ORIGINAL RESEARCH PAPER
Volume - 12 | Issue - 04 | April - 2023 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A CROSS-SECTIONAL STUDY TO ASSESS THE PERCEPTION AND CHALLENGES FACED BY THE FACULTY OF COMMUNITY MEDICINE IN THE IMPLEMENTATION OF COMPETENCY-BASED MEDICAL EDUCATION FOR UNDERGRADUATE CURRICULUM, MAHARASHTRA.

Medical Education

Dr. Annapoorani V Junior Resident, Department of Community Medicine, Grant Government Medical College & Sir J.J Group of Hospitals, Mumbai.

Dr. Lalit Sankhe Associate Professor, Department of Community Medicine, Grant Government Medical College & Sir J.J Group of Hospitals, Mumbai.

Dr. Chhaya Rajguru Associate Professor, Department of Community Medicine, Grant Government Medical College & Sir J.J Group of Hospitals, Mumbai.

Dr. Ayushi R. Thaker Junior Resident, Department of Community Medicine, Grant Government Medical College & Sir J.J Group of Hospitals, Mumbai.

ABSTRACT

Introduction: Competency-Based Medical Education (CBME) is a modern approach to medical education that is being adopted in medical colleges throughout India. The emphasis on outcome-based teaching, learning, and evaluation techniques has brought about a substantial change in the role of the teacher. In the framework of CBME, faculty development is crucial. The new CBME's implementation will be successful if faculty perceptions are factored into the equation, and problems are addressed. **Aim & objectives:** To assess the perceptions of the Community Medicine faculty and the challenges they encounter in implementing Competency-Based Medical Education for undergraduate curriculum. **Methods:** A cross-sectional study was carried out among Community Medicine faculty from all medical colleges of Mumbai between September and November 2022. Faculties were interviewed in person using a pre-tested semi-structured questionnaire on CBME and non-probability volunteer's opt-in sampling technique was adopted. Responses were entered and analyzed in Microsoft Excel. **Results:** 56 faculties responded to the questionnaire, majority have undergone at least one faculty development program mandatory for CBME implementation. The majority of the faculty accepted skill training and small group discussion as a useful approach for teaching & learning. Many supported the implementation of family adoption program. Major challenges perceived were lack of uniformity in assessment, interdepartmental cooperation, lack of resources and insufficient training to implement the CBME curriculum. **Conclusion:** The faculty's perception of the various CBME elements and facets varied greatly, and they were broadly supportive of CBME enforcement. Yet, there are important obstacles in the form of resources and adequate faculty training that need to be addressed by the Medical Education Unit (MEU).

KEYWORDS

Challenges faced, Faculty perception, Competency-Based Medical Education, Community Medicine.

INTRODUCTION:

Competency-based medical education (CBME), which is a modern approach causing paradigm shift in medical education, has been introduced by National Medical Council (NMC) formerly known as Medical Council of India (MCI). Five important roles of doctors are to be improved by the Competency-Based Medical Education (CBME) programme in India, which was recently updated: clinician, communicator, leader, lifelong learner, and professional[1]. Competency- based learning focuses more on the skills required for effective medical practice and offers benchmarks and a framework for evaluating performance than the previous curriculum, which emphasized knowledge and was time-based, structured around systems and disciplines, and included a summative evaluation[2].

Even though CBME has many benefits and is widely acknowledged as being essential for medical education, few institutions in India have not yet adopted it. The adoption of the CBME within their setup may be hindered by a number of factors, including the absence of vision and strategy for implementing the curriculum design, lack of resources, disinterest of the teaching staff, lack of regulatory authority guidelines for the mandatory execution, economic support, insufficient coordination in between undergraduate and postgraduate curricula[3].

Recently, a lot of research has been done on CBME, its use, and related challenges[4–6]. Faculty members must comprehend the CBME's underlying concept and its intended competencies to implement successfully. The role of the teacher has undergone a significant transformation with the addition of modules on Attitude, Ethics, and Communication (AETCOM), as well as an emphasis on outcome-based teaching, learning, and evaluation approaches. As a result, faculty training is a crucial part of CBME and it is critical to evaluate potential implementation challenges and make the necessary modifications to the implementation process[7].

Therefore, the purpose of this study was to assess how community medicine faculty members perceived the key elements of CBME, what challenges they faced in implementing it, and to provide appropriate suggestions in light of the study's findings.

OBJECTIVES:

1. To assess the perception of the faculty of Community Medicine in implementation of Competency Based Medical Education for Undergraduate Curriculum.
2. To assess the challenges faced by the faculty of Community Medicine in implementation of Competency Based Medical Education for Undergraduate Curriculum.
3. To suggest suitable recommendations based on study findings.

Materials and Methods:

Study design and setting:

This observational cross-sectional study was conducted for 3 months duration from September to November 2022 among Community Medicine faculties from all the medical colleges of Mumbai.

Study participants and sampling:

The study included all the teaching faculty of community medicine department who had been working on the CBME model implementation for at least six months. Non-probability volunteers opt in sampling technique was adopted.

Data collection tool and technique:

A pre-tested semi-structured questionnaire was constructed taking references from few literatures in relevance to our study setting and study participants. It was designed to reflect important challenges related to CBME and faculties perception on the recently implemented CBME curriculum with the use of the five-point Likert scale pattern.

The questionnaire was pre-tested before beginning the data collection and necessary changes were made. There was also a section with open-ended questions at the conclusion to allow people to express their comments in a more qualitative fashion. The faculties were interviewed in person and informed consent was obtained. The responses were entered and analysed in Microsoft Excel.

Ethical consideration:

The institution's ethical review board gave its approval before commencing the study. There were no personal details on the

questionnaire. Their opinions of the new curriculum and its difficulties were the main topics of the questions.

RESULTS:

Table 1: FDP(Faculty Development Program) awareness of medical teaching faculty.

FDP Awareness	Responses	Frequency	Percentage
Have you participated in any faculty development programmes (FDP)?	Yes	40	71%
	No	16	29%
If no, reason for not attending FDP	Did not get an opportunity	14	88%
	Not aware	2	13%
Are you aware that some of the FDPs must be completed to be promoted?	Yes	47	84%
	No	9	16%
Do you agree that FDPs are crucial for enhancing medical faculties' eaching abilities to implement CBME?	Agree	51	91%
	Disagree	3	5%
	Do not know	2	4%

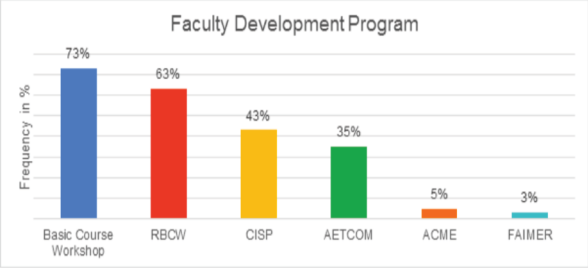

Figure 1: Percentage of faculty members who participated in Faculty Development Program

A total of 56 teaching faculties from all the medical colleges in Mumbai expressed interest and filled out the questionnaire. Among the study sample, 40 (71%) had undergone at least one FDP, the most common being Basic Course Workshop (73%) followed by Revised Basic Course Workshop (63%), Curriculum Implementation Support Programme (43%) and Attitude Ethics and Communication (AETCOM) (35%). Majority of the faculties (91%) agreed that FDP is essential to improve medical faculties' teaching skills to adopt CBME [Figure 1]. Of the faculties who did not undergo any FDP 16 (29%), majority claimed that they were not given any opportunity (88%) [Table 1].

Table 2: Faculty's perception on introduction of foundation course

Foundation course	SA*, n (%)	A*, n (%)	N*, n (%)	D*, n (%)	SD*, n (%)
It is necessary to orient the students to MBBS and all aspects of medical environment in foundation course	29 (52)	18 (32)	4 (7)	3 (5)	2 (4)
Within the foundation course, the following are useful					
Basic life support training	37 (66)	12 (21)	4 (7)	2 (4)	1 (2)
Field/health centre visits	30 (54)	16 (29)	3 (5)	4 (7)	3 (5)
Stress/time management	42 (75)	8 (14)	3 (5)	1 (2)	2 (4)
Language and communication skills	36 (64)	13 (23)	2 (4)	3 (5)	2 (4)
Professionalism and ethics	41 (73)	12 (21)	2 (4)	1 (2)	0 (0)
Biomedical waste management	38 (68)	12 (21)	3 (5)	2 (4)	1 (2)
IT/computer skills	29 (52)	18 (32)	2 (4)	4 (7)	3 (5)

**SA- Strongly Agree, A- Agree, N- Neutral, D- Disagree, SD- Strongly Disagree*

Majority supported the introduction of professionalism and ethics (94%), stress management and Biomedical Waste management sessions (89%), basic life support training and language & communication skill sessions (87%). About 84% and 83% of the faculty, respectively, supported IT/computer skills training and Field visits [Table 2].

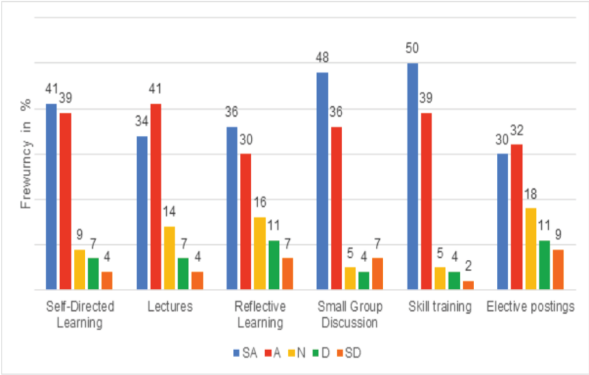

Figure 2: Evaluation of Teaching Learning methodologies from the facilitators' views

**SA- Strongly Agree, A- Agree, N- Neutral, D- Disagree, SD- Strongly Disagree*

Regarding Teaching-Learning techniques, most of the teachers accepted skill training (89%) as a useful approach followed by small group discussion (84%), self-directed learning (80%) and Interactive Lectures (75%). Reflective learning and elective posting were approved by 66% and 60% of the faculty, respectively [Figure 2].

Table 3: Faculty perceptions on newer learning strategies under CBME

Components of CBME	SA, n (%)	A, n (%)	N, n (%)	D, n (%)	SD, n (%)
Implementation of family adoption program is feasible	25 (45)	19 (34)	4 (7)	5 (9)	3 (5)
Horizontal integration of subjects helps in holistic learning	19 (34)	28 (50)	4 (7)	2 (4)	3 (5)
Vertical integration provide exposure to advanced concepts	23 (41)	24 (43)	4 (7)	2 (4)	3 (5)
Integration sessions are not feasible considering the quantum of portions	20 (36)	22 (39)	7 (13)	4 (7)	3 (5)
The content of teaching is restricted due to specific learning objectives given under CBME curriculum	17 (30)	19 (34)	10 (18)	4 (7)	6 (11)
Community posting gives students more opportunities than hospital-based education to learn about the social, cultural, and ethnic aspects of medical practice	33 (59)	17 (30)	5 (9)	1 (2)	0 (0)
Year wise allocation of hours in Community Medicine for field activities is adequate	17 (30)	21 (38)	8 (14)	6 (11)	4 (7)
Learning communication skills, professionalism will change the attitude of medical students in delivering the community health services	26 (46)	21 (38)	4 (7)	3 (5)	2 (4)
Introducing newer assessment methods for the student's mandate lots of work up	24 (43)	26 (46)	4 (7)	2 (4)	0 (0)

NMC/ University should take the regular feedback from the faculty regarding the implementation of CBME program	36 (64)	14 (25)	4 (7)	2 (4)	0 (0)
Faculty need to be trained in providing constructive feedback	36 (64)	17 (30)	2 (4)	1 (2)	0 (0)

**SA- Strongly Agree, A- Agree, N- Neutral, D- Disagree, SD- Strongly Disagree*

More than three-fourth of the participants (79%) embraced implementation of family adoption program. Majority of the faculty (84%) accepted horizontal and vertical integration helps in holistic learning and exposure to advanced concepts respectively. Most of the faculty (89%) agreed that community postings give students more opportunities to learn than hospital-based settings, introducing newer assessment method for the student's mandate lots of work up. Learning the concepts of attitude, ethical aspects of medicine, and communication skills during Phase I curriculum was perceived as essential by 84%. Around 94% opined that faculty need to be trained in providing constructive feedback to the students [Table 3].

Table 4: Challenges faced by the faculty in the implementation of Competency-Based Medical Education

Perceived Challenges	SA, n (%)	A, n (%)	N, n (%)	D, n (%)	SD, n (%)
Challenges for faculty					
Multiple departments working together to create and deliver integrated content is challenging	27 (48)	22 (39)	4 (7)	2 (4)	1 (2)
Lack of awareness of CBME related works	13 (23)	24 (43)	3 (5)	7 (13)	9 (16)
Lack of sufficient training to implement the new CBME curriculum	20 (36)	25 (45)	4 (7)	4 (7)	3 (5)
The Strength of the faculties in the department are not adequate for CBME related works	28 (50)	19 (34)	4 (7)	2 (4)	3 (5)
Implementation of mentorship program is difficult in Community Medicine as the subject is taught for all 3 years of MBBS	28 (50)	18 (32)	5 (9)	3 (5)	2 (4)
Challenges with infrastructure and administrations					
Lack of administrative support for implementing CBME in our institution	10 (18)	17 (30)	6 (11)	12 (21)	11 (20)
Lack of Infrastructure & logistics	27 (48)	20 (36)	4 (7)	3 (5)	2 (4)
Lack of funds/ vehicles for field visits	30 (54)	17 (30)	4 (7)	3 (5)	2 (4)
Challenges with students & assessment					
Lack of uniformity in assessment	32 (57)	17 (30)	4 (7)	2 (4)	1 (2)

**SA- Strongly Agree, A- Agree, N- Neutral, D- Disagree, SD- Strongly Disagree*

Most of the faculties (87%) believed that there was a lack of uniformity in evaluation and that interdepartmental cooperation might be challenging during integration. The majority (84%) felt that there were issues with infrastructure and logistics and that the minimal faculty strength was insufficient to administer the new curriculum. The establishment of a mentorship programme in community medicine is challenging, according to 82% of participants, because the subject is covered in all three years of MBBS. Most of the faculties agreed that there is an insufficient training (81%) to implement CBME curriculum [Table 4].

DISCUSSION:

The Indian medical education system, one of the best in the world, is in the process of becoming a structured and well recognized concept[8]. Thus, a cross-sectional study was conducted to find out the perception of medical college faculty about the recently adopted CBME and what difficulties they were facing. Although the faculty across India readily accept the considerable shift in curriculum, the rate at which they are being trained is low[9]. Therefore, it is imperative to strengthen the current faculty development programme.

A study by Rustagi SM et al. in 2019 found that 44.8% had completed RBCW while 39.7% of faculty members participated in CISP[10]. In our study, we have seen that 63% and 43% of the faculty members were trained in RBCW and CISP respectively, which is noticeably better than the prior record. Rest of the faculty members who have not undergone any training claim a lack of opportunities. The hole that is thus created must be filled by the administrative chiefs, who are required to offer everyone a chance.

Suman et al. in 2007[11] and Srimathi T in 2014[12] both held foundation courses in their respective institutions prior to their adoption. According to them, foundation courses provided students the knowledge and the self-assurance they needed to pursue in medicine field. Most participants in our study (84%) believed that a foundation course was necessary to educating students for an undergraduate medical degree.

The lack of competence and confidence among medical students in emergency care serves as a reminder of the importance of basic life support training during under graduation in medical colleges[13–15]. The majority of participants in the current survey were in favor of undergraduate students receiving training in basic life support.

Mata et al[16] in 2015 conducted meta-analysis on 54 studies and found that among medical students the overall pooled prevalence of depression was 28.8%. Patil et al[17] and Anuradha et al[18] demonstrated that stress is a common occurrence among medical students in India. In the current study, 89% of participants expressed support for the inclusion of stress management classes.

A good diagnosis and course of treatment depend on the ability to communicate with the patient, which is regarded as a key clinical competence in medicine. Training in communication skills is widely acknowledged as being a crucial part of medical education. Several authors[19–21] have provided justification for the need of communication skills training which is comparable to the current study findings.

SDL equips students with the skills they need to become autonomous learners, outspoken and accountable, and self-sufficient lifelong learners in a setting that is constantly changing. These abilities will aid students in memorising information more effectively, which will improve their decision-making[22]. Reflective practises have a discernible effect on medical education at both the undergraduate and graduate levels. It also fosters the right mindset for lifelong learning while improving the students' SDL skills. There is strong evidence that suggests reflection, like any other skill, can be taught and impart knowledge that will help future educational settings[23]. In the present study, only 66% of the faculty embraced reflective learning in spite of its advantages.

In order to better coordinate between multipurpose workers and medical officers, the Ministry of Health & Family Welfare, GOI established the Health and Medical Education Committee, also known as the Srivastava Committee, in 1974[24]. The committee's aim was to align medical education with the needs of the nation. Their purpose was to set guidelines to achieve simple, promotive, preventative and curative health services in order to empower the villages[25]. The implementation of Family Adoption Program (FAP) in the villages through the Community Medicine department of colleges, according to a study on FAP in 2021 by AV vanikar et al[26], can be used to address this issue. This has the advantage of transforming MBBS students into "complete doctors" with a compassionate approach and the self-assurance to lead on socio-medical aspects. The underserved rural populace will benefit. The majority of the faculty participants in our study were in favour of including FAP in the curriculum for MBBS students.

To better understand the related concepts, to avoid repetition, and to save time, the NMC suggested integrating at least 80% of the topics. Departmental barriers can be broken in medical education by

integrating teaching and learning across the phases[27]. The integration was much appreciated by most of the faculty in our study.

Often, the medical profession and health policies are facing significant changes. The medical education must concurrently adopt new procedures while keeping up with changes in standards, thereby altering the assessment methods. The assessment of newer competencies needs to be woven based on modified blooms taxonomy[28]. A large number of the participants in our study believed that creating new assessment procedures was challenging since it required extensive background exploration to measure multiple integrated abilities. Many of the faculty felt that they needed to receive training on how to give students constructive feedback which allows retrospective self-reflection.

The majority of participants (87%) agreed that it is difficult for different departments to collaborate and produce integrated material in the current study. Given that some of the faculty have not completed any medical education training programmes and are unaware of CBME-related works, there is likely to be a significant variance in the way CBME is implemented across different colleges.

More than half of respondents believed they required regular training sessions to stay updated in CBME. There is still a sizable backlog of faculty waiting for such fundamental training in many medical colleges[27]. All college administrators interpret the minimal staff requirements for each department specified by MCI regulations as the maximum staff requirements. To make the CBME implementation successful, the medical colleges' current staffing needs to be updated. The results of a study by Ramanathan R et al[19] in 2021 revealed similar results. In a previous study done by Guhan N et al[29] in 2020 found that mentorship programmes enhanced academic achievement, particularly for students who performed below average and need more attention and support. But in our study majority faculty members felt that Implementation of mentorship program is difficult in Community Medicine as the subject is taught for all 3 years of MBBS.

Limitation:
The current study was carried out at medical colleges only in Mumbai. To obtain faculty perception and issues in various situations, it is necessary to expand data collecting to other institutions all over Maharashtra or India. The study information gathered via a qualitative approach would have provided in-depth knowledge. Further study is planned to overcome the limitations.

CONCLUSION:
While CBME has the potential to improve medical education and produce more skilled, patient-centered doctors, it also presents significant challenges for academic personnel such as those with technology, education, assessment tools and other resources. It is crucial to emphasize the value of giving faculty members the chance to participate in faculty development programmes which has to be taken care by Medical Education Unit (MEU) of the institutions to successfully implement the CBME model.

Recommendations:
1. Continuous Capacity building of faculty: Provide faculty members opportunities for continued faculty development to make sure they have the knowledge and skills necessary to implement CBME successfully. This can be accomplished using interactive workshops, online training courses, and other tools.
2. Resources: Implementation of Competency-Based Medical Education (CBME) can be resource-intensive, and a lack of resources can be a major obstacle. Hence Planning and Budgeting is very important to cover the costs of the technology, training, assessment tools, infrastructure and logistics needed for CBME deployment.
3. Evaluation: Carefully review the CBME implementation, considering input from students, faculty, and other stakeholders, in order to recognize potential issues and make the needed improvements.
4. Ensure Clear Communication: Maintain open lines of communication between the faculty and administration regarding the CBME's goals and objectives as well as expectations for student learning outcomes.

Declarations:
Conflict of Interest: None

Financial support & sponsorship: None

REFERENCES:
1. Upadhyay M, Shrivastava S, Arshad M, Srivastava A, Bihari A. Knowledge and Perception of Faculty towards Competency Based Medical Education: A Cross-sectional Study. Journal of Clinical and Diagnostic Research. 2022;10–3.
2. Council M, Competency N, Curriculum B, Graduates M, Appraisal C. Guest Editorial Medical Council of India ' s New Competency - Based Curriculum for Medical Graduates : A Critical Appraisal. 2019;(Mci).
3. Shrivastava SR, Shrivastava PS. Qualitative study to identify the perception and challenges faced by the faculty of community medicine in the implementation of competency-based medical education for postgraduate students. Family Medicine and Community Health. 2019;7(1):1–6.
4. Harris P, Snell L, Talbot M, Harden RM. Competency-based medical education: implications for undergraduate programs. Med Teach. 2010;32(8):646–50.
5. Iobst WF, Sherbino J, Cate OT, Richardson DL, Dath D, Swing SR, et al. Competency-based medical education in postgraduate medical education. Med Teach. 2010;32(8):651–6.
6. Campbell C, Silver I, Sherbino J, Cate OT, Holmboe ES. Competency-based continuing professional development. Med Teach. 2010;32(8):657–62.
7. Teli A, Harakuni S, Kamat C. Quantitative and qualitative evaluation competency - based medical education. 2021;143–9.
8. Deswal BS, Singhal VK. Problems of medical education in India. International Journal Of Community Medicine And Public Health. 2016 Dec 28;3(7):1905–9.
9. Sharma R, Bakshi H, Kumar P. Competency-Based Undergraduate Curriculum: A Critical View. Indian J Community Med. 2019;44(2):77–80.
10. Rustagi SM, Mohan C, Verma N, Nair BT. Competency-based Medical Education: The Perceptions of Faculty. Journal of Medical Academics. 2019;2(1):1–5.
11. Suman S, Sarmishtha G, Himanshu P. Foundation Course for MBBS students at entry level: Experience at an Indian medical school. South-East Asian Journal of Medical Education. 2007 Dec 30;1(1):33–7.
12. Srimathi T. A study on students feedback on the foundation course in first year MBBS curriculum. International Journal of Medical Research & Health Sciences. 2014 Jul 1;3:575.
13. Chandrasekaran S, Kumar S, Bhat SA, Saravanakumar null, Shabbir PM, Chandrasekaran V. Awareness of basic life support among medical, dental, nursing students and doctors. Indian J Anaesth. 2010 Mar;54(2):121–6.
14. Tipa RO, Bobirnac G. Importance of basic life support training for first and second year medical students--a personal statement. J Med Life. 2010;3(4):465–7.
15. Saquib SA, Al-Harthi HM, Khoshhal AA, Shaher AA, Al-Shammari AB, Khan A, et al. Knowledge and Attitude about Basic Life Support and Emergency Medical Services amongst Healthcare Interns in University Hospitals: A Cross-Sectional Study. Emerg Med Int. 2019;2019:9342892.
16. Mata DA, Ramos MA, Bansal N, Khan R, Guille C, Angelantonio ED, et al. Prevalence of Depression and Depressive Symptoms Among Resident Physicians A Systematic Review and Meta-analysis. JAMA. 2015 Dec 8;314(22):2373–83.
17. Patil SK, Patkar US, Patkar KU. Comparision of Levels of Stress in Different Years of M.B.B.S. Students in A Medical College - An Observational Study. 2016;3(6).
18. Anuradha R, Dutta R, Raja JD, Sivaprakasam P, Patil AB. Stress and Stressors among Medical Undergraduate Students: A Cross-sectional Study in a Private Medical College in Tamil Nadu. Indian J Community Med. 2017;42(4):222–5.
19. Ramanathan R, Shanmugam J, Sridhar MG, Palanisamy K, Narayanan S. Exploring faculty perspectives on competency-based medical education: A report from India. J Educ Health Promot. 2021 Oct 29;10:402.
20. Sangappa SB, Tekian A. Communication skills course in an Indian undergraduate dental curriculum: a randomized controlled trial. J Dent Educ. 2013 Aug;77(8):1092–8.
21. Ferreira-Padilla G, Ferrández-Antón T, Baleriola-Júlvez J, Braš M, Đorđević V. Communication skills in medicine: where do we come from and where are we going? Croat Med J. 2015 Jun;56(3):311–4.
22. Premkumar K, Vinod E, Sathishkumar S, Pulimood AB, Umaefulam V, Prasanna Samuel P, et al. Self-directed learning readiness of Indian medical students: a mixed method study. BMC Medical Education. 2018 Jun 8;18(1):134.
23. Devi V, Abraham RR, Kamath U. Teaching and Assessing Reflecting Skills among Undergraduate Medical Students Experiencing Research. J Clin Diagn Res. 2017 Jan;11(1):JC01–5.
24. Ministry of Health and Family Planning, Government of India. Srivastava Committee Report. In: Alternatives in development. New Delhi: Indian Council of Social Science Research; 1975; 1-56. [Internet]. [cited 2023 Feb 14]. Available from: https://www.nhp.gov.in/sites/default/files/pdf/Srivastava_Committee_Report.pdf
25. Nanda AK. Health care at the grassroots: Village Health Guides and community participation in rural Punjab. Social Change. 2002 Sep 1;32(3–4):111–33.
26. AV Vanikar. The family adoption programme: Taking Indian medical undergraduate education to villages | Indian Journal of Preventive & Social Medicine. 2021 Oct 13 [cited 2023 Feb 14]; Available from: https://ijpsm.co.in/index. php/ijpsm/ article/view/377
27. Basheer A. Competency-based medical education in India: Are we ready?. J Curr Res Sci Med 2019;5:1-3.
28. Elshama SS. How to use and apply assessment tools in medical education? Iberoam J Med 2020;04:351-9.
29. Guhan N, Krishnan P, Dharshini P, Abraham P, Thomas S. The effect of mentorship program in enhancing the academic performance of first MBBS students. J Adv Med Educ Prof. 2020 Oct;8(4):196–9.