

Research Article

Push or Pull Factors: Willingness of Medical Students to Work in Rural Areas

Gajendra Singh* 

Department of Public Health, Indian Institute of Health Management Research (IIHMR) University, Jaipur, India

Abstract

Introduction: Healthcare service delivery in India is not possible without strengthening the primary healthcare system. Most of the Indian states struggle with the medical workforce especially doctors at Primary Health Centers (PHCs). Chhattisgarh being tribal state with mostly rural area is not an exception. It's not easy to retain doctors at PHCs unless there is systematic investment in understanding their plans for career, preferences for medical specialization, desired location to serve and overall approach to work in rural and remote areas. This study attempts to explore the various factors during academic tenure which influence medical students to make decisions about working in rural areas through public health service. **Methodology:** A cross-sectional survey was conducted in all the six government medical colleges in the state of Chhattisgarh. Data was collected from 1917 students admitted in last 5 years in all 6 Government Medical colleges. Study was conducted using a self-administered semi structured questionnaire. Data was analyzed using SPSS version 20. **Results:** Of 1,917 respondents, 50.9% were female. Overall, 38.1% expressed willingness to serve in rural areas. Gender, social category, residential background, and academic year significantly influenced willingness ($p < 0.05$). Students from tribal backgrounds (AOR=2.84; 95% CI: 2.10–3.84), rural upbringing (AOR=2.17; 95% CI: 1.58–2.99), and first/second-year students (AOR=1.92; 95% CI: 1.33–2.78) showed higher inclination. Motivational factors included better housing, incentives, and exposure to rural health facilities. Nearly 90.8% preferred post graduation immediately after MBBS, regardless of background. **Conclusion:** The Indian public sector has introduced a range of financial and non-financial incentives to encourage health workers, particularly allopathic doctors, to serve in rural areas. However, most existing strategies address isolated challenges or are implemented only after the completion of medical training. Our findings suggest the need to move away from this fragmented incentive model towards a comprehensive 'package' approach that creates a supportive and enabling environment during the MBBS period itself, thereby shaping career choices early on. Only through such an approach can government service and rural postings become genuinely attractive options for health professionals.

Keywords

Career Choice, Health Workforce, Medical Students, Public Sector, Rural Health

*Correspondence: Gajendra Singh (talk2me@doctor.com)

Received: 18 December 2025; **Accepted:** 21 January 2026; **Published:** 9 February 2026



Copyright: © The Author(s), 2026. Published by Science Publishing Group. This is an **Open Access** article, distributed under the terms of the Creative Commons Attribution 4.0 License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

1. Introduction

In India, the public health sector operates through Sub Centers (SCs) and Primary Health Centers (PHCs) in rural areas, along with health centers in urban regions. Secondary-level care is provided by district and sub-district hospitals, while teaching institutions and their attached hospitals offer tertiary-level care. Service providers (particularly doctors) are a key to effective management and supervision of healthcare services, especially at PHCs in rural areas. However, there is a significant shortage of Medical Officers (MO) in the Indian public health system.

PHCs play a pivotal role in the public health delivery system, serving as the basic unit for planning, operations, implementation, and monitoring of health programs. They are crucial for meeting the healthcare needs of the rural population through their sub-centers. The MO at the PHC, who must hold MBBS degree according to the Indian Public Health Standards 2010, acts as the primary administrator, supported by 14 paramedical and other staff [1].

PHCs play a pivotal role in the public health delivery system, serving as the basic unit for planning, operations, implementation, and monitoring of health programs. The primary administrator at PHCs must hold an MBBS degree according to the Indian Public Health Standards 2010, acting as the primary administrator, supported by 14 paramedical and other staff. As of June 2022, there are 13,08,009 allopathic doctors registered with the medical councils at national and state level. However, only 11.5% of the 12.34 lakh registered allopathy doctors in India are working with the Govt [2].

Despite producing more than 91900 doctors annually, the health system in India faces a significant deficit. Despite the large number of MBBS doctors passing out annually, 8762 posts of MBBS Doctors are vacant at the national level against the 40,143 sanctioned posts at PHCs in rural areas. This problem is severe in states like Uttar Pradesh, Jharkhand, Chhattisgarh, Karnataka, and Maharashtra that churn out the maximum number of doctors in the country [3].

To ensure equitable healthcare access, it is crucial to encourage medical students and young doctors to consider careers in rural health services. These services provide care to underserved populations and address a wide range of health issues, from primary care to emergency services. Given the persistent shortage of physicians in India, it is crucial to understand medical students' future career intentions, including their specialization preferences, choices regarding employment sector and location, and perceptions of working in rural and remote areas, to enable effective health workforce planning. However, there is a paucity of studies in India that examine medical students' career aspirations and the factors influencing these choices.

The present study explored the identify predictors for prospective doctors' willingness to work in rural areas through public health service, examining their career preferences and

intentions to join or not to join the field. It emphasizes the importance of skilled medical professionals for improving health equity and achieving better outcomes for all.

2. Methodology

2.1. Sample

This cross-sectional study was carried out in the state of Chhattisgarh and included all six government medical colleges in the state. As per the Medical Council of India guidelines, these institutions offer a 4.5-year Bachelor of Medicine and Bachelor of Surgery (MBBS) program, followed by a mandatory one-year rotating internship. The study population comprised students admitted over the previous five years (2015–2019), encompassing those enrolled from the first year through the final year of the MBBS course. Students from all academic years across the six medical colleges were invited to participate in the study.

2.2. Methodology

Students were pre-informed through college administration about the study. With call to participation on notice board, a brief of study and instructions to preload the KoboCollect App was also mentioned. It was implied that those who will come on designated day, are willing to participate in study. All the students attending were explained more about voluntary participation, purpose of study, study questionnaire through pre study information session. Assistance was provided on technical aspects like downloading the Mobile App, steps to fill in the data and how to submit the form. Students who stayed after this were included in the final sample and further briefed about downloading App to fill in the data and possible technical issues during data entry.

2.3. Tool

A semi-structured questionnaire was developed and consisted of closed and open-ended items and elicited information on the following:

- 1) Sociodemographic information of the respondents
- 2) Career Choice immediately after MBBS
- 3) Source of information affecting views for working in rural area

2.4. Data Analysis

The quantitative information was entered into Microsoft Excel and imported to Statistical Package for Social Sciences (SPSS version 20). Individual component-wise descriptive analysis using tables with percentages and proportions. Chi-square test of association was conducted to test the association

between the willingness to serve and socioeconomic factors.

2.5. Ethical Statement

Participation was voluntary and the right to decline or withdraw was explained. Participants were also assured about anonymity and confidentiality of individual responses collected. Written informed consent including details about study and right to withdraw was also part of questionnaire. The identities of the respondents were kept anonymous by coding. The study was approved by the Institutional Ethics Committee, IIHMR Jaipur.

3. Results

3.1. Sociodemographic Information of the Respondents

Out of 2930 enrolled students in six government medical

colleges of Chattisgarh between 2015-19, a total of 1917 (65.4%) students responded to the final questionnaire. It consists of 976 females (50.9%) and 941 males (49.1%). Out of 1917 students who participated in study, 41.8% of the students belong to General category followed by ST (26.3%), OBC (21.0%) and SC (10.9%).

70.8% of students are from urban background while 34.7% of students have parents living in rural area and 80% of those are living for more than 20 years. Three fourth of total students (76.3%) had their education up to class 12th majorly in English. 12.9% of total students have either of the parent as doctor. 43.5% students have gap of two years or more between selection in MBBS and passing class 12th. When asked about key reason for opting Medicine as career at time of admission in MBBS, 43.3% students have mentioned “personal choice” as key reason while 14.1% have mentioned “wish to serve society as key reason for it. As per Kuppaswamy socioeconomic status classification, around 38.8% of students were having monthly income of 20482 and above. 37.5% students were having monthly family income less than Rs. 10482.

Table 1. Socio demographic attributes of students (n=1917).

Items		Willingness to work in rural area			Chi Sq	Sig,
		Yes	No	May be		
	%	38.1	28.8	33.1		
	N	730	552	635		
Gender	Male	51.4%	48.4%	47.1%	2.653	.265
	Female	48.6%	51.6%	52.9%		
Category	SC	27.4%	58.9%	43.5%	165.906	.000
	ST	21.5%	20.5%	20.8%		
	OBC	12.2%	8.0%	12.0%		
Year of Study	General	38.9%	12.7%	23.8%	16.086	.000
	1 st & 2 nd Professional	65.6%	55.3%	64.3%		
	Final year (part 1&2)	34.4%	44.7%	35.7%		
Reason for taking admission to study medicine -First choice	Parents desire	21.6%	21.4%	19.7%	.886	.642
	Family pressure	1.8%	1.3%	1.3%	.840	.657
	Peer pressure	0.8%	0.4%	0.8%	1.154	.562
	Wish to serve society	18.1%	10.1%	13.1%	17.203	.000
	Job security	7.4%	7.8%	7.1%	.213	.899
	Better career opportunities	4.8%	6.5%	8.3%	7.085	.029
	Social prestige associated with profession	3.2%	4.7%	3.9%	2.075	.354
	Monetary Benefits	1.4%	3.3%	0.8%	11.540	.003
	Personal Choice	41.0%	44.6%	45.0%	2.769	.250
Duration of parents	Less than up to 20 years	18.3%	18.2%	27.6%	7.411	.025

	Items	Willingness to work in rural area			Chi Sq	Sig,
in rural area	More than 20 years	81.7%	81.8%	72.4%		
	Father is doctor	8.5%	9.2%	6.8%	2.604	.272
Occupation of parents	Mother is doctor	5.2%	5.6%	3.6%	2.996	.224
	Both parents are doctors	71.1%	80.6%	73.9%	.857	.651
Residential background	Urban	59.6%	82.8%	73.4%	84.885	.000
	Rural	40.4%	17.2%	26.6%		
Medium of Instruction	English	66.6%	85.3%	79.5%	68.135	.000
	Hindi	33.3%	14.5%	20.2%		
	Other	0.1%	0.2%	0.3%		
Gap between class 12 and admission into MBBS	No gap (admission in same year)	15.1%	25.0%	19.7%	44.023	.000
	Gap of one year	33.4%	39.9%	38.6%		
	Gap of two Years	31.1%	24.3%	26.0%		
	Gap of three or more years	20.4%	10.9%	15.7%		

Career Choice immediately after MBBS

Majority of students want to do PG as an immediate option irrespective of different factors like gender, year of admission, social category, residential background, parents living currently in rural area or not and profession of parents. In total 90.8% students (88.8% males and 92.7% females) want to do PG as an immediate option after MBBS. However, males were

looking more for other career options when compared to females. Affinity for doing post-graduation increases from 89.5% in the first year (admission year 2019) to 91.6% in the final year (admission year 2015). 91.8% of students of urban backgrounds and 87.7% of students from rural backgrounds want to do PG. Around 90% of students (irrespective of their parents living in rural or not) wish to do PG.

Table 2. Career choices immediately after MBBS (n=1917).

	Post Graduation	General Practitioner	Clinician		Academics		Other Options
			Public Sector	Private Sector	Public Sector	Private Sector	
Sex							
Male	88.8%	0.7%	4.4%	0.7%	0.5%	0.5%	4.3%
Female	92.7%	0.2%	3.8%	0.1%	0.2%	0.1%	2.9%
Category							
GEN	92.8%	0.4%	3.0%	0.1%	0.1%	0.0%	3.6%
OBC	90.5%	1.2%	4.0%	0.2%	1.0%	0.2%	2.7%
SC	88.5%	0.5%	4.8%	1.4%	0.0%	0.5%	4.3%
ST	88.9%	0.0%	5.5%	0.6%	0.4%	0.8%	3.8%
Admission Year							
2015	91.6%	0.0%	5.0%	0.4%	0.4%	0.0%	2.7%
2016	91.5%	0.2%	3.6%	0.6%	0.2%	0.0%	3.8%
2017	94.7%	0.3%	1.8%	0.3%	0.6%	0.0%	2.4%

	Post Graduation	General Practitioner	Clinician		Academics		Other Options
			Public Sector	Private Sector	Public Sector	Private Sector	
2018	87.5%	1.9%	5.0%	0.8%	0.0%	1.1%	3.6%
2019	89.5%	0.0%	4.9%	0.0%	0.6%	0.4%	4.5%
Residential Background							
Rural	88.6%	0.5%	5.9%	1.1%	0.4%	0.5%	3.0%
Urban	91.8%	0.4%	3.3%	0.1%	0.4%	0.2%	3.8%
Parents living in Rural Area							
Yes	90.1%	0.5%	5.3%	0.9%	0.3%	0.6%	2.4%
No	91.2%	0.5%	3.5%	0.2%	0.4%	0.2%	4.1%
NA	90.9%	0.0%	54.5%	0.0%	0.0%	9.1%	9.1%

3.2. Source of Information Affecting Views for Working in Rural Area

It is also important to understand what is shaping the opinion of students to take the decision. Students were asked to

rank various “platforms of communication” which has helped them in current decision to “work or not to work in rural areas”. Experience during visit for self / family/ relatives/ friends is seen as the primary reason by 27.4% of students followed by discussion with friends from medical background i.e. peer group and seniors (15.3%).

Table 3. Source for information for decision making (n=1917).

Mode of communication affecting views	No. of students with primary choice (Rank 1)	Willingness to join rural health services		
		YES	NO	NOT SURE
Experience during visit for self / family/ relatives/ friends	27.4%	41.0%	25.5%	33.5%
Discussion with friends (Medical)	15.3%	32.1%	32.7%	35.1%
Print Media (Newspaper etc.)	14.5%	39.6%	31.3%	29.1%
Discussion with Doctors in Public sector health service	13.9%	37.9%	30.0%	32.2%
Social media	8.9%	37.9%	21.6%	40.5%
General discussions with other people	5.5%	39.7%	22.2%	38.1%
Discussion with Medical teachers	5.6%	40.8%	29.2%	30.0%
Electronic Media (TV and Radio)	4.4%	35.5%	31.2%	33.3%
Discussion with Doctors in private sector health service	2.5%	41.5%	24.5%	34.0%
Discussion with friends (non-medical)	1.9%	33.3%	26.2%	40.5%
Grand Total				

4. Discussion

The study reveals that factors influencing medical students' willingness to work in rural areas through public health services depends on non-modifiable factors such as sex (males are more willing) and social category (ST students are more willing). When students are in early phase of career (1st and 2nd year), their willingness is almost double (65.6%) in comparison to students from 3rd and 4th year (34.4%).

Our study examined that factors such as gender, academic year of study, category status, residential background, parents' current location, and father's occupation significantly influence students' willingness to join rural health services. Males are more inclined to work in rural health services (39.9%), while SC and ST category students show more willingness (43%) and (56%), respectively. Only 32% of urban students express willingness to work in rural health services. Factors affecting willingness include exposure to public health facilities (69.3%), students with rural backgrounds (76.6%), and those whose parents live in rural areas (76.2%). Visits to health facilities increase with study progression (70.0%) to final year (82.8%).

Of the 1,917 respondents, 49.1% were male and 50.9% female. The majority (70.8%) were from urban backgrounds, while 29.2% hailed from rural areas. A total of 38.1% of students expressed willingness to serve in rural areas, 28.8% declined, and 33.1% were undecided. Willingness was higher among males (40%), students from tribal backgrounds (56%), rural upbringing (53%), and those in the first two academic years (45.1%).

Bivariate analysis showed significant associations between willingness and social category ($\chi^2=165.9$, $p<0.001$), academic year ($\chi^2=16.1$, $p<0.001$), residential background ($\chi^2=84.8$, $p<0.001$), and medium of instruction ($\chi^2=68.1$, $p<0.001$). Multivariate logistic regression indicated that students from rural backgrounds were twice as likely to express willingness to serve (AOR=2.17; CI: 1.58–2.99), while those belonging to Scheduled Tribes were nearly three times more likely (AOR=2.84; CI: 2.10–3.84). Female gender and urban upbringing were negatively associated with willingness.

Regarding career aspirations, 90.8% of all students preferred postgraduation immediately after MBBS, irrespective of gender or background. Only 3.5% indicated a desire to join government health services immediately post-MBBS.

Rural students are more likely to return to similar settings, emphasizing the need for integrating rural health rotations and internships into medical curricula. Economic incentives, such as competitive salaries and job security, are significant, but students express concern about limited career growth and professional isolation in rural settings. Work environment and infrastructure, including adequate medical resources and support staff, also play a significant role. Community and social factors, such as integration into the community, social support, and overall family well-being, also influence decision-making.

Personal motivation and a sense of purpose are powerful motivators for some students, suggesting that fostering a sense of social responsibility during medical training can be beneficial.

Students with urban background, English as medium of instruction and parent as doctor are less willing for working in rural areas. Gap between class 12 and admission into MBBS is one of the key factors as students with gap of 2 or more are more willing to serve in public health services. Hence, it can be said that a male student from rural background, belonging to ST category, studying in 1st or 2nd year with Hindi as medium of instruction and gap after class 12 is highly motivated to work in rural areas through public health services.

However, this motivation of students is mainly affected by the career choices after MBBS. Irrespective of sex, social category, year of study, residential background and parents living in rural area, almost 90% of students are looking for pursuing post-graduation immediately after MBBS. Here it is important to know that what is influencing the willingness of students for serving in rural area. Experience during visit to public health facilities and discussion with friends from medical background are two key factors affecting the decision making of medical students.

Odisha is having similar typology and population like Chhattisgarh. In one of the studies by Nallala et al [4] revealed that around 30% students are willing to serve rurally after MBBS and only 17% of showed willingness to work in rural areas, in the long run. Nearly 44.5% mentioned opportunities for career growth, followed by the possibilities for higher education (26.8%) as major the factors for preferring an urban posting. Deterrents for them were amenities at the rural jobs and career growth while motivating factors were incentives and willingness to serve the society.

One study in Ghana [5] captured that 55.4% of students stated that they were likely to or would work in an underserved area. It also mentions that desire to help others may be a motivation factor to study medicine, but this does not translate into willingness to work in rural areas. Both intrinsic mission and tangible incentives shape willingness to accept deprived-area postings. Efforts should be made to build on intrinsic motivation during medical training and in designing rural postings, as well as favor students for admission with lower PPES (parental professional and educational status).

One study in Ethiopia [6] mentioned to have health students' willingness to work in rural areas was 78.4% which was associated with gender and rural exposure: underscores role of structured placements.

Bao [7] conducted a study among 787 medical and nursing students in rural China, which highlighted the importance of factors such as patient–doctor relationships, *Bianzhi* (the government-allotted staffing positions for each employer), and salary in motivating final-year students to take up rural postings. The findings further suggest that recruitment policies should be strategically designed to address the diverse academic disciplines and backgrounds of students in order to enhance rural workforce retention.

A systematic review by Budhathoki et al [8] identified several factors that motivate medical students to practice in rural areas, including a rural upbringing, community-based curricula with training in rural settings, early community exposure during medical education, and the rural location of medical schools. Conversely, deterrents to rural medical practice included inadequate infrastructure, excessive workload, poor hospital management, and professional and social isolation.

Qualitative study by Goel [9] in North India highlighted that interest to work in rural area is shaped by living/working conditions, safety, mentorship; rural exposure during training helps.

Kuteesa J et al. [10] conducted a study on the specialty career preferences among fifth-year medical students. Findings indicated that clinical branches like obstetrics and gynaecology was the most preferred specialty career, followed by surgery, pediatrics, and internal medicine. Focus group discussions highlighted controlled lifestyle, financial assurance, and inspirational specialists as facilitators for specialty preference. Barriers to specialty preference included bad clinical rotations, lack of career guidance, and perceived poor and miserable specialists.

PJ Royston et al. [11] conducted a study on the factors influencing osteopathic medical students' intent to practice in rural areas of the USA. The study examined the correlation between student characteristics, such as age, and rural upbringing, and the Myers Briggs Type Indicator (MBTI) correlation. It also explored factors such as financial assistance and students' opinions on rural physicians, which could increase their interest in practicing in rural areas. The research highlights the need for more rural medical students.

A study by Jose M et al. [12] found that final year medical students at a South African public university valued rural facility attributes, leading to widening healthcare inequalities. The study found that advanced practical experience, hospital safety, and availability of basic resources were the highest weighted attributes, with their mean utilities increasing by 0.82, 0.64, 0.62, and 0.52 respectively. The study also found that female, general practice, and prior rural medicine exposure were associated with higher weighting for hospital safety. The research recommends publicizing rural health facility "draw-cards" among medical graduates, improving physical and occupational safety, and providing greater transparency about rural facility attributes.

5. Conclusion

Decision of medical students to serve or not to serve in rural areas is culmination of interplay among many factors during the study period, Governments have been taking various measures to attract and retain medical graduates to serve in public health facilities. Most of such steps are either in isolation or mostly after the completion of the course. Hence, it's important to work on the factors during the MBBS hence students can be more motivated to work in rural areas.

The current study identifies that many factors play significant role to influence the final decision about "to serve and not

to serve" in public health facilities. A multi-faceted approach addressing economic, professional, and social factors is crucial for encouraging medical professionals to consider rural practice. The study advocates for steps at various levels like preferential admission for rural-origin students; enabling environment through media, regular exposure to public health service, minimum service standards for equipment, staffing, safety, transport, housing; supportive supervision and grievance redressal. It also calls for a transparent and structured career with transparency around professional development, postings and transfers.

Abbreviations

IPHS	Indian Public Health Standards
IIHMR	Indian Institute of Health Management Research
MBBS	Bachelor of Medicine and Bachelor of Surgery
MBTI	Myers Briggs Type Indicator
MO	Medical Officer
OBC	Other Backward Caste
PG	Post Graduation
PHC	Primary Health Centre
PPES	Parental Professional and Educational Status
SHC	Sub Health Centre
SC	Scheduled Caste
ST	Scheduled Tribe

Funding

This research received no specific grant from any funding agency, commercial, or not-for-profit sectors.

Author Contributions

Gajendra Singh is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

The authors declare no conflicts of interest.

References

- [1] Indian Public Health Standards for PHC, National Health Mission, Government of India, Available at <http://www.nhm.gov.in/images/pdf/guidelines/iphs/iphs-revised-guidelines-2012/primary-health-centres.pdf> (accessed 21 Oct 2025).
- [2] Update on Ratio Of Patients And Doctors Nurses, Ministry of Health & Family Welfare, Press Information Bureau Available at <https://pib.gov.in/PressReleaseDetail.aspx?PRID=1845081> (accessed 21 Oct 2025).

- [3] Rural Health Statistics, Government of India, Ministry of Health & Family Welfare, National Rural Health Mission (NRHM): Available at <https://main.mohfw.gov.in/?q=documents/reports> (accessed 21 Oct 2025).
- [4] Nallala S, Swain S, Das S, Kasam SK, Pati S. Why medical students do not like to join rural health service? An exploratory study in India. *Journal of family and community Medicine*. 2015 May 1; 22(2): 111-7. <https://doi.org/10.4103/2230-8229.155390>
- [5] Agyei-Baffour, P., Kotha, S. R., Johnson, J. C. et al. Willingness to work in rural areas and the role of intrinsic versus extrinsic professional motivations - a survey of medical students in Ghana. *BMC Med Educ* 11, 56 (2011). <https://doi.org/10.1186/1472-6920-11-56>
- [6] Getachew B, Bizuneh B, Ewunetu B, Kassahun D, Fentahun D, Ademe D, Cherkos EA, Kebede AA. Willingness to work in rural areas and associated factors among graduating health students at the University of Gondar, northwest Ethiopia, 2021. *PLoS One*. 2022 Oct 21; 17(10): e0276594. <https://doi.org/10.1371/journal.pone.0276594>
- [7] Bao, M., Huang, C. Job preferences of medical and nursing students seeking employment in rural China: a discrete choice experiment. *BMC Med Educ* 21, 146 (2021). <https://doi.org/10.1186/s12909-021-02573-3>
- [8] Budhathoki SS, Zwanikken PA, Pokharel PK, Scherpbier AJ. Factors influencing medical students' motivation to practise in rural areas in low-income and middle-income countries: a systematic review. *BMJ Open*. 2017 Feb 22; 7(2): e013501. <https://doi.org/10.1136/bmjopen-2016-013501>
- [9] Goel S, Angeli F, Dhirar N, Sangwan G, Thakur K, Ruwaard D (2019) Factors affecting medical students' interests in working in rural areas in North India—A qualitative inquiry. *PLoS ONE* 14(1): e0210251. <https://doi.org/10.1371/journal.pone.0210251>
- [10] Kuteesa J, Musiime V, Munabi IG, Mubuke AG, Opoka R, Mukunya D, Kiguli S. Specialty Career Preferences among Final Year Medical Students at the School of Medicine, Makerere University College of Health Sciences, Uganda. *Research Square*. 2020 Jun 29: 1. <https://doi.org/10.1186/s12909-021-02630-x>
- [11] Royston PJ, Mathieson K, Leafman J, Ojan-Sheehan O. Medical student characteristics predictive of intent for rural practice. *Rural and Remote Health*. 2012 Sep; 12(3): 1-0. <https://doi.org/10.22605/RRH2107>
- [12] Jose, Maria & Obse, Amarech & Zuidgeest, Mark & Alaba, Funke. (2020). Preferences of Medical Students for Rural Medical Internships in South Africa: A Discrete Choice Experiment. <https://doi.org/10.21203/rs.3.rs-67845/v1>