

Teaching behavioural sciences: looking back at the Colombo experience

Olupeliyawa AM¹, Gooneratne IK¹, Wickramasinghe WAKK¹, Thilakaratne MSB¹, Karunathilake IM¹, Samarasekera DD²

Abstract

Purpose: To review studies conducted to evaluate the output of the Behavioural Sciences Stream (BSS) of the Faculty of Medicine, Colombo in terms of achieving its objectives and with regards to its teaching/ learning and assessment methods.

Data sources, Study selection and Data extraction: A manual search was conducted using official faculty publications, reports of student research and conference proceedings. Pubmed/Medline indexed articles were also reviewed using the keywords; communication skills, ethics & professionalism, teaching / learning methods, evaluation methods, behavioural sciences. From a total of 384 hits 19 articles were reviewed.

Results: Studies conducted to evaluate the outcome of BSS conclude that the majority of students felt that they achieved the objectives of developing the necessary skills and professionalism. However the patients thought that some aspects were not adequately practiced. Suggestions for improving teaching/ learning methods to achieve these skills included interactive activities, simulated and standardized patient interviews, and reinforcement of BSS inputs during professorial clinical rotations. Similar methods are practiced successfully worldwide.

Many studies showed that students prefer to be assessed in the ward setting. Such methods of assessment in other medical curricula include assessment of video taped student patient interactions, stations assessing behavioural skills at Objective Structured Clinical Examinations (OSCE) and assessments as part of clinical evaluations.

Conclusions: Introducing behavioural sciences teaching has been successful as a pioneering effort in Sri Lanka. BSS teaching and assessments should be more integrated with ward teaching and clinical assessments for optimal achievement of its objectives.

Introduction

Medical curricula are constantly changing in today's world (Jones et al., 2004). Although radical reforms in medical education are taking place worldwide, in developing nations some of these reforms have only barely begun. As far as the inclusion of behavioural and social sciences is concerned, it is still in a stage of trial and error, and experimentation (Issac, 2005).

The Faculty of Medicine, University of Colombo changed its undergraduate medical curriculum in 1995 (Faculty of Medicine, Colombo, 2004). The Behavioural Sciences Stream (BSS) was introduced to the new curriculum as a pioneering effort in Sri Lanka.

This article is a review of published and unpublished literature on the Behavioural Sciences Stream of the Faculty of Medicine, Colombo; discussed in the light of evidence available about international practices of teaching and assessing behavioural sciences.

1. Faculty of Medicine, University of Colombo
Sri Lanka

2. University of Auckland, New Zealand

Objectives of the Behavioural Sciences Stream

Development of professionalism and attitudes as a health professional, team work in health care delivery, health education of community and health care personnel and self directed learning are the educational objectives of the faculty that are specifically addressed in the BSS. The BSS course is designed to help the student to develop; skills in effective communication, behaviours necessary for interactions as a health professional, self awareness and skills and attitudes to facilitate development of self as an individual and a professional. (Faculty of Medicine, Colombo, 2004; Jayasinghe, 2002).

Several studies have been conducted to evaluate the output of the BSS in terms of achieving its objectives. Based on these findings, graduates perceived to have achieved the objectives of the BSS, especially regarding communication skills, ethics and changing behaviour (Seneviratne et al., 2002). Final year students' perception of their confidence in managing problems encountered in a clinical setting was deemed as acceptable (Galappaththy et al., 2002). The majority of students are fairly confident of handling difficult or challenging clinical situations (Widanapathirana & Samarasekera, 2006).

In a study assessing the patients' perceptions on communication skills, behaviour of medical students and interpersonal relationships between students and ward staff the majority felt that theory on communication skills, medical ethics and interpersonal relationships were practiced. Self-introduction prior to clinical clerking, assertiveness, relationship between nurses and students needed reinforcement (Gamanayake et al., 2005). Some of the above deficiencies were highlighted in another study. Only 7.2% introduce themselves to the patient 'always' and nearly 13% 'never' introduce themselves. Only 31.2% of students 'always' took permission from patients before inquiring about their illness and nearly 7% 'never' took permission (Widanapathirana & Samarasekera, 2006).

Thus, though the students' perceptions in terms of achieving the objectives of BSS are generally positive, patients' perceive that certain skills need reinforcement.

Content of the BSS

Presently, the BSS course comprises of modules on basic behavioural sciences, personal development, communication skills, medical ethics, changing behaviour and health care delivery system. The areas of relevant core knowledge centre around knowledge of health care infrastructure and health policies of Sri Lanka, dimensions of human behaviour in health and illness, counselling, medical ethics, group dynamics, principles of management and principles of health education. Acquisition and development of skills such as communication skills, interpersonal skills, counselling skills, public relation skills, organizational and managerial skills and skills of personal development are encouraged in the BSS. (Faculty of Medicine, Colombo, 2004; 2006a). Many universities worldwide have similar subject areas in teaching generic skills to medical students (Madsen et al., 2005; Roff & Preece, 2004). Though the broad content areas of BSS are in line with curricula worldwide, further research and content analysis need to be conducted to evaluate the relevance of the curricular content in terms of achieving the above skills.

Teaching/ learning methods of the BSS

According to the curriculum document, small group discussions (SGD) are the principal learning method of the stream, supplemented by lectures, integrated ward classes, teacher seminars, student seminars and debates (Faculty of Medicine, Colombo, 2004; Jayasinghe, 2002). For the SGDs, case vignettes of situations that doctors encounter during their professional practice have been developed to emphasize identified learning objectives (Perera et al., 2002). SGDs in BSS were enjoyed by 58.2% of graduates and 74.8% felt that they were useful (Seneviratne et al., 2002). However a timetable analysis found that the stream consists of 82 lectures and only 39 SGDs (Faculty of Medicine, Colombo, 2006).

In feedback obtained from students in 2003 (Galappathy, 2004) more than 70% of students agreed that the majority of SGDs and lectures in the personal development, basic behavioural sciences, communication skills and health management modules were relevant and effective but only a lesser number agreed so about the medical ethics and changing behaviour modules.

The perceptions of final year medical students are that there is room for improvement in BSS inputs and their reinforcement during professorial clinical rotations, particularly regarding crisis management, resource allocation and terminal care (Galappathy et al., 2002). Nearly fifty percent of students prefer simulated and standardized patient interviews to learn communication skills (Widanapathirana & Samarasekera, 2006). Further, recent graduates (Olupeliyawa et al, 2007) stated that learning methods of BSS could be improved by having interactive activities, video presentations and by integrating BSS teaching to ward teaching e.g. role plays in actual ward setting. They further stated that BSS teaching should be customized to Sri Lankan culture and values and some aspects taught by a person trained in such techniques e.g. breaking bad news.

Similar perceptions are reported worldwide. At the University of Nottingham, UK, students preferred experiential methods such as role-playing with simulated patients and communicating with real patients in a clinical context (Rees et al., 2004). At Mahidol University, Thailand, tutors and students indicated that the best performance in training interpersonal and communication skills was found performing with simulated patients rather than peers or groups (Eoaskoon et al., 1996).

Many such innovative methods have been used worldwide in teaching communication skills. In a process of peer based learning at Lund University Medical School, Sweden, students are required to videotape their patient consultations at primary healthcare centres and discuss them later (Lofdhal et al., 2005). At University of the Health Sciences, Maryland, USA, teaching 'breaking bad news' involves having students actively participate in an

unsuccessful resuscitation of a mannequin followed immediately by breaking bad news to a standardized patient wife (Bowyer et al., 2006).

A stepwise approach to training communication skills is followed at many centres. At the Medical School of Copenhagen University students practice providing information about simple diagnostic or operative procedures among themselves and next in clinical courses on real patients. Finally, they are trained in breaking bad news with simulated patients (Madsen et al., 2005). At the Faculty of Medicine, University of Malaya, communication skills teaching is phased out; with workshops in general and then clinical communication skills using videotapes, group discussion and role-plays. The final phase with feedback training is carried out by videotaping consultations in the actual clinical setting (Sherina & Chia, 2002).

In teaching professionalism, the cognitive base should be taught explicitly and then reinforced and internalized through experiential learning at the clinical setting. In employing role models for this, the role must be made explicit to the model as well as the student (Cruess & Cruess, 2006). In such a process students, aided by written cues to focus their observations, observe their preceptors who intentionally model professionalism and communication during clinical encounters and later discuss these with the students (Jones et al, 2004).

To teach ethics, the Dundee University Medical School requires students to research various aspects of ethical dilemmas they have identified, and to "teach" their colleagues in a presentation and to prepare an essay discussion. The objective is to promote critical thinking in ethical and moral issues before developing practical skills on clinical problems (Roff & Preece, 2004).

In integrating communication skills and clinical skills training; at the University of Dundee, UK, patient clerking from the ward is followed by an analysis of the clinical and communication skills for any intimate examination which the patients would require. The skills students acquired are practiced using simulators and simulated patients, supported by timed periods of structured reflection, enabling

them to discuss their own professional conduct (Ker, 2003). In a study at Imperial College, London, students performed technical and communication skills in clinical scenarios (e.g. urinary catheterization using latex models connected to simulated patients). Procedures were observed, video recorded and assessed by tutors. The study concluded that the integrated model was feasible and valuable (Kneebone et al., 2002).

Though many of the methods described above are resource intensive, their practice in an actual clinical setting, is applicable even here. When the views of the academic staff regarding teaching of the BSS were explored, they too felt that behavioural sciences should be a part of clinical skills (Bandaranayaka, 2001).

Assessment methods of the BSS

Students of the Faculty of Medicine, Colombo, are assessed in BSS mainly through written summative and formative assessments (Faculty of Medicine, 2006). However 80% of students prefer to be assessed in the ward setting (Widanapathirana & Samarasekera, 2006). Recent graduates (Olupeliyawa et al., 2007) also feel that BSS should be assessed in a clinical environment rather than by pen and paper tests. The staff too has recommended incorporating OSCE stations in Behavioural sciences to clinical sciences stream assessments (Bandaranayaka, 2001). Evolving with these suggestions, several OSCE stations have been incorporated to clinical assessments in most of the major clinical disciplines and a viva voce examination in community and behavioural sciences is held in Paediatrics.

In evaluating the validity of written examinations in assessing behavioural sciences, a study measured behavioural parameters during each student's encounter with a standardized patient, who graded the student's performance. Then students were asked to describe their moral conflicts in a short essay, which was graded by the authors. Little relationship existed between performances on the interactive and written portions, suggesting they measure different skills (Smith et al., 1994). Another study by the University of Monash,

Australia concludes that pencil-and-paper tests of empathy cannot incorporate the range of complex cognitive, emotional and behavioural components of empathy (Evans et al., 1993).

Many other techniques have been used to assess behavioural sciences. In the University of Amsterdam summative assessment of attitude and communication skills is based on both daily routine and video taped history taking; assessed by clinicians, nursing staff and medical psychologists, through a rating scale. Feedback through practicals and formative assessments precede these formal assessments. (Ten Cate & De Haes, 2000). In the Faculty of Medicine, University of Malaya, formal assessment of communication skills is done by evaluating the behavior, language and actual interview content of videotaped conversations (Sherina & Chia, 2002). In a study by the University of Toronto, Canada, it was concluded that communication OSCE stations can be created with acceptable reliability to assess communication skills beyond simple history taking (Hodges et al., 1996).

Thus in assessing behavioural sciences, more clinical based tests rather than written examinations are preferred by students and tutors, which is the current best practice globally as well.

Conclusion

The BSS was introduced to produce a medical graduate who will have personal characteristics, skills and attitudes necessary for a career as a health professional. Studies done to evaluate the outcome of the BSS conclude that the majority of students felt that they achieved the objectives of developing the necessary skills and professionalism. However, the patients who are the consumers thought that some aspects were not adequately practiced.

Students are trained to achieve these objectives mainly through lectures and SGDs. Feedback from students suggest that though adequate input is provided by the BSS there is room for improvement with suggestions of more interactive activities, video presentations and more integration of behavioural sciences teaching to ward teaching.

Similar methods of teaching are employed worldwide. A gradual approach towards teaching skills in the clinical setting and integration with clinical skills has proved to be successful.

Assessments in the BSS are mainly paper based which studies have shown to be inadequate in evaluating complex cognitive and behavioural skills. Techniques of evaluation suggested by staff and students include video taped student patient interactions assessed by ward staff, stations assessing behavioural skills at OSCEs and assessments as part of clinical evaluations in the ward setting.

In conclusion, this review about the activities and outcomes of the Behavioural Sciences Stream in the light of evidence available from local and international sources, suggests that teaching/ learning and assessment methods should be more in context of the clinical setting and more integrated with clinical teaching to optimally achieve its objectives.

References

Bandaranayaka, R. (2001) Report of the Consultative Meeting on Curriculum Evaluation Faculty of Medicine, Colombo, Sri Lanka, 16-18.

Bowyer, M.W., Rawn, L., Hanson, J., Pimentel, E.A., Flanagan, A., Ritter, E.M., Rizzo, A. & Lopreiato, J.O. (2006) Combining high-fidelity human patient simulators with a standardized family member: a novel approach to teaching breaking bad news. *Student Health Technology Information*, 119, 67-72.

Cruess, R.L. & Cruess, S.R. (2006) Teaching professionalism: general principles. *Medical Teacher*, 28(3), 205-208.

EOASKOON, W., SUMAWONG, V. & SILPAKIT, C. (1996) Evaluation of training medical students in patient-interviewing skills by three modes of learning. *Journal of Medical Association of Thailand*, 79(8), 526-30.

Evans, B.J., Stanley, R.O., & Burrows, G.D. (1993) Measuring medical students' empathy skills. *The British Journal of Medical Psychology*, 66(Pt 2), 121-133.

Faculty of Medicine, University of Colombo, Sri Lanka (2004) *The Curriculum of the Faculty of Medicine, University of Colombo, Sri Lanka*, 58-59.

Faculty of medicine, Colombo (2006) *Assessment Schedule of the MBBS Course*. Medical Education Development And Research Centre, Faculty of Medicine, Colombo, Sri Lanka, 2006.

Faculty of Medicine, Colombo (2008) *BSS Handbook for students - AL 2006*. Behavioural Sciences Stream, Faculty of Medicine, Colombo, Sri Lanka.

Galappaththy, P., Abdulla, A.A., Goonesekera, D.T., Hanwell, D.R., Fernando, S.S.D., Seneviratne, R. De A., & Goonaratna C. (2002) The impact of behavioural science inputs relevant to clinical work during professorial clinical rotations: perceptions of final year medical students of the University of Colombo. Presented at International Conference on Curriculum Change in Medical Schools, Faculty of Medicine, Colombo, Sri Lanka: 2002.

Galappaththy P. (2004) (Personal communication).

Gamanayake, G.G., Gooneratne, I.K. & Gayathiri, S., (2005) Assessment of medical students by patients and ward staff. Presented at Sri Lanka Medical Association 118th Annual Scientific Sessions, Colombo, Sri Lanka, 2005.

Hodges B, Turnbull J, Cohen R, Bienenstock A, Norman G. (1996) Evaluating communication skills in the OSCE format: reliability and generalizability. *Medical Education*, 30(1), 38-43.

Issac, K.M. (2005) Training in Behavioural and Social Sciences – Issues and Challenges. Presented at the Bi-regional meeting on Psychosocial issues and Ethics in Medical Education, Thailand, 2005.

Jayasinghe, S. (2002) Reforming a Medical Curriculum, Lessons from an established medical school in Sri Lanka, Colombo, Sri Lanka. Published by the author.

Jones, W.S., Hanson, J.L. & Longacre, J.L. (2004) An intentional modeling process to teach professional behavior: students' clinical observations of preceptors. *Teaching and Learning in Medicine*, 16(3), 264-9.

Ker, J.S. (2003) Developing professional clinical skills for practice - the results of a feasibility study using a reflective approach to intimate examination. *Medical Education*, 37 (Suppl 1), 34-41.

Kneebone, R., Kidd, J., Nestel, D., Asvall, S., Paraskeva, P. & Darzi, A. (2002) An innovative model for teaching and learning clinical procedures. *Medical Education*, ;36 (7), 628-634.

Lofdahl, T., Nilsson, E., Haffling, A.C. & Hakansson, A. (2005) Consultation skills training is necessary in medical education. Evaluation by student questionnaire and focus group interviews. *Lakartidningen* 102(16), 1239-1240.

Madsen, P.L., Pedersen, B.D. & Aspegren, K. (2005) Communication skills training for medical students: from the simple to the complex. *Ugeskr Laeger*, 167(38), 3581-3583.

Olupeliyawa, A., Gooneratne, K., Tillakaratne, S., Wickramasinghe, K., Karunathilake, I., & Samarasekera, D. (2007) Graduates' Perceptions regarding their final year training. *South East Asian Journal of Medical Education*, 1, 25-29.

Perera, H., Goonaratna, C. & Jayasinghe S. (2002) Developing a behavioural sciences curriculum for undergraduates: an innovative method. Presented at International Conference on Curriculum Change in Medical Schools, Faculty of Medicine, Colombo, Sri Lanka, 2002.

Rees, C., Sheard, C., & McPherson, A. (2004) Medical students' views and experiences of methods of teaching and learning communication skills. *Patient Education & Counseling*, 54(1), 119-21.

Roff, S. & Preece, P. (2004). Helping medical students to find their moral compasses: ethics teaching for second and third year undergraduates. *Journal of Medical Ethics*, 30, 487-489.

Seneviratne, R. De A., Karunathilake, I., Ponnampereuma, G. & Samarasekera, D. (2002) Perceptions of graduates about the behavioural sciences stream. Presented at International Conference on Curriculum Change in Medical Schools, Faculty of Medicine, Colombo, Sri Lanka: 2002.

Sherina, H.N. & Chia, Y.C. (2002) Communication skills teaching in primary care medicine. *The Medical Journal of Malaysia*, 57(Suppl E), 74-77.

Ten Cate, T.h.J. & De Haes, J.C.J.M. (2000) Summative assessment of medical students in the affective domain. *Medical Teacher*, 22 (1), 40-43.

Smith, S.R., Balint, J.A., Krause, K.C., Moore-West, M. & Viles, P.H., (1994) Performance-based assessment of moral reasoning and ethical judgment among medical students. *Academic Medicine*, 69 (5), 381-386.

Widanapathirana, N.D.W. & Samarasekera D.D. (2006) Communication skills in Medicine – perspectives of tomorrow's doctors, Presented at Student Scientific Sessions 2006, Faculty of Medicine, Colombo, Sri Lanka: 2006.