ORIGINAL RESEARCH

Preparedness towards self directed learning among first-year medical students in a Government Medical Institution: A cross sectional study

Megha Kulshreshtha[1], Anshu Tandon[2], Pratibha Rani[3], Alka Srivastava[4]

[1-4]Associate Professor, Department of Physiology, LLRM Medical College, Meerut, India

Corresponding author
Alka Srivastava
Associate Professor, Department of Physiology, LLRM Medical College, Meerut, India
Email: dr.alkasrivastav@gmail.com

ABSTRACT
Competency-Based Medical Education (CBME) was introduced by National Medical Commission (NMC) of India in year 2019 for medical undergraduates..Under the CBME curriculum various innovative teaching learning strategies have been implemented , of which Self Directed Learning(SDL) is one.This study was planned to measure the self-directed learning abilities and readiness of first year medical students at a Government Medical Institution. This study was conducted in Department of Physiology at LLRM Medical College, Meerut. The participants of the study were 100 first year medical students at LLRM medical College, Meerut. A prevalidated Self directed learning readiness scale, was used for assessing SDL readiness. Quantitative analysis was done using Microsoft excel software. Students find easy to work in collaboration (mean =4.24)and maintaining good interpersonal relationships (mean 4.24).Mean score for first category (Awareness) was minimum (3.99988).Students with poor ability to learn by themselves can be identified in the very beginning of the session who can be given special attention and facilitated to grow as lifelong learner.
Keywords: self directed learning, lifelong learners, CBME,Self Directed learning readiness scale,learning strategies.

INTRODUCTION

Competency-Based Medical Education (CBME) was introduced by National Medical Commission (NMC) of India in year 2019 for medical undergraduates [1].The CBME was initiated in view that old curriculum was largely "traditional" since its inception and relied mainly on didactic lecture and unidirectional flow of knowledge without active participation of students. Under the CBME curriculum various innovative teaching learning strategies have been implemented, of which Self Directed Learning(SDL) is one. Dedicated time has been allotted to SDL in CBME curriculum in each specialty. In SDL the students are expected to take the initiative to diagnose their learning needs, formulate their learning goals, identify resources for learning and evaluate their learning outcomes [2]. It emphasises autonomy and intrinsic motivation, allowing learners to acquire knowledge and skills with their own responsibility and interests. As medical professionals are life long learners in every changing medical field the concept of SDL encourages

independent thinking. As SDL is a recently installed teaching learning methodology, the implementation of SDL is a challenging task.A study has reported that students are very much dependant on teachers[3], especially in phase 1 of MBBS curriculum where they are just adapting to professional career performance pressure and are still in transition phase from senior secondary school level. Guglielmino's Self-Directed Learning Readiness Scale is one of the few instruments identified in the literature for the purpose of measuring self-direction in learning[4].A number of methods are available to assess the SDL ability of students, including the survey method, the interview method, teacher evaluation, and behaviour observation[5,6,7]. Wang Xiaodan et al. developed an assessment scale to evaluate the SDL ability of medical students[8] .SDL plays a crucial role in inculcated the habit of reading and learning in medical graduates. It also develops all the domains of learning that is cognitive, psycho motor and affective .The literature search could not retrieve sufficient data in Indian context that assesses SDL abilities and

perspectives of undergraduate medical students .With this background, and a research question that whether First year medical students are prepared for self directed learning ,this study was planned to measure the self-directed learning abilities and readiness of first year medical students at a Government Medical Institution.

MATERIALS AND METHODS
Study area
This study was conducted in Department of Physiology at LLRM Medical College, Meerut over a period of six months from November 2021 to April 2022. Ethical clearance was taken from the institutional ethical committee before conducting the study.

Study design
It was a cross sectional study of qualitative design.

Study population
The participants of the study were 100 first year medical students at LLRM medical College, Meerut. Both males and females of age group 18-24 years participated in the study. The participation was entirely voluntary in nature. After explaining the details of the study to each participant written informed consent was obtained. Confidentiality and anonymity of the participants was maintained. Students who were not willing and those who were absent were excluded from the study.

Data collection tool
A prevalidated Self directed learning readiness scale, was used for assessing SDL readiness. The scale consisted of 5 categories with 12 questions in each category to be answered on a 5 point Likert scale. The last question in each category was an open end question. The first category was the "Awareness", second was "Learning strategies", third was "Learning activities", fourth was "Evaluation", and the last category was "Interpersonal skill".

Data Collection
The participants were well explained about the study details in a lecture theatre and, written, informed consent was obtained. All the students were asked to get their mobile phone on the day of data collection and they were shared the hard copy of SDL questionnaire .The students were asked to answer all the questions within 10 minutes with full honesty by encircling the most appropriate response. They were asked to select from a Likert scale 5-point rating 5 to 1 denoting "Always", "Often" , "Sometimes", "Seldom" , "Never". It was made clear to the participants that the first response would be the best response so they should deter from re attempting questions and spending unusually long time in answering their responses.

Data analysis
The response sheets were collected from all the participants and the data was entered in Microsoft Excel software .Quantitative analysis was done using Microsoft excel software. Data were expressed in percentage.

RESULTS
A total of 100 students completed the questionnaire. The mean age of the students was 19 ±0.8 yr. Since the questionnaire was anonymous and gender was not mentioned in the format, the responses on the basis of gender could not be segregated.

The mean for 5 th category (Interpersonal skills)was highest (4.10375) and the mean score for first category (Awareness) was minimum (3.99988).
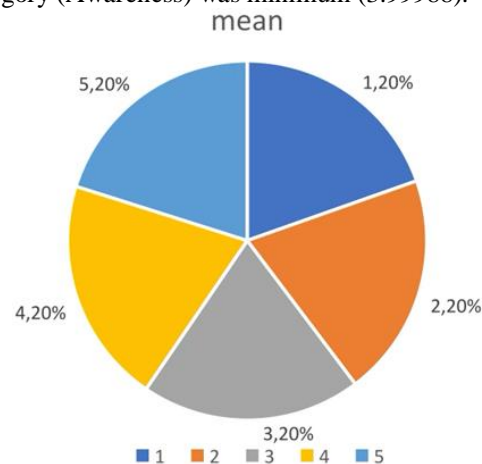

Figure 1: Percentage wise distribution of the components of SDLR scale.

1–Awareness
2-Learning strategies
3-Learning activities
4-Evaluation
5-Interpersonal skills

The highest score recorded was 5 (Always)and the lowest score was 3 (sometimes)

The highest mean(4.50943) was obtained for question 5.4 which said 'I make use of any opportunities I come across". The lowest mean score (3.40740)was obtained for question 2.3 which stated "I find role play is a useful method for complex learning".

Most of the students felt they lack awareness for learning resources, self motivation and fail to plan and set learning goals although they believe that the teachers are facilitators of learning.

On the other hand students find easy to work in collaboration (mean =4.24)and maintain good interpersonal relationships (mean 4.24)

DISCUSSION
There has been a recent transformation in the Indian Medical Education from didactic lecturers to student centered learning with the introduction of CBME-based curriculum by NMC. Self-directed learning is an active learning and student focused approach which will help the medical students to become

lifelong learner. Being a lifelong learner is one of the goals of an Indian Medical Graduate [9]. Self-directed learning is a pivotal component in medical education, empowering students to take charge of their own learning journey. Self directed learning not only promote lifelong learning, but also enhances adaptability to medical advancements. The process of self-directed learning improves critical thinking and problem-solving abilities, essential competencies for effective clinical decision-making. As the teachers and the students are comfortable with the historical teaching-learning methodology, the implementation of self directed learning is a tedious and challenging task .One of the prerequisites of SDL implementation as a learning technique is adequate preparedness of the students towards this innovation. Review of literature has shown fewer studies in which the medical students were assessed for SDL readiness[10].A self-directed learner should learn to be in touch with curiosities, formulate questions based on one's curiosities, identify and select efficient means to collect data required to answer these questions, and finally analyze the data so as to get valid answers to questions [11].

In the present questionnaire based study the lowest score in 'Awareness' component was obtained for question "I feel that I am learning despite not being instructed by a lecturer" with a mean of 3.6111.The students also reported poor time management with long breaks from study and disrupted learning routine. Our findings were similar to the findings citedby Bhandari et al, which showed that students need improvement in time management. [12]

The study results also revealed that the 'Learning strategies' component has highest scores for question " I found Learning from case studies useful", whereas role play was considered as the least useful method for improving learning (mean= 3.40)

In the 'Learning activities' component the lowest score was obtained for the question "I raised relevant question in teaching- learning session".(mean = 3.703). Highest score was obtained for the question " I keep an open mind to others point of view"(mean=4.46).This results highlights the importance of student centric learning approach and inculcation of self directed learning and discussions.

Students also felt that they are able t use information technology as an effective tool for learning (mean=4.02)

The 'Evaluation' component of the questionnaire revealed that the students in difficulty in reviewing their progress (mean =3.7) altho they are able to Identify their areas of weakness and strengths. (mean=4.35). Bhandari et al in their study also commented lacunas in evaluation system and cited that evaluation of SDL would motivate students to take it seriously [12].As cited by other authors students try to develop strong interpersonal relationships but they fail to express their views freely(mean=3.75).

For the successful implementation of CBME curriculum the facilitators and students have to work together to enhance students 'SDL skills, especially time management and learning strategies. In addition , reflection writing and feedback forms may help in smooth teaching learning process.

CONCLUSION

Self directed learning readiness scale is an important and validated tool to assess the learning abilities of medical students. Component wise assessment of the students revealed that students are motivated towards self directed learning, but they lack proper time management, planning and direction.With the implementation of SDL it is essential that the students should monitor their own learning progress, identify the areas where they are lacking, and make efforts towards self-improvement.

Limitations of study
The results of the present study solely depends on administered questionnaire. There is no scope to verify whether the results are correct or not.

List of abbreviations
NMC-National medical commission of India
CBME-Competency based medical education
SDLRS-Self-directed learning readiness scale
SDL-Self-directed learning

Conflicts of Interest- None
Funding-self funded

Authors contributions
"MK was involved in finding data collection tool,data collection, and was a major contributor in writing the manuscript.
AT was involved in investigating the data collection tool.
PR was involved in process of data collection.
AS was involved in planning and writing the manuscript.
All Authors read and approved the final manuscript."

REFERENCES
1. National Medical Commission, Digital India, Information desk Home –Information Desk –For Colleges –UG Curriculum. Available from: https://www.nmc.org.in/information-desk/for-colleges/ug-curriculum/. [Last accessed on 2022 Nov 28]
2. Knowles MS - Self Directed Learning :A guide for teachers and learners Englewood Cliffs, NJ:1975;Prentice Hall
3. Sari, D, Ashadi I – Graduate students, attitudes and self-directed for life long learning in foreign language environment. Ling Tera 2020; 7(1): 38–50.
4. H long, Stephen K. Agyekum: Guglielmino's self-directed learning readiness scale: A validation study : 1983;Volume 12, pages 77–87
5. HH K, H R, vdV CPM. Students 'perceptions towards self-directed learning in ethiopian medical schools with

new innovative curriculum: a mixed-method study. BMC Med Educ. 2020;20(1):7.

6. PP G, O Z, P BMKPA. Online Digital Education for Postregistration training of medical doctors: systematic review by the Digital Health Education collaboration. J Med Internet Res. 2019;21(2):e13269

7. MC SM, CI GO RMS. JF D-P: how do B-Learning and learning patterns influence learning outcomes? Front Psychol. 2017;8:745

8. Xiaodan W, Gangqin T, Suzhen W. Development of the scale of self-directed learning competence for medical students. China J Health Psychol. 2014;22(07):1034–7.

9. Ananthakrishnan N. Competency based undergraduate curriculum for the Indian Medical Graduate, the new MCI curricular document: positives and areas of concern. *J Basic Clin Appl Health Sci* 1: 34–42, 2018. doi:10.5005/jp-journals-10082-01149.

10. Premkumar K, Vinod E, Sathishkumar S, Pulimood AB, Umaefulam V, Prasanna Samuel P, John TA. Self-directed learning readiness of Indian medical students: a mixed method study. *BMC Med Educ* 18: 134, 2018. doi:10.1186/s12909-018-1244-9.

11. Murad MH, Varkey P. Self-directed learning in health professions education. *Ann Acad Med Singapore* 37: 580–590, 2008.

12. Bhandari B,Chopra D, Singh K - Self Directed learning: Assessment of students, abilities and their perspective.Adv Physiol Educ 2020;44:383-6