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Research Article

CURRENT TRENDS IN LEARNING BY MEDICAL STUDENTS IN RURAL MEDICAL COLLEGE GARHWAL REGION UTTARKHAND

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ABSTRACT

Background: The main objective of the research paper is focused on day today learning trends and expectations of Undergraduate medicos from their teachers. An overall 90 students were sampled from 400 medical students posted in the H. N. Bahuguna Base Teaching Hospital attached to the above medical college excluding all the first year MBBS students. **Methods:** This was a observational cross sectional study. The data was collected by questionnaire set by experienced faculty members of the institution. **Results:** On an average each and every male student spends 22 minutes and a female spends 20.2 minutes per day in reading the news papers. Over all magazine reading was 28.2% in male students and 23.5% in females. The students preferred to read their own books in their rooms or library and underline or highlight the text (males 35.9% and females 33.3%) rather than taking down notes (males 10.3% girls 9.8%). 17.9% of boys and 11.8% of females revised the topics. About 8.7% of males and 12.8% of girls tend to revise more than once. 38.4 % of girl students and 23.5% males tried to read their own books in the Library. 76.5% of girls 61.6% of boys borrowed books from Library. About 7.8 % of girls and 5.1% of boys adopted examination oriented reading; 48.7% of males and 52.9% of females studied less than an hour per day. Those who studied between 1-2 hours per day comprised a compared to studies is 15.8% in males and 22.5% in females. There were some comments from the students which were more of expectations they wanted to derive from the teachers. **Conclusions:** With regard to teaching method, the combination of teaching method is more effective when compared to didactic lectures. The results of our study indicate that the students favour student-teacher interaction by chalk & board teaching with emphasis on practical way of learning. They prefer teachers who are knowledgeable with an ability to teach, ratio of 30.8 % males and 15.9% females. The students who were bound to study their text books daily for more than 2 hours include 23.1% of boys and 29.4% of girls. The average time spent in reading text books per day by males was for 1.41 hours and females read for 1.35 hours. 33 students tried to prefer the teaching methodology of talk and chalk adopted by the teachers, 9 preferred power point or slide presentations and 6 students preferred other audiovisual presentations like cinematography. Around 19 girls preferred the talk and chalk lectures, whereas 9 girls preferred power point presentations and the rest video streaming. Out of 30 boys 22 were regular in attending the lecture classes, 6 were irregular in attending and two students didn't turn up to attend the classes. While 14 boys preferred self study, 10 preferred group studies and while 3 desired for special coaching by the teachers, the rest of the students wanted to adopt all the three methods of study. All students possessed mobile phones and 48 students possessed laptops. Analysis of time spent by the students in learning include: The average time spent by students with teacher in the class room or beside (60%) is for 3 hours and 30 minutes for both the sexes. The average time spent in self study (40%) either at library or in the hostel for males is 2 hours 18 minutes and it is 2 hours 28 minutes for girls.

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INTRODUCTION

In the Pre -independence era, Indian students obtained knowledge through books, news papers, magazines, radio and moreover teachers were also popular sources¹. During Post -independence, in addition to the above sources, cinemas held

sway over the masses and students as well². The introducing of television in early 1980's and privatization of channels in late 1980's attracted the students to derive benefit from TV education channels³. With the development of Microsoft personal computers and opening of internet to public paved the way to learning from TVs to laptops. There is a paradigm shift in the way our students have been assimilating knowledge in

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the past few decades. During the beginning of this century, the invasion of cell phones into private lives has revolutionized the ways and means of communication. In this decade of android version of advanced cell phones, 4G connectivity and opening up of social media networks like face book, Skype and twitter, the students are in the midst of information jungle. For the current generation, newspapers, magazines and text books have become outdated methods of learning.

The usage of double SIM android 4.0 .0 and above versions of smart phones, tablets are popular among the students. The Google and yahoo search engines, access to Wikipedia and other open source of knowledge on all subjects is easily and freely accessible. These mobile devices are connected to the internet all round the clock to provide information as well as cheap entertainment in the form of music, movies, sports and live shows. The easy access to mobile devices and cheap connectivity, active social networking rouse the young minds to seek thrills, excitement and misadventure which are not their better interests. On the other hand the mobile phone applications aid students to prepare for examinations⁴.

Instead of attending to lecture classes regularly, bedsides clinics, seminars and continued medical education programs organized by the teaching faculty, today medical students squander their time in the pursuit of pleasure provided by the above modern gadgets. Today the internet offers many free or paid online videos on teaching programs through YouTube, the presentations which seem to be more attractive to download and view off line. The academic teachers or the toiling doctors have ceased to be role models for the current generation. This study wants to focus on how far this is true in a rural Government Medical College set up which is tucked away in the Garhwal hills in the Alkananda valley, Pauri-Garhwal district of Uttarkhand. Veer Chandra Singh Garhwal Government Medical and Research Institute was established 7 years ago to meet the needs of the rural population in the hilly areas of Chamoli, Rudraprayag, Pauri and Tehri districts of uttarkhand. It is located 100km away from Rishikesh.

Aims and objectives

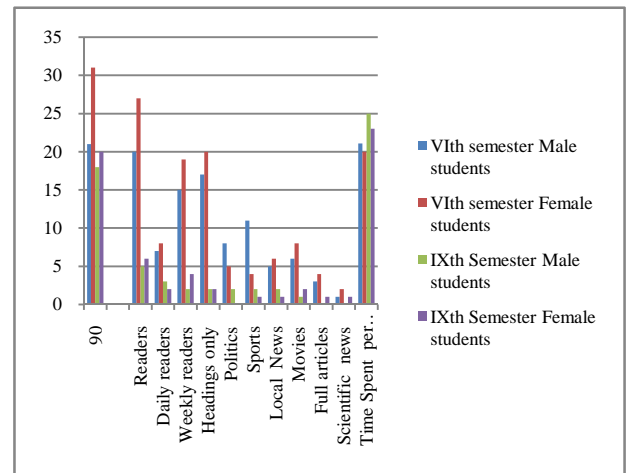
To evaluate learning methods, skills and preferences of the current medical undergraduates in the Veer Chandra Singh Garhwal Government Medical college located in Srinagar, Uttarkhand, Northern India. This is an observational cross-sectional study of medical students.

MATERIALS AND METHODS

An overall 90 students were sampled from 400 medical students posted in the H. N. Bahuguna Base Teaching Hospital attached to the above medical college excluding all the first year MBBS students. Out of these 90 students, 52 were from VIth semester; 31 were females and 21 were males. Among 38 students from IXth semester, 18 were males and 20 were females. They were given a twelve point questionnaire set by panel of experienced teachers from the various clinical faculties. After the lecture classes, the students were given enough time to think and answer the questionnaire. The data was tabulated and appropriate statistical methods were applied.

Observations

The habit of newspaper reading among the medical students is shown in table 1. An average time spent in reading newspapers is less than 15 minutes in 37 students, 15 to 30 minutes in 9 students and more than 30 minutes in 14 students. On an average each male student spends 22 minutes and a female spends 20.2 minutes per day in reading news papers.



Graph 1 shows the newspaper reading among medical students

58 out of 90 students; on an average 64.4% students read news papers on daily basis or weekly; of which 36.7% were females, 27.7% were males. The reasons given by the students who were not reading newspapers include: 11 students had no time, 4 were not interested, 2 students did not have the habit of reading news papers and the rest complained of not having access to news papers in the hostel premises and the location of library set up at a great distance.

Table 1 The following table shows the habit of newspaper reading among MBBS students.

Student category	VI th semester (52)		IX th Semester(38)		Total male (39)	Total female (51)
	Male 21	Fem (31)	Male (18)	Fem (20)		
Number (90)	21	31	18	20	39	51
Readers	20	27	5	6	25	33
Daily readers	7	8	3	2	10	10
Weekly readers	15	19	2	4	17	23
Headings only	17	20	2	2	19	22
Politics	8	5	2	0	13	7
Sports	11	4	2	1	15	5
Local News	5	6	2	1	7	7
Movies	6	8	1	2	7	10
Full articles	3	4	0	1	3	5
Scientific news	1	2	0	1	1	3
Time/student(min)	21.1	20	25	23	22	20.2

Reading magazines

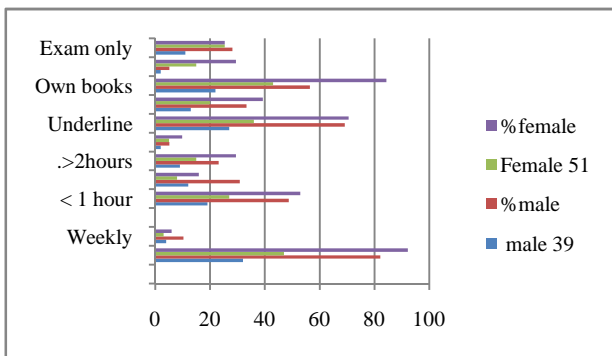
Over all magazine reading was 28.2% in male students and 23.5% in females. Out of 11 male students who were reading magazines, 3 males read weekly; 2 males read monthly; two males read medical journals, one scientific journals and one read general topics. Average time spent by male students per sitting was 15 to 40 minutes. Among 12 females who were reading magazines; 7 read weekly, two students read monthly, and the topics covered were more extensive when compared to male students. Six students read medical magazines, two of them read scientific topics, and two students read political issues, two about movies and one on sports. Two females borrowed magazines, and two bought magazines. Average time spent by female students per sitting was 30-60 minutes.

Reading Textbooks

The reading habit of medical text books among the students is show in table 2. Daily readers of text books include 82.1% males and 92.2 % females. Weekly readers of text books include 10.3 % males and 5.9% females.

Table 2 Shows the details of Textbook reading among the medical students.

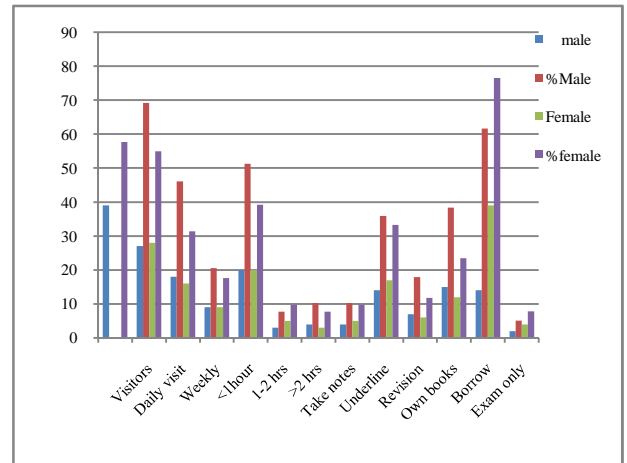
Student category	Total male (39)	% male	Total Female (51)	% female
Daily readers	32	82.1	47	92.2
Weekly	4	10.3	3	5.9
< 1 hour	19	48.7	27	52.9
1-2 hours	12	30.8	8	15.9
>2hours	9	23.1	15	29.4
Take notes	2	5.1	5	9.8
Underline	27	69.2	36	70.6
Revision	13	33.3	20	39.2
Own books	22	56.4	43	84.3
Borrow	2	5.1	15	29.4
Exam only	11	28.2	13	25.4



Graph 2 shows text book reading among students

Table 3 Shows the details of Study in Library by medical Students.

Student category	Male (39)	%male 43.3	Female (51)	%female 57.7
Visitors	27	69.2	28	54.9
Daily visit	18	46.1	16	31.4
Weekly	9	20.5	9	17.6
<1hour	20	51.3	20	39.21
1-2 hrs	3	7.7	5	9.8
>2 hrs	4	10.3	3	7.7
Take notes	4	10.3	5	9.8
Underline	14	35.9	17	33.3
Revision	7	17.9	6	11.8
Own books	15	38.4	12	23.5
Borrow	14	61.6	39	76.5
Exam only	2	5.1	4	7.8



Graph 4 Shows the Library visits of Medical students

Duration of Study in Library

The details of library visits by students are shown in table 3. The number of students visiting library were males 29 and females 28. A total of 55 students visit library (61.1%).

The students who study less than one hour per day in the library include 51.3% males and 39.21% females. Those who studied between 1-2 hours per day were 7.7% males and 9.8% females. Those who put up daily study of text books for more than 2 hours include 10.3% males and 7.7% females. The average time spent in reading text books per day was: males studied for 1.17 hours and females studied for 1.16 hours.

Lecture classes

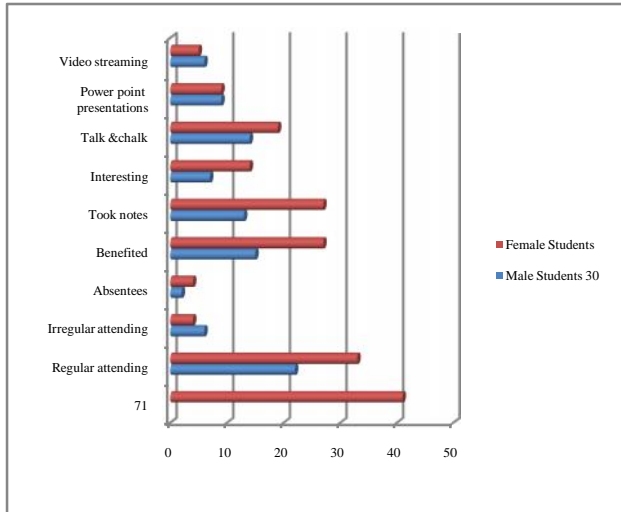
Out of 30 boys 22 attended lecture classes regularly, 6 were irregular in attending and 2 did not attend the classes. Out of them, 15 students opined that they were benefited by lecture classes, 13 took notes and 7 students found lecture classes interesting. Among 41 female students, 33 attended classes regularly, 4 were irregular and 4 did not attend the classes. Of them 27 took notes in the classes and said they were benefited by the lectures and 14 girls found lecture classes interesting.

Table 4 Shows details of Lecture classes Attended and preferences

Student Performance (71)	Male Students(30)	Female Students(41)
Regular attending	22	33
Irregular attending	6	4
Absentees	2	4
Benefited	15	27
Took notes	13	27
Interesting	7	14
Talk &chalk	14	19
Power point presentations	9	9
Video streaming	6	5

Preferences to lecturing methods

Around 14 boys preferred teachers who teaching methodology was talk and chalk, 9 preferred power point /slide presentations and 6 students preferred other audiovisual presentations like cinematography. Around 19 girls preferred the talk and chalk lectures, whereas 9 girls preferred power point presentations and the rest video streaming. Among all the students, 12 girls preferred to ask questions and clarify doubts where as only 3 boys preferred to ask questions. Four girls consented to gossiping in the class when compared to 2 boys.



Graph 5 Shows learning preferences of medical students

Males and females taken together

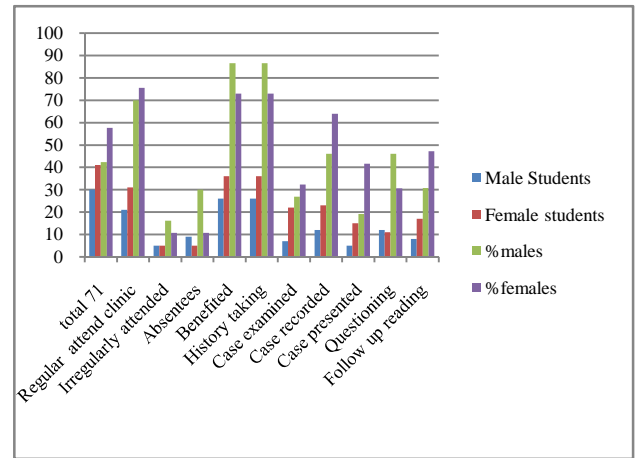
77.5% attended classes regularly, 14.1% were irregular in attending and 9.2% were totally absent. Those students who got benefited by lecturers were 64.6%, who took notes in class were 61.5% and 32.3% opined that the classes were interesting. Around 50.8% students preferred the talk and chalk lectures, 27.7% preferred power point slide presentations and 16.9% preferred video streaming.

Various reasons were given by students who were either irregular in attending (16) or absenting from lecture classes (6). The classes were boring to 8 students. For 6 students, the power point presentations were too long, boring and made them sleepy and 2 people felt that the classes were boring and also insensible.

Bedside clinics: Out of 30 males 21 attended bedside clinics regularly, 5 were irregular and 9 did not attend. History was taken from the patients By all students. Only 12 students examined patients and only 5 students presented cases. Two students examined more than twice and one student twice and other two only once. All of them opined that they were benefited by the clinics. Only 12 wrote casesheets, 9 looked into patients case sheet, Questions were asked by 12 students and follow up reading was done by 8 students. Teacher preference include: 5 students preferred assistant professors, 3 professors and the rest preferred all. See table 5 for the details pertaining to bedside clinics.

Out of 41 females, 31 attended bedside clinics regularly, 5 were irregular and 5 did not attend. History was collected from the patients about the performance of all students. Only 22 students examined patients and 15 students presented cases. Eight students examined more than 2 times, five students for two times and other two only once. All of them said that they were benefited by the clinics. Only 23 females filled case record book, 20 looked into patients case sheet, Follow up reading was done by 17 students. Questions were asked by 11 students and follow up reading was done by 17 students. 13 students preferred assistant professor, 2 preferred professors and the rest all. The bedside clinical details are charted in table 5. 73.2% attended bedside clinics regularly, 14.1% were irregular and

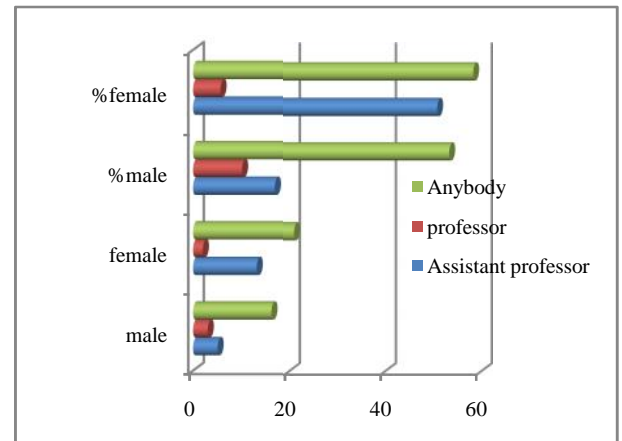
19.7% did not attend. 61.1% took history, 32.2% examined the cases, 49.3% recorded the cases, 28.2% presented the cases. 32.4% questioned and clarified doubts. 35.2% did follow up reading after case discussion, 87.3% opined to being benefited by bedside clinics.



Graph 6 shows participation of students in Bedside clinics.

Table 6 Student preference to bedside clinics

Student preference for bedside clinics				
Sex student	male	female	% male	% female
Assistant professor	5	13	16.7	50.8
Professor/Associate	3	2	10.0	5.6
Anybody	16	21	53.3	58.3



Preferred Method of study

Among boys 14 preferred self study, 10 preferred group study and 3 wanted coaching by teachers, the rest wanted to do all the three methods of study.

Among the girls 20 preferred self study, 10 people wanted self and group study, 8 people self and coaching and 6 wanted group study and to be coached as well.

Communication

Among male students, 25 wanted group discussion on subjects, 21 liked to gossip, 5 preferred to gossip about others while 5 preferred to gossip on news. Among girls, eight girls did not answer, 31 preferred group discussion on subjects, 17 liked gossip, 7 preferred to gossip about other people and 6 about news.

Mobile phones

All students possessed mobile phones. 20 male students possessed ordinary cell phones and 19 possessed smart phones. All female students possessed phones; thirty girls had smart phones while 21 used ordinary cell phones. The details of the cell phone used are shown in table 7 and 8. 16 male and 31 students used the mobile phones for downloading and learning purpose.

Table 7 Shows the details of cell phone use by the students

Student Use of cell phone (90)	Male Students (39)	Female Students (51)	Percentage Males (43.3)	Percentage Females (57.7)	Total percentage (100)
Type of cell phone					
Ordinary	20	21	51.3	41.2	45.6
Smart phone	19	30	48.7	58.8	54.4
Duration of use of cell phone					
More than 2 hours	2	6	5.1	11.8	8.9
For 1-2 hours	2	5	5.1	9.8	7.8
1 hour	4	16	10.3	31.4	22.2
Few minutes	31	24	79.5	47.1	61.1
Table 8. Purpose of using cell phone					
Download learn	16	31	41.0	60.8	52.2
Music listeners	21	44	53.9	86.3	72.2
Movie viewing	11	15	28.2	29.4	40.0
Chatting	18	33	46.2	64.7	56.7
Contact family	7	28	17.9	54.9	38.9
Contact friends	14	12	35.9	23.5	28.9
Texting messages	5	13	12.8	25.5	20.0
Video gaming	3	0	7.8	0	3.3

Table 8 Shows Lap Top use among the students

Student Use of cell phone (90)	Male Students (39)	Female Students (51)	Percentage Males (43.3)	Percentage Females (57.7)	Total percentage (100)
Lap top (48)	20	28	51.3	41.2	45.6
Duration of use of lap top					
Daily use	10	22	50.0	78.6	66.6
weekly	10	6	50.0	28.6	37.5
More than 2 hours	3	2	15.0	7.1	10.41
For 1-2 hours	10	12	50.0	42.9	45.8
1 hour	4	6	20.0	21.4	20.8
Less than hour	3	4	15.0	14.3	14.6
Download learn	9	21	45.0	75.0	62.5
Music listeners	8	16	40.0	57.1	50.0
Movie viewing	10	20	50.0	71.4	62.5
Video gaming	2	0	10.0	0	4.2
Social networking	2	5	10.0	17.9	14.6
Visit cybercafe	4	0	20.0	0	8.3

Table 9 Time spent by students each day in learning and entertainment

Student Activity	Males (39)	Females (51)
STUDY PERIOD		
Lecture classes	1hour 30 min	1 hour 30 min
Bedside clinics	2 hours	2 hours
With teacher	3 hr 30 min	3hr 30 min
News papers	22 min	20.2 min
Subjects	1hr 2 min	1hr
Library	38 min	33.0 min
Cell phone	25 min	46.0 min
Lap top	51 min	47.0 min
Self study	2hr 18 min	2 hr 28.0 min
Total study	5hr 48 min	5 hr 58.0 min
ENTERTAINMENT		
Music (8+16)	15 min	30 min
Chat (18+33)	10 min	16 min
Movies(11=15)	30min	35 min
Total time entertainment	55 min	1hr 21 min

Lap top uses

Over all 20male students and 28 female students were in possession of lap tops and the details of use is depicted and the duration and purpose of the use is as shown in table 8.

Summary of time spent

The average time spent by students with teachers in class room and beside (60%) is for 3 hours and 30 minutes for both sexes as shown in table 8. The average time spent in self study (40%) either at library or in the hostel is 2 hours 18 minutes for males and 2 hours 28 minutes for girls. The average time spent in entertainment compared to studies is 15.8% in males and 22.5% in females.

DISCUSSION

The learning trends of the present day students have shifted from teacher guidance to self oriented learning with the use of lap tops and android mobile phones and 24 hours of internet connectivity. With this trend the teacher’s role has fallen only to orient them to cases in bed side clinics. This cannot be dispensed even in the future time to come. However, the paucity of teachers increased their work load of referred patients, the teachers are also not able to engage small groups of 4 or 5 and so the clinical demonstration has become more of a lecture. The students have pointed out these drawbacks in their feedback forms. With regard to teaching method, the combination of teaching methods is more effective when compared to didactic lectures⁵. The information gained from evaluation can lead to changes in any aspect of teaching and evaluation methods. Curricular reforms to systematically address these issues and develop strategies to strengthen the medical education and health care system are needed at an institutional level & to be implemented at health universities who are involved in the curricular programmers’. This will definitely help the Indian Medical Graduates to match or better the international standards. Amongst the important suggestions received from the medical students were to decrease the generation gap between the student and the teachers by imparting Group activities in the form of seminars and symposiums⁶. The results of our study indicate that the students favour student-teacher interaction by chalk & board teaching with emphasis on practical way of learning⁹. The volume of material is excessive and the time allocated is relatively short. Moreover looming board examinations and high stakes all stand as a barrier in front of students that limit their ability to adopt deep approach and lead them toward a lower-yield surface approach. Perhaps a change in the format of the assessments would be beneficial. The decline in deep approach of medical students needs to be assessed and addressed by the curriculum developers⁷.

CONCLUSIONS

We as teachers need to take often the Feedback from students and to implement their requirements in their teaching curriculum. The results of our study indicate that the students favour student-teacher interaction by chalk & board teaching with emphasis on practical way of learning. They prefer teachers who are knowledgeable with an ability to teach.

There were comments from students about teacher’s role at the end of questionnaire. Positive comments made by students

with respect to teachers and teaching approaches include: Helpful in understating topics, guide the students to approach the patients, Clarify doubts, Feels teachers importance in case discussion. The teachers play a major role to impact and enrich the career of students. They are the role models besides books who can understand quickly what is in books and try to explain and motivate the students to read. Teachers' behavior is proved to be good.

There were some comments which were more of expectations from teachers: Request for better communication with students, monotonousness during long power point presentations, expect teachers to write on the board, Prefer audiovisual occasionally, they want all their doubts to be cleared by the teachers, expect basics to be taught, they want theory and clinical classes to be taken regularly, they want evening clinics to be taken. Some weak students expect personal communication and guidance, they want to be taught how to present cases and want clinical peculiarities to be discussed by the teachers, and they want the teachers to create interest for reading, they desire student interaction and group discussions, they want to be regularly assessed and they desire for help in understanding difficult topics. The clinical environment offers medical students limitless potential to develop their clinical acumen. As medical students we have the opportunity to participate fully in all stages of patient care, from helping formulate a diagnosis to proposing a management plan.⁸

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