

## Research in undergraduate medical education: Issues, challenges and way forward

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It was nearly 13 years back in 2004, when Journal of American Medical Association (JAMA) decided to close STUDENT JAMA, which used to publish commentaries, essay and opinion pieces relevant to medical students. In fact, seeing the necessity of research for students, the Journal had decided to directly incorporate standard articles written by students to the main JAMA<sup>1</sup>. This clearly shows the emphasis they gave to medical students and their research. The context in South Asia including Nepal, however, is not the same. Research, in many countries of this part, is given less importance in medical curriculum. Here, medical students are still in confused state whether they should be doing research, whether their research will be published or not. As a result, their direct involvement in research is also limited.

When searching for the full picture behind this lag, one can find multiple explored and unexplored factors emerging as tough wall between medical students and research conduction and publication. First, the major barriers for medical students' participation in research, as per the different studies, include lack of research mentors, lack of formal training courses, lack of time, lack of funding etc. among many others<sup>2</sup>. Second thing to consider here is that medical students in this part of world do not take research as a part of medical training, and hence give less priority to research. Moraes DW et.al, for example, in their study found out that though 81.7% of medical students showed interest in medical research, only 4.7% of the respondents thought research to be of importance in their medical training<sup>3</sup>. Third and the utmost important issue that need to be mentioned here is that faculty across South Asia themselves rarely engage in research, as a result of which, students feel deprived of encouraging mentors who can guide them through the wonderful journey of research<sup>4</sup>.

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South Asian health researchers accounted for limited research output in scientific database, for example, the contribution by South Asian researcher to the global diabetes research output was only 2.1%<sup>5</sup>. Hence, it is of utmost need that these countries should invest huge in health research. There is no better option than involving medical students in research early in their career for improvement of this scenario because today's medical students are future health professionals and academicians. For medical students, it will be a great opportunity for them to involve themselves in this field and contribute in fulfilling the gap seen in research and publication. Involvement in research activity is linked with better learning, and improved writing skill besides identifying better careers and acquiring superior residency position in reputed hospitals around globe<sup>6</sup>. Furthermore, research knowledge acquired during medical school is directly associated with improvised postgraduate research involvement<sup>7</sup>.

So what can be done to change the scenario? Studies done so far stress on improving research infrastructure, upgrading national research culture, training under good mentorship and creating research interest in students by providing academic benefits and scholarships<sup>4</sup>. Medical students should be encouraged from institutional level and also by national research bodies. Research should form one of the core modules of curriculum in medical school and students should be guided properly by passionate mentors at least till publication of the article as nothing can be more motivating for students than to get their article published in the journal. This statement is supported by a study done by Khan H et.al in which mean scores of students were 49.0% on knowledge scale and 53.7% on attitude scale, both of which improved significantly with increasing year of study in medical school<sup>8</sup>. National research authorities can help in creating proper research environment by increasing funding to medical students and organizing workshop/ conferences on regular basis targeting them.

Finally, there are some technical aspects which students interested in research must be familiar with. First, the

difficulty in searching for articles can be made ease once medical students get to know about Health Inter Network Access to Research Initiative (HINARI) by which students from selected public health related institutions in our country can receive free electronic access to over 1500 major international journals. Second, there are many online based training such as Elsevier Publishing Campus, Stanford Lagunita for biostatistics, Endnote training for references management and many such

others which will directly enrich knowledge of the students regarding research. Third, there are many reputed journals which publish quality papers authored from low and middle income countries including Nepal at subsidized rates or even free of cost.

But above all, students should show some interest and they need to have eager to learn, and should have ample dedication and patience !

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