Review Article

Strengthening Rural Medical Education in the Undergraduate Training Period

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Abstract

The equal distribution of the health workforce has been identified as one of the key determinants for the attainment of health-related goals. The purpose of the current review is to identify the existing practices of rural medical education and to recommend strategies for the strengthening of the same. An extensive search of all materials related to the topic was carried out on the PubMed search engine. Keywords used in the search include rural medical education and undergraduate medical curriculum in the title alone (viz. rural medical education [ti]; rural [ti] AND undergraduate medical curriculum [ti]). Relevant research articles focusing on rural medical education and undergraduate medical curriculum published in the period 2002–2020 were included in the review. A total of 21 studies similar to the current study objectives were identified initially, and those were screened for eligibility. However, two articles were excluded owing to the unavailability of the complete version of the articles. In the current review, the articles published in only the English language were enrolled for the review. Overall, 19 articles were selected based on the suitability with the current review objectives. In general, the people living in rural settings are a vulnerable section, as they have access to the limited resources and health-care facilities. Thus, from the perspective of the rural population, the exposure of medical students to rural settings simultaneously enhances their accessibility to health-care services, which, in turn, takes us forward toward the attainment of universal health coverage. In conclusion, the provision of medical education to the undergraduate students in rural settings is the need of the hour both for producing a competent medical graduate and for meeting the health-related needs of the vulnerable rural population. It becomes the responsibility of the medical institutions to ensure that all the medical students are posted in rural settings as a part of their training and are encouraged to serve the rural population.

Keywords: Rural, rural medical education, undergraduate medical curriculum

Introduction

The equal distribution of the health workforce has been identified as one of the key determinants for the attainment of the health-related goals, improvement in health indicators, strengthening of the health-care delivery system, and the overall improvement in the quality of life of the general population.[1,2] However, owing to the prolonged maldistribution of doctors, we have not been able to either bridge the existing gaps or sustain the gains achieved. As a matter of fact, the adverse consequences have been quite evident in low- and middle-income nations, which are simultaneously struggling with various other challenges and shortage of resources.[1-3]

One of the major factors because of which we have not been able to make a sizeable impact is the reluctance of the medical doctors to work in the rural and remote settings.[2,3] It is not that the steps have not been taken to deal with this public health concern, but the problem has

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been that we have fallen short in our efforts.[3,4] The national governments have taken a wide range of actions, including making it mandatory for the medical students to serve in rural settings for variable periods of time, imposing fine for breaking the compulsory bonds, improved salary provisions, and even non-financial interventions (viz. career progression by giving some additional mark bonus in the entrance examinations on serving for a specified period of time in rural settings, etc.).[1-4] The purpose of the current review is to identify the existing practices of rural medical education and to recommend strategies for the strengthening of the same.

Methods

An extensive search of all materials related to the topic was carried out on the PubMed search engine. Keywords used in the search include rural medical education and undergraduate medical curriculum in the title alone (viz. rural medical education [ti]; rural [ti] AND undergraduate medical curriculum [ti]). Relevant research articles focusing on rural medical education and undergraduate medical curriculum published in the period 2002–2020 were included in the review. A total of 21 studies similar to current study objectives were identified initially, and those were screened for eligibility. However, two articles were excluded owing to the unavailability of the complete version of the articles. In the current review, the articles published in only the English language were enrolled for the review. Overall, 19 articles were selected based on the suitability with the current review objectives and analyzed [Figure 1]. The collected information is presented under the following subheadings, namely Rural Medical Education, Initiatives for delivering rural medical education, Rural medical education: Students' perspective, Need to strengthen rural medical education, and Additional considerations.

Rural medical education

Over the last couple of decades, a significant inclination toward training undergraduate medical students in the rural settings has been observed among the different medical schools distributed all over the world.[5-7] This is primarily because of the need to improve the quality of life of rural people, who are considered as one of the vulnerable sections of the society. At the same time, giving emphasis to rural medical education exposes the cohort of medical students to the needs and the problems faced by these people.[5,6] Moreover, learning opportunities to the medical students in rural settings are also important as they become aware about the sociocultural practices and other prevailing traditions in the community, which must be known by a doctor for ensuring a comprehensive resolution of the medical ailments.[1,7]

Further, the interventions to expose students to rural medical education play a major role in the attainment of the goal of producing a competent medical graduate, who is expected to be globally relevant.[3-6] Considering the ground reality that indicates that people living in rural settings have limited access to health-care facilities and welfare measures, it is quite obvious that the health indicators are not quite encouraging among them.[8] Thus, in order to attain the Sustainable Development Goal and accomplish universal health coverage, it becomes indispensable to expose the medical students to learning opportunities in rural settings simultaneously.[7,8]

Initiatives for delivering rural medical education

The posting of the students to the rural settings can be either in a rural hospital (in the form of a single day visit or

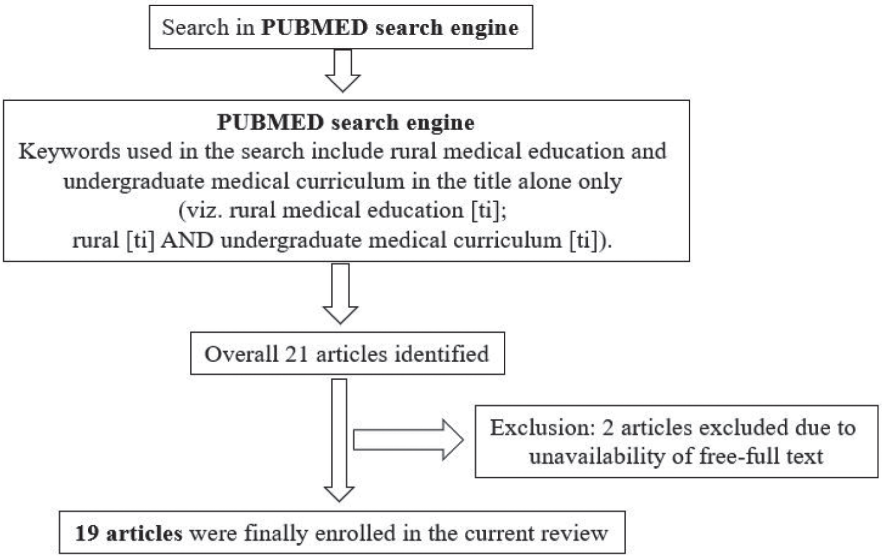

Figure 1: Flowchart of review methodology

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two to four weeks posting or internship posting) or in rural general practice or a combination of both.[9-11] In order to strengthen the rural medical education component, the Magdeburg rural-practice program as an elective two-week duration course was initiated in the University of Magdeburg in Germany.[9] The elective course was made available to the potential medical students in their fourth and fifth year of the training period.[9] In an attempt to bridge the shortage of health practitioners in rural settings, a novel program was initiated in California that encompassed inclusion of a wide range of components (viz. outreach activities, rural clinical experiences, engagement with the rural communities, exposure to leadership scenarios, etc.), and significantly aided in bridging the gap.[6]

In the medical schools in New Zealand, exposure to rural medicine has been planned across the entire duration of the undergraduate curriculum (viz. undergraduate level, internship level and in postgraduate period) in the rural and provincial hospital settings for all kinds of exposure, including emergency trauma, palliative care, and minor surgery.[11] Further, a Rural Medicine Immersion Programme has been initiated in two of the universities, for which students from the fifth year are eligible. This program integrates all the three levels of medical care through inclusion of experiential learning.[11] In a survey done in Canada to identify the practices for strengthening of rural medical education, it was reported that most of the medical schools had either a mandatory or an elective rural medicine exposure during the undergraduation or postgraduation period.[12] The students were also trained in telehealth during these rural learning opportunities and outreach activities.[12] In short, medical students from schools in different nations have been posted for varying duration with primary health-care professionals at different times of their training.[6,9-14]

Rural medical education: Students' perspective

From the students' perspective, they get exposed to various clinical disciplines and learn the multiprofessional approach to patient care.[8] In rural postings, the students tend to have more prospects for experiential learning, with better supervision and support.[11] At the same time, the students learn the skill of following up of the patient and offer holistic care. Finally, there is more emphasis toward ensuring the personal and professional development of the student and they also learn leadership and teamwork skills. In a comparative study done at the College of Medicine at the University of Saskatchewan in Saskatoon, the students from both the groups (viz. rural and non-rural backgrounds) reported high levels of satisfaction about the rural learning opportunities provided to them.[15] Moreover, the presence of students in a rural setup plays a significant role in reducing the clinical workload, establishing the practice of community learning etc.; eventually, these students act as the face of the prevailing rural health issues once they resume their training in their own institution.[6,8,9]

Need to strengthen rural medical education

There is a need for the strengthening of rural medical education because of the unequal distribution of the medical professionals in rural areas and the very fact that most of the doctors prefer not to opt for posting in rural areas.[1,2,10] This problem can be effectively sorted out by ensuring selection of students from the rural setting itself and those who have a strong aptitude to stay and work for the upliftment of their own people.[2,4,10] At the same time, the rural population has also expressed their desire that the health care-related services, including tertiary care, should be made available to them in their near vicinity.[5,16] The regulatory bodies can deal with this by relaxing the norms for starting a medical college in a rural setup and encouraging both the government and private sector to not only open new colleges in rural settings, but also develop liaisons with the primary health care.[1,5,16]

Considering the fact that the health-related needs of rural people are different from those of urban people, there is a remarkable need to encourage medical research in rural settings. The findings of such a study will help in the formulation of evidence-based guidelines, but all this cannot be possible without encouraging rural medical education.[9,10] Finally, as many students are willing to opt for the medical profession, there is a definite rise in the number of takers and all those students who fail to get a seat in urban settings have the option to realize their dream of becoming doctors by pursuing their course in rural settings.[10,16,17] The medical education offered to students in rural settings is developed on the principles of community-based medical education and helps them to become more amenable to the needs of the rural population, which is the need of the hour.[6,8,9]

It is quite obvious that the nature and type of rural posting should be in alignment with the medical curriculum and play a direct role in the attainment of specific competencies.[6,8]

Additional considerations

However, in order to attain the desired outcome, it is essential to focus training in specified areas, promote strategic selection of students, support them with infrastructure and accommodation, offer a multiple number of learning opportunities under the guidance of trained teachers, and involve the students for the benefit of the community.[6,9,17] In order to enhance the outcome of initiatives implemented to strengthen rural medical education, it is important to consider the settings from which the students belong as a student from a rural background has more chances to practice in rural settings upon completion of their training period.[17,18] Further, the

rural clinicians can also be involved in the training and there has to be a comprehensive mechanism to evaluate the program periodically for its improvement.[10,16] Further, the success of the planned initiatives also depends upon the sustainability and feasibility and thus all such programs should be initiated after careful consideration and based on the opinion of experts.[19]

Conclusion

In conclusion, the provision of medical education to the undergraduate students in rural settings is the need of the hour both for producing a competent medical graduate and for meeting the health-related needs of the vulnerable rural population. It becomes the responsibility of the medical institutions to ensure that all the medical students are posted in rural settings as a part of their training and are encouraged to serve the rural population.

Contribution details

SRS contributed toward the conception or design of the work, drafting of the work, approval of the final version of the article, and agreed to all aspects of the work. PSS contributed toward the literature review, revision of the article for important intellectual content, approval of the final version of the article, and agreed to all aspects of the work.

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Conflicts of interest

There are no conflicts of interest.

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