**The making of a ‘Citizen Doctor’: Can value-based classes in Environmental Science and Constitution of India impact medical student formation?**

Authors: Radhika Hegde2, Manjulika Vaz 1,.

1 Health and Humanities, St John’s Research Institute, 2 Department of History of Medicine, St. John’s Medical College, Bangalore 560034, India.

**Table 1: Work plan of the Citizen- Doctor- ES Course**

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| **Topics** | **Learning Objectives** | **Value Focus** | **Method** |
| 1. Climate Change – causes and consequence | To understand the interconnectedness between human behaviour, the environment, social consequences and health. | Environmental and Social Consciousness of a medical student | Film (Climate Code Green) and group discussion |
| 1. Globalisation, consumption and garbage management | To internalise how globalisation, consumption and convenience, effects the environment and our health. | Moving from self-focus to a society focus | Guest resource person – a doctor turned environmental activist |
| 1. Sustainable lifestyles and its impact on health | To reflect on how present lifestyles are unsustainable and have unmanageable consequences on the environment and health. | How our lifestyle choices affect other’s lives and our future | Guest resource person – a doctor with a low-cost living perspective |
| 1. Urbanisation and obesity | To discuss the impact of urbanisation on the built environment and health connections to a sedentary, inactive lifestyle. | Confronting environmental health barriers.  Can I make a difference? | Presentation on research done on physical activity and urban spaces and health consequences. |
| 1. Water – its contamination and its management | To understand the use and management of water in a large hospital complex.  To see water as a source of inequity and the health impact of water crises. | Am I responsible? Can I make a difference? | Visit to the institution’s water testing unit and Sewage Treatment Plant.  Reflective narratives by students |
| 1. Water bodies and their conservation |
| 1. Air pollution and its mitigation | To engage with the extent of the problem of air pollution and actions to mitigate the problem. | Can I ensure compliance to rules? | Class debate on vehicular air pollution  Design of a campaign based on primary and secondary research |
| 1. Ecological Mapping and Action Planning | To observe the extent of each of the above environmental issues in the immediate environment of the college campus and develop an action plan that students can adopt, and the can be advocated to the management. | Do I observe things around me? Can I introspect? Can I be the change? | Student volunteers map out different areas of the campus and create a report based on the checklist.  The class discusses the results in small groups and come out with an action plan with individual commitments. |

**Table 2: Work plan of the Citizen- Doctor CoI Course**

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| --- | --- | --- | --- |
| **Topics** | **Learning Objectives** | **Value Focus** | **Method** |
| 1. The relationship between Health and the written Law | To understand the role of historical development and the purpose of law. | Enables the students to appreciate the importance of context, continuity and change | Narration of the history of health and the modern state |
| 1. Public Interest Litigation in Healthcare | To understand the meaning, importance and impact of advocacy on community. | Importance of Advocacy and Solidarity, Inclusion and Subsidiarity | Presentation followed by Group discussion on a real case study of people who sparked a change at the grassroots level |
| 1. Rights of the patients in healthcare | To understand the practical issues of human rights violations faced by marginalized communities and to see the role played by civil society in increasing the visibility of the rights of the marginalized. | Appreciate the role of civil society in fighting for the rights and dignity of the individual. | 1. Narration of the Gay HIV treatment in America. The Benetton Advertisement was the trigger for debate.  2. Guest Lecture by a Transgender Woman on the “The hidden  Identity of a Trans-person” |
| 1. Public engagement with the legislative process. | To understand the practicality of participatory democracy. | The importance of participation in creating social change and the  value of human dignity. | 1. Historical Narration of Age of Consent Bill 1891 and the story of Dr. Rukma Bai.  2. Guest Lecture on “Formulating a Response to the Bill- The case of Surrogacy in India” |
| 1. The Clinical Establishment Act | To describe common good as an important bedrock of the democratic system. | Understanding the meaning of Common Good in a democratic system. | 1.The story of female foeticide in India and the involvement of a doctor in perpetuation of this evil  2. “*Satyamev Jayathe*” (Truth Wins) a Television Show hosted by a popular actor on addressing female foeticide. This triggered discussion and the need for more stringent regulation. |
| 1. Medical Errors and Medical Negligence | To discuss the connection between virtues of humility, truth, patience, compassion, and diligence as qualities of a good doctor. | Understanding the limitations of medicine; importance of humility in practice and of truth telling in communication; accountability. | 1. TED talk “Doctors make Mistakes” by Brian Goldman.  2. Discussion on reported cases on Medical Negligence in India |

**Table 3: Responses to individual accountability to environmental issues**

|  |  |  |
| --- | --- | --- |
|  | **Agree that addressing climate change, solid waste issues and environmental harm are responsibilities of doctors/ med students** | **Disagree that addressing climate change, solid waste issues and environmental harm are responsibilities of doctors/ med students** |
| Q.3 | ‘We are the citizens of this country and not strangers therefore have an equal responsibility to address the problem’  ‘A doctor’s opinion matters in the community therefore one has to be proactive in leading the group.’  ‘the health sector has one of the largest carbon footprints in terms of energy, water consumption and generating waste. Therefore, it is our special responsibility’.  ‘A doctor’s job entails not just treating the symptoms but also the cause.’ | ‘It is not just the doctor’s but every individual’s responsibility to respond.’  ‘After a hectic schedule it becomes tiring to respond to this too.’  ‘There are other people who live to protect and respond to climate change and they should take the initiative.’ |
| Q.4 | ‘Not segregating waste in my own room is laziness’ | ‘It’s not dependent on personal behaviour’ |
| Q.5 | ‘I use lot of plastic cutlery adding to environment waste.’ | -- |

**Table 4: Responses to Citizen Doctor – ES classes**

**[n = 115]**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Question** | **Strongly Agree** | **Agree** | **Can’t Say** | **Disagree** | **Strongly Disagree** | **No Response** |
| 1. Environmental Science classes are useful for a medical student | 59.1%  (68/115) | 37.4%  (43/115) | 3.5%  (4/115) | 0 | 0 | 0 |
| 1. I see environmental science as an integral determinant of health | 80%  (92/115) | 20%  (23/115) | 0 | 0 | 0 | 0 |
| 1. I believe it is a doctor’s responsibility to respond to climate change | 27%  (31/115) | 48%  (55/115) | 22%  (25/115) | 1.5%  (2/115) | 1.5%  (2/115) | 0 |
| 1. I am responsible for the solid waste problems in my area | 13.9%  (16/115) | 49.5%  (57/115) | 26.9  (31/26.9) | 7.8%  (9/115) | 1.7%  2/115) | 0 |
| 1. My behaviour can cause environmental harm | 22.8%  (26/114) | 56.1  (64/114) | 13.1%  (15/114) | 3.5%  (4/114) | 4.3%  (5/114) | 0.87  (1/115) |
| 1. There are far more important things than learning about the environment for medical students | 7.0%  (8/114) | 24.5%  (28/114) | 29.8%  (34/114) | 32.4%  (37/114) | 6.14%  (7/114) | 0.87  (1/115) |
| 1. Responding to environmental problems is primarily the job of other people like social activists | 3.47%  (4/115) | 11.3%  (13/115) | 6.9%  (8/115) | 47.8%  (55/115) | 30.4%  (35/115) | 0 |
| 1. Getting people from outside the institute helps us understand the real-world problems | 24.5%  (28/114) | 62.2%  (71/114) | 7.89%  (9/114) | 3.50%  (4/114) | 1.75%  (2/114) | 0.87%  (1/115) |
| 1. The environment classes made me think about my role as a doctor and a citizen. | 49.5%  (57/115) | 44.3%  (51/115) | 5.2%  (6/115) | 0 | 0.86%  (1/115) | 0 |
| 1. I skipped classes because it’s not linked to exams | 3.5%  (4/114) | 12.2%  (14/114) | 7.89%  (9/114) | 27.1%  (31/114) | 48.6%  (56/114) | 0.87%  (1/115) |

**Table 5: Responses to Citizen Doctor – CoI classes**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Student feedback on the COI**  **n=96** | | | | | | | |
| **Questions** | | **Strongly Agree** | **Agree** | **Undeci- ded** | **Slightly Disagree** | **Strongly Disagree** | **Not Answered** |
| Q1. Being actively involved in the community is everybody's responsibility including mine | | 56.2%  (54/96) | 39.5%  (38/96) | 3.1%  (03/96) | 0 | 1.0%  (01/96) | 0 |
| Q2- The course helped me understand how as an individual, I can influence laws and policies | | 30.2%  (29/96) | 53.1%  (51/96) | 11.4%  (11 /96) | 3.1%  (03/96) | 2%  (02/96) | 0 |
| Q3- The course helped me better understand the rights of the patients | | **Very Much** | **Some-**  **what** | **Undeci-ded** | **Not Really** | **Not at all** | **Not Answered** |
| 53.6%  (51/95) | 38.9%  (37/95) | 5.2%  (05/95) | 2.1%  (02/95) | 0 | 1%  (1/96) |
| Q4- How would you rate the following methods that were used in the course | | **Extremely Useful** | **Very Useful** | **Some-**  **what Useful** | **Slightly Useful** | **Not at all Useful** | **Not Answered** |
| a. Lecture | | 15%  (14/93) | 44%  (41/93) | 30.1%  (28/93) | 8.6%  (08/93) | 2.1%  (02/93) | 3.1%  (03/96) |
| b. Guest Lecture by Experts | | 55.9%  (52/93) | 33.3%  (31/93) | 9.6%  (09/93) | 1%  (01/93) | 0 | 3.1%  (03/96) |
| c. Short films/video clippings | | 41.9%  (39/93) | 41.9%  (39/93) | 15%  (14/93) | 0 | 1%  (01/93) | 3%  (03/96) |
| d. Reflective Writing | | 13.9%  (13/93) | 32.2%  (30/93) | 36.5%  (34/93) | 11.8%  (11/93) | 5.3%  (05/93) | 3.1%  (03/96) |
| Q-5. How would you rate overall the ten hours course | | | | | | | |
| a. Informative | **Extremely Useful** | | **Some-**  **what** | **Undeci-ded** | **Not Really** | **Not at all** | **Not Answered** |
| 50%  (46/92) | | 43.4%  (40/92) | 2.1%  (02/92) | 3.2%  (03/92) | 1%  (01/92) | 4%  (04/96) |
| Q6. Understanding Constitutional Process is important to effective healthcare | 52%  (50 /96) | | 38.5%  (37/96) | 7.2%  (07/96) | 2.0%  (02/96) | 0 | 0 |