



Neville, P., & Waylen, A. (2019). Why UK dental education should take a greater interest in the behavioural and social sciences. *British Dental Journal*, 227(8), 667-670. <https://doi.org/10.1038/s41415-019-0809-2>

Peer reviewed version

Link to published version (if available):
[10.1038/s41415-019-0809-2](https://doi.org/10.1038/s41415-019-0809-2)

[Link to publication record on the Bristol Research Portal](#)
PDF-document

This is the author accepted manuscript (AAM). The final published version (version of record) is available online via Springer Nature at <https://www.nature.com/articles/s41415-019-0809-2> Please refer to any applicable terms of use of the publisher.

University of Bristol – Bristol Research Portal

General rights

This document is made available in accordance with publisher policies. Please cite only the published version using the reference above. Full terms of use are available:
<http://www.bristol.ac.uk/red/research-policy/pure/user-guides/brp-terms/>

Why UK dental education should take a greater interest in the behavioural and social sciences

Abstract

Recent moves by public health academics and social scientists for increased recognition of the behavioural and social sciences (BeSS) in medical education in the UK have put the role and place of the BeSS in dental education back on the curricular agenda. Behavioural and social sciences have been a component of the UK dental curriculum since 1990 but, to our knowledge; have only been reviewed once in 1999. The aim of this article is to reignite a discussion about the role and place of BeSS in dental education in the UK. It reiterates the benefits of BeSS to dental education and dentistry in general, while remaining cognisant of the implicit and explicit barriers that can conspire to side-line their contribution to dental education. This paper concludes by making renewed calls for more integration of BeSS into the dental undergraduate curriculum as well as sectoral recognition for its contribution to the advancement of dental education and the professional development of dentists.

Introduction

The purpose of healthcare education and the role of the healthcare professional in 21st century society has changed globally in the last two decades. Current thinking on healthcare professional education prioritizes the need for it to be socially relevant and accountable,^{1,2} to foster professional identity formation^{3,4} and recognize and apply the impact of digital technology on teaching, learning and professional development²; in addition, there is an expectation that it will enable healthcare practitioners to be technically competent. This shift has – in part - been reflected in the dental curriculum in the UK. The GDC's ⁵ *Preparing for Practice* document offers a blueprint for attaining the key educational objectives recognised for the development of a 'safe beginner'⁶. Here four key domains of competency are established: clinical, communication, professionalism, management and leadership.⁵ As a result, the 'soft skills' of dentistry, once under-recognised, are acknowledged as making a valid contribution to professional development of dentists and dentistry.⁷ With this comes an implied appreciation of the input that the behavioural and social sciences (BeSS) can make to the design, delivery and assessment of dental education.

Though a place for BeSS is implied within the UK dental curricula, there is evidence that it is not fully embedded in the curriculum. BeSS have been a component of the UK dental curriculum since 1990⁸ but there has been little evaluation. One UK survey of the teaching of BeSS in dental schools reported that, while, BeSS are an acknowledged part of the dental curriculum across the 14 schools surveyed, there was huge variation in how it was taught and staffed.⁹ A recent survey of the Faculty of General Dental Practice (UK) highlighted three areas where the current UK dental curriculum was deficient. In addition to a call for more clinical time and experience, this survey also expressed a need for more focus on business and management issues and communication skills, including patient management and leadership.⁷ Such a finding reflects the fact that many attributes of successful general dental practice- being a reflective healthcare practitioner, having effective teamworking, interprofessional and communication skills- are nurtured and advanced by a knowledge of the BeSS.¹⁰ As a result, it is apt that the BeSS have a place in UK dental education.

Our argument that the BeSS within dentistry needs explicit recognition and promotion begins by outlining the benefits that these topics offer to dental education. We contemplate why BeSS have been side-lined in dental education and identify two issues that could explain this phenomenon: the knowledge base or epistemology of oral health and the existence of a hidden curriculum. We also

outline some opportunities that exist for BeSS topics to contribute more openly to the professional development of dentists.

Benefits of BeSS to the dental curriculum

The BeSS take the individual, their experiences in the world and how these experiences shape psychological and social identity, as its focus of concern. With this starting point, we are offered an alternative viewpoint to oral health, one that is sensitive to the needs of both patients and dental practitioners, but also offers an expansive look at the profession of dentistry, as a profession responding to population level oral health need against the real-world context of workplace relationships, pressing institutional arrangements and the social status of the profession as a whole.^{10 11}

Below is list of some other ways in which the BeSS advances the knowledge and skills base of dentistry. This list is not meant to be exhaustive: rather it is indicative of how BeSS can enrich the educational experience and overall professional competencies of aspiring dentists.

- **Concepts/Models of health, illness and behaviour:** concepts of health, illness and disease are social constructs, changing over time and influenced by a range of individual, social, economic, historical and cultural factors.^{12 13 14} In this way, BeSS can expose the limits of a biomedical approach to dentistry and its subsequent conceptualisation as a 'drill and fill' discipline. Conceptualisation of oral health as a biopsychosocial phenomenon^{14 15 16} facilitates recognition of the social determinants of health¹⁷ and acknowledges dentistry as a 'biobehavioral'¹⁸ discipline.
- **The subjective experience of oral health:** Qualitative research methods permit the documentation of patient experiences of oral health and oral diseases as legitimate studies of enquiry e.g. toothache,¹⁹ TMJ²⁰ dental anxiety,²¹ edentulousness²² and head and neck cancer²³.
- **Clinical decision-making processes:** an understanding of the BeSS facilitates an understanding of dental practitioners' everyday experiences and decision-making through the development of reflective practice²⁴
- **Knowledge of oral healthcare systems:** The profile of oral health in the UK has changed dramatically over the past 40 years. Huge oral health gains have been made across most of society; dental caries rates have fallen for all age groups and the rate of edentulism among adults is at a record low of 6%.²⁵ In a society of declining dental need, 21st century dentistry is increasingly concerned with health promotion and disease prevention rather than restoration. As a result, an understanding of how personal, social, political, economic and environmental factors influence oral health provides an important knowledge base for oral health promotion skills and the development of a patient-centred approach (recommendation 1.2.7).²⁶ BeSS also raise an awareness of the types of inequalities or barriers that can impede access to healthcare and how healthcare systems are organised to deliver care to populations.^{12 13 14} In this way they promote evidence-based dentistry and enable dentists as positive agents of change who promote oral health equity within their community.^{27 28}
- **Professional development:** BeSS help individual practitioners to develop professional norms, values and behaviours and confer notable benefits to practice by fostering the skills necessary to understand patient behaviours and improve patient adherence and outcomes.²⁹

- **Evidence-based dentistry:** The BeSS comprise an eclectic group of disciplines; including psychology, sociology, ethics, economics, and philosophy. Each discipline offers a variety of ways in which data is collected (research methods), interpreted and analysed (theory), as well as to how the enterprise of research itself channels and generates meaning, assumptions and knowledge which convey the topic as a 'holistic' intelligible entity (epistemology).^{11 12 30} In dental education, the disciplines of psychology and sociology have made the most inroads in translating their benefit to the field. Psychology offers theoretical tools for recognising the patient as an individual who has cares, concerns, values and beliefs. It enables dental care professionals to understand the need for and develop patient management skills, recognising the impact of dental anxiety and the importance of managing behaviour change.³¹ Sociology's alignment with the values of social justice and inclusion favourably lends it to the study of oral health inequalities including why and how oral diseases develop and affect some groups more than others.^{32 33}

Challenges posed by the BeSS in the dental curriculum

Despite the widespread acceptance for the inclusion of the behavioural and social sciences (BeSS) into professional healthcare curricula - nursing,^{34 35 36} medicine^{37 38 39 40 41} and dentistry,⁴² this idea is not without its dissenters.^{43 44 45} Leading among these are healthcare professional students who openly question the relevance of the BeSS in their curriculum and struggle with the theoretical nature of these disciplines.^{39 46 47 48} BeSS educators in medical and professional education roles also struggle to resolve this 'resonance gap' for students, from a pedagogic and assessment point of view.^{49 50 51 52 53}

Dentistry is not exempt for this debate. Many dental undergraduates struggle to see the relevance of the behavioural and social sciences, preferring the technical aspects of dentistry over the social⁵⁴ and looking for a more practical application of the social and psychological theories they learn.^{9 55} In this paper we assert that the ambivalence of dental students towards the BeSS may be attributed to two factors: the hegemony of the biomedical approach in dental education and the existence of a hidden curriculum.^{56 57}

First, the clinical focus of dentistry aligns itself with an epidemiological outlook on health, illness and disease. This is echoed in the prevalence of a biomedical approach in dental education and its emphasis on technical skill and the clinical management of oral diseases.⁵⁶ Oral health tends to prioritise 'proximate, individual-level risk factors (and their biological mediators)'(p.887)⁵⁸ at the expense of a 'dynamic, interactive, life-course model[s] of disease risk acquisition'(p.887).⁵⁸ This concern with that which is 'imminent' coincides with a reductionist outlook to health and health care. Consequently, there is a difficulty with all things inherently 'social' or complex: 'the social context [is seen as] as a problem of confounding to be disentangled in order to achieve objectivity'(p.135).⁵⁹ The preference for individual factors alone to explain oral health and inequalities⁶⁰ is a shortcoming of dental education because it ignores the inherent complexity of oral health, something that is fundamentally multifactorial and socially determined.^{33 59} By aligning itself with an individualist approach to oral health, dental education does not equip dental students with the tools, methods and framework needed for delivering long term and sustainable change in health outcomes.

Second, and relatedly, is the concept of the hidden curriculum. A curriculum is made up of three components: a formal curriculum, informal curriculum and hidden curriculum.⁵⁷ Formal curricula outline what is *planned* to be taught(and how it will be taught),^{57 61} the informal curriculum refers to what is *actually* taught in the curriculum, including unscripted teaching^{57 61} and the hidden

curriculum refers to ‘what is being *experienced* by the students (including information implicitly conveyed by instruction, teachers and peers themselves and the values and moral judgements of the profession)’ (p. 344).⁶¹ These three forms of curriculum are interconnected and all contribute to the overall education and professional socialization of dental students.⁵⁷ Nevertheless, research suggests that the ‘hidden curriculum’ may be more influential, impacting directly on how students learn to be professional.^{61 62 63} In medical education, the hidden curriculum is associated with the development of ethical thinking, the rise and fall of student empathy and idealism^{63 64} but there is less research on the hidden curriculum in dentistry.⁶⁵

Our practical experience of teaching BeSS to dental students has led us to recognise a hidden curriculum about BeSS where students struggle with the content of BeSS.⁵⁵ The mix of ‘conceptual or empirical, quantitative or qualitative, and descriptive or analytical- or a combination of all these’¹² offered by BeSS can directly challenge the imminent, reductionist outlook of dental education. In addition, we also found that the attitude of some staff members towards the BeSS (especially those most likely to have been exposed to a traditional dental education) and the place of BeSS teaching in the curriculum can reinforce the perception that BeSS is not relevant to dental education. This echoes Albert, Paradis and Kuper⁶⁶ finding that social science staff employed in medical schools struggle for professional acceptance and are challenged by the legitimacy of their non-biomedical/interpretivist perspective by their clinically trained colleagues and faculty members.

Opportunities for the future

The “near-focus” outlook of clinical dentistry and existence of a hidden curriculum about BeSS in dental education is damaging in a number of ways: first, they perpetuate the misconception that dentistry is a purely clinical, biomedical discipline rather than a ‘biopsychosocial’ discipline;¹⁸ second, it can jeopardise the patient focus of dentistry and the need for effective communication skills and patient management skills among undergraduates. More effort needs to be made to celebrate the benefits that BeSS offers to dental professional development and validate its place within the dental curriculum. This will require action at Faculty, national and sectoral level.

Dental schools and Faculty should reflect upon whether or not they perpetuate and legitimate explicit and implicit biases against BeSS. How much time is given over to BeSS teaching in the timetable? How many BeSS staff are employed? Do clinical and BeSS staff have opportunities to learn what each are teaching, finding opportunities for cross-collaboration, knowledge sharing and co-teaching? Such self-reflection will catalyse a bottom-up change in attitude towards BeSS.

The behavioural and social sciences need to be fully integrated into dental curricula rather than being merely an ‘add-on’ to dental school teaching.^{65 67} ‘Optimal dental student learning integrates biomedical science and clinical dentistry and provides numerous examples of their application and relation to life and dental practice’ (p.279).⁶⁵ A truly integrated curriculum, co-designed and co-taught by clinicians and BeSS staff will promote the perspective that clinical and BeSS knowledge, skills and expertise, although different bodies of knowledge/epistemologies, will complement professional healthcare practice and ensure curricular relevance for dental students.

Finally, at an upstream level, the benefits that BeSS bring to professional and clinical competencies in dentistry need to be more explicitly acknowledged by the General Dental Council and other professional dental professional bodies. Much could be learned from our BeSS colleagues and their recent achievements in UK medical education. Through the establishment of the “UK Public Health Educators in Medical Schools (PHEMS) network⁶⁸ and The Behavioural and Social Sciences Teaching

in Medical Education group (BeSST),⁶⁹ position documents have been produced and established public health and BeSS curricula in UK medical education.⁶⁹⁻⁷² BeSS Faculty who work as dental educators should come together and undertake similar work, creating a position paper for how BeSS should be taught and assessed in dental education.

Conclusions

This article builds on the growing recognition of the benefits of BeSS to clinical education generally and dental education specifically. Study of and engagement with BeSS will deepen dental care professionals' understanding of oral health care, patient management and the intricacies of general dental practice. In this way they can re-conceptualise dental professionalism and dental competencies, acknowledging patient-focus and advocating / facilitating oral health behaviour change, at both an individual and population health level. BeSS also enable student healthcare professionals to become more holistic and patient-centred practitioners.⁴⁰ However, dental students are ambivalent, in part because of the focussed clinical outlook of dentistry and also the existence of a hidden curriculum. We offer guidance on how to strengthen the contribution of the BeSS in dental education with the intention of reducing the traditional clinical / non-clinical and biomedical / psychosocial divides that characterise dental education, aiming to forge a middle ground where aspiring dentists can emerge with a rounded and holistic education, ready to meet the oral health demands of the 21st century.

References

1. Karle H. International trends in medical education: diversification contra convergence. *Med Teach* 2004; 26(3): 205-206
2. Maccabe AT. End of veterinary school as we know it. *Vet Record* 2017; 181: 544-545.
3. Cruess RL, Cruess SR, Boudreau JD, Snell L, Steinert Y. A Schematic Representation of the Professional Identity Formation and Socialization of Medical Students and Residents: A Guide for Medical Educators. *Acad Med* 2015; 89(11):1446-1451.
4. Cruess RL, Cruess SR, Steinert Y. Amending Miller's Pyramid to Include Professional Identity Formation. *Acad Med* 2016; 91(2): 180-185.
5. General Dental Council. 2011/2015. Standards for the Dental Team. Online information available <https://www.gdc-uk.org/professionals/standards>. (Accessed June 19, 2019)
6. General Dental Council. 2011. Dental team learning outcomes for registration. Online information available <https://www.gdc-uk.org/professionals/students-and-trainees/learning-outcomes> (Accessed June 10, 2019).
7. Oliver GR, Lynch CD, Chadwick BL, Santini A, Wilson N.H.F. 2016. What I wish I'd learned at dental school. *Brit Dent J* 2016; 221(4): 187-194.
8. General Dental Council. Guidance on the Teaching of Behavioural Sciences, London: GDC, 1990.
9. Pine CM, McGoldrick PM. Application of behavioural sciences teaching by UK dental undergraduates. *Euro J Dent Educ* 2000; 4: 49-56.
10. Centore L. Trends in Behavioural Science Education in Dental Schools, 1926-2016. *J Dent Educ* 2017; 81(8): eS66-eS73.
11. Boiko OV, Robinson PG, Ward PR, Gibson BJ. Forms and Semantics of communication in dental encounters: oral health, probability and time. *Sociol Health Illn* 2011; 33(1): 16-32.
12. Greenhalgh T. What have the social sciences ever done for equity in health policy and health systems, *Int J Equity Health* 2018; 17: 124.

13. Lechopier N, Moutot G, Lefevre C, Teixeira M, Poma R, Grandazzi G, Rasmussen A. Health professionals prepared for the future. Why Social Sciences and Humanities teaching in Medical Faculties matter. MedEdPublish 2018;
14. Greenhalgh T.(on behalf of 77 signatories) An Open letter to BMJ editors on qualitative research. BMJ 2016;352:i563
15. Engels G. The need for a new medical model: a challenge for biomedicine, Science 1977; 196(4286):129-36.
16. Wade D.T. and Halligan, P.W. Do biomedical models of illness make for good healthcare systems? BMJ 2004; 329: 1398-1401.
17. Commission on Social Determinants of Health. 2007. An overview of the current knowledge of the social determinants of Indigenous health. Geneva: World Health Organization. Online information available <http://som.flinders.edu.au/FUSA/SACHRU/Symposium/Social%20Determinants%20of%20Indigenous%20Health.pdf>. (Accessed January 28, 2014).
18. Dworkin SF. The Dentist as Biobehavioral Clinician, J Dent Educ 2001; 65(12): 1417-1439.
19. Cohen LA, Harris SL, Bonito AJ, Manski RJ, Macetz MD, Edwards RR, Cornelius LJ. 2007. Coping with Toothache Pain: A Qualitative Study of Low-Income persons and Minorities, J Public Health Dent 2007; 67(1): 28-35.
20. Durham J, Steele JG, Wassell RW, Exley C. Living with Uncertainty: Temporomandibular Disorders, J Dent Res 2010; 89(8): 827-830.
21. Gao XL, Hamzah SH, Yiu CKY, McGrath C, King NM. Dental Fear and Anxiety in Children and Adolescents: Qualitative Study Using YouTube. J Med Internet Res 2013; 15(2).
22. Meaney S, O'Connell B, Elfadil S, Allen F. A qualitative investigation into patients' perspectives on edentulousness. Gerodontology 2017; 34(1):79-85.
23. Parahoo RS, Semple CJ, Killough S, McCaughan E. The experience among patients with multiple dental loss as a consequence of treatment for head and neck cancer: A qualitative study. J Dentistry 2019; 82:30-7.
24. Neville P. Introducing dental students to reflective practice: a dental educator's reflections, Reflect Pract 2018; 19(2): 278-290.
25. National Health Service. 2009. Adult Dental Health Survey 2009. Online information available <http://digital.nhs.uk/catalogue/PUB01086> Accessed October 4, 2017.
26. NICE. December 2015. Oral health promotion: general dental practice. Online information available <https://www.nice.org.uk/guidance/ng30/chapter/Recommendations#how-dentists-and-dental-care-professionals-can-adopt-a-patientcentred-approach> (Accessed 4 October 4, 2017).
27. Watt RW, Heilmann A, Listl, Peres MA. London Charter on Oral Health Inequalities. J Dent Res 2016; 95(3): 245-247.
28. Watt RG, Williams DM, Sheiham A. The role of the dental team in promoting health equity. Br Dent J 2014; 216(1): 11-14.
29. McGoldrick PM, Pine CM, Mossey PM. Teaching dental undergraduates' behaviour change skills. Euro J Dent Educ 1988; 2: 124-132.
30. Harvey L, MacDonald M. Doing Sociology. A Practical Introduction. Basingstoke: The Macmillan Press Ltd; 1994.
31. Asimakopoulou K, Newton JT. The contributions of behaviour change science towards dental public health practice: a new paradigm. Community Dent Oral Epidemiol 2015; 43: 2-8.
32. Gibson B, Blake M, Baker S. Inequalities in oral health: the role of sociology, Community Dent Health 2016; 33: 156-160.

33. Baker SR, Gibson BG. Social oral epidemiology where next: one small step or one giant leap? *Community Dent Oral Epidemiol* 2014; 42: 481-494.
34. Cooke H. Why teach sociology? *Nurse Educ Today* 1993; 13(3): 210-217.
35. Porter S. Sociology and the nursing curriculum: a defence. *J Adv Nurs* 1995; 21: 1130-1135.
36. Porter S. Breaking the boundaries between nursing and sociology: a critical realist ethnography of the theory-practice gap. *J Adv Nurs* 1996; 24: 413-420.
37. Guidotti TL. An Alternative Medical Curriculum for Changing Times. *Educ Health* 1998; 11(4): 233-242.
38. Friedson E. *Profession of Medicine: A Study of the Sociology of Applied Knowledge*. London: University of Chicago Press, 1988.
39. Gallagher S, Wallace S, Nathan Y, McGrath D. 'Soft and fluffy': Medical students' attitudes towards psychology in medical education. *J Health Psych* 2015; 20(1): 91-101.
40. De Visser R. Psychology in medical curricula: "need to know" or "nice to know". *Euro Health Psychologist* 2009; 11: 20-23.
41. American Association of Medical Colleges (AAMC). *Behavioral and social science foundations for future physicians*. Washington, DC: AAMC, 2011.
42. Piko BF, Kopp MS. Paradigm shifts in medical and dental education: behavioural sciences and behavioural medicine. *Euro J Dent Educ* 2004; 8(Supplement 4): 25-31.
43. Sharp K. Sociology and the nursing curriculum: a note of caution. *J Adv Nurs* 1994; 20: 391-395.
44. Sharp K. Why Indeed Should We Teach Sociology? A Response to Hannah Cooke. *Nurse Educ Today* 1995; 15: 52-55.
45. Sharp K. Sociology and the Nursing Curriculum: A Response to Sam Porter. *J Adv Nurs* 1996; 26: 1-4
46. De Vries JMA, Timmins F. 2012. Psychology teaching in nursing education: A review of and reflections on approaches, issues, and contemporary practice. *Nursing Educ Practice* 2012; 12: 316-321.
47. Edgley A, Timmons S, Crosbie B. Desperately seeking sociology: Nursing students' perceptions of sociology on nursing courses. *Nurse Educ Today* 2009; 29: 16-23.
48. Mowforth G, Harrison J, Morris M. An investigation into adult nursing students' experience of the relevance and application of behavioural sciences (biology, psychology and sociology) across two different curricula. *Nurse Educ Today* 2005; 25: 41-48.
49. Brooks L, Collett T, Forrest S. It's just common sense! Why do negative perceptions of sociology teaching in medical education persist and is there any change in sight? *MedEdPublish* 2016; <https://doi.org/10.15694/mep.2016.000156>
50. Harden J, Kendall K, MacBride-Stewart S. Editorial: Teaching Social and Behavioural Sciences in Medical Education. *MedEdPublish* 2016a; <https://doi.org/10.15694/mep.2016.000087>
51. Harden J, Kendall K, MacBride-Stewart S. Concluding Commentary: Teaching Social and Behavioural Sciences in Medical Education. *MedEdPublish* 2016b; <https://doi.org/10.15694/mep.2016.000166>
52. Goodwin D, Machin L. How we tackled the problem of assessing humanities, social and behavioural sciences in medical education. *Med Teach* 2016; 38(2): 137-140.
53. Benbasset J, Baumal R, Borkan JM, Ber R. Overcoming barriers to teaching the behavioral and social sciences to medical students. *Acad Med* 2003; 78(4):372-80.
54. Kent GC, Croucher R. Priorities of undergraduate dental education: what do students think? *Med Educ* 1992; 26: 372-377.

55. Neville P, Waylen A. That 'mushy boxed fog feeling': dental students' evaluations of the social and behavioural sciences in dental education. *MedEdPublish* 2016; DOI: <http://dx.doi.org/10.15694/mep.2016.000144>
56. Litva A, Peters S. Exploring barriers to teaching behavioural and social sciences in medical education. *Med Educ* 2008; 42(3):309-14.
57. Hafferty FW. Beyond Curriculum Reform: Confronting Medicine's Hidden Curriculum. *Acad Med* 1998; 73(4): 403-407.
58. McMichael AJ. Prisoners of the Proximate: Loosening the Constraints on Epidemiology in an Age of Change. *Am J Epidemiol* 1999; 149(10): 887-897.
59. Baker SR, Foster Page L, Thomson WM, Broomhead T, Bekes K, Benson PE, Aguilar-Diaz F, Do L, Hirsch C, Marshman Z, McGrath C, Mohammed A, Robinson PG, Traebert J, Turton B, Gibson BJ. Structural Determinants and Children's Oral Health: A Cross-National Study. *J Dent Res* 2018; 97(10): 1129-1136.
60. Tiwari T, Baker SR, Albino J. Editorial: Reducing Oral Health Disparities: Social, Environmental and Cultural Factors. *Frontiers Public Health*, 13 November 2017; 5, Article 298.
61. Whitcomb TL. Raising Awareness of the Hidden Curriculum in Veterinary Medical Education: A Review and Call for Research. *J Vet Med Educ* 2014; 41(4): 344-349.
62. Mossop L, Dennick R, Hammond R, Robbé I. Analysing the hidden curriculum: use of a cultural web. *Med Educ* 2013; 47: 134-143.
63. Neve H, Collett T. Empowering students with the hidden curriculum. *Clin Teach* 2017; 14: 1-6.
64. Lempp H, Seale C. The hidden curriculum in undergraduate medical education: qualitative study of medical students' perception of teaching. *BMJ* 2004; 329:770.
65. Masella R.S. The Hidden Curriculum: Value Added in Dental Education. *J Dent Educ* 2006; 70(3): 279-283.
66. Albert M, Paradis E, Kuper A. Interdisciplinary promises versus practice in medicine: The decoupled experiences of social sciences and humanities scholars. *Soc Sci Med* 2015; 126; 17-25.
67. Isaac M, Rief W. Role of behavioural and social sciences in medical education. *Curr Opin Psychiatry* 2009; 22: 184-187.
68. Gillam S, Rodrigues V, Myles P. Public health in UK medical schools – towards consensus. *J Public Health* 2015; 38(3): 522-525.
69. BeSST (Behavioural and Social Science Teaching in medicine) <http://www.besst.info/>
70. Kendall K, Collett T, de Longh A, Forrest S, Kelly M. Teaching sociology to undergraduate medical students. *AMEE Guide. Med Teach* 2018; 40(12): 1201-1207
71. Bundy C, Cordingley L, Peters S, Rock J, Hart J, Hodges L. 2010. A core curriculum for psychology in undergraduate medical education. A report from the Behavioural & Social Sciences Teaching in Medicine (BeSST) Psychology Steering Group. Online information available at https://docs.wixstatic.com/ugd/3901ea_2880d445806e4e0cac82dbd55bd0b032.pdf (Accessed June 19, 2019).
72. Collett , Brooks L, Forest S, Harden J, Kendal M, MacBride-Stewart S, Sbaiti T, Stevenson F. 2016. A Core Curriculum for Sociology in UK Undergraduate Medical Education. A report from the Behavioural & Social Sciences Teaching in Medicine (BeSST) Sociology Steering Group. Online information available at https://docs.wixstatic.com/ugd/3901ea_87ee230408434138b26135161bae60b9.pdf (Accessed June 10, 2019).