



# BMJ Open Medical students' attitude towards cultural diversity: a cross-sectional study at a health sciences university in eastern Nepal

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## ABSTRACT

**Objectives** To assess the attitude of medical students towards cultural diversity aiming to elucidate our current status in understanding cultural awareness and sensitivity.

**Design, setting and participants** A web-based cross-sectional study was carried out among 601 undergraduate health science students (medical and dental courses) at a health sciences university in eastern Nepal via various modes of social-media platforms like WhatsApp, Messenger, Gmail, etc.

**Outcome measures** Medical students' attitude towards cultural diversity and its association with the sociodemographic profile of the students.

**Results** A total of 601 students participated in the study, out of which, 64.2% were men with a sex ratio of 1.8:1 and a mean age of 22.3±1.9 years. More than two-thirds (77.2%) of the students had an excellent to good attitude towards cultural diversity. The proportion of students reporting 'excellent' attitude towards cultural diversity was higher among male students compared with female students (37.8% vs 20.5%) and students aged >22 years compared with younger students (37.1% vs 26.7%). Gender (p<0.001) and age (p=0.009) were significantly associated with the attitude towards cultural diversity.

**Conclusions** Medical students, in general, are aware of the impacts of a cross-cultural society on the delivery of quality healthcare and also about the need to be aware of prejudices doctors may have towards certain cultures. Majority suggest the inclusion of concepts of multicultural awareness and sensitivity in the medical curriculum itself.

## INTRODUCTION

Nepal is a culturally diverse country consisting of people of 126 different castes and ethnic groups speaking around 123 different languages.<sup>1</sup> In a multicultural society, the delivery of quality healthcare hinges on providers' ability to understand, communicate with and care for patients from various ethnic backgrounds. The essence of cultural competence lies in the acknowledgement of the significance of culture in lives, respect and minimising any repercussions due to cultural

## STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ This research is on an under-researched topic of medical humanities among a large number of future healthcare professionals in a culturally diverse low-income country.
- ⇒ This study advocates the idea of incorporating cultural competence and intersectionality in the curriculum of medical schools in Nepal.
- ⇒ Findings from a web-based survey at a single health sciences university may not be generalisable to all medical students in Nepal; however, the findings provide a basis for future research on the attitude of medical students towards cultural diversity in Nepal.
- ⇒ The study assesses only the attitude using close-ended questions, at one point in time, and does not monitor the changes in attitude over time owing to its cross-sectional nature.

differences. Having culturally competent clinicians supports the idea of ethical medical practice by advancing patient autonomy and justice.<sup>2</sup> 'Tomorrow's doctors', the General Medical Council's publication, which sets out the framework for undergraduate medical education in the United Kingdom states that '*students should have acquired respect for patients and colleagues that encompasses, without prejudice, diversity of background and opportunity, language, culture, beliefs, race, colour, gender, sexuality, age, mental or physical disability and social or economic status and way of life. They must understand a range of social and cultural values and differing views about healthcare and illness.*'<sup>3</sup> The various studies done about the influences of cross-cultural set-up on the professional competence of healthcare providers have highlighted the lack of awareness of the importance of cultural competence and the unpreparedness to provide cross-cultural care owing to exclusion of formal training in these areas.<sup>4 5</sup> Cultural competence or



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competemility is intricately linked to social justice aimed at removing institutional, social and systemic oppression to ensure equity for all individuals.<sup>6</sup> However, the concept of cultural competence or competemility does not suffice to attain the aim of equity for all. Thus, the concept of intersectionality is needed to understand the individual experiences or the ways in which systems of power intersect in individual lives as the culture is not static and social identities are not operating in isolation.<sup>7</sup>

Studies suggest the diversity in culture, race and ethnicity and their understandings and attitude do affect the medical practices.<sup>4 5 8–16</sup> According to a study done on the first-year medical students in the USA, it was found that the students were unfamiliar with the key concepts of culture, race and ethnicity and struggled with the issues that diversity raise in the medical practice.<sup>4</sup> Medical students have also realised the need of developing cultural competence at the medical colleges and also in the hospital environment.<sup>8</sup> A lag in the preparedness of the resident physicians to deliver cross-cultural care was indicated with a very little clinical time being allotted during residency to address real-world cultural issues advocating for training to help them alleviate the ethnic and racial disparities in healthcare.<sup>5</sup> It has been established that cultural competency training programmes integrating topics of culturally and linguistically appropriate healthcare standards improve not only the knowledge, attitude and skills of healthcare providers but also the patient's satisfaction.<sup>9–12</sup> Schoolwide culturally responsive behaviour support and incorporation of diversity education within a coherent educational framework are thought to help enhance cultural responsiveness.<sup>13 14</sup> As sociodemographic characteristics of medical students are likely to impact their attitude towards patient-centred care significantly, having a curricula that includes cultural diversity and competence is a necessity for medical schools.<sup>15 16</sup>

There is a dearth of literature regarding the issue of medical students' attitude towards cultural diversity in Nepal. In this study, we aim to assess the attitude of medical students towards cultural diversity and assess the factors associated with this attitude.

## METHODS

### Study setting, analysis period and participants

A web-based cross-sectional study was carried out among 601 undergraduate medical and dental students at the B.P. Koirala Institute of Health Sciences (BPKIHS), Dharan, Nepal from 1 July to 15 July 2019. Students at BPKIHS use internet regularly and web-based study in the past have received good response in participation.<sup>17 18</sup> BPKIHS is a leading and the oldest public-funded health sciences university in Nepal. The teaching hospital of BPKIHS serves as a tertiary referral specialist centre with a catchment area for more than a quarter of the country's population.<sup>19</sup>

### Patient and public involvement statement

The study did not have the direct involvement of the participants in the development of the study design, research questions, data collection, result analysis and interpretation. The consenting participants were enrolled in this study individually as an independent sampling unit.

### Data collection

We used a structured questionnaire including questions on multiple aspects of cultural competence and diversity, which was developed by reviewing previous literature<sup>4</sup> and modified after consultation with the sociology and public health academics. The questionnaire was pretested on 20 undergraduate nursing students, which were not included in the final data set. Then, the pretested and verified questionnaire was sent to the participants using the convenience sampling method via different modes of online media such as emails or other platforms of social media (Messenger, WhatsApp, etc) in the form of a Google Form. The first page of the 'google form' contained the 'Information and Informed Consent Sheet' which detailed the participants on the objectives and aims of the study and e-consent was obtained as their approval to participate in the study. A prior verbal request was also made personally meeting the individual or through phone call wherever possible to enhance the participants' interest in participating in the study with reminders being sent every 4th day till the 15th day of the start of the study. After the 15th day, no more entries were taken.

### Outcome variables and analysis

We employed sociodemographic variables like age, sex, address, nationality, ethnicity, academic category of study, stream of study, economic status and socioeconomic status as our independent variables and attitude towards cultural diversity as our dependent variable. The responses on the questions of cultural issues were categorised as strongly agree, agree, neutral, disagree and strongly disagree on a 5-point Likert Scale. Sentences that supported the notion of cultural diversity and tolerance with 'agree' or 'strongly agree' as the response was given a score of 1 while responses as 'neutral' or 'disagree' or 'strongly disagree' were given a score of 0. Conversely, the sentences which opposed the notion of cultural diversity and tolerance with 'disagree' and 'strongly disagree' as the responses were given a score of 1 as above. For example, in question 2.1.1 in the questionnaire (online supplemental file), responses 'strongly agree' and 'agree' got a score of 1 with the other responses getting a score of 0. But in the question 2.1.2, responses 'disagree' and 'strongly disagree' got a score of 1 with other responses getting a score of 0. The 'not answered' responses regarding the individual items were considered to be 'neutral' and scored a 0.

Based on this, the attitudes of the students were categorised using cumulative percentage method of 5 points Likert's scale analysis as excellent attitude ( $\geq 80\%$ ), good attitude (60%–80%) and poor attitude ( $< 60\%$ ).<sup>20 21</sup>

Similarly, the economic status of the students was evaluated with the help of per capita income (PCI) per day and categorised as below poverty line (PCI per day US\$<1.9) and above poverty line (PCI per day US\$≥1.9).<sup>22</sup> Likewise, using the Modified Kuppusswami Scale considering occupation, education of the head of the family and average family income per month as parameters, the socioeconomic status of the students were categorised as upper class (score: 26–29), upper middle class (score: 16–25), lower middle class (score: 11–15), upper lower class (score: 5–10) and lower class (score:<5).<sup>23</sup> The final data set was analysed using Microsoft Excel and Statistical Package for Social Sciences V.11.0 and interpreted using descriptive statistics.

## RESULTS

### Sociodemographic details

A total of 601 undergraduate medical students participated in the study. The mean age of the students was found to be 22.3±1.9 (18–31) years with 52.9% of them aged 22 years or less while 47.1% were 22 years and above. Of the total respondents, 64.2% were men and 35.8% were women with a sex ratio of 1.8:1. Three-fourth of the students involved in this study were Nepali (76.0%) and the rest of the one-fourth were Indians (24.0%). Of all Nepali students, almost equal numbers of students were from Province 1 (20.3%) and Madhesh Province (19.3%) followed by Bagmati Province (14.6%) while the rest 21.8% were from other provinces (Gandaki Province, Lumbini Province, Karnali Province and Sudurpaschim Province). Considering the ethnicity of the Nepalese students, 38.3% were Brahmin/Chhetri from hills and mountains, 12.5% were Brahmin/Chhetri from Terai or Madhesh, 9.6% were Janajati from mountain, hills and terai while the rest 15.6% comprised other ethnic groups such as Dalit, Muslim, etc. Likewise, this study included 71.2% of students from the Bachelor of Medicine and Bachelor of Surgery (MBBS) stream and the rest 28.8% were from the Bachelor of Dental Surgery (BDS) stream. Similarly, 35.9% of the students were from the preclinical courses, 46.3% from the clinical courses and 17.8% were pursuing their internship at the institute. The average per capita income per day of the students was found to be US\$10.3±26.5. There were 15.14% of the students below the poverty line and the remaining majority 84.9% were above the poverty line. Likewise, 52.7% belonged to the upper class, 35.3% to the upper middle class, 9% to the lower middle class and the remaining 3% to the lower class (table 1).

### Responses of the students on various cultural issues

Out of the total participants, more than 90.0% agreed on the notion that every individual has a responsibility to learn about other ethnicities and cultures. Likewise, more than half of the respondents disagreed with the belief that minority members of the population should adopt the values and customs of the majority. Nearly,

**Table 1** Sociodemographic characteristics

Characteristics	n (%)	
Age in years	(Mean±SD) : 22.3±1.9 years (18–31 years)	
	≤22 years	318 (52.9)
	>22 years	283 (47.1)
Gender	Male	386 (64.2)
	Female	215 (35.8)
Address	Province 1	122 (20.3)
	Madhesh Province	116 (19.3)
	Bagmati Province	88 (14.6)
	Gandaki Province	44 (7.3)
	Lumbini Province	48 (8)
	Karnali Province	13 (2.2)
	Sudurpaschim Province	26 (4.3)
	India	144 (24.0)
	Nationality	Nepali
Indian		144 (24.0)
Ethnicity	Brahmin/Chhetri (Hills/Mountain)	230 (38.3)
	Brahmin/Chhetri (Terai/Madhesh)	75 (12.5)
	Janajati (Mountain/Hill/Terai)	58 (9.6)
	Other ethnicities (Dalit, Muslim, Marwari, etc)	94 (15.6)
	Any Indian ethnic group	144 (24.0)
Stream of study	MBBS	428 (71.2)
	BDS	173 (28.8)
Years of study	Preclinical	216 (35.9)
	Clinical	278 (46.3)
	Internship	107 (17.8)
Economic status	Below poverty line	91 (15.1)
	Above poverty line	510 (84.9)
Socioeconomic status	Upper class	317 (52.7)
	Upper middle class	212 (35.3)
	Lower middle class	54 (9.0)
	Lower class	18 (3.0)

BDS, Bachelor of Dental Surgery; MBBS, Bachelor of Medicine and Bachelor of Surgery.

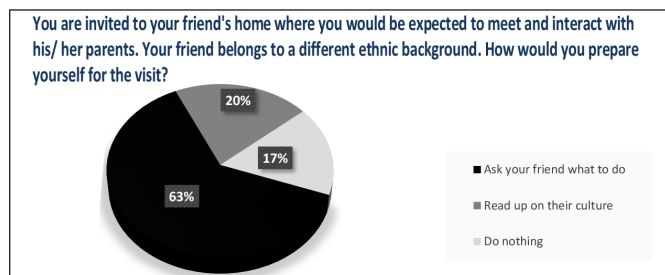
three-fourth of the respondents disagreed that international students should abandon their customs and values with 90.0% of them also agreeing that they may adapt to a new culture but not necessarily let go of their own values and cultures. About three-fourths of the participants agreed on the belief that different cultures could coexist in harmony. Almost all of them agreed that belonging to a particular ethnic group should not be a barrier to establishing a friendship with someone from a different cultural background.

**Table 2** Responses of the students on various cultural issues

Responses on cultural issues	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Balance of cultures					
Every individual must be responsible to learn about other ethnicities and cultures.	268 (44.6%)*	291 (48.4%)*	30 (5.0%)	7 (1.2%)	5 (0.8%)
Minority should adopt the values and customs of the majority.	51 (8.5%)	130 (21.6%)	113 (18.8%)	219 (36.5%)*	88 (14.6%)*
International students should abandon the customs and values of the country they originally belong to.	30 (5.0%)	67 (11.2%)	65 (10.8%)	243 (40.4%)*	196 (32.6%)*
International students pursuing studies in a foreign country should conform to the customs and values of the new country but not necessarily let go of their own.	208 (34.6%)*	330 (54.9%)*	45 (7.5%)	7 (1.2%)	11 (1.8%)
People belonging to different cultures can live in harmony.	131 (21.8%)*	329 (54.7%)*	102 (17.0%)	28 (4.7%)	11 (1.8%)
Belonging to a particular ethnic group should not be a barrier to establish a friendship with someone from different ethnicity.	393 (65.4%)*	172 (28.6%)*	19 (3.1%)	7 (1.2%)	10 (1.7%)
Doctors and cultural diversity					
Doctors too, like most others are not exempt from prejudices.	91 (15.1%)*	324 (53.9%)*	136 (22.6%)	40 (6.7%)	10 (1.7%)
Doctors need to familiarise themselves with customs of different ethnicities and cultures in a multicultural setup.	229 (38.1%)*	322 (53.6%)*	41 (6.8%)	3 (0.5%)	6 (1.0%)
A doctor more versed with the mother tongue of the patient is more likely of being perceived as more competent than someone not knowing the language.	154 (25.6%)*	350 (58.2%)*	64 (10.7%)	25 (4.2%)	8 (1.3%)
College-specific cultural issues					
Student's cultural issues such as provision of adequate number of holidays on particular major festivals (eg, Deepawali, Dasshera, Chhath, Maghi, Eid, Losar, Christmas, Udhali/Uvauli, etc) are to be equally addressed by the college administration.	135 (22.5%)*	295 (49.1%)*	77 (12.8%)	65 (10.8%)	29 (4.8%)
Concept of multicultural awareness and sensitivity should be incorporated in the curriculum.	115 (19.1%)*	339 (56.4%)*	116 (19.3%)	24 (4.0%)	7 (1.2%)
Various student clubs in our college must encourage proportional involvement and participation of students from all cultures and nationalities.	141 (23.5%)*	260 (43.3%)*	109 (18.1%)	50 (8.3%)	41 (6.8%)
<b>Attitude of medical students towards cultural diversity</b>					
<b>Attitude</b>	<b>n</b>	<b>(%)</b>			
Excellent	190	(31.6)			
Good	274	(45.6)			
Poor	137	(22.8)			

\*Acceptable responses that were given a score of 1.





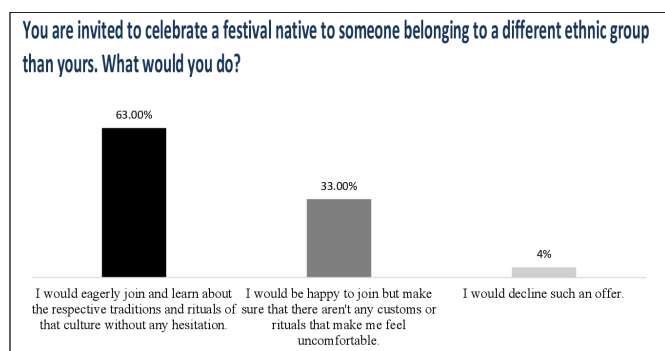
**Figure 1** Response of the students on preparing themselves to visit his/her friend.

Though two-thirds of the students felt that doctors are not exempt from prejudices, more than 90.0% of the individuals agreed that all doctors need to familiarise themselves with customs of the different cultures and ethnicities within their practice. Adding to this notion, more than 80.0% also believed that a doctor more versed with the mother tongue of the patient was more likely to be perceived as more competent than others not knowing the language. More than two-thirds of the students believed that issues concerning the provision of holidays on major festivals must be addressed by the college administration. The majority also believed that various student clubs in their college must ensure proportional involvement of students from all cultures and nationalities. Almost three-fourths of the participants also felt the need for the incorporation of concepts of multicultural awareness and sensitivity in the curriculum (table 2).

Based on the responses of the students on various cultural issues, excellent, good and poor attitudes of the medical students towards cultural diversity were observed in 31.6%, 45.6% and 22.8% of the respondents (table 2).

### Responses to hypothetical situations

The students were given two hypothetical situations and were asked how they would respond to these situations. When asked how they would prepare themselves for a visit if one of their friends belonging to a different ethnic background invited them to their home to meet and interact with their parents, 62.6% of the students preferred asking their friend what to do, 20.6% preferred reading on their culture while rest 16.8% were reluctant to do anything by themselves (figure 1).



**Figure 2** Response of students on being invited to a festival at his/her friend.

Similarly, when asked about how they would respond to an invitation to celebrate a festival native to someone of a different ethnic group than theirs, more than half of the respondents (62.6%) said they would be eagerly joining and learning about the respective traditions and rituals of that culture without any hesitation, about one-third of the respondents (33.1%) said that they would be happy to join but would make sure that there were not any customs or rituals those would make them feel uncomfortable while the remaining 4.3% preferred declining such an offer (figure 2).

### Association of the attitude of medical student with various sociodemographic variables

A significant association was found between the attitude of the students towards cultural diversity and gender ( $p < 0.001$ ), with more percentage of men having an 'excellent' attitude compared with women (37.8% vs 20.5%). Even as 52.5% of the women fell into the category of those having a 'good' attitude, there were significantly more percentage of women who had a 'poor' attitude as compared with the men (27.0% vs 20.5%). Also found significant was the association between the attitude towards cultural diversity and the age of the respondents ( $p = 0.009$ ). Though the proportion of those that had 'poor' attitude was similar for age categories  $\leq 22$  years and  $> 22$  years, a significantly high proportion of over 22 years old fell into the category of those with 'excellent' attitude than those below 22 years (37.1% vs 26.7%). Other variables like stream of study, economic status, socioeconomic class and academic level of the respondents were not found to be significantly associated with the attitude with  $p$  values of 0.148, 0.087, 0.750 and 0.081, respectively (table 3).

### DISCUSSION

This study presents first evidence in context of Nepal where previous per reviewed literature on this topic is not found on the issues of cultural diversity and sensitivity among medical students. Nepal has a collectivistic society, multicultural and multilingual population, which is expected to influence the professional behaviour of all healthcare professionals towards their patients. This study on future medical professionals demonstrated that medical students, in general, demonstrate a positive attitude towards the issues of cultural diversity. These findings are consistent with the literature that report respondents generally having an open attitude towards cultural diversity.<sup>4</sup> The respondents in our study widely acknowledged that healthcare providers should be culturally competent in order to cater to people of diverse backgrounds. Participants also acknowledged that doctors may be prejudiced against certain cultures. This is consistent with findings from the literature.<sup>4</sup> Older students displayed better attitudes regarding cultural diversity in our study that is in line with the findings of a study,<sup>15</sup> which reported older individuals to display a significantly more positive attitude

**Table 3** Association between attitude of medical students towards cultural diversity and various variables

Characteristics	Attitude			P value
	Poor	Good	Excellent	
Age in years				
≤22 years	71 (22.3%)	162 (50.9%)	85 (26.7%)	<b>0.009</b>
>22 years	66 (23.3%)	112 (39.6%)	105 (37.1%)	
Gender				
Male	79 (20.5%)	161 (41.7%)	146 (37.8%)	<b>&lt;0.001</b>
Female	58 (27.0%)	113 (52.6%)	44 (20.5%)	
Stream of study				
MBBS	89 (20.8%)	197 (46.0%)	142 (33.2%)	0.148
BDS	48 (27.7%)	77 (44.5%)	48 (27.7%)	
Academic category				
Preclinical	49 (22.7%)	110 (50.9%)	57 (26.4%)	0.081
Clinical	88 (22.9%)	164 (42.6%)	133 (34.5%)	
Economic status				
Below poverty line	28 (30.8%)	41 (45.1%)	22 (24.2%)	0.087
Above poverty line	109 (21.4%)	233 (45.7%)	168 (32.9%)	
Socioeconomic status				
Upper class	73 (23.0%)	138 (43.5%)	106 (33.4%)	0.750
Middle class	60 (22.6%)	126 (47.4%)	80 (30.1%)	
Lower class	4 (22.2%)	10 (55.6%)	4 (22.2%)	

Boldface indicate significant p values.

BDS, Bachelor of Dental Surgery; MBBS, Bachelor of Medicine and Bachelor of Surgery.

towards patient-centred care as the concept of ‘patient-centred care’ itself incorporates the issue of cultural competence.<sup>15</sup>

Male students showed a more positive attitude towards cultural diversity in our study. As a patriarchal society,<sup>24</sup> it is interesting to see that male students have a more positive attitude regarding cultural diversity. These findings need further exploration as it is equally possible that female students may have expressed openly in their responses.<sup>25 26</sup> This finding is in contradiction with the finding of a study, in which women exhibited more positive attitudes than men.<sup>15</sup> Similarly, we did not find a significant association between attitude and socioeconomic status of the students, which is not in line with the findings of a study where the medical students from a lower socioeconomic background were found to have a more positive attitude towards patient-centred care as compared with their upper-class counterparts.<sup>15</sup>

Another point of discussion in this study is a potential similarity with the findings of a fairly recent study, which argued that the self-belief of healthcare providers to cater to the healthcare needs of the diverse population seemed to stem from mere knowledge of few key norms and customs, rather than on principles of systematic cross-cultural approaches.<sup>27</sup> In other words, the healthcare providers ignored things like power balance, recognition of systematic racism and their own prejudices and

other subtle nuances of cross-cultural setup.<sup>27</sup> This clearly indicates that the concept of intersectionality is equally important to be imparted to the healthcare providers along with the concept of cultural competence. In this study too, we could only access the participants’ beliefs and attitudes through very direct questions. Hence, the assessment of attitude might have not been completely valid. In other words, the responses might have been to simply remain politically correct. Likewise, we assigned the score of 0 to the ‘neutral’ responses to the questions assessing cultural competences, similar to the ‘disagree’ or ‘strongly disagree’ responses as the concept of cultural competency is interlinked to social justice where remaining ‘neutral’ cannot be considered as a progressive response.

The ultimate aim of all academic and research activities in health should be patient satisfaction and improved care. Studies in the past have demonstrated the efficacy of interventions to improve the cultural competence of health professionals in the form of improved knowledge, attitude skills as well as patient satisfaction.<sup>12</sup> Thus, it is also apt that we stress the immediate need for inclusion of concepts of cross-cultural care in the undergraduate curriculum at the very least. Finally, a lot more detailed study is definitely needed in this regards to address this issue better in our setup.

## LIMITATIONS OF THE STUDY

As we intended to collect data online, there had been chances of information bias to some extent. There might be social desirability bias, as the identity of the participants was not anonymous. This might have affected the findings; however, this might be less as we conducted the study online. There are multiple questions to calculate the overall attitude of the participant, which might also minimise the effect of bias in total. Also, the attitude being itself a normative idea, it was difficult to objectively classify as poor, good and excellent attitude. We have tried our best to objectively present the finding after a literature review. Likewise, we ended up getting fewer responses than expected from some batches such as the intern batch being busy with their clinical practice and obligatory services. However, this limitation was best avoided with regular reminder emails and personal calls and messages to meet sufficient responses. Likewise, excluding other undergraduates within the institute like nursing and imaging technical students could hinder with the generalisation of the findings of this study to health sciences students in general.

## CONCLUSION

Cultural diversity and competence required for health professionals are considered a key topic for the medical education curriculum to consider. This study formally calls on medical educators in Nepal to consider cultural diversity and competence into the medical education curriculum. Cultural competence as well as the concept of intersectionality needs to be included in the curriculum. How exactly lack of cultural awareness impacts healthcare is, however, beyond the scope of this study, for which further works are recommended.

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**Contributors** SP, AB, RA and LBB conceived and designed the study, with SP acting as the guarantor. SP, AB, RA performed the literature review. SP, AB, RA, PK, NK and BB contributed to data collection and acquisition. SP and LBB performed the data and statistical analysis. SP and AB wrote the first draft of this manuscript, with SP, LBB, SSB, VKK, AG and PP contributing to the final reviewing and editing of the

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