

A Critical Appraisal of Bioethical Inclusions in Aetcom Module for Competency Based Undergraduate Medical Education as Prescribed by Medical Council of India

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Abstract

Background – Critical appraisal of AETCOM Module with reference to Bioethical inclusions vis-à-vis professional ethics inclusions needs appraisal for purposes of judicious operational mix of two, so that learner is oriented in all-round manner so that optimal results thereto stand generated with at par status in commensuration with “**The UNESCO Universal Declaration On Bioethics And Human Rights**”.

Methods – Rapid review of literature with reference to AETCOM Module for identification of Bioethical inclusions in it with reference to Bioethical principles included in UNESCO declaration specially those applicable to profession and not propagation or advocacy. Critical appraisal of identified Bioethical inclusions with reference to their conformity with bioethical principles as applicable to profession included in UNESCO declaration and to work out appropriate inclusion of non-included bioethical principles in form of structured competencies and their incorporation in AETCOM module with reference to their placement, learning levels, mode of assessment.

Conclusion – This study deals with mapping and matching of competencies included in AETCOM module with UNESCO universal declaration on human rights and bioethics giving recommendations which can fulfil realised omissions in present AETCOM module thereby leading to its simplification and adoption.

Key words: AETCOM, AETCOM module, UNESCO, Bioethics, Bioethical principles. Post graduate curriculum, medical education.

Introduction

“Bioethics is a term that has arisen from but is broader than issues of ethics in human research. It addresses ethical issues arising from accelerating technological advances, that can potentially threaten human life itself or affect relationships between human beings and their environment. It focuses on protecting the environment and making it safe for the future generations”¹

The term Bioethics was coined in 1926 by Fritz Jahr in article about a ‘bioethical imperative’ regarding the use of animals and plants in ‘scientific research’²

In the year 1970, the American Biochemist Van Rensselaer Potter used the term to correlate the relationship between the Biosphere and the growing population. It was his work which laid the edifice for what has been known as ‘Global Ethics’, a discipline that centres around the linkage between biology, ecology, medicine and human values^{3,4}.

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Sargent Shriver, the spouse of Eunice Kennedy Shriver, claimed that he had invented the word

‘bioethics’ in the living room of his home in Bethesda, Maryland in 1970. He stated that he thought of the word after returning from a discussion earlier that evening at Georgetown University, where he discussed with others a possible Kennedy family sponsorship of an institute focused around the “application of moral philosophy to concrete medical dilemmas”⁵.

Realistically speaking the various posers in regard to ethicality in the domain of medicine in the context of life sciences has not only been a subject of one but to relatively new academic ventures in the field of ‘Bioethics’ and ‘health and human rights’. The core essence of the collage that has been formulated emanates from the concept of human dignity entitled to every individual in the form of an accruable human right independent of any or every discrimination of any and every type including those of gender, caste, creed, colour, faith, belief, religion, ethnicity, trade, occupation, calling, vocation, socio-economic status and geographic location.

It is in this backdrop it is evident that the scope of bioethics continues to expand with the advent of scientific inventions with respect to their rapidity and technological innovations emerging thereto in an open ended manner.

According to Andorno et al⁶, there is interlinkage of bioethics with human rights within the Universal Declaration¹¹. International documents have all referred to human rights as well as dignity together and therefore, invocation of human rights has been a crux in laying down global bioethics principles as well. Also, it is being rightly expressed that this interlinkage in between the two entities will foster a new era of development and regulations in the current perspectives of international law^{7,8}.

Taking stock of the overall global situation, the academic committee of the Medical Council of India in the process of formulating a detailed draft pertaining to competency based undergraduate medical education invoked a module titled ‘AETCOM Module’ (Attitude, Communication, and Ethics)⁹, which was notified in the year 2018 and is incorporated in the ‘Assessment Module for Undergraduate Medical Education’¹⁰. It has also been availed for the orientation of full time teaching faculty of the various medical schools, in India under the

ambit of the Medical Council of India vide the aegis of National Faculty Development Programme, run through various recognized Nodal and Regional Centers by it as a standing mechanism for the same.

The curricular requirement which was in the context of competencies attributable to Indian Medical Graduate in line and tune with the Global Competencies had to have the vital components of

- a. Knowledge (Cognitive)
- b. Attitude (Affective)
- c. Skill (Psychomotor)

The said curriculum includes structured affective domain in the curriculum and the contemplated competencies thereto are invoked in the AETCOM Module depicting therein in terms of their :

- a. Initiation
- b. Inculcation
- c. Consolidation
- d. Certification

The said competency based curriculum for undergraduate medical education that has incorporated AETCOM Module as an integrated part of the said structured curriculum has been notified with the prior approval of the Government of India, by the Medical Council of India and has become operational in the country from the current academic year 2019-20 in an onwards manner.

The United Nations Educational, Scientific and Cultural Organisation was established on 4th November, 1946 with its respective headquarters at Paris, France⁸. Since the inception of UNESCO, the main area of its work has been the ethical issues in relation with science and scientific advancements especially, those made in the direction of life sciences along with devising and developing normative standards on an international level. As rightly mentioned by Aldous Huxley, the first Director General of UNESCO, that if science and scientific perspectives are to be making any contribution to the betterment of mankind, it was essential to balance out the scientific applications against values⁹.

It is in this context that a critical appraisal of the AETCOM Module with reference to its Bioethical inclusions vis-à-vis professional ethics inclusions needs to be looked into for the purposes of an judicious operational mix of the two, so that the learner is oriented on the said arena in an alround manner so that optimal results thereto stand generated.

Aim

To critically analyze the Bioethical inclusions in the AETCOM Module included in the competency based medical education curriculum for the undergraduate medical education prescribed by the Medical Council of India with reference to Bioethical principles incorporated in UNESCO Declaration.

Objectives

1. To identify the bioethical inclusions in the AETCOM Module at various phases incorporated there under with reference to their conformity with Bioethical principles in UNESCO Declaration.

2. To critically analyze the bioethical inclusions in the AETCOM Module so identified in regard to their conformity with reference to Bioethical principles applicable to profession as included in UNESCO Declaration.

3. To suggest update or broadening of the ethical inclusions in the AETCOM Module so as to make them commensurate with the Bioethical principles incorporated in UNESCO Declaration.

Materials and Methods

Period of Study : 1/1/2020 to 30/6/2020 - six months

Place of study : School of Advanced Studies, Jawa(Sharlal) Nehru Medical College. Sawangi(Meghe), Wardha

Design : Descriptive Study

IEC Approval – Ref. no. DMIMS(DU)/IEC/Dec-19/8671 – From Institutional Ethics Committee, Datta Meghe Institute of Medical Sciences, Wardha dated 31st December, 2019. (attached)

Procedure : Rapid review of literature with

reference to AETCOM Module for the purposes of identification of the Bioethical inclusions in it with reference to Bioethical principles included in UNESCO declaration specially those applicable to profession and not propagation or advocacy.

Further, to critically appraise the conformity of the bioethical inclusions in the AETCOM Module with reference to their conformity with the bioethical principles as applicable to the profession in the UNESCO declaration.

Then, to work out the appropriate mitigation of the AETCOM Module by incorporating the non-included bioethical principles as applicable to profession incorporated in UNESCO Declaration by structuring it in the form of a competency including commensurate with the level of undergraduate medical education.

Data: Identifying Bioethical inclusions in the AETCOM Module and their placement in the competency based medical education curriculum for the undergraduate medical education in vogue from the academic session 2019-20 and onwards in the various medical colleges under the ambit of Medical Council of India.

Critical appraisal of the said identified Bioethical inclusions with reference to their conformity with the bioethical principles as applicable to the profession included in UNESCO declaration.

Further, to work out the appropriate inclusion of non included bioethical principles in the form of structured competencies and their incorporation in the AETCOM module with reference to their placement and learning levels including their mode of assessment.

Collection Tool : Critical appraisal of the AETCOM Module document and its placement in the competency based medical education curriculum as against the Bioethical principles as applicable to profession in the UNESCO Universal Declaration.

Analysis

1 Bioethical inclusions were identified in the AETCOM Module.

2. They were analysed with reference to their conformity with the bioethical principles as applicable

to profession incorporated in UNESCO declaration.

3. They were appraised to decipher any inadequacy thereto, and the non-inclusions were worked out in the form of core competencies and an attempt was made to incorporate these in the existing AETCOM Module by working out their placement, learning level and modes of assessment, as well.

Results and Discussion

This study analysed a total number of 54 competencies, both core as well as non core as included in the AETCOM module with their respective learning domains, levels as per Miller's pyramid, the professional year they are intended to be taught and assessed in as against the principles included in the UNESCO Universal Declaration laid down by the UNESCO.

The competencies included in the AETCOM module were core (n=39) and non-core (n=15). All 54 competencies in the AETCOM module reflected either single or multiple principles as per the UNESCO universal declaration of human rights and bioethics. Therefore all 54 competencies in the said module were identified as professional ethical inclusions. With regards to professional bioethics, 49 competencies were excluded except competencies 3,4,5,7 and 53 which were bioethical inclusions in the wake of the respective basic bioethical principles. So, we have 49 competencies under professional ethics and 5 competencies under professional bioethics in the AETCOM module.

Amongst the UNESCO Universal Declaration, principles 3 to 20 were listed as professional bioethical inclusions which were directed towards the learner and his profession directly. The remaining principles were directed towards the states, international affairs and regulation i.e. advocacy. These were therefore excluded.

So, we had two sets – one set of AETCOM module competencies and another set of UNESCO universal declaration principles.

Of the total number of AETCOM module competencies, 21 competencies had their learning level as K standing for Knowledge or the cognitive domain as per Bloom's Taxonomy and KH level standing for Know How as per the Miller's Pyramid. Remaining 23 competencies had their learning level as S standing

for Show or the psychomotor as well as the affective domains as per Bloom's Taxonomy and SH level standing for Show How as per the Miller's Pyramid.

Therefore, it can be noted that 21 competencies dealt with the cognitive domain and 23 competencies dealt with higher domains of learning – psychomotor and affective.

The verbs utilized for the cognitive domain were “enumerate, describe, identify, discuss and defend” respectively. The verbs utilized for the higher domains of learning were “demonstrate, administer, communicate, identify, discuss, defend” respectively. The common verbs utilized in both cognitive as well as higher domains of learning were “identify, discuss and defend”.

Article 18 – decision making and addressing bioethical issues was reflected in maximum number of competencies (n=44 competencies). This was followed by **article no. 3 – Human dignity and human rights** (n=33 competencies) and **Article 4 – Benefit and harm** (n= 30 competencies). Further, **article 13 – solidarity and cooperation** was noted to be reflected in 17 competencies followed by **article 8 – respect for human vulnerability and personal integrity** (n=10 competencies). Then **article 5 – autonomy and individual responsibility** was reflected in 9 competencies and articles 6,9 and 10 (**article 6 – consent, article 9 – privacy and confidentiality, article 10 – equality, justice and equity**) were reflected in 8 competencies each. **Article 7 – persons without the capacity to consent** was reflected in 7 competencies followed by articles 11 and 12 (**article 11 – non-discrimination and non-stigmatization and Article 12 – Respect for cultural diversity and pluralism**) were reflected in 6 competencies each. Articles 14,15 and 20 (**Article 14 – Social responsibility and health, Article 15 – Sharing of benefits and Article 20 – Risk assessment and management**) were reflected in 5 competencies each. This was ultimately followed by **article 19 – ethics committees** (n= 3 competencies). Thus the article which had the maximum reflection was **Article 18 – decision making and addressing bioethical issues**(n=44 competencies) followed by **article no. 3 – Human dignity and human rights** (n=33 competencies) and **Article 4 – Benefit and harm** (n= 30 competencies). The article 19 – ethics committee had the least reflection

(n=3 competencies).

However, the articles 16 and 17 (article 16 - Protecting future generations and Article 17 – Protection of the environment, the biosphere and biodiversity) had no reflection in the AETCOM module.

These principles need to be articulated in the AETCOM module by working out their placement, learning level and modes of teaching and assessment.

Suggested competencies framed for commensurating article 16 – Protecting future generations –

1. Describe the impact of life sciences on genetic constitution and future generations with regards to medical profession.

2. Identify, discuss, defend and demonstrate the impact of life sciences on genetic constitution and future generations with regards to medical profession.

Suggested competencies framed for commensurating article 17 – Protection of the environment, the biosphere and biodiversity –

1. Describe the interconnection between human beings and other forms of life.

2. Describe the importance of appropriate access and utilization of biological and genetic resources,.

3. Describe the importance of respect for traditional knowledge.

4. Describe the importance of role of human beings in the protection of the environment, the biosphere and biodiversity.

5. Identify, discuss, defend and demonstrate the interconnection between human beings and other forms of life.

6. Identify, discuss, defend and demonstrate the importance of appropriate access and utilization of biological and genetic resources,.

7. Identify, discuss, defend and demonstrate importance of respect for traditional knowledge.

8. Identify, discuss, defend and demonstrate importance of role of human beings in the protection of

the environment, the biosphere and biodiversity.

The competencies framed for article 16 are two – first covering the cognitive domain and second covering the psychomotor and affective domain with K, KH and S, SH levels in Miller's pyramid respectively. The professional year in which first competency can be included for teaching and assessment is the third professional year of MBBS undergraduate course for covering the cognitive domain whereas the second competency can be included in the fourth professional year of the MBBS undergraduate course for covering the psychomotor as well as affective domains.

The competencies framed for article 17 are eight – first four covering the cognitive domain with K and KH levels in the Miller's pyramid and the remaining four covering the psychomotor and affective domains with S and SH levels in the Miller's pyramid respectively. The professional year in which the first four competencies for article 17 be included for the purposes of teaching and assessment is third professional year of MBBS undergraduate medical education for covering the cognitive domain and the remaining four competencies be included in the fourth professional year for the purposes of covering the psychomotor and affective domains.

Modes of teaching these competencies are didactic lectures as well as large and small group discussions, focussed group discussions. Modes of assessment for the cognitive domains can be in the form of short answer questions, long answer questions or multiple choice questions as a part of the respective theory examination.

Modes of assessment of the psychomotor and affective domains can be in the form of viva voce, oral examination, clinical case presentation, standardised patient and simulated scenarios.

Conclusion and Acknowledgement

The present study deals with the mapping and matching of the competencies included in the AETCOM module with the UNESCO universal declaration on human rights and bioethics. This has brought out subsequent omissions which need to be taken care of in order to make the AETCOM module commensurate with

the UNESCO universal declaration and therefore, make it better and standardised on global and international level. Omissions so envisaged along with points brought out in this study in the form of recommendations have been supplied with suggested competencies in addition with their placement, learning level and modes of teaching and assessment. These recommendations can be envisaged as suggestions which can fulfil the realised omissions in the present AETCOM module set of competencies and thereby lead to its simplification and adoption.

Institutional Ethics Committee Clearance letter:-

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Conflict of Interest - Nil

References

1. Deshpande , S.N. The UNESCO Movement for bioethics in medical education and the Indian Scenario. *Indian Journal of Psychiatry*. 2016;58(58): 359-362.
2. Sans, H.M. Fritz Jahr’s 1927 concept of bioethics. *Kennedy Institution Ethics Journal*. 2007;17(4): 279-9.
3. Goldim, J. R. Revisiting the beginning of bioethics: The contributions of Fritz Jahr (1927). *Perspect Biol Med, Sum*, 2009: 377–80.
4. Lolas, Fernando. Bioethics and animal research: A personal perspective and a note on the contribution of Fritz Jahr”. *Biological Research (Santiago)*. 2008;41 (1): 119–23.
5. Martensen R. The History of Bioethics: An Essay Review”. *Journal of the History of Medicine and Allied Sciences*. 2001;56 (2): 168–175.
6. Andorno, R. Global bioethics at UNESCO: in defence of the Universal Declaration on Bioethics and Human Rights. *Journal of Medical Ethics*, 2007;3(3): 150–154.
7. Faunce, T.A. Will international human rights subsume medical ethics? Intersections in the UNESCO Universal Bioethics Declaration. *Journal of Medical Ethics*. 2005;1(31): 173-178.
8. Nys , H. Towards an International Treaty on Human Rights and Biomedicine? Some reflections inspired by UNESCO’s Universal Declaration on Bioethics and Human Rights. *European Journal of Health Law*. 2006;13(1): 5-8.
9. Nayyar, R. Attitude, Ethics and Communication (AETCOM) Competencies for the Indian Medical Graduate. (1st ed.). India: Medical Council of India; 2018.
10. Medical Council of India. Assessment Module for Undergraduate Medical Education Training Program, 2019: 1-29.
11. Henk, A. The UNESCO Universal Declaration on Bioethics and Human Rights – background, principles and application. (1st ed.). United States: UNESCO; 2009.