum, and assessment methods (7, 11). The “thinking ethics” program challenged the faculty to shift from the teacher-centered, knowledge-based mode of lecture delivery to handling integrated, student-centered, open-ended, highly interactive, problem-solving, and sometimes inconclusive (11) sessions. The concept of our program is similar to the recommendations on the future design of medical curricula in US and UK medical schools (11). The function of the faculty involved in the program was to facilitate rather than to teach. An important consideration is whether such a program requires “experts” formally trained in ethics, or whether faculty sensitized through their life experiences can fulfill this role. Although there is a sense that formal training of doctors in the field of medical ethics is required (8), it is also true that the duty of every medical teacher is not only to impart knowledge and skills but also to impart professional conduct and ethical behavior (35). The intention was not to dictate but facilitate the thinking process and simultaneously direct the discussion within the specified framework of the objectives and the limited time to fulfill the purpose of each session. The faculty had a rich experience of ethical situations that they had encountered and thought about, and these allowed them to facilitate the process of “thinking ethics.” Student feedback suggested that they were attentive during the sessions and appreciated the integration of medical ethics during their preclinical year. An increase in the number of teachers involved could enrich the variety of ethical issues that could be addressed, expose students to different approaches to thinking about ethics, and also strengthen the process of integration of ethics (17) in the Physiology curriculum. The small number of the medical students admitted at our institution was an advantage for the easier organization of the program. However, scalability to other institutions, both private and government, with larger student strengths, is the final intent. We see the following logical steps in the move to scalability: 1) a sharing of the pilot, proof-of-concept experience with other medical colleges in the form of workshop; 2) an expansion of the program to other medical colleges who “opt in” based on such a workshop; and 3) submission of the findings of the expanded program to the MCI.

The idea of such a program is that it ultimately reflects in the ethical behavior of graduates in real-life situations. This, while clearly important, given the broad ethical problems of health care institutions in India (2, 10), is not quantifiable and is clearly beyond the scope of evaluation of this study.

Conclusion. The program of integrating ethics into the Physiology curriculum was found to be unique, feasible, beneficial, useful, and well aligned with the existing physiology course by the students and the independent neutral observers.

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