



PERCEPTION OF FIRST YEAR AYURVED STUDENTS TOWARDS EARLY CLINICAL EXPOSURE

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ABSTRACT

Background: At our institution, clinical teaching starts during third year of study without any exposure to learning of basic sciences in first two years, resulting into difficulty in their transition from preclinical to clinical phase.

Objectives: The study of introducing early clinical exposure (ECE) in Ayurved education was undertaken with the objective of enhancing the theoretical teaching in Rachana sharir (Anatomy) with applied aspect, evaluating the perceptions of students about ECE and assessing the acceptability & feasibility of implementation.

Methodology: The faculty & students of I BAMS were sensitized about ECE. Two modules Aans sandhi (shoulder joint) and Janu sandhi (knee joint) under the theme Sandhi sharir (Arthrology) were selected for the study. Participants were divided into two groups. For module 1 group A served as an intervention group whereas group B was control group. The groups were crossed over for module 2. The Control group was taught through traditional didactic lecture whereas intervention group was exposed to ECE in the form of short didactic lecture followed by case based lecture and concluded by the hospital visit.

Results: Knowledge gain was determined using pre- posttest & perceptions were assessed through feedback and focus group discussion. The post test score of the intervention group was significantly high as compared to the control group in both the modules. Class average normalized gain for both the modules was more than 0.69 (69%), which showed that intervention of ECE was highly effective. Feedback analysis suggested that ECE was interesting, motivating, knowledge enhancing & correlating the theory to the applied aspect. It helped in enhancing sensitivity towards the patient, and increased communication skill.

Conclusion: We conclude that ECE in Rachana sharir was highly effective and well perceived by the students and can be implemented in Ayurved education.

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INTRODUCTION

Early years of undergraduate education (especially the first two years) are of paramount importance for the academic success of medical students. Such success depends not only on the expanding knowledge learned during these years, but also on determined attitudes towards medicine and the role of the physician. (1) In most teaching institutions within our country and across the world, first year medical and paramedical students are not provided with any real life clinical experience applicable to the learning of basic sciences within the first twelve months or more of their curriculum. (2)

The same situation stands true in the field of Ayurved education. In 2008(3), a nationwide survey showed that the 'teaching methodology' was one of the crucial areas that needed instant attention. The study suggests that the practical application of the theoretical constructs is not taking place

adequately. Unless the theory-oriented and textbook-oriented teaching is not transformed into clinically oriented practical training, the problem is probably not going to be solved.(4) Even after a decade there is hardly any change in this scenario. A "Vision-2015" document developed by Medical Council of India to reform the medical education in the country also emphasizes on early clinical exposure (ECE) It states that, the clinical training would start in the first year, with a foundation course, focusing on communication, basic clinical skills and professionalism. There would be sufficient clinical exposure at the primary care level and this would be integrated with the learning of basic and laboratory sciences.(5) The apparent benefits of early clinical exposure include exposure to the health care system, instilling the qualities of a patient-centred humanistic physician and increasing motivation for classroom learning. ECE forms a crucial part in the initiation of students into medicine. During a time when students often spend long hours in the classroom, it

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serves to remind students why they want to be physicians.(6) ECE involves an active, experiential learning from patients with practicing clinicians, designed to be the 'beginning of a life-time of learning focused on the patient.(7) Research study pertaining to Early clinical exposure had already been conducted in the faculty of Medicine, (1) dentistry,(8) Nursing,(9) physiotherapy (2,10) but till date this teaching modality is not yet touched by the Ayurved teachers. In Ayurved education, we follow a traditional, discipline-based curriculum with clinical exposure starting during the third year of study. Students are not provided with any clinical experience applicable to the learning of basic sciences in the first two years of their medical education. It has been observed that the students could not recall important anatomical & physiological concepts or could not apply these to the patients in their clinical years. Ayurved education needs to be updated in context of innovative teaching modalities considering the lacunas of conventional teaching. With this background we decided to undertake this study of introducing ECE in Ayurved education, providing relevance to the theoretical teaching in Rachana sharir (Anatomy), correlating it with the clinical aspects & determining the impact by evaluating the perceptions of students about ECE.

This study was carried out with the objectives to evaluate the perceptions of Ayurved students about early clinical exposure along with its effectiveness. We also desired to introduce ECE to assess its feasibility & acceptability & to examine whether the basic science learning was enhanced by the intervention of ECE.

METHODOLOGY

After obtaining approval from institutional ethics committee, the study was conducted in the department of Rachana Sharir, and teaching hospital of our Ayurved College.

The Study Population was 50 students of I BAMS students.

The topic for ECE was selected after discussion with the faculty members of the department of Rachana sharir (Anatomy) and kayachikitsa (General Medicine). The theme Sandhi sharir (Arthrology) was decided for ECE.

Two modules Aans sandhi (shoulder joint) and Janu sandhi (knee joint) were selected. For the classroom setting well structured cases with focus on anatomical aspect for both the modules were prepared. Strategy for hospital teaching was designed. The availability of teaching materials in the form of patients of the joint disorders was ensured.

Questionnaire of fifteen items was designed to evaluate students perception wherein items 1-12 were on 5 point Likert scale (1= Strongly Agree to 5 - Strongly Disagree) and item no 13, 14 & 15 were open ended questions. The Questionnaire was pre validated before administration. Pre test and Post test were prepared on both the modules i.e Aans sandhi (Shoulder Joint) and Janu sandhi(Knee joint). Students & faculty members were first sensitized for Early clinical exposure in the classroom setting and hospital setting. Objectives of the study were explained to them & consent was obtained from the participants.

A teaching learning intervention for ECE comprised of traditional didactic lecture for a short duration reinforced by case based lecture followed by hospital visit to observe the patients.

50 students were divided into two groups - Group A & Group B by using lottery method.

The intervention started with administration of pretest on the module of Aans sandhi to both the groups. Thereafter the topic Aans sandhi (Shoulder joint) was taught to group 'A' by ECE, whereas group 'B' was taught through traditional didactic lecture. After completion of module on Aans sandhi, the groups were crossed over. For the second module, pretest on Janu sandhi was administered to both the groups Janu sandhi (Knee joint) was taught to group 'B' by ECE, whereas group 'A' was taught through traditional didactic lecture. This was followed by hospital visit wherein both the groups were taken to the hospital. Cooperative patients with uncomplicated medical conditions were selected to be visited by the students and to be interviewed for their history of disease and also basic physical examination with respect to the disease.

Table I Students perceptions'-Analysis of close ended questions

SN	Items	SA(1)	A(2)	N(3)	D(4)	SD(5)
1	The case based lecture helped in enhancing knowledge about the topic of Sandhi sharir.	34 (70.83)	13 (27.08)	1 (2.08)	0 (0.00)	0 (0.00)
2	Seeing the patients during the hospital visits helped to remember the studied facts.	34 (70.83)	12 (25)	2 (4.16)	0 (0.00)	0 (0.00)
3	Hospital visits in ECE had contributed towards developing sensitivity towards patient problems & needs.	32 (66.66)	12 (25)	4 (4.16)	0 (0.00)	0 (0.00)
4	ECE helped in integrating theoretical knowledge with the practical aspect	30 (62.5)	18 (37.5)	0 (0.00)	0 (0.00)	0 (0.00)
5	ECE was helpful in developing interest in the topic of sandhi sharir.	30 (62.5)	16 (33.33)	2 (4.16)	0 (0.00)	0 (0.00)
6	This program was effective in increasing your communication skills.	21 (43.75)	22 (45.83)	5 (10.41)	0 (0.00)	0 (0.00)
7	Time allocated for the topics taught through ECE was adequate.	13 (27.08)	20 (41.66)	11 (22.91)	4 (8.33)	0 (0.00)
8	ECE should be included in teaching other systems of basic sciences.	28 (58.33)	18 (37.5)	2 (4.16)	0 (0.00)	0 (0.00)
9	ECE developed more interest & motivation in learning	32 (66.66)	16 (33.33)	0 (0.00)	0 (0.00)	0 (0.00)
10	This teaching modality be helpful in your clinical years of learning	30 (62.5)	16 (33.33)	2 (4.16)	0 (0.00)	0 (0.00)
11	ECE program has been helpful in making you aware of your new role & responsibility as a medical student	33 (68.75)	14 (29.16)	1 (2.08)	0 (0.00)	0 (0.00)
12	ECE was very effective method for learning.	40 (83.33)	7 (14.58)	1 (2.08)	0 (0.00)	0 (0.00)

*The figures in the parentheses () indicate percentage [Likert scale: SA= Strongly Agree; A=Agree; N= Neutral; D= Disagree; SD= Strongly Disagree]

Group 'A' students were divided into two small groups & were shown the patients of Aans sandhi (shoulder joint) disorders, whereas Students of group 'B' interacted with the patients of Knee joint disorders in two subgroups. Each subgroup was laid by one faculty member from the department of Rachana sharir assisted by the faculty from Department of Kayachikitsa. After the whole activity, the students of both the groups were given post test on both the modules of Aans Sandhi & Janu Sandhi. Student's perception on ECE was obtained from all the participants using feedback questionnaire as all of them had been exposed to ECE for two different modules. Also Perceptions were obtained using Focus group discussions (FGD) under various themes. The pre and post test scores were subjected to statistical analysis. The level of significance considered was $p < 0.05$.

OBSERVATION AND RESULTS

Out of 50 students who consented for the study, only 48 students were involved. Two out of them could not attend on all the three days of the activity & hence were excluded from the study.

Analysis of the close ended questions: Table I shows the score given by the participants for each item. First 12 items were included in this table as these were close ended questions & the scores are represented using Likert's scale.

Analysis of open-ended questions

Responses to open-ended questions were analyzed & categorized as in table II.

Student's perception: Analysis of Focus Group Discussion (FGD) Table III

Eight students were chosen for a FGD on various aspects of the ECE program. The sample for the focus group discussion was a purposive sample, where the participant students were more articulate and representative of both genders with varying level of performance in class. Semi-structured questions were used to stimulate discussion. Three faculty members conducted the focus group discussion. One facilitated the discussion and the other two kept detailed notes of the discussion. The student's comments in FGD were analysed & categorized into five main themes. Viz, early clinical exposure, case based learning activity, Hospital visit, learning resource material & implementation strategy.

Table II Analysis of the open ended questions

<ul style="list-style-type: none"> Manner in which ECE program helped to enhance the knowledge and develop interest in the topic Teaching pattern aroused interest in the topic & motivated for in-depth learning. Co-relation of theoretical knowledge with the practical aspect. Learning clinical anatomy in the hospital setting helped in retention of the knowledge. Seeing the patients, communicating and examining them was a new thing. X-rays and videos of arthroscopy helped in better understanding Factors that hindered your learning during ECE Less time was allotted. Cases of all disorders related to the topic were not available in the hospital. Suggestions to improve teaching modality of ECE. Time allotment should be more. Other important topics like Asthi sharir (osteology) & topics on systemic anatomy should be taught through ECE. ECE can be adopted for teaching all subjects of preclinical sciences. It should be a regular activity. It should start at the beginning of the session. At least one case of each disorder should be made available during the hospital visits. One test should be conducted after case based lecture & thereafter student should be exposed to the hospital Student's specific comments "For the first time, I thought that I am truly going to be a doctor." "The best part was to see the same in the patient that we learnt in the theory". "Teaching methods like ECE are always welcome."

Table III Students perception- Analysis of Focus Group Discussion

SN	Themes	Comments
1.	Early clinical exposure Need & significance	<ul style="list-style-type: none"> It's needed as it makes learning interesting by correlating the theoretical knowledge with the practical aspect. It will help them in dealing with real life situations in their clinical years It motivates in-depth and self learning. Better retention of the knowledge
2	Case based lectures	<ul style="list-style-type: none"> Through ECE they realized the importance of basic sciences and their role in clinical practice. Use of cases in the classroom makes the subject matter more relevant. Students seemed more engaged, interested and involved in the class. Gives an idea about the patients symptoms and problems
3	Hospital teaching	<ul style="list-style-type: none"> Seeing the patients increased their awareness of the disease conditions associated with sandhi sharir. Seeing the patient will help in retention of the knowledge. Acquainting with the hospital environment will be helpful in future. Helped in developing communication skills. Hospital visits should be planned once/twice a month.
4	Learning resource material	<ul style="list-style-type: none"> The traditional didactic lecture in the form of power point presentation was useful in understanding the gross anatomy. Case scenarios used for case based teaching used were interesting and relevant. X-rays, photographs and videos of arthroscopy helped in understanding of the concept. Less number of patients in the hospital. At least one case of each disorder would have been presented.
5	Implementation strategy	<ul style="list-style-type: none"> It can be implemented for teaching of relevant topics like Asthi sharir and systemic anatomy. Can also be used for teaching other subjects. It should be made mandatory like Problem Based Learning and Integrated Teaching Program. There should be three to four sessions of ECE in one year for the topics which we will be having maximum exposure in our clinical years.

Evaluation of Learning

Pretest and Posttest analysis

The response rate was calculated for those students who completed both pretest and post test. It was 100% as all the forty eight students appeared for the pretest & post test.

The pretest and posttest was conducted for both the control group and intervention group in both the modules (Module 1- Aans sandhi and Module 2- Janu sandhi)

Module 1: Aans Sandhi (shoulder joint)

Table IV Pretest and Posttest scores in control group in Module 1

A) Descriptive Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pre Test	3.25	24	1.32	0.27
Post Test	13.83	24	4.09	0.83

B) Students Paired 't' test

	Paired Differences					t	df	p-value
			95% Confidence Interval of the Difference					
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pre Test-Post Test	10.58	3.42	0.69	9.13	12.03	15.13	23	0.000 S, p<0.05

Table V Pretest & Posttest scores in Intervention group in Module 1

A) Descriptive Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pre Test	3.58	24	1.93	0.39
Post Test	19.12	24	3.30	0.67

B) Student's paired t test

	Paired Differences					t	df	p-value
			95% Confidence Interval of the Difference					
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pre Test-Post Test	15.54	2.20	0.45	14.61	16.47	34.51	23	0.000 S, p<0.05

Module 2: Janu Sandhi (Knee joint)

Table VI Pretest and Posttest scores in control group in module 2

A) Descriptive Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pre Test	3.75	24	1.25	0.25
Post Test	14.33	24	3.31	0.67

B) Student's paired t test

	Paired Differences					t	df	p-value
			95% Confidence Interval of the Difference					
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pre Test-Post Test	11.58	2.85	0.58	10.37	12.79	19.85	23	0.000 S, p<0.05

Table VII Pretest and Posttest scores in the intervention group in module 2

A) Descriptive Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pre Test	2.79	24	1.50	0.30
Post Test	18.12	24	4.69	0.95

B) Student's paired t test

	Paired Differences					t	df	p-value
			95% Confidence Interval of the Difference					
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pre Test-Post Test	15.33	4.08	0.83	13.60	17.05	18.40	23	0.000 S, p<0.05

Table VIII Comparison of mean scores of Post test in the Control and intervention group of Module 1

Group	N	Mean	Std. Deviation	Std. Error Mean	t-value	p-value
Control Group (Traditional)	24	10.58	3.42	0.69	5.41	0.000 S, p<0.05
Intervention group (ECE) 1	24	15.33	2.59	0.53		

Table IX Comparison of mean scores of Post test in the Control and intervention group of Module 2

Group	N	Mean	Std. Deviation	Std. Error Mean	t-value	p-value
Control Group (Traditional)	24	11.58	2.85	0.58	3.68	0.001 S, p<0.05
Intervention group (ECE) 1	24	15.33	4.08	0.83		

Cognitive learning gain

The absolute learning gain and Class average normalized gain were as follows

Table X Cognitive learning gain

MODULE	Groups	Absolute learning gain	Class average normalized gain(g)
MODULE 1	Control group	44.16%	0.51 (51%)
	Intervention group	62.18%	0.73 (73%)
MODULE 2	Control group	46.33%	0.50 (50%)
	Intervention group	61.33%	0.70 (70%)

DISCUSSION

The innovation in the form of early clinical exposure was successfully pilot tested in the subject of Rachana sharir (Anatomy). This study was carried out with the objectives to evaluate the perceptions of Ayurved students about early clinical exposure along with its effectiveness and to assess its feasibility & acceptability.

On Analysis of the close ended questions, the average rating score for students perceptions ranged between strongly agree and agree. 100% of the students perceived that ECE helped in integrating theoretical knowledge with the practical aspect & developed more interest & motivation in learning of basic sciences. Studies by Orbell (11) and Mann(12) supports this notion. Ahmadipur *et al* (13) and Solomon Sathishkumar *et al* (14), reported 95% of their students believe that early clinical exposure is helpful in understanding the concepts . More than

95% of the students thought that the case based lecture helped in enhancing the knowledge & seeing the patients, helped to remember the studied facts. 90% of them opined that ECE had contributed towards developing sensitivity towards patient problems & needs & helped in developing communication skill. This can be strengthened by the reports of the previous studies (6,7,15) and based on the information supplied by the students, it seems that the application of early contact with patients can increase medical students' enthusiasm and motivation in their education and strengthen their positive attitude towards the medical profession. Similar findings were noticed in the studies by Freidberg (16) and Kent (17) which reported that students develop empathic reactions towards ill people.

On qualitative analysis of the responses to the open ended questions, majority of the students seemed to have favourable attitude towards ECE. With respect to the factors enhancing the knowledge of the topic, the students commented that the X-rays, videos in case based lectures, & the seeing the patients helped in integrating the theoretical knowledge with the practical aspect. The results of our study are consistent with other similar studies.(18,19,20)

Some of the students thought that less time & less number of cases in the hospital were the hindering factors in their learning which was also echoed in the FGD. It was suggested that more time should be given in the hospital visits & at least one case of each disorder pertaining to the topic should be present. During the study, two hours were allotted for the hospital teaching for observing the patients of disorders of only one joint. In future, when it comes to implementation, the duration of hospital visits can be increased with a planned strategy to involve the patients of maximum joint disorders or cases related to the particular theme.

Feedback analysis of FGD reflected that students perceived ECE as a very effective learning tool which made their learning interesting & will help them to deal with real life situations. They realized the importance of basic science & their role in clinical practice. This reflection goes in parallel with the other studies, where the students commented that early clinical experience had boosted their confidence, helped them develop an appropriate attitude towards their studies, and better prepared them for future practice. (21,22) Commenting on the case based lectures, they opined that the case scenarios made their subject matter more relevant making the students more involved & interested. Evidence suggests that case studies, per se, can increase student's attention & motivate students to learn more. (Davis & wilcock, 2005). (23) Agustina Marti'nez- Garcı and Michael Tscholl (24) in their study demonstrated that teaching with cases involves a much more active engagement by the students than traditional lecturing; actively developing understanding and identifying their own learning issues. According to the participants the best part in the ECE was hospital visit. Seeing the patients increased the awareness of the disease conditions and helped in better retention of knowledge. The focus was shifted from an instructor taught, passive learning model to an active learning model with students expected to actively participate in their own learning. T. Dornan (25) in his systematic review points out that early experience helped students learn to relate to patients, interview them, communicate empathy to them and explore social and psychological determinants of health and illness.

Students further suggested that hospital visits should be planned once or twice a month on regular basis. The learning resource material in the form of power point presentation for a short didactic lecture was helpful in learning the gross anatomy. The case scenarios used for case based teaching were relevant & interesting. X-rays & videos helped in understanding of the concept. Exley & Dennick (26) in their study proposed, the use of scenarios which can bring together conceptual understanding & reasoning with relevant issues of real life. The students commented on the less number of cases present in the hospital. Being a Ayurvedic teaching hospital many patients with all types of cases of joint disorders may not be admitted in the ward at the time of intervention. This problem can be overcome by planning a visit to the orthopaedic ward of our tertiary care hospital which is a teaching hospital of constituent medical college of our university. The students can have access to comparatively more number of patients with various disorders.

Regarding the implementation strategy, the students opined that ECE should be implemented for teaching applied topics like Asthi sharir (Osteology) & systemic anatomy which require clinical correlation & also for teaching of other subjects of basic sciences. This notion supports the previous studies where students had a positive attitude towards early clinical exposure and desired that it should be conducted in other subjects of preclinical sciences.

Performance of the control & intervention group was also compared using the post test scores for both the modules (Aans sandhi & Janu sandhi) & it showed significantly higher mean score in the intervention group as compared to the control group with a p value < 0.05. This indicates that the intervention was highly effective.

In our study, absolute learning gain was significantly high in the intervention group (ECE) as compared to the control group. We also calculated class average normalized gain (g) as a measure of effectiveness of an educational intervention as suggested by Hake (1988) (27). Class average normalized gain is categorized as 0.1 to 0.29 as low gain, 0.3 to 0.69 as medium gain and 0.7 to 1.0 as high gain. (28,29) In our study, we observed class average normalized gain of 0.73 for module 1 & 0.70 for module 2. As per Hake's criteria, the educational intervention in the form of early clinical exposure was highly effective.

CONCLUSION

The intervention in the form of early clinical exposure was highly effective and well perceived by the students. Acceptability for this activity by the students was further strengthened by their suggestion of conducting ECE for other subjects of basic science. Students were very receptive to this innovative method where they experienced a transit from classroom teaching to clinical settings. ECE provided a framework for the beneficial and successful integration of the teaching and learning of basic sciences in the classrooms and dissection halls to real life situations, making their learning contextual and relevant.

References

1. Littlewood S, Ypinazar V, Margolis SA, Scherpbier A, Spencer J, Dornan T., Early practical experience and the social responsiveness of clinical education: systematic review. *BMJ*. 005;331 :387-91.

2. Prithishkumar Ivan James, Holla Sunil J, Early clinical exposure as a teaching learning tool to teach neuroanatomy for first year occupational and physical therapy students - our preliminary experience *Indian Journal of Physiotherapy and Occupational Therapy - An International Journal*, Year : 2012, Volume : 6, Issue: 2, 59-62
3. Kishor Patwardhan *et al.* "The Ayurveda Education in India: How Well Are the Graduates Exposed to Basic Clinical Skills?" Evidence-Based Complementary and Alternative Medicine Volume 2011 (2011), Article ID 197391
4. Patwardhan K, Gehlot S, Singh G, Rathore HC. Graduate level Ayurveda education: Relevance of curriculum and teaching methodology. *J Ayurveda*. 2009;3:74-82.
5. (5) Medical Council of India "Vision-2015" Year of Publication : March 2011 pg 12
6. (6) Abramovitch H, Shenkman L, Schlank E, Shoham S, Borkan J: A tale of two exposures: a comparison of two approaches to early clinical exposure. *Educ Health (Abingdon)* 2002, 15(3):386-90.
7. Wartman S, Davis A, Wilson M, Kahn N, Sherwood R, Norwalk A: Curricular change: recommendations from a national perspective. *Acad Med* 2001, 76:S140-S145
8. James A. Lalumandier, D.D.S., M.P.H.; Kristin Zakariassen Victoroff, D.D.S.; Oliver Thuernagle Early Clinical Experience for First-Year Dental Students; *Journal of Dental Education* October 2004 Volume 68, Number 10; pg 1090-1095
9. Hoyles A, Pollard C, Lees S, Glossop D Nursing students' early exposure to clinical practice: an innovation in curriculum development *Nurse Educ Today*. 2000 Aug;20(6):490-8
10. Carolyn L Sherer, David Morris Cecilia Graham, Lara White, Competency- based early clinical educational experience for physical therapy students; *The Internet Journal of Allied Health Sciences & Practice*, Vol 4, No2
11. Orbell, S. and C. Abraham, Behavioural sciences and the real world: Report of a community interview scheme for medical students. *Med Educ*, 1993. 27: p. 218-229.
12. Mann, M.P. A Light at the End of the Tunnel: The Impact of Early Clinical Experiences on Medical Students. In Paper presented at the Annual Meeting of the American Educational Research Association (New Orleans, LA, April 4-8, 1994). 1994
13. Ahmadipour H, Zahedi MJ, Arabzadeh AM. The effect of early clinical exposure on the second-semester medical students' attitude toward medical profession. *Strides in development of medical education* 2011;8(2): 182-8.
14. Sathishkumar S, Thomas N, Tharion E, Neelakantan N, Vyas R. Attitude of medical students towards early clinical exposure in learning endocrine physiology. *BMC Med Educ* 2007; 7: 30.
15. Reza Jafarzadeh Esfehiani *et al*; Effect of Early Clinical Exposure on Learning Motivation of Medical Students Article 2, Volume 2, Issue 2, June 2012, Page 3-7
16. Friedberg, M. and S. Glick, Graduates' perspective of early clinical exposure. *Educ Health*, 1997. 10:p. 205-211
17. Kent, G.C., Medical student's reactions to a nursing attachment scheme. *Med Educ*, 1991. 25: p. 23-32.
18. Herreid, CF, start with a story: The case study method of teaching college science, Kingston, Ontario, Canada: NSTA Press; 2007. K7L 3N6. 613.533.2000
19. Daniel KS. Case based learning. Source: <http://www.pitt.edu/~ciddeweb/faculty-development/FDS/casebase.html>. MEST.11 October 2007;19:35.
20. Thistlethwaite JE *e.tal*, The effectiveness of case based learning in health professional education. A BEME systematic review. 2012; 34 (6): 421-24
21. Lofaro MJ, Abernathy CM. An innovative course in surgical critical care for second year medical students. *Academic Medicine*. 1994;69:241.
22. Ypinazar VA, Margolis SA. Western medical ethics taught to junior medical students can cross cultural and linguistic boundaries. *BMC Medical Ethics*. 2004;5:4.
23. Davis C, Wilcock E, Teaching Material using case studies. UK centre for Materials Education . The Higher Education Academy (online) Available from: <http://www.Materials.ac.uk/guides/casestudies.asp>
24. Augstina MG, Simon M, Michael T, Frances T, Patrick C, Case based learning, Pedagogical Innovation, and semantic Web Technologies. *Ieee transactions on learning technologies*. April-June 2012; 5(2):104-16
25. Dornan T, Bundy C. What can experience add to early medical education? Consensus survey. *BMJ* 2006, 329:1-6
26. Exley K, Dennick R. Giving a Lecture, from presenting to teaching, London Routledge Falmer; 2004, pp 55.
27. Hake RR. Interactive- engagement v/s traditional methods; a six thousand student survey of mechanics test data for introductory physics courses. *Am J. phys.* 1998; 66:64-74
28. Novack, D.H., C. Dube, and M.G. Goldstein, Teaching medical interviewing. A basic course on interviewing and the physician-patient relationship. *Arch Intern Med*, 1992. 152: p. 1814-20.
29. Song L, Hill JR. A Conceptual Model for Understanding Self directed Learning in Online Environments (Internet). *Journal of interactive online learning* 2007, available from: <http://www.ncolr.org/jiol/issues/pdf/6.1.3.pdf>

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