



Student perceptions of the behavioural sciences curriculum in a Sri Lankan medical faculty

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ABSTRACT

Background: The Faculty of Medicine, University of Colombo, Sri Lanka, has an integrated curriculum with a Behavioural Sciences Stream (BSS).

Objective: Our aim was to assess the perceptions of medical students regarding behavioural sciences learning. **Methods:** Perceptions regarding the BSS were evaluated among fourth-year students using a self-administered questionnaire. **Results:** Of 216 invited, 166 students participated. The majority, i.e., 67% percent agreed that behavioural sciences constitutes an integral component of the curriculum. All (100%) claimed they would give lower priority to behavioural sciences compared to applied sciences. The majority indicated that they would avoid behavioural sciences activities if they were optional, despite 81.8% accepting that the course was beneficial. The majority observed that taught concepts were not effectively practiced in the clinical setting. Small group discussions were considered more effective and enjoyable than lectures, which most thought should be made optional. Although assessments were thought to be appropriate, performance was poorer at behavioural sciences assessments compared to applied sciences. **Conclusions:** The value of formal behavioural stream training is not fully appreciated. Vertical integration with the clinical curriculum is likely to be more effective strategy for teaching behavioural sciences.

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Introduction

The delivery of medical care without a humane approach to the patient results in a bland mechanical experience between the patient and the doctor, making the experience unproductive for both individuals. The ability to 'behave' appropriately in the clinical setting encompasses a wide range of aspects, and has evolved into a science in its own right. It does not limit itself to

the patient-doctor interaction per se, and includes interactions between patients and relatives, healthcare professionals and teams, the institution, and the community as a whole, incorporating an understanding of ethical issues and socially acceptable behaviour relevant to the setting. This has resulted, over the years, in the formal incorporation of behavioural sciences teaching in medical school curricula (1).

Morrow et al (2) state that the role of behavioural sciences in clinical medicine is essential, and contributes towards translational medicine, directly aiding research and practice. Although the importance of behavioural sciences in medical training and education is widely acknowledged (3), both medical students and physicians alike still have difficulty accepting behavioural sciences as a valid and important component of the curriculum (4). Behavioural sciences departments have, in some instances, adopted an intellectual stance antagonistic to the rest of the medical profession, emphasizing the shortcomings in its delivery of health care resulting from inadequate focus on the behavioural skills.

The vast growth in medical knowledge has led medical study programmes to institute innovative teaching methods to keep the curricula effective (3). Although components of medical curricula are introduced based on the soundest of educational principles, student perceptions of how effective or relevant they are can be diametrically opposed to the views of the medical educationists (5). Poor implementation of curricula is known to result in unfavorable student perceptions (6), while positive perceptions are known to increase student motivation and, therefore, learning. Brooks, a constructivist, emphasized that student opinion should be sought and valued (7). Thus, frequent assessments of student perceptions are recommended and many agree that they are useful in the structuring and improvement of the curriculum (8, 9).

The Faculty of Medicine, University of Colombo, Sri Lanka has an integrated modular curriculum, and was the first medical school in the country to introduce a dedicated behavioural sciences component into its curriculum. The undergraduate medical course has five basic streams running in parallel: the Introductory Basic Sciences Stream, the Applied Sciences Stream, the Clinical Sciences Stream, the Community Sciences Stream and the Behavioural Sciences Stream (BSS). The BSS runs from the second term of the 1st year over 13 terms spanning 4 years of five year medical

curriculum. The BSS sets forth goals intending to 'mold optimal personal and professional character in undergraduates and fulfill the social responsibility required in the health sector while ensuring and setting the standards of ethical practice both personally and professionally'(10). Students spend 3 hours a week studying behavioural sciences, totaling 30 hours per term. The BSS curriculum is divided into six core modules: a) personal development, b) basic behavioural sciences, c) communication skills, d) medical ethics, e) changing behaviour and f) health management. 'Personal development' promotes identification, development and application of skills to optimize learning and to have a productive medical career, improving personal well-being, and promotes good attitudes and thinking skills. In 'basic behavioural sciences' students learn about understanding personality, memory and intelligence, learning, good medical practice and relationship dynamics. The 'communication skills' module teaches students proper assessment of scenarios focusing on effective implementation of communication, while promoting the student's expressive skills. The 'medical ethics' module creates awareness about ethical situations, the ability to analyse and successfully resolve such situations, whilst promoting ethical behaviour. 'Changing behaviour' is centred on identifying behaviors that are detrimental to health, and finding means and strategies of changing them and teaching skills necessary to achieve such change. 'Health management' focuses on understanding the healthcare system in place, utilizing skills and instituting research to improve the health care system. The main modes of teaching and learning are lectures and small group discussions, together with additional learning activities such as student-centred seminars, project presentations, demonstrations, student assignments, with self-learning encouraged throughout. Assessments comprise largely of a series of paper-based cumulative Structured Essay Question examinations held at periodic intervals, with a few clinical scenarios built in to case discussions at exams and OSCEs (objective structure clinical examinations) in the clinical sciences stream. Full details of the study

programme can be viewed on the referenced website (10).

The objective of this study was to assess how medical students in the Colombo Medical Faculty who had completed the behavioural sciences stream perceived the various aspects of the BSS.

Method

Design and participants

The study was cross-sectional. We invited a complete batch of 216 medical students who had just completed the final BSS curricular activity at the end of the 4th year to participate. Recruitment was carried out following a student activity where attendance was compulsory so as to maximize participation. Student participation was entirely voluntary. One hundred and sixty six (166) students i.e., 77% of the batch agreed to participate. Convenience sampling was used, and those not present on the day of assessment were excluded from the study.

Data collection

The study instrument was a self-administered questionnaire, prepared following focused group discussions among graduates of the same institution who had also completed the BSS as part of their curriculum. The questionnaire, in addition to gathering demographic data, requested students to state their perceptions on the BSS course. A 4-point Likert scale was used to score and collect information; students were offered the options “Definitely”, “Somewhat”, “Not really” and “No”. When not considered individually for purposes of analysis, the responses “Definitely” and “Somewhat” were grouped together as a positive response, and “Not really” and “No” as a negative response.

Statistical analysis

Statistical Package for the Social Sciences (SPSS) 18[®] was utilized for data analysis. Demographic data was presented utilizing descriptive statistics, and relationships were analyzed using Pearson’s Chi Square test.

Ethical considerations

The study received ethics approval from the Ethics Review Committee of the Faculty of Medicine, University of Colombo. Anonymity of the students was ensured.

Result

Baseline demographics

A total of 166 students agreed to participate in the study; the recruitment rate was 77%. Just over 50% were women. Half the study sample resided in Colombo (the capital city of Sri Lanka) and most (64.8%) also had their primary and secondary education based in Colombo. Selection to the medical college is based on the grading obtained by students at the national Advanced Level School examination; the majority of our study sample (86%) had obtained the highest grading achievable (i.e., 3 A grade passes in the three mandatory subjects).

Perceived importance of the BSS curriculum

Sixty seven percent (66.9%) agreed that behavioural sciences makes an integral component of the medical curriculum, but only twenty percent (19.9%) of the study populace were definite in agreement. There was a significant association between having a class grading (>60% score) at the last behavioural examination and perceiving behavioural sciences as integral component of the curriculum ($p < 0.014$). None of the respondents felt that BSS learning was more important than the applied sciences; 23.7% were definite that BSS was unimportant compared to the applied sciences. Eighty three percent (83.2%) indicated they would give greater priority to an applied sciences assessment than a behavioural sciences assessment, if both were held together (the applied sciences stream covers physiology, biochemistry, anatomy, pathology and pharmacology and other related topics in a system-based modular structure). Only eleven percent (11%) of the individuals definitely agreed that holding a certificate in behavioral sciences will aid them in local employment while a substantially greater proportion (45%) definitely agreed that it will aid in foreign employment.

The majority of the individuals (76%) stated that if the BSS curriculum was to be made optional, they would choose to avoid the course completely. Just 27.1% percent of the study sample definitely agreed that the course had helped them become better practitioners of medicine. Nonetheless, 81.8% accepted that they positively benefitted from the course and 23.9% of the individuals were definite about this; just 2.5% were in definite disagreement to the same statement.

Women were more likely to perceive that the BSS curriculum was an important and integral component of the curriculum, and was likely to create better medical practitioners ($p < 0.05$). However, the perception of having benefitted from the course did not show significant gender association ($p > 0.05$) (Table 1). Neither the district of residence nor the district of schooling appeared to have an impact on any of these perceptions (Table 1).

Table 1: Association between gender, region of upbringing, region of receiving primary and secondary education and certain perceptions regarding behavioural sciences

Perception of Behavioural Sciences	Gender		X ²	P Value	District of residence		X ²	P Value	District of school		X ²	P Value
	Male	Female			Colombo	Other			Colombo	Other		
Being an integral component of medicine												
Yes	58.2% (n=46)	75.6% (n=65)	5.632	0.018	61.2% (n=49)	73.8% (n=59)	2.849	0.091	66.6% (n=70)	71.9% (n=41)	0.474	0.491
No	41.8% (n=33)	24.4% (n=21)			38.8% (n=31)	26.2% (n=21)			33.4% (n=35)	18.1% (n=16)		
Being able to create better medical practitioners												
Yes	69.6% (n=55)	83.7% (n=72)	4.619	0.032	75.0% (n=60)	82.5% (n=66)	1.345	0.246	64.5% (n=82)	65.7% (n=23)	0.016	0.900
No	31.4% (n=24)	16.3% (n=14)			25.0% (n=20)	17.5% (n=14)			35.5% (n=45)	34.3% (n=12)		
Core concepts practical implementation being possible												
Yes	83.5% (n=61)	96.4% (n=82)	7.616	0.006	89.6% (n=69)	92.1% (n=70)	0.286	0.593	89.8% (n=89)	91.1% (n=51)	0.056	0.813
No	16.5% (n=12)	3.6% (n=03)			10.4% (n=08)	7.9% (n=06)			10.2% (n=10)	8.9% (n=05)		
The course benefitted you												
Yes	82.6% (n=62)	81.9% (n=68)	0.015	0.903	84.2% (n=64)	81.8% (n=63)	0.155	0.694	85.8% (n=85)	75.4% (n=43)	2.047	0.153
No	17.4% (n=13)	18.1% (n=15)			15.8% (n=12)	18.2% (n=14)			14.2% (n=14)	24.6% (n=14)		

Perceptions on observed behavioural practices

Students were asked to comment on their observations and experiences from the clinical setting (i.e., their clinical attachments) as to whether the core aspects of behaviour taught in the BSS were being practiced by doctors and other healthcare personnel. Just 16.1% definitely agreed that “informed consent” is regularly taken, while 23% disagreed completely. Fourteen percent (14.4%) definitely agreed that “bad news

is broken correctly” while 27.5% disagreed. With regard to “proper utilization of communication skills” only 12.5% perceived that communication skills were used correctly in the ward setting; 23.1% thought definitely otherwise. Fifteen percent of the study definitely agreed that “patient autonomy is respected” while 21.4% definitely disagreed (Table 2). The majority (90.6%) were definitely of the view that the above mentioned concepts should be practiced in

the clinical setting. Sixty one percent (61.3%) felt that these principles are practical in the current clinical setting, however only 11.9% were definite in that respect. There was significant association between having the perception “the principles should be practiced” and whether “it is practical in the current clinical

setting” ($p < 0.05$). Women were more likely than men to hold the view that the practical implementation of theory with regards to behavioural sciences should take place in the clinical setting ($p < 0.05$).

Table 2: Perception regarding the practical implementation of certain core concepts of behavioural sciences

Perception of Behavioural Sciences	Opinion			
	Definitely	Somewhat	Not really	No
Do you feel what you taught is being actively practiced at the NHSL with regards to				
Informed consent	16.1% (n=26)	30.4% (n=49)	30.4% (n=49)	23% (n=37)
Breaking Bad News	14.4% (n=23)	26.9% (n=43)	31.3% (n=50)	27.5% (n=44)
Communication skills	12.5% (n=20)	27.5% (n=44)	36.9% (n=59)	23.1% (n=37)
Respecting rights of patients	15.1% (n=24)	32.7% (n=52)	30.8% (n=49)	21.4% (n=34)

NHSL: National Hospital of Sri Lanka

Teaching learning methods

The perceived effectiveness of different teaching/learning methods in the BSS curriculum were analysed. Small group discussions (SGDs) were considered “more effective” compared to conventional lectures. (42.2% vs. 21%) SGDs were also considered a “more enjoyable way of learning” by the majority (53.4%) (Table 3).

The majority (71.6%) indicate that they attended BSS lectures purely because they were compulsory. The majority (72.6%) were also of the view that the lectures should be “optional”. Most (41%) agreed that the core concepts taught were “just right” while only 6.4% considered them “too basic”.

Table 3: Perception regarding the teaching methods employed in teaching behavioural sciences

Perception of Behavioural Sciences	Opinion			
	Definitely	Somewhat	Not really	No
Are SGD's an effective method for BSS?	26.7% (n=43)	49.1% (n=79)	18% (n=29)	6.2% (n=10)
Are lectures an effective mode of delivery of knowledge for BSS?	13.9% (n=23)	41.8% (n=69)	29.1% (n=48)	15.2% (n=25)
	SGD	Lectures	Not sure	Equal
Which do you feel is more effective?	42.2% (n=68)	21.1% (n=34)	24.8% (n=40)	11.8% (n=19)
Which do you feel is more fun?	53.4% (n=86)	9.3% (n=15)	32.3% (n=52)	5% (n=08)

Assessments

We attempted to compare examination performance at BSS assessments with performance in the Applied Sciences Stream assessments. In our sample, only 34% achieved a class (honours) grading (i.e., a mark equal or greater than 60%) at the penultimate behavioural sciences assessment; in contrast, 58.5% had obtained a class grading at the last held Applied

Sciences Stream module examination. The majority (84.4%) perceived the assessments were relevant to the curriculum and 69.2% felt the assessments are spaced apart “Just right”. however a sizeable proportion (43.6%) stated they perceived the assessments to be “too hard”, although 48.3% agreed the difficulty grading of the assessments was “just right” (Table 4).

Table 4: Perceptions regarding assessments pertaining to behavioural sciences

Perception regarding behavioural sciences assessments	Opinion		
	Too hard	Too easy	Just right
The difficulty of the assessments are	43.6%(n=65)	8.1%(n=12)	48.3%(n=72)
The spacing of assessments are	Too far apart	Too close	Just right
	16.7%(n=26)	14.1%(n=22)	69.2%(n=108)
Are the assessments relevant to the curriculum?	Yes		No
	84.4%(n=124)		15.6%(n=23)

Discussion

The BSS has been successful in imparting the core concepts to students and teaching them the relevance of behavioural sciences. However, many students fail to fully appreciate its true importance, as most prefer if the subject is optional; strikingly, none gave it higher priority over other subjects. It was particularly worrying that three fourths of the students claimed they would avoid the BSS completely if it were to be made optional. These attitudes are similar to those observed elsewhere, as students perceive behavioural sciences as ‘common sense’ or not ‘real medicine’ (11). Lower performing students resent investing time in behavioural sciences learning (12). Only a few seem to appreciate the value of behavioural sciences learning in the current local setting, although most agreed it would be of greater use if they were to seek a career overseas. This finding is interesting, and suggests that students perceive that appropriate behaviour is less important to practitioners within the country; we postulate that role modeling during clinical rotations is the cause of this, with teachers/physicians failing to demonstrate these aspects of good behaviour in practice. On the other hand, students are aware that importance is placed on behavioural aspects to a greater degree in settings overseas, especially in developed countries.

It is possible that having a separate behavioural sciences stream is not ideal, and that behavioural

sciences should be more integrated with learning in the clinical setting. It is also possible that students perceive the BSS as an abstract module, illustrated by model case-scenarios and paper based assessments, while conversely being exposed to a contrastingly different behavioural environment in the clinical setting. Integration of behavioural sciences into curricula is fraught with problems, even in developed countries where the emphasis on this area is greater. An extensive review into the area in the United States showed that integration into the curricula was generally lacking, with behavioural sciences teaching mostly confined to pre-clinical years (13). Early exposure to patients during the curriculum has been shown to help students understand the relevance of behavioural sciences (14, 15); thus the timing of teaching of behavioural sciences is of vital importance. Behavioural sciences learning activities should be integrated vertically throughout the applied and clinical sciences curriculum, and taken to where it truly belongs, namely the bedside of the patient. The students also preferred interactive, discussion based learning exercises to didactic lectures; this is clearly a positive sign, and one that could be further built upon. We recommend a shift away from lectures towards problem based learning and small group discussions; these could easily be integrated into ward-based clinical teaching.

Students do not seem to perceive the principles of behavioural sciences as being practiced in the

clinical setting which they are exposed to; this is a serious obstacle which must be overcome, and requires that awareness is raised among clinicians and other clinical staff. It shows up as a shortcoming of the system as a whole, and one that must be rectified. A positive attitude towards behavioural sciences teaching among clinical teachers is likely to enhance student satisfaction in this area; in a survey in Edinburgh Medical School, 40% of staff felt that behavioural sciences had little relevance to medical education (16). Staff attitudes towards behavioural sciences teaching in Sri Lanka have not been studied. Nonetheless, it is likely that teacher training focusing on these aspects would be a useful strategy to address this. We cannot expect students to learn to practice certain forms of behaviour when they observe the opposite in the wards, a view reinforced by Mcleod et al (3) who state that the creation of an environment conducive for learning is more important than the inclusion of a discipline. This is easier said than done; wards in hospitals in Sri Lanka, even in the large teaching hospitals, are busy, overcrowded, with limited resources. Doctors tend to focus on providing 'hard' medical care, and it is inevitable that the 'softer' behavioural aspects get neglected. Creation of environments conducive for learning require changes in policy, infrastructure, resource allocation and attitudes; however doing so will be beneficial not only for learning but also for furthering the standards of healthcare (17, 18).

In fairness, it may also be argued the perceptions of students regarding the implementation of certain principles of ethics and communication maybe inaccurate due to the lack of adequate clinical exposure and experience. It would have been interesting if the same questions could be put forth to internists who at the forefront of patient care from onset to termination, in order to see whether these perceptions change after exposure to actual practice compared to the ideal but theoretical setting.

Interestingly, the overall view regarding the assessment methodologies utilized in behavioural sciences are positive, despite the assessments being largely paper based and

theoretical, except for limited viva based and observed interactions at OSCEs (10). A largely paper based assessment is likely to shift the student focus away from the practical setting towards a theoretical mindset, thus taking behavioural sciences away from the affective domain where it should lie, to the cognitive domain. It is well known that what students do in controlled assessment situations correlates poorly with their actual performance in clinical practice (19) and this becomes particularly true if behavioural sciences learning is assessed using methods belonging to the lower tiers of Miller's pyramid (20). We suggest that the answer would be to have more assessments in the real life clinical setting, based on peer-observation and evaluation, and multi-source feedback (team assessment behaviour) (21) as has become standard in UK based doctor training; this shift has unfortunately not yet taken place significantly in Sri Lankan clinical training. This would essentially have to go hand in hand with greater involvement by clinicians; in providing role models for students, and also in integrating behavioural sciences into day-to-day clinical practice. Behavioural sciences should be perceived by students as an essential and integral part of medical training, and not as an add-on module ending with a paper based test which they have to study for simply because it is compulsory.

At the outset, we hypothesized the possibility that the background of students can affect their perception. Contrary to expectations, region of living and upbringing and schooling had little impact on behavioural sciences was perceived. Nonetheless, further study is clearly needed to determine this, since our study did not scrutinize this association in depth. On the other hand, gender significantly affected perceptions. It is well recognized that women are more apt at nurturance, and hence this difference is one to be expected (22, 23). This suggests that greater emphasis should be directed towards behavioural sciences learning among male students.

Limitations

There are limitations in this study. External and internal factors which could have influenced the views of the students were not studied in details, apart from gender and a few other demographics. We studied the perceptions of 4th year medical students, just prior to their final professorial clinical attachments; these perceptions may not reflect their perceptions after graduation, as further realization of the importance of BSS learning may take place during their professorial clinical appointments. Our sample was confined to one medical faculty in the country, and the findings may not be representative of other behavioural sciences training programmes.

Conclusion

The importance of behavioural sciences is understood but it is still not fully appreciated, with the majority indicating they would opt out of the course if it was not mandatory. The science as a whole should not be viewed as an add-on but should form a part of the core of the medical curriculum with fluid integration into clinical sciences. Behavioural Sciences should be taught in the clinical setting, and not be allowed to become a theoretical subject. To make this possible, appropriate environments for learning and assessment of behavioural sciences learning should be sought. Change in attitudes, policy and infrastructure may be required to accommodate this. Clinicians and field practitioners should be directly involved in behavioural sciences teaching; for this purpose, they should receive formal training. We reiterate that students views and perceptions on the curricula should be sought at regular intervals, in particular with regards to relatively new areas of learning; the findings should provide positive and constructive feedback which result in improvement of the curriculum.

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