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Student support system for medical undergraduates: A qualitative exploration of stakeholder perspectives

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Abstract:

BACKGROUND: The demands and learning challenges in medical schools are not efficiently overcome by all learners. Despite the gravity of the problem, there is a dearth of studies to identify, define, and address the needs of learners. Thus, the present study was designed to do a situational analysis to identify and define the problems of learners and to develop a model for student support system in our institution.

MATERIALS AND METHODS: A phenomenological type of qualitative research was undertaken. One-to-one in-depth interviews (IDIs) were conducted, 10 each among undergraduate medical students, faculties and parents ($n = 30$) to understand the problems of students and their suggested solutions from each one's perspective. The interviews were audio-recorded, transcribed verbatim, and manual thematic analyses were performed.

RESULTS: Manual thematic analysis of the transcripts yielded 16 subcategories and 7 categories. The various categories that emerged are (1) curriculum related; (2) interpersonal adjustment problems; (3) personal issues and family problems; (4) cognitive learning disabilities; (5) poor organizational skills; (6) students' lack of motivation; and (7) miscellaneous. Based on the problems and their suggested solutions, a model for the essential components of a student support system for our college was developed. It outlines the principal roles of four key stakeholders, namely students, faculties, parents, and college administration.

CONCLUSION: It has been found that students face various academic problems, personal, interpersonal and family level issues. We developed the support system model suitable for our context. In future, it may be implemented and evaluated to check if it achieves the desired purpose.

Keywords:

Learners' problems, medical education, student support

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Introduction

The medical education system is framed in such a way as to impart the necessary knowledge, skills and attitude to the undergraduate students and develop them as competent doctors. These students are diverse with respect to their socio-economic and cultural backgrounds, which creates differences in their learning

abilities, especially in a country like India. Furthermore, the demands and learning challenges in the medical schools are not efficiently overcome by all learners. Majority of them face challenges like academic, personal or financial problems, which lead to undue stress among them.^[1-3] However, at many institutions, there are no student welfare systems for providing support to the medical students, especially during their stressful periods and failure times.

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These students, if not supported at the right time gets demotivated and demoralized leading to shattering their self-confidence, and their personal and professional development gets stunted. They ultimately succumb to this vicious cycle of failures and it poses a big challenge to rebuild their self-confidence and rescue them at this stage. It can even lead to noncompletion of the course and drop out from medical college.^[4]

Thus, there is a need for the development of a student support system in every medical college to identify and support the learners who face problems during their medical education. A good student support system is designed to meet the academic and personal needs of the student. The goal of the student support system is to promote a friendly learning environment for the students so that they develop personally, emotionally, intellectually, and academically and motivate them to succeed in life. This requires a thorough analysis of the problems faced by the learners of the concerned medical college (needs assessment), followed by the formulation of a student support program. Despite the gravity of the problem, there is a dearth of studies in India to identify, define, and address the needs of learners. Thus, the present study was designed to do a situational analysis to identify and define the problems of learners and to develop a model for the student support system to address these problems in our institution.

Materials and Methods

Study setting

This study was carried out in a private medical college, which admits 150 undergraduate medical students per year from all over India. The college currently has a structured student support system with the functioning mentorship program for undergraduates, regular parents-teachers meeting, and student's grievance cell. Currently, we are in the process of National Assessment and Accreditation Council (NAAC) accreditation and thus, are in the process of strengthening our student support system, which is one of the standards in the accreditation process.

Study design

It was a phenomenological type of qualitative research study. Phenomenological approach was chosen because it helps to bring forth the current personal experiences of people from their own perspectives.^[5]

Sample size, sampling, and study participants

The study participants were 10 each of undergraduate medical students, faculties, and parents. Thus, a total of 30 participants were interviewed.

We have done an extreme type of purposive sampling^[6] by identifying the 2nd-year MBBS students who have

been consistently performing lesser than 20% in their internal assessment examinations and with low attendance percentage in all the subjects of the 2nd year. A total of 17 such students were identified, 10 agreed to participate, 4 refused, and 3 were reluctant to participate. Thus, the overall response rate was 58.8%. Parents of the corresponding low achiever students were approached during the parent-teacher meeting for the interview. Either the father or mother of the student, whoever came for the meeting and who consented for the interview was interviewed. Faculties who were in-charge/mentors of low-achieving students in the pre and para-clinical departments were identified and those who were vocal and willing to share their perspectives on the problems of the learners were interviewed, including an administrator.

Justification for the adequacy of sample size

The minimum size of a purposive sample needed to achieve theoretical saturation is approximated between 20 and 30.^[7,8] In our study, the interviews were conducted till the point of saturation, i.e., after 8 interviews each with students, faculties, and parents, no new additional information was obtained. Thus, after 24 interviews, no new ideas or concepts emerged, and saturation occurred. However, since 30 participants consented for the study, all of them were interviewed.

Data collection

The study was initiated after obtaining approval from our Institutional Ethics committee (IEC code: SMVMCH-ECO/AL/66/2018).

Informed consent was taken from all the study participants. One-to-one in-depth interviews (IDIs) were conducted with a semi-structured interview guide. Semi-structured in-depth interview technique is a versatile approach which enables the establishment of good rapport between the participant and interviewer, thus helping in the generation of insightful responses and high-quality data.^[9] A separate interview guide consisting of broad-opened questions with situational probes was prepared for the students, faculties and parents. The contents of the interview guide were validated by the second author, who was experienced in the field of qualitative research and also holds masters in health profession education. The first author, who was trained in qualitative methods, carried out one to one interviews with the various stakeholders. Each interview lasted for about 30–45 min. The interviews with the students were conducted on evenings and holidays, with the faculties during their convenient timings, and with the parents during the parent-teacher meeting. Adequate information was provided to the participants about the study. The venue of the interview was chosen by the participants as per their convenience, and privacy was ensured during

the interview process by making sure only the interviewer and participant were present throughout the interview process. The interviews were conducted in English except for six of the parents, who was interviewed in the Tamil language as per their convenience. In case of emotional outbursts of the participants during the interview process, comfort was ensured and their consent whether to proceed with the interview was again asked for. At the end of the interview, the key findings were summarized to the participant for their validation. All the permissions required before, during and after the conduct of the study were thus obtained.

Data analysis and interpretation

The following stepwise approach representing the Colaizzi process for phenomenological data analysis was employed in this study. The interviews were audio-recorded and transcribed verbatim by the first author. During transcription, personal details of the participants were anonymized. The transcripts were prepared as soon as possible, preferably within 1 week of the conduct of interviews. The six interviews conducted in the Tamil language were translated to English by the first author, who was well versed in both languages. Manual thematic analyses of the transcripts were performed by the first and third authors, who were trained in qualitative data analysis. The authors together coded significant text information in the transcript. The codes belonging to similar areas were clubbed together to form subcategories of problems faced by learners and their solutions. Finally, similar sub-categories were grouped to form categories. The codes, sub-categories, and categories were reviewed by the second and the fourth author for ensuring the validity of the interpretations in our context. The statements in Italics represent the direct quote from the participants. In order to explore the patterns, the content analysis was done using the framework approach to find out the frequency of contribution by various stakeholders to various categories.^[10]

Various strategies were employed to ensure the trustworthiness of the qualitative data [Annexure 1].^[11,12] Credibility of the data was ensured by prolonged engagement with the participants, persistent observation, data triangulation, investigator triangulation and member check. Moreover, a detailed description of the study methodology ensured transferability; and maintenance of audit trail ensured dependability and confirmability. The study findings are reported according to the "Consolidated Criteria for Reporting Qualitative Research" guidelines.^[13]

Results

Each interview lasted about 30–45 min. Equal number of male and female undergraduate students were

interviewed (each $n = 5$). However, more male participants were interviewed among the faculties (male:female = 6:4) and parents (male: female = 7:3). The participants' age ranged from 19 to 21 years for students; 29–55 years for faculties; and 45–59 years for parents. Manual thematic analysis of the transcripts yielded 16 sub-categories and 7 categories. Statements in Italics indicate direct quotes or verbatim responses from the participants.

Category 1 – Curriculum-related problems

The students and faculties perceived that vast curriculum and noninteractive teaching methods as key problems faced by the learners. The possible solutions suggested were shown in Table 1. However, parents did not recognize any curriculum-related problems of the learners.

With reference to curriculum-related problems, a female student said *"I just can't cope with the huge syllabus and complex terms"*.

As a solution for the problem of vast curriculum, a female faculty told *"Trained subject experts can be allotted for students facing problems. When an additional academic mentor takes responsibility for such students, they become more aware of the strengths and weaknesses of the students and will be in a better position to guide them."*

Category 2 - Interpersonal adjustment problems/poor social skills

All three stakeholders were aware that maladjustment with classmates/roommates/friends/seniors/juniors contributed as obstacles to learning and they suggested counseling, conflict resolution/grievance addressal and teaching interpersonal and communication skills as some of the possible solutions [Table 1].

A female student said *"My study times are not matching with that of my roommate, which is causing a lot of conflict between us. I study late at night, whereas she wants me to switch off the lights so that she can sleep and wake up early to study."*

Another female student said *"I feel other students are isolating me because I am not good in studies. They do not share any study-related information with me and I always feel left out."*

Category 3 - Personal issues and family problems

The students felt that maladjustment to college hostel life and food, personal health issues of the learner, distractions, language barriers for the nonnative students, family problems, and financial problems as key problems they face with respect to the theme on "personal issues

Table 1: Categories 1 and 2-Curriculum related and interpersonal adjustment problems faced by the learners and their suggested solutions

Sub-categories	Problems of learners	Solutions for the problems
Category 1-Curriculum related problems (S, F)		
Vast curriculum (S, F)	Voluminous subjects (S, F)	Orientation to
	Difficult terminologies (S)	Curriculum requirements and assessment methods (S, F)
	Lack of knowledge on what and how to read (S)	Medical terminologies (S)
	Difficulty in adapting to the course and its contents (F)	Teaching faculties and teaching methods (F)
		Future career pathways (F)
		Revision classes by faculties before the exam (S)
		Teaching stress and time management (S, F)
		Inculcate self-directed learning and peer assisted learning (F)
		Faculty mentors for guidance (S, F)
		Training of faculty mentors (F)
Noninteractive teaching methods (S, F)	Some teachers teaching very fast (S)	Incorporation of student friendly teaching-learning methods (S, F)
	Some lectures not interesting (S)	Case/clinical scenario based teaching (S, F)
	Students are not attentive in classes (F)	Group activities/Small group teaching (S, F)
		Incorporation of fun in learning eg.puzzles, quizzes (S, F)
		Encouraging doubts from students (F)
		Increasing peer interaction (F)
		Increasing faculty-student interaction (F)
Category 2-Interpersonal adjustment problems/poor social skills (S, F, P)		
Maladjustment with classmates/roommates/friends/seniors/juniors (S, F, P)	Frequent fights with friends/roommates (S)	Counseling the students by faculties, mentors or counselors (S, F)
	Feeling of being isolated from peers (S)	Conflict resolution/grievance addressal by faculties, mentors or warden (S, F)
	Not being informed of educational information by friends (S)	Maintaining good relationship with peers (S)
	Study times of roommates does not match, causing conflicts (S)	Teaching interpersonal skills and communication skills (F)
	Friends are not trustworthy (S)	Monitoring by faculties and warden (P)
	Not able to build good rapport with friends (F)	
	Not mingling with other students (P)	
	Issues with roommates (P)	
Maladjustment with some faculties (S)	Spoiled by friends (P)	
	Some faculties are strict and non-approachable (S)	Some faculties can be more student friendly (S)
	Unable to follow lectures of some teachers (S)	

S=Students' perspective, F=Faculties' perspective, P=Parents' perspective

and family problems". Though the parents perceived the same problems, they did not realize that family problems and language barriers hindered the learning process of the students. Furthermore, the faculties did not realize that language barriers, family problems, and financial problems deterred the students from learning. The various solutions for these problems mentioned by the stakeholders are shown in Table 2.

With regard to the problem of distractions, a male student told "I forget things around me and have lost many days when I play video games". Another male student said "I am missing my home food when I am in the hostel."

As a recommendation to tackle students' problems, a male faculty said "Suggestion boxes can be kept at various places in the college and hostel to get anonymous feedbacks from students about the problems they are facing."

Category 4 - Cognitive learning problems

The students and faculties mentioned cognitive learning problems such as inability in comprehension and memorization, basic knowledge gaps, ineffective learning techniques, and poor language skills (both English and the Tamil language). Various solutions suggested for tackling these problems are shown in Table 3. On the contrary, parents did not recognize this domain as a potential problem of the learners.

A male student said "How much ever I read, I am not able to recall and write in the exams".

Category 5 - Poor organizational skills

All three stakeholders realized that poor study habits as one of the major problems faced by the learners. In contrast, only the students and faculties recognized poor exam writing skills of the students and the parents were

Table 2: Category 3-Personal issues and family problems faced by the learners and their suggested solutions

Sub-categories	Problems of learners	Solutions for the problems
Maladjustment to college hostel life and food (S, F, P)	Feeling homesick (S, F, P)	Counseling for homesickness (S, F)
	Taking time to adapt to hostel life and food (S, F, P)	Quality assurance of good food in hostel (S)
	Reading pattern different from peers/ hostel reading time (S)	Grievance addressal for problems relating to their education or stay in the campus/hostel (F)
	Lack of parental support and mentoring (F)	Strengthening of student council (F)
Health issues (S, F, P)	Suffering from acute and chronic illness (S, F)	Counseling from mentors and faculties (S)
	Suffering from depression (S)	Extra-classes for missed topics (S, P)
		Needs peer support and care (S)
		Routine premedical screening (F)
Distractions (S, F, P)		Counseling for healthy life style (F)
		Timely intervention-Referral to specialists (F)
		Provision of extra care by faculties, warden and college (P)
	Mobile phones, social media, video games and YouTube videos (S, F, P)	Counseling from mentors and faculties (S)
	Peer pressure-chatting and outings with friends (S, F)	Student wellness enhancement programs (F)
	Listening to music (P)	Organizing motivational talks by inspiring speakers (S, F)
		Health education programs regarding healthy lifestyle and work-life balance (F)
		Emphasizing on yoga, exercise, sports (F)
		Good sleeping habits (F)
		Emphasizing the hazards of overuse of mobile phones and videogames (F)
Language barriers (S)	Difficulty in coping with local language (S)	Language support (S)
	Lack of fluency in English (S)	Help from peers (S)
Family problems (S)	Illness/diseases in family member (s) (S)	Counseling from mentors, faculties and support from peers (S)
	Death of family member (s) (S)	Extra-classes for missed topics (S)
Financial problems (S, P)	Parents facing difficulties in paying the college fees (S, P)	Financial assistance and scholarship can be given (P)

S=Students' perspective, F=Faculties' perspective, P=Parents' perspective

unable to perceive it. The recommendations provided by the respondents are outlined in Table 3.

A male student said "If faculty prepares a study schedule for us, we will be able to read according to it." A female student said "Hostel warden can monitor us during our study hours so that my friends will not disturb me when I am studying."

Category 6 - Students' lack of motivation

All the stakeholders opined that lack of motivation of the students as a major contributing factor for learners' problems. The respondents opined that counseling, motivation, and stress management programs would pave the way for their positive attitude towards studies [Table 3].

A male student said "I was interested to join engineering, However, my parents forced me to join MBBS."

A female parent said "My son gets very angry whenever I ask him about his marks."

Category 7 - Miscellaneous problems

The faculties felt that the pressurizing attitude of some parents to get high marks could be detrimental to the student's learning, which can be mitigated by educating the parents regarding the nature of MBBS course and organizing frequent parent-teachers meetings. The parents were of the notion that the lack of information about their child's performance in college leads to reduced parental support for the children. They advocate that frequent and periodic updates of the child's performance from the institution would benefit them in guiding their children. They also suggested that the Hostel warden should give special care for the students staying in hostels.

Framework analysis illustrating the contribution of various stakeholders to the generation of various subcategories and categories are shown in Table 4. In short, only the students mentioned the problems of language barriers and family problems, whereas other stakeholders did not recognize this domain as a

Table 3: Categories 4, 5 and 6-Cognitive learning problems, poor organizational skills and lack of motivation by the learners and their suggested solutions

Sub-categories	Problems of learners	Solutions for the problems
Category 4-Cognitive learning disabilities (S, F)		
Cognitive learning disabilities (S, F)	Not able to learn/comprehend information fast (S, F)	Re-emphasizing the complex concepts by faculties especially by small group teaching (S)
	Not able to memorize lots of information (S)	Teaching memorization techniques and mnemonics by faculties (S)
	Gaps in basic knowledge/fundamentals taught in school education (F)	Counseling and referral to specialists (F)
	Lacked the basic concepts in learning techniques and poor language skills (F)	Proper premedical screening (F)
Category 5-Poor organizational skills (S, F, P)		
Poor study habits (S, F, P)	Waited for study holidays to read (S)	Training on good study habits by faculties and mentors (S)
	Not reading well in advance of the exams (S, F, P)	Individualized study schedules for each student can be prepared by the faculty-in-charge or mentor (S)
	Lack of regular habit of reading textbooks (F)	Allotting warden monitored study hours (during evening hours) in college campus for hostellers (S)
	Lack of in-depth reading of concepts (F)	Inculcate the book reading habit among students (F)
Poor exam writing skills (S, F)	Not reading from standard textbooks (F)	Students should be emphasized the importance of studying everyday by the faculties and should be monitored (P)
	Not able to manage time during exams (S, F)	Training on exam writing skills, including time management, by faculties and mentors (S, F)
	Bad handwriting of students (F)	
	Presentation in exam papers not good (F)	
Category 6 -Students' lack of motivation (S, F, P)		
Students' lack of motivation (S, F, P)	Joined Medicine due to parental pressure (S)	Counseling by faculties, mentors and counselors (S, F)
	Feeling anxious before exams (S)	Motivational programs (S, P)
	Feeling depressed and stressed out (S, P)	Career counseling regarding importance of medical field and future opportunities (F)
	Feeling of not belonging to the group/mainstream (S)	Relaxation/stress management programs can be conducted (P)
	Did not take exams seriously (S)	
	Not interested in studying medicine (F)	
	Lack of self-confidence (F)	
Lack of motivation (F)		
	Feeling irritable/aggressive/agitated when asked about studies (P)	

S=Students' perspective, F=Faculties' perspective, P=Parents' perspective

potential problem of the learners. Similarly, only the faculties mentioned the pressurizing attitude of some parents and only the parents mentioned about the Lack of information about student performance in college, causing reduced parental support. The parents were not aware of the curriculum-related problems and maladjustment with the faculty. Overall, stakeholders seemed unaware or less sensitive to mutual problems.

Discussion

The in-depth interviews with the students, faculties, and parents showed that problems faced by the undergraduate medical students varied with the perspective of each stakeholder. It was interesting to find that all the categories were contributed by all the three stakeholders except parents who did not mention about curriculum-related problems and cognitive learning disabilities among students. Similarly, students did not contribute to the miscellaneous category.

Various solutions were suggested by the stakeholders to address the problems faced by the learners. These solutions were regrouped and reflected upon to develop the proposed model of a student support system [Table 5]. This is a team-based model, which has 4 key stakeholders (students, parents, teachers, and college administration) who form the backbone in the development and implementation of the support system in any institution. All the stakeholders should understand each others' roles and expectations for meaningful and informed decision-making for problem-solving. Thus, this model is similar to the "sounding board" approach (Rogerian approach) to mentoring and counseling.^[14] It is based on students' current experience of problems, and teachers play the role of facilitators to support and help students to solve their own problem.

Although certain institutions and universities offer student support services globally, there is scanty literature on the development of student support

Table 4: Framework analysis illustrating the contribution of various stakeholders to the generation of various sub-categories and categories (n=30)

Category	Sub-category	Students (n=10)	Faculties (n=10)	Parents (n=10)
Curriculum related problems	Vast curriculum	10	9	0
	Non-interactive teaching methods	9	9	0
Interpersonal adjustment problems/poor social skills	Maladjustment with classmates/roommates/friends/seniors/juniors	10	9	8
	Maladjustment with faculty	8	0	0
Personal issues and family problems	Maladjustment to college hostel life and food	9	9	9
	Health issues	8	8	9
	Distractions	10	10	10
	Language barriers	8	0	0
	Family problems	9	0	0
Cognitive learning disabilities	Financial problems	8	0	8
	Cognitive learning disabilities	10	8	0
Poor structural and organizational skills	Poor study habits	10	10	9
	Poor exam writing skills	10	9	0
Students' lack of motivation	Lack of motivation in students	9	9	8
Miscellaneous	Pressurizing attitude of some parents	0	7	0
	Lack of information about student performance in college causing reduced parental support	0	0	9

Table 5: Components of the proposed student support system emphasizing the role of various stakeholders

Faculties and College administration
Programs: on orientation to course, mentorships, students wellness enhancement, faculty development
Training: on soft skills, counseling and conflict resolution, good study habits, exam writing skills
Support: Medical care, Scholarships
Teaching learning environment: Student friendly, additional classes for problem learners, revision classes before exam, conducive environment in hostel
Appraising parents on nature of course and regular feedback of students performance
Students
Counseling, peer support and care, helping in understanding local language
Help faculties or mentors in identification of students with problems
Helping peers in reading topics that they had missed since they were absent due to personal or family issues
Cordial relationship with peers and helping them during their tough times
Parents
Counseling for homesickness
Understanding nature of the MBBS course and prevent from putting undue pressure on students
Monitoring educational performance of their child and undertake corrective measures
Providing emotional support and care during their child's difficult times

systems for medical students in India. Moreover, the majority of the studies were focused on identifying and improving only the problem learners, unlike the present study, which aimed to propose a model for centralized student support systems and services for 1st and 2nd-year undergraduate medical students.

The results of this study were consistent with the findings of similar studies. A study by Hays *et al.* identified that immaturity, poor learning skills, poor organizational skills, transient personal crises, poor mental health, and poor insight were the most prevalent issues for which students sought support.^[15] A questionnaire-based study from Saudi Arabia demonstrated that peer competition, Poor English language skills, heavy curriculum, work

stress, lack of knowledge on study materials, lack of time for family and social life, and stress and anxiety were the highly ranked problems.^[16]

A study by Vaughn *et al.* described four classes of problem learners among medical students (affective, cognitive, structural, and interpersonal class), which is congruent with the findings of the present study and proposed S-T-P model [specify the problem (S); desired target state (T); and procedure, plan, or path to get from S to T (P)] to provide solutions for the problem learners.^[17] Similarly, Steinert has described a framework for a medical student support system for undergraduate and postgraduate problem learners, from identification and definition of their problems to addressing the same.^[18]

The Foundation Course of the Competency-Based Medical Education (CBME) curriculum proposed by the Medical Council of India (MCI), offers an ideal platform to implement the components of the student support system in every institution. NAAC,^[19] in its Guidelines for Assessment and Accreditation, insists “Student support and Progression” as one of the seven criteria which represent the core function and activity of a higher education institution. The council warrants each institution to have well structured, organized guidance, and counseling system. NAAC suggests that each institution should identify the reasons for poor attainment of the students, and should implement remedial measures. It also lays emphasis that institutions should promote active participation of the students in leisure activities, which can foster their holistic development.

Many medical schools worldwide have student support services, with some countries requiring it as a mandate as per their regulations. However, their effectiveness and practical utility has not been widely studied. A study to evaluate the effectiveness of student support services in a university in the United Kingdom showed equivocal results on the support provided by personal tutors, and lack of usage of career and counseling services by the students.^[20] The student mentorship program, which was one of the essential components of the student support system proposed in our study, was shown to be effective in a study by Robertson *et al.*^[21] However, the effectiveness of other components of the student support system remains obscure and requires further investigation.

The World Federation for Medical Education (WFME),^[22] in its Global standards for quality improvement in basic medical education emphasizes that every medical school should have provisions for student support systems and services. Such system should render academic counseling, which would include appointing academic mentors for individual students for their residence preparation and career guidance. The institution should also render professional support in relation to social, personal, health, and financial problems. WFME also emphasizes the need for the allocation of resources for the implementation of the student support system by the institution.

The limitation of our study was that we used purposive sampling and this could have led to the exclusion of the views of those who were not selected. Furthermore, the authors acknowledge that this proposed student support system model is just guidance for the components to be incorporated in the system and every institution has to adapt it to suit their local needs. Moreover, with regard to the transferability of the data, the authors have given a detailed description of the context so that the readers

can make decision about the suitability of study findings to their context.^[11]

Conclusion

Medical students face problems related to vast curriculum, poor social skills/interpersonal adjustments, personal issues and family problems, cognitive learning problems, poor organizational skills, students’ lack of motivation, which hinders the quality of their learning. The proposed model of the student support system outlines the principal roles of four key stakeholders, namely students, faculties, parents and college administration. Further research is required on the means of implementing (pilot testing) each component of the student support system, its cost, feasibility, acceptability, sustainability, and effectiveness in improving students’ learning performance. We developed the support system model suitable for our context, which is aligned to students’ current problems.

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Conflicts of interest

There are no conflicts of interest.

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Annexure

Annexure 1: Strategies employed to ensure the trustworthiness of the qualitative data

Criteria	Strategy	Description of the strategy
Credibility	Prolonged engagement	The researcher conducted an in-depth interview for as long as the participant was consenting to give information. The researcher used probing questions and encouraged the participants to explain their stand by giving examples.
	Persistent observation	Semi-structured audio recorded interviews were heard many times and the transcripts were read repeatedly by the first and third authors. The emerged codes, categories and themes were discussed with the other authors and recoded and revised time and again to provide the intended depth of insight
	Data triangulation	The data was gathered from purposively selected 3 types of stakeholders namely students, faculties and parents. Thus, data triangulation in terms of person was performed.
	Investigator triangulation	Manual thematic analyses of the transcripts were performed by the first and third authors, who were trained in qualitative data analysis. The codes, categories, and themes were reviewed by the second and fourth authors for ensuring validity of the interpretations in our context.
Transferability	Member check	At the end of the interview, the salient points were summarized to the participants and their consensus regarding the researcher's interpretation was sought. In case of any discrepancies, the participant's view was listened to in great detail and necessary modifications were made to the transcript by the researcher
	Detailed description	Detailed description of the study setting, design, participants, data collection, data analysis and interpretation has been provided which would help the reader to understand the context of the study. It will also aid them in judging whether the results would be applicable in their setting.
Dependability and confirmability	Audit trail	A detailed account of the interviews, their raw data, transcripts, analysis notes, coding notes, categorization and theme generation has been preserved by the researchers.