Original Research Article

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Readiness for self-directed learning among undergraduate medical students of Andhra Medical College, Visakhapatnam

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ABSTRACT

Background: Self-directed learning (SDL) has been identified as an important skill for medical graduates. To meet the challenges in today's healthcare environment, self-directed learning is most essential. Readiness for SDL is the degree to which an individual possesses attitudes and abilities necessary for SDL. The present study was taken to assess the self-directed learning readiness (SDLR) among 4th semester medical students in a tertiary care teaching hospital. The objectives of the study were to assess the self-directed learning readiness among 4th semester undergraduate medical students of Andhra Medical College, Visakhapatnam using SDLR instrument; to find out the association if any between readiness for SDL and students' demographic characteristics.

Methods: A cross-sectional analytical study was conducted among 4th semester undergraduate medical students of Andhra Medical College, Visakhapatnam, Andhra Pradesh in the month of June 2016 to assess the self-directed learning readiness, using Fishers'40–item self-directed learning readiness scale (SDLRS) which contains 3 domains. The student's response was collected in a 5-point Likert scale. The readiness for SDL was categorized as high (>150 scores) and low (<150).

Results: The mean SDLRS score was 145.17 ± 18.181 with 105 (64%) students scoring <150 indicating low readiness. The mean sores in the 3 domains of self-management (SM), desire for learning (DL), self-control (SC) were 43.81 ± 7.134 , 45.88 ± 6.916 , and 55.26 ± 8.296 respectively.

Conclusions: Self-directed learning readiness appeared to be low among medical students. This study points out the need to address SDL skills among medical students, and need to find ways to build SDL skills among them.

Keywords: Medical students, Readiness assessment, Self-directed learning, Self-directed learning readiness scale, Andhra medical college

INTRODUCTION

Medical students are expected to possess self-directed learning skills to pursue lifelong learning. Self-directed learning (SDL) is widely used in the education of medical and other health care professional students. The Medical Council of India, which sets uniform standards for higher qualifications in medicine, stipulates that Indian medical graduates should be lifelong learners committed to

continuously improving their skills and knowledge.² It also refers to a broader process that includes the ability for autonomy and self-actualization. In SDL the learner controls the process of learning.

In its broadest meaning, 'Self-directed learning' describes a process by which individuals take the initiative, with or without the assistance of others, in diagnosing their learning needs, formulating learning goals, identify human and material resources for learning, choosing and implement appropriate learning strategies, and evaluating learning outcomes." For the individual, SDL involves initiating personal challenge activities and developing the personal qualities to pursue them successfully.

Of primary concern in this definition of SDL is the fact the learner takes

- 1) The initiative to pursue a learning experience, and
- 2) The responsibility for completing their learning.

Once the initiative is taken, the learner assumes complete responsibility and accountability for defining the learning experience and following it through to its conclusion. This does not preclude input from others, but the final decision is the learner's. Self-direction does not mean the learner learns alone or in isolation. While, that may be the case in any given learning situation, the critical factor here, again, is the fact the learner is driving the total learning experience, beginning with recognizing a need to learn.

Self-directed learning can be challenging, even for the brightest and most motivated students. When compared with traditional classroom activities SDL develops higher order thinking, problem solving capacity and collaborating skills. Readiness for SDL is the degree to which an individual possesses attitudes and abilities necessary for SDL.⁴ Lifelong self- directed learning (SDL) has been identified as an important ability for medical graduates.⁵

However are the present medical graduates prepared for such method of learning?

The present study was taken to assess the self-directed learning readiness among 4th semester medical students in a tertiary care teaching hospital.

Objectives

- To assess the self-directed learning readiness among 4th semester undergraduate medical students of Andhra Medical College, Visakhapatnam using SDLR instrument.
- To find out the association if any between readiness for self-directed learning and students' demographic characteristics.

METHODS

A cross-sectional analytical study was conducted among 4th semester undergraduate medical students of Andhra Medical College, Visakhapatnam in June 2016 to assess the self-directed learning readiness, using self-directed learning readiness scale (SDLRS) which was designed by Fishers' et al., in 2001. It was a pre validated tool which was used in India in earlier studies.

SDLRS, is a method for evaluating an individual's perception of their skills and attitudes that are associated with self-directedness in learning.

The SDLRS has 40 items grouped under three domains: self-management (13 items), desire for learning (12 items) and self-control (15 items).

The student's response was collected in a 5-point Likert scale.

Responses

- 1. Almost never true of me; I hardly ever feel this way.
- 2. Not often true of me; I feel this way less than half the time.
- 3. Sometimes true of me; I feel this way about half the time.
- 4. Usually true of me; I feel this way more than half the time.
- 5. Almost always true of me; there are very few times when I don't feel this way.

The readiness for SDL is categorized as high (>150 scores) and low (<150). Domain wise scores (self-management, desire for learning and self-control) was analyzed.

Method of data collection

Students were assembled in a lecture hall and the purpose of the study was explained.

Inclusion criteria

Students who are willing to participate in the study and who were present at the time of conduct of study.

Exclusion criteria

Students who were not willing to participate in the study and who were absent at the time of conducting the study.

Out of 200 batch students, 25 were absent. Among 175 students attended, 164 gave consent and participated in the present study.

All 164 (100%) were assessed for readiness towards self-directed learning.

After taking informed written consent, SDLRS instrument along with a self-administered schedule addressing Socio- demographic and other variables such as gender, presence of a physician in family, area of residence of parents (town or village), board of preuniversity schooling and language of instruction at school and current place of stay was distributed. Students were asked to read each choice carefully and choose the response which best expresses his/her feelings.

The data was entered and analyzed using IBM-SPSS version 21. Independent T test, ANOVA tests were applied to elicit the association between readiness assessment and other variables. Institutional ethics committee approval was taken.

RESULTS

Out of 200 batch students, 25 were absent. Among 175 students attended the class, 164 gave consent and participated in the present study. All 164 (100%) were assessed for readiness towards self-directed learning.

Demographic details of the study participants were explained in Table 1.

Table 1: Demographic details of the study participants.

Characteristics	No. (%)			
Gender				
Boys	70 (42.7)			
Girls	94 (57.3)			
Area of residence of Parents				
Urban	119(72.6)			
Rural	45 (27.4%)			
Place of stay				
Hostellers	113 (68.9)			
Day scholar	51 (31.1)			
Presence of medical professional in				
the family				
Yes	24(14.6)			
No	140 (85.4)			
Board of pre-university schooling				
State board	118 (72)			
Central board of secondary education	31 (18.9)			
Indian certificate of secondary	15 (9.1)			
education	13 (9.1)			
Language of instruction at school				
English	155 (94.5)			
Telugu	9 (5.5)			

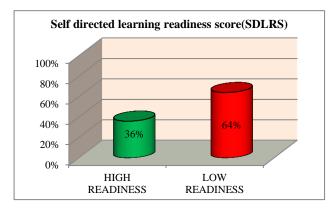


Figure 1: Distribution of students according to SDLRS.

Almost 119 (72.6%) of the students were from urban areas. About 94 (57.3%) of the students were girls. Only 24 (14.6%) had medical professional in family. Majority 118 (72%) of the students have passed out from SSC examination. English was medium of instruction for 94.5% of the students in Table 1. Only 36% of the students have high readiness for Self Directed Learning depicted in Figure 1. The mean SDLRS score was 145.17±18.181 with 105(64%) students scoring <150 indicating low readiness depicted in Table 2. Median SDLRS score was 145. The mean sores in the 3 domains of self-management (SM), desire for learning (DL), selfcontrol (SC) were 43.81±7.134, 45.88±6.916, and 55.26±8.296 respectively. It was observed that there was no significant difference of self-directed learning readiness among males and females students and day scholars and hostellers which was depicted in Table: 3.Readiness for SDL was not associated with having a physician in the family. Males scored higher in all three domains than females which were depicted in Table 4. Day scholars scored higher in all the three domains (selfmanagement, desire for self-learning, self-control) when compared with Hostellers. There was no significant difference in the domain specific scores by presence of a doctor in the family. There was no significant difference in the domain specific scores based on the type of board of schooling on doing ANOVA depicted in Table 5.

Table 2: showing the mean sores in the 3 domains of self-management (SM), desire for learning (dl), self-control (SC) of SDLR.

SDLR Domains	Mean score (±SD)
Self-management(SM)	43.81±7.134
Desire for Learning (DL)	45.88±6.916
Self-control (SC)	55.26±8.296
Over all SDLR score	145.17±18.181

Table 3: Self-directed learning readiness scores of the study participants.

Characteristic	Mean score (+ SD)	t statistic	P
Gender			
Males (70)	146.14±18.776	0.590	0.590
Females (94)	144.45±17.792		
Place of stay			
Hostel (113)	143.50±17.971	1.766	0.0797
Day scholar (51)	148.88±18.271		
Presence of medical professional in the family			
Yes (24)	144.79±20.216	-0.112	0.912
No (140)	145.24±17.888		

Table 4: Domain specific scores of the students in the self-directed learning readiness score assessment.

Characteristic	Self-management	Desire for learning	Self-control
Gender			
Males (70)	43.60±7.6	46.63±7.58	55.61±8.67
Females (94)	43.97±6.7	45.32 + 6.35	54.99±8.037
Place of stay			
Hostel(113)	43.20±6.43	45.55±7.24	54.62±8.373
Day scholar(51)	45.16±8.4	46.61±6.13	56.67±8.02
Presence of medical professional in the family			
Yes (24)	43.83±8.101	46.96±6.083	54.33±9.48
No (140)	43.81±6.98	45.69±7.05	54.01±8.103

Table 5: Domain specific scores of students based on the type of board of schooling.

Board of schooling	SSC(118)	CBSE (31)	ICSE (15)	Total SDLR(164)
Mean + SD	145.03±18.455	144.94±18.052	146.80±17.346	145.17±18.181

Table 6: Domain specific scores of students based on the type of board of schooling (results obtained from SPSS depicted in the table below) ANOVA.

	Sum of squares	Df	Mean square	\mathbf{F}	Significance
Between groups	44.025	2	22.012	0.066	0.936
Within groups	53837.195	161	334.393		
Total	53881.220	163			

DISCUSSION

Medical students need to acquire a number of learning skills such as confidence, autonomy, motivation and preparation for lifelong learning. SDL is one of the skills that is essential for medical students to be life- long learners especially in the medical curriculum adopting problem based learning. Integration of SDL in a curriculum, would help deep understanding, memorizing the content, and promote the exchange of ideas.

The SDLRS scale helps medical educators assess students' learning needs to be able to implement teaching strategies best suited to the students. Use of the readiness assessment may be able to provide valuable data for curriculum development.⁹

The mean and median SDLRS scores of 164 medical students in this study was 145.17 (+2SD 18.18) and 145 respectively. 36% of the respondents scored >150 and were categorized as 'highly ready for SDL' whereas The mean and median SDLRS scores of 440 medical students in Balamurugan study was 144.6 (±2SD, 34.8) and 146 where 38% of the respondents scored >150 were categorised as 'highly ready for SDL'. ¹⁰ The scores were comparable to other studies like a South Indian study at JIPMER by Kar et al., who reported a mean SDLRS score of 140.4±24.4, with 30% in the high readiness category and a Manipal study by Devi et al., who reported a median SDLR score of 132. ^{1,11} Similar but slightly higher scores were reported by Abraham et al., (51.4 among first-year MBBS students at Manipal) and

Shankar et al., (152.7 in first year MBBS students at Nepal). Western schools report a higher score. In a study at the University of Texas by Shokar et al, the mean SDLRS score of third-year medical students was found to be significantly higher than that of general adult learners. The mean SDLRS score of 148.6 (±13.8) was reported by Deyo et al, among first-year pharmacy candidates at the University of Maryland. The variations in the SDLRS scores among different study groups may be attributed to the differences in students' learning behaviour and personal attributes and also the differences in teaching/learning methodology and curricular design.

Among the three attributes of SDL, subscale scores were highest for self-control and desire for learning compared to self-management. This trend is similar to studies elsewhere (Shankar et al., Balamurugan et al) and emphasises the need to impart this skill to medical students. 10,12

In the present study it was observed that there was no significant difference of self-directed learning readiness among males and females students and Day scholars and hostellers, Presence of a doctor in family, board of education and medium of school instruction. Our study findings correlate with that of the observations made by Kar et al study done among medical students in South India.¹

These results points out the need to modify our curriculum and create medical education innovation

programmes, such as problem-based learning and to emphasize more on self-directed learning rather than on traditional teacher centered learning. Information about the readiness of our students for SDL will be crucial at our institute.

Limitations of the study

The small sample size could have obscured some important groups' differences.

CONCLUSION

Though some medical students are ready for self-directed learning, others lag behind. The scores for 'desire for learning' and 'self-control' were higher compared to 'self-management' stressing the need to focus on this skill by teachers

SDL scores were lower among our MBBS students than reported in studies done elsewhere. This study points out the need to address our students' SDL skills, and need for ways to build SDL skills in our students.

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Institutional Ethics Committee

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