ORIGINAL ARTICLE

Cross-sectional Study to Ascertain the Choice of Subjects for Post-graduation and Reasons their Choice among Medical Graduates at MLB Medical College, Jhansi

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ABSTRACT

Introduction: Most medical graduates opt for specialization before starting their practice and previous studies show preference for clinical subjects. This research aimed to ascertain the choice of specialization among medical graduates and explore whether students hesitate in choosing pre and para clinical subjects for specialization and the reasons for the same. **Methods:** A cross sectional study was done at M.L.B Medical College, Jhansi in April-May2024. Eighty participants were included in the study out of which, 68were interns. A semi structured questionnaire was administered to them. **Results:** The mean age of participants was 25.38 ± 2.2 years, 60% were males, 37.5% were from a rural background, 60% had no doctor in the family. The present study shows 96% doctors want to specialize in clinical subjects specially Medicine, Dermatology and General Surgery. Only three students opted for pre and para clinical subjects. **Conclusion**: Medical graduates mainly want to opt for clinical subjects for post graduation. Doctors need counseling at the time of selecting their branch in which teachers and seniors can play a very important role. Importance and career options in pre and para clinical subjects should be known to doctors so that they can make an informed decision during counselling.

KEYWORDS

'Career choice'; Post-Graduation; Doctors; Specialities; 'Preclinical and Para Clinical Subjects'

INTRODUCTION

Becoming a doctor has always been regarded as a noble pursuit. Medical education is rigorous and prolonged, often spanning over a decade and including undergraduate training, post-graduation, and super-specialization. This study was planned to explore the choices of medical graduates regarding specialization and the factors influencing these decisions.

Previous studies have consistently shown a strong preference for clinical specialties. Chawla J et al. (2018) reported that 88.5% of students preferred clinical subjects for post-graduation.[1] Studies have identified Internal Medicine, Surgery, Pediatrics and other clinical subjects as the most preferred.[1–3] The reasons cited included interest in the subject, perceived financial benefits, and quality of teaching. If this trend persists it may result in a shortage of teaching faculty in these disciplines and a backlog of students every year. While research studies show this clear preference for clinical subjects, more research is needed on specific reasons for the reluctance in choosing in Pre and Para clinical Specialities and to explore the perspectives of medical graduates on potential strategies to address this issue.

Aim: To assess specialty preferences among medical graduates for post graduations and reasons for their choice

Objectives

- To ascertain the choice of subject for specialization in medical graduates.

- To evaluate whether there is reluctance to take pre and para clinical subjects for post-graduation and analyse reasons for the same
- To determine the potential strategies that can address this issue from the participants'perspective.

MATERIAL & METHODS

Study type : Cross sectional study was planned in
Study duration: April-May 2024
Study population: Medical graduates interns,non PGJRs and demonstrators aspiring for Specialiation
Study setting :M.L.B. Medical College,Jhansi
Inclusion criteria: All medical graduates including interns, non PGJRs and demonstrators were the study population.
Exclusion criteria: Those who did not give consent.
Sample size: As per the research article by Chawla et al 88.5% participants opted for clinical subjects, taking P=0.885, Z=1.96 for 95% CI,and d=6% sample size came out to be108.5. Adjusting this for a finite population of 200 Interns and demonstrators, the adjusted sample size came out to be 70. We decided to take 80 participants.
Strategy for data collection:
The participants were explained the purpose of the study and those who gave consent were registered. A total of 100 registrations were received and eighty participants were selected by lottery method. Out of these eighty participants there were 68 interns,9 demonstrators and 3 non PG JRs. The semi-structured questionnaire which was to be administered was finalized after discussion between all four researchers and two experts from other two departments were consulted for validation of content. It was then pre-tested on 10 final year students to assess comprehension. The questionnaire was administered to all the graduate doctors. It consisted of 2 sections and had both closed and open-ended questions. It covered socio-demographic details/characteristics, their choice of specialization and reasons for the choice.
To determine the reasons for their preference the participants were asked to mention the advantages and disadvantages(if any)of choosing clinical as well as preclinical or para-clinical subjects for post-graduation as four separate questions. They were also requested to give their suggestions about what could be done to make post-graduation in Pre and Para-clinical branches an acceptable, feasible and lucrative option.
Ethical issues: Written consent was taken from all participants and approval was taken from Institutional Ethical Committee(vide letter no 537/IEC/I/2022-2023).
Data analysis: Results were tabulated and expressed in frequencies and percentages with graphical representation where suitable. As the number of students opting for pre and para clinical subjects were low (3/80) we did not check for associated factors using statistical tests.

RESULTS

The mean age of participants was25.38±2.2 years, 60% were males, 37.5% were from a rural background,60% had no doctor in the family. Choice of subject was mostly the choice of participant himself/herself in 83.75% and was influenced by parents in case of 18.8% participants and teachers in 8.8%.The socio demographic details of participants are presented in Table-1.The study participants were asked the reason for choosing this profession. The two main reasons were to serve society and interest in the profession. All responses are enumerated in Table-2

Table 1: Socio-demographic details

Variable	Categories	Number	%	Total
Gender	Male	48	60	80
	Female	32	40	
Place of residence	Rural	30	37.5	80
	Urban	50	62.5	
Education of Father	College education	56	70	80
	< College(12th and below)	23	28.75	
	Primary education	1	1.25	
Education of Mother	College education	35	42.5	80
	< college(12th and below)	33	41.25	
	Primary education	12	16.25	
Occupation of Father	Service	28	35	80
	Self employed (business)	28	35	
	Agriculture(farming)	19	23.75	
	Retired (getting pension)	3	3.75	
	Deceased	2	2.5	

Variable	Categories	Number	%	Total
Occupation of Mother	Home maker	63	78.75	80
	Service	16	20	
	Self employed	1	1.25	
Choice of subject influenced by	Self	67	83.75	89*
	Parents	15	18.75	
	Teachers	7	8.75	
Anyone is a doctor among	Family/Relatives	28	35	80
	Friends	4	5	
	None	48	60	

**choice of subject may have more than one influence in some participants(N=89), some even mentioned self and parents or self and teachers.*

Table -2: Reasons for choosing medical profession

Serial number	Reason	Number	%
1.	Serving society	26	32.5
2.	Dream profession/interest in profession	14	17.5
3.	Parent's dream	11	13.75
4.	Financial independence	11	13.75
5.	Respectable profession	06	07.5
6.	Concern for health of family and self	02	02.5
7.	No specific reason	10	12.5
	Total	80	

The participants were asked to mention three choices for the subject that they would like to do post-graduation.They were asked for three choices because all participants may not have made a confirmed choice and the investigators also wanted to know the options they would take in case they did not get the subject of their choice . The subject of choice (first choice) was Medicine as mentioned by 37.5% participants followed by Dermatology 15%, followed by General Surgery ,13.75%.as shown in figure 1. The results of all three choices first,second and third are shown in Table-3. Only three participants out of eighty(3.75%) mentioned choosing a pre and para clinical subject for specialization as the first choice. So,there was a clear consensus about choosing clinical subjects for post-graduation and the participants clearly spelled out their reasons and suggestions in their submitted responses.

Figure 1: % of students opting for the various subjects

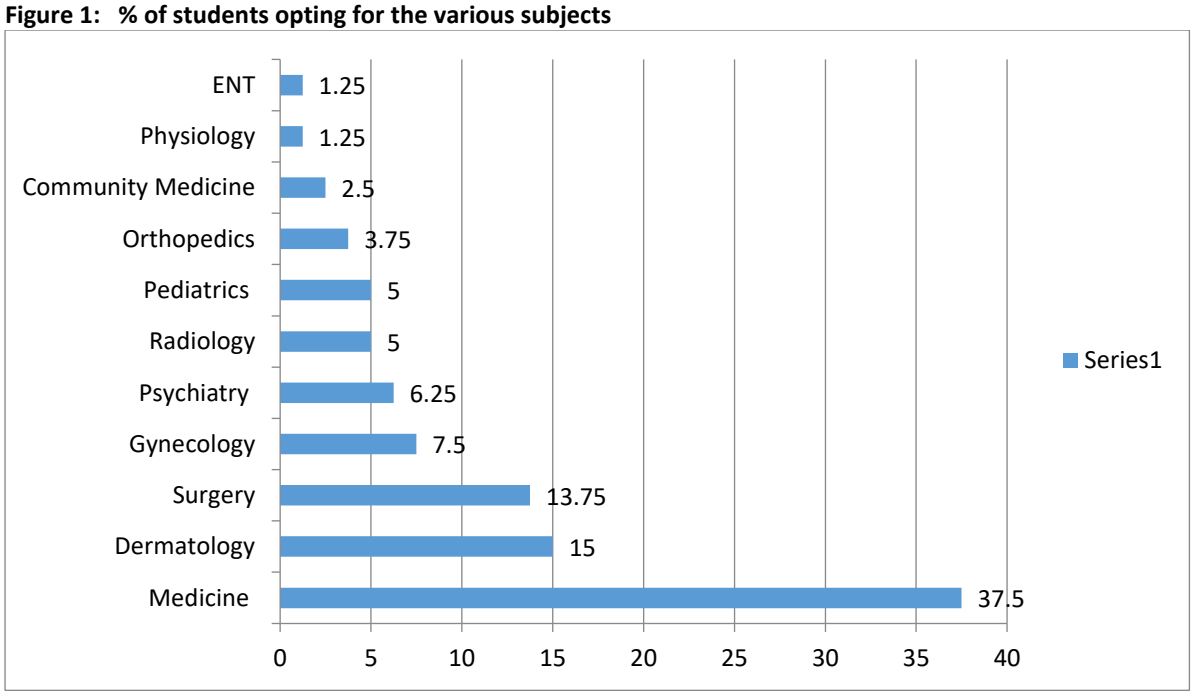


Table -3: Choice of subjects as mentioned by participants (first three choices)

Serial no.	Subject	First choice N1=80	Second choice N2=65	Third choice N3=53	Total number *
1	Medicine	31	14	5	50
2	Dermatology	12	8	6	26
3	Surgery	11	6	2	19
4	Gynecology	6	2	1	9
5	Psychiatry	5	2	4	11
6	Radiology	4	1	5	10
7	Pediatrics	4	10	8	22
8	Orthopedics	3	0	0	3
9	Community Medicine	2	0	3	5
10	Physiology	1	0	1	2
11	ENT	1	1	1	3
12	Anesthesia	0	3	2	5
14	Pathology	0	2	1	3
	No option mentioned	NA	15**	12**	NA
Total		80	65	53	

this is the total number of times the subjects have been mentioned in the first three choices. Medicine, Dermatology, Pediatrics and Surgery have been mentioned most frequently in the decreasing order of frequency. **total number of students who have mentioned this subject in their first three choices.*Fifteen students mentioned only one choice of subject and had no second choice. Among those only choices were medicine (6), surgery(4),dermatology(2), psychiatry(1),Physiology(1)and psychiatry(1). Twelve students did not mention a third choice.*

The reason for choosing the particular subject mentioned by participants have been summarized in the Table-4 the main reason being interest in the subject. Other individual responses mentioned 'service in rural areas' (CFM), ' working on problems at grass root level' , 'had a psychiatric patient in family' , 'bringing a new life into the world', 'want to work in anti-ageing research', 'need for pediatricians' ,'working for orphans' ,'showing our skills', 'want to be a famous doctor', 'better career options', 'thrill of emergency medicine' .

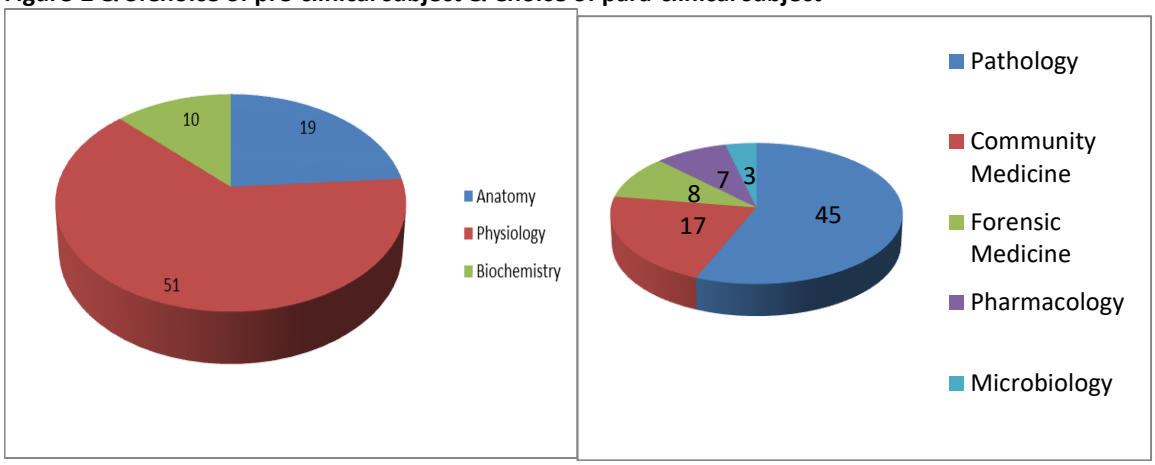
Table 4: Reasons for their choice of subject for post graduation.

Serial no.	Reasons for their choice of subject	Number	Specific subject mentioned
1.	Interest in the subject	30	-
2.	General medicine covers most of the problems	2	-
3.	Scope of super specialization	2	Medicine ,surgery
4.	Like teaching	1	Physiology
5.	Less interested in surgical specialities	3	-
5.	Like working with Children	2	Pediatrics
6.	No super-specialization required	2	Dermatology, Orthopedics
7.	Want to work for public health	2	Community medicine
8.	Liked /disliked working in that department *	3	Clinical subjects
9.	Want to make diagnostic tests affordable	2	Radiology
10.	Hidden mental issues need to be addressed	2	Psychiatry
11.	Good patient interaction	1	Medicine
12	No specific reason**	28	-
	Total	80	

working experience may influence the choice even in clinical subjects.these represent candidates who may benefit from counseling.*

The students were asked which subject they would prefer, if they had to take a pre-clinical subject and a para-clinical subject, in the form of separate questions. The first and second choice were mentioned as Physiology by 63.7% participants and Anatomy by 23.8% participants .Among Para-clinical subject the first choice was Pathology which was mentioned by 56.3% followed by Community Medicine by 21.3% participants. Details of their choices are depicted in the pie charts below in Figure 2 and Figure 3:

Figure-2 & 3:Choice of pre-clinical subject & Choice of para-clinical subject



The participants were asked the 'advantages and disadvantages' of 'pre–paraclinical' and 'clinical' subjects in the working field as four separate questions. These were asked in the form of open ended questions and most participants gave more than one reason for the above questions. The article includes the advantages and disadvantages of choosing pre and para clinical subjects for post-graduation in the form of tables. The answers have been analyzed and tabulated in the form of themes and subthemes.

The advantages (n=111 responses) of taking a pre and para clinical branch mentioned by participants were good work-life balance, more time for various activities, chance to improve academics, better working environment and no risks because of no direct patient interaction. The disadvantages of pursuing post-graduation in pre and para clinical subjects (N=89) were summarized under four broad themes- lack of patient interaction, less financial prospects, less opportunities for future and being dependent on others for their practice. Table-5 and 6 mention respectively the advantages and disadvantages in taking of pre and para clinical subjects.

Table 5: Advantages of joining Pre and para clinical subjects

	Theme in bold along with subtheme	Total no. under theme	Total no for each subtheme
A	Good work life balance	15	
B	Work related advantages	37	
B1	Less workload		19
B2	Less tension/less hectic		9
B3	Fixed schedule		6
B4	No emergencies		3
C	Time management better	23	
C1	Time for family		12
C2	Time for self		11
D	Contribution to medical education	12	
D1	Improving academia		9
D2	Giving a strong foundation to future doctors		3
E	No patient interaction	10	
E1	Less fear of contracting infectious diseases		5
E2	Less chance of being attacked by patient party		4
E3	Less involvement in law suits		1
F	Better working environment	5	
F1	Good relations between colleagues		3
F2	No competition		1
F3	Better working environment		1
G	Easier to do	3	
G1	Easier to get a seat		2
G2	Residency period is easier		1
H	Happy helping clinicians in a supportive role	2	
I	Good earning	2	

	Theme in bold along with subtheme	Total no. under theme	Total no for each subtheme
J	Helping doing good quality research	2	
	Total	111	

Some other single responses mentioned 'no direct patient interaction', 'scope and impact of preventive medicine is more', 'more time for continued learning' and 'enough medical knowledge to help family and friends'

The advantages of taking clinical subjects were the same as the disadvantages of choosing pre and para clinical subjects except for one new theme that the scope for service to the community is more in clinical branches, 'social service'(10 responses) and 'serving the poor'(6 responses). The dis-advantages of taking clinical(n=137 responses) subjects were the same as the advantages of choosing clinical subjects except for two new themes, the toll on physical and mental health(mentioned by 6 participants)and the challenge of maintaining a functional work set up (mentioned by 4 participants).The tables for advantages and disadvantages of clinical subjects are given as supplementary tables 6 and 7

Table-6: Disadvantages of joining Pre and Para clinical subjects

Serial	Disadvantages of joining pre and para clinical subjects	Total number (theme)	Total number (sub-theme)
A	No patient interaction	32	
B	Social aspect	17	
B1	No recognition in society as a doctor		10
B2	No name and fame		4
B3	Less respect		3
C	Personal aspects	12	
C1	Low self esteem		5
C2	Less job satisfaction		3
C3	Lack of satisfaction at managing emergencies		2
C4	No role in improving the health of people		2
D	Skill based aspects	10	
D1	Lack of confidence in managing emergencies		3
D2	Lack of confidence to run a private practices		7
E	Less money compared to clinical branches	12	
F	Less scope for opportunities in future	3	
G	Dependent on others for practice	3	
Total		89	

Other individual responses mentioned 'not preferred by family' , 'peer pressure', 'only lab work' and 'field work in community medicine not suiting my temperament'.

Table 7: Suggestions to make Pre and Para-clinical branches more lucrative

SN	Suggestions	Number
1	Pay scale should be increased/special teaching allowance	25
2	Career counseling after graduation	17
3	Increase awareness about importance of these subjects (among students and society)	10
4	Technical advancement in Labs and the way these subjects are taught	4
5	Better research facilities and motivation for research in these subjects	6
6	Create interest while teaching these subjects	7
7	Integration of pre and para clinical subjects with clinical subjects (ensure patient interaction in some form)	7
8	Involvement in administrative work/more opportunities at work place	7
9	Develop more career options and inform students about them	6
10	Increased respect in medical fraternity	4
11	Increase number of seats	3
12	Encouragement and motivation (especially for those with aptitude for teaching)2+2	4
13	Assuring them government jobs	2
14	Increase clinical exposure/field visits	2
15	Counsel about work life balance	2
	Total responses	106

The participants gave a number of suggestions to make pre and para clinical subjects a good option for specialization which are summarized in the Table 7 above. The main suggestions were to give a special teaching allowance, career counseling after MBBS, integration of these subjects with clinical branches to ensure patient interaction in some form and sensitize students and society about the importance of these subjects.

Some notable individual responses include 'Better services and helping them reach out to community', 'using their services in real world', 'get rid of stigma with facts and logic', 'choose field according to personality and not in peer pressure' ,'not engage in rat race' ,'sensitize students about importance of these subjects during teaching', 'Less interpersonal conflicts in pre/para clinical departments' ,' provide exposure, environment, knowledge and make them more clinical based'.

On asking about their choice of working field 52.5% wanted to work in Public sector, 26.2% wanted to work in self- established clinics,10% wanted to work as Teaching faculty. Rest were undecided.

DISCUSSION

The results of present study clearly show that 96.25% medical graduates prefer taking up clinical subjects for specialization. Another study from Imphal showed similar results ,where 92.5% interns wanted to do specialization in clinical subjects.(5) Like other previous studies(1,2,3) the present study also found that clinical subjects like general medicine, dermatology and general surgery were the top three choices of students. In another study from Saudi Arabia it was found 10.8-12.7% participants interested in family medicine (6)

The present study however probes into the participants' perception and their reasons for not choosing pre and para clinical subjects and what can be done so that more doctors can choose them in future. The study also highlights the need for career counseling at the time of making a choice for their future specialization in which teachers and seniors can play an important role. The key factors which emerged as the deciding factors in choosing a subject as evident from the whole exercise are direct patient interaction, work life balance, financial prospects, job satisfaction, Risks of assaults, law suits &infections, dependence on others and scope of working.

The reasons for choosing clinical subjects were similar to that found in other national and international studies.In a ualitative study from Poland the main factors influencing doctors' choices were remuneration, the ability to maintain work-life balance, interest in the medical field, the ability to start a private practice, skills possessed, and doctor-patient interactions.(7)

In another study by Goetz et al secure job after graduation (mean = 5.23) and a compatibility of family and job (mean = 5.14) were important parameters for career choice. The specializations most frequently chosen were surgery (32.0%), internal medicine (27.1%) and anesthesiology (22.1%)(8). Another study mentioned 'Personal interest in the subject, love for children/patients, no emergency duty and less workload, want to become more skillful in the subject, because it is an end subject,' etc., as the main reasons (5).Young doctors expect flexibility in working hours and better working conditions in future work, and these factors are important when choosing a medical specialty(7)

The students here have suggested a number of advantages and disadvantages for both 'pre and para-clinical' subjects and clinical subjects as mentioned above. The same themes have been mentioned as both advantage and disadvantage by participants like patient interaction, handling emergencies, dependency on other doctors, field work, preference of family etc with reasons justifying both aspects. So, the individual's choices and perception play a very important role and the graduates should be encouraged to take a subject and working style which suits their temperament and personality.Career counselling and motivation can help them make this choice.

This data collection was followed by an orientation session for all the participants and other Interns which highlighted the career options in these eight pre and para-clinical subjects where faculty from these departments presented and directly interacted with the graduates to give them an idea of how they can make a correct choice for their future lives. The idea behind the whole exercise was to help students make an informed choice about their future specialization.

CONCLUSION

The present study shows 96% doctors' choice was to specialize in clinical subjects and 63% felt the need for career counseling. These young graduates should be made aware of the opportunities in all subjects, including pre and para clinical subjects and efforts should be made to help them make an informed suitable choice when taking up specialization. Such career counseling sessions should be planned for in all colleges.

RECOMMENDATION

- The biggest message from this study was that students need to be helped by teachers and seniors to make an informed and independent choice about their subject of specialization. The study also underscores the role of career counselling at this critical juncture when internship is completed.
- Efforts should be made to sensitize them about importance of these subjects in their student life and Upgrade Labs and methods of teaching and making these subjects more clinical based.
- Efforts should be made to remove the stigma associated with taking pre-para clinical subjects among students. This would require the support and approval of faculty from both clinical and non-clinical subjects.
- It is important to recognize the contribution of these subjects in day to day practice, within institutions. This will help students form a positive mindset about these subjects.
- Efforts should be made to increase career options for these branches and creating more jobs for them. This could be done by opening audiometry clinics, sleep-labs, Culture facilities at all district level hospitals to begin with, to give opportunities to more specialists from these branches.

LIMITATION OF THE STUDY

A single study may not be enough for policy change or implementing all recommendations but it may be a starting point for discussion and more research on this very important topic which can bring about a paradigm shift among young doctors, teachers and established practitioners.

RELEVANCE OF THE STUDY

This study adds to existing literature as it mentions clearly why young graduate doctors prefer to take up clinical subjects despite understanding advantages and disadvantages of both 'clinical' and 'pre and para clinical' specialities. The missing link is possibly the lack of knowledge about future options in these subjects and motivation from seniors and teachers. More than two third acknowledged the need for career counselling at the time of choosing their specialization. The study also summarizes suggestions from participants about strategies to address this issue.

AUTHORS CONTRIBUTION

All authors contributed in planning and review at all stages of manuscript preparation. Dr.Sudha did data collection.

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NONE

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DECLARATION OF GENERATIVE AI AND AI ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

The authors haven't used any generative AI/AI assisted technologies in the writing process.

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