

Medical Students' Participation in Extracurricular Activities: Motivations, Contributions, and Barriers. A Qualitative Study

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Introduction: Extracurricular activities in medical education are defined as any social, philanthropic, non-mandatory, and unpaid activities. These activities promote interactions between students and the community in ways that both provide care and create learning opportunities and experiences for both students and the community at large. This study elaborates on the motivational aspects, learnings, and barriers that occur when students participate in these activities.

Methods: This is a cross-sectional study of medical students in their first to fifth years. Qualitative analyses have been used to understand the motivation, barriers, and contributions associated with extracurricular activities participation.

Results: Of the 586 students enrolled in the medical course, 462 students agreed to participate in the research. The students reported that they were motivated to participate in contributing to society, support their professional choices, integrate their knowledge, gain life experience, develop communication and leadership skills, learn to work in a team, and become more responsible, empathetic, and resilient. Barriers to participation were the limited number of available positions, selection criteria, lack of support from those involved, personal issues, poor time management, risk of lowered academic performance, and lack of physical and financial resources.

Discussion: Medical students are motivated to participate in Community-based extracurricular activities (CBEA) and this experience leads to improvement in the curriculum and can develop fundamental skills and attitudes such as leadership, commitment, and responsibility. To maximize the benefits of these activities, schools must support students and ensure that they have the time and chance to participate without physical strain, that were barriers mentioned by the academics.

Keywords: quality of life, education, medical, students, medical, community-institutional relationships

Introduction

Medical students have a strong inclination to pursue extracurricular activities.¹ Extracurricular activities in Brazil are defined as any social, philanthropic, non-mandatory, and unpaid activities. These include music, physical activities, volunteer work, participating in academic leagues and congresses, and so on.^{2,3} Community-based extracurricular activities (CBEA) are activities that students perform in the community using the knowledge acquired at graduation, for example, giving lectures to adolescents from schools in the municipality about sexually transmitted diseases, advising mothers in the municipality about breastfeeding, making conversation circles for the community about diabetes and hypertension, training health workers in disease prevention, among countless other actions that students are able to contribute to improve the lives of citizens. They provide learning and developmental experiences for both students and the community at large.

Participating in CBEA can add a human approach to medical training. However, most students primarily focus on updating their scientific knowledge while studying at graduate school. They usually neglect the development of other important skills and attributes required to offer humanized care in the future.⁴ Thus, it can be stated that teaching should facilitate the reproduction of knowledge, and research should be linked to ongoing developments in science. In addition, CBEA should lead to the execution of



knowledge based on research and educational curriculum.⁵ These activities could be organized by universities or academic leagues and should ideally focus on both the students' interests and societies' needs.

The academic leagues at the Municipal University of São Caetano do Sul encourage interaction with the community, in addition to teaching and research. This study identifies and elaborates upon the motivating and demotivating factors that are associated with the academic practice in CBEA. It identifies the contributions of such activities to the students' overall development.

Methods

Study Design

This qualitative cross-sectional study was conducted in 2018, using the narratives of medical students from the School of Medicine at the Municipal University, São Caetano. Participation was voluntary and anonymity was guaranteed. Moreover, access to the results was also guaranteed. No monetary compensation or incentive was offered for participating. Refusal to participate did not result in loss or damage of any kind. The project was submitted to the Research Ethics Committee (CEP) of São Paulo University (USP) and approved without restrictions (CAAE: 99776718.4.0000.0065).

Participants

All medical students (586) from the School of Medicine, Municipal University, São Caetano, were invited to participate in the study in the end of the class. As the university was new at the time of the data collection, there were only students from the first to the fifth year of graduation. This University adopts the Problem Based Learning (PBL) teaching method. Participants signed the Consent Term authorizing the anonymous publication of responses. Participants were asked to respond to a sociodemographic questionnaire and answer three open questions with no time limit to respond.

Instruments

The sociodemographic questionnaire included questions on the participant's gender, age, and graduation year. It also inquired about the CBEA in which they had participated as well as whether they were considering specializing in any specific field in the future.

The open-ended questions were as follows: What was your motivation to participate in these activities? What lessons did you learn from these activities? What were the barriers that hindered your participation in these activities?

Data Analysis

Content analysis was used for the qualitative analysis.⁶ This includes a set of systematic and objective techniques and procedures to describe the contents in a way that allows categorization, elaboration of inferences, and the interpretation of the data. Two of the researchers utilized the traditional content analysis methods to analyze the data. This involved the preparation of the material (typing the answers to the open questions and organization of the data), free reading, highlighting the subjects by relevance and/or repetition, categorization of the emerging categories and derived issues, a discussion with all the members of the research group, and a descriptive presentation of the results using quotes from the responses. The Consolidated Criteria for Reporting Qualitative Studies (COREQ) was used to ensure the study's quality criteria⁷ ([Supplementary Files](#)).

Results

The initial sample included 586 students (200 males and 386 females) enrolled at the School of Medicine, Municipal University, São Caetano do Sul. Valid responses were received from 462 participants (response rate 78.83%). These included responses from 303 females (65.6%) and 159 males (34.4%). While 110 students were from the first year (23.80%, 29 male students [26.4%] and 81 female students [73.6%]), 91 students were from the second year (19.69%, 37 male students [40.7%] and 54 female students [59.3%]); 90 students were from the third year (19.48%, 31 male students [34.4%] and 59 female students [65.6%]), 89 were from the fourth year (19.26%, 34 male students [38.2%] and 55 female students [61.8%]), and 82 students were from the fifth year (17.74%, 28 male students [34.1%] and 54 female students [65.9%]). The participants' ages ranged from 17 to 45 years. The average age was 22.72 years.

Out of the total participants, 194 (41.99%, 63 male students and 131 female students) did not participate in any CBEA. Of these 194 students, 98 (89.1%) were first-year students, 37 (40.7%) were second-year students, 20 (22.2%) were third-year students, 10 (11.2%) were fourth-year students, and 29 (35.4%) were fifth-year students.

The questions had three central themes: motivation, learnings, and barriers. Within these themes, the responses were categorized and subdivided into items. The answers were transcribed as examples of each category and item.

The respondents stated that contribution to society, with the possibility of being able to help the community, was the primary motivation for participating in these activities. Students also indicated that these activities assist in increasing professional knowledge as they help develop a better understanding of the different fields in which the students can specialize. CBEA also complements the course. One participant said:

My motivation is to deepen my knowledge on subjects that I believe are not focused upon in the curriculum. (Male, 22 years, 4th year)

Some respondents stated that their motivation was primarily academic development, which was categorized under a personal curriculum. This was primarily due to the impact of CBEA on the medical residence selection process and the requirement to accumulate extracurricular hours for the course. Other respondents mentioned that social interaction is also a motivating factor, as participation in CBEA provides them with the opportunity to connect with teachers and colleagues in the medical program. Table 1 elaborates on these comments.

Most of the responses indicated that the participants took part in CBEA because they wanted to know about the different fields they could specialize in. This was followed by the desire to complement the program, help society, gain personal and life experiences, boost personal growth, accumulate credits, and build a network.

Regarding the theme and learning area, the respondents stated that participating in CBEA enabled them to further expand and integrate their knowledge of medicine. They also stated that CBEA helped them acquire time management skills and enhance their communication abilities. One student said:

We learned how to communicate information in a clearer manner to a population that does not understand technical language. (Male, 25 years, 3rd year)

Since academic leagues' CBEA are organized by students, the participants stated that the experience helped them develop organizational skills and the ability to work in a team. They stated that these activities contribute toward

Table 1 Qualitative Analysis of the Data Produced from the Central Theme: Motivation

Categories	Items	Example of Speech
Contribution	Society	Performing services to the society focused on the health area. (Male, 23 years, 3rd year) [I am] interested in helping those in need. (Female, 23 years, 3rd year)
Professional choice	Know different specialties	It helps in identifying areas of interest for future specialization. (Male, 24 years, 3rd year) At the beginning of the course, I was unsure about the specialty to pursue. I decided to participate in some of the extracurricular activities to find out more about the area and to be able to choose the field that I would like to specialize in. (Male, 25 years, 5th year)
Learning	Complement the program Life experiences Personal	Personal and professional development beyond the course. (Male, 22 years, 3rd year) Participating in world experiences. (Female, 23 years, 3rd year) To understand the living situations outside the college environment. (Female, 22 years, 2nd year) To be able to grow and to improve as a person and as a professional. (Female, 20 years, 2nd year)
Academic development	Personal curriculum Credits	Add value for selection for medical residency. (Female, 23 years, 4th year) Earn extracurricular time. (Male, 41 years, 4th year) Accumulate hours of complementary activities. (Male, 22 years, 4th year)
Social Interaction	Network	Social integration with other students and teachers. (Male, 20 years, 2nd year) Building contacts with professionals working in the area. (Male, 38 years, 2nd year)

improving leadership skills and teach commitment and responsibility. They also stated that these activities enable the development of emotional skills, such as empathy and resilience.

Table 2 shows some of the statements made regarding learning at the hospital and in the community.

The majority of the responses implied that the respondents wanted to expand their knowledge and familiarize themselves with their community. They also wanted to acquire communication skills and empathy, learn to work in a team, and develop an understanding of the hospital environment, besides integrating their knowledge and developing their organizational, leadership, and time management skills. Additionally, they sought to understand the commitment and build on their resilience.

Within the theme of barriers, students understood that the limited number of participants in each program was a demotivating factor. This also applies to the availability of tests for the selection of members and the failure to organize some activities. Other barriers indicated by the students included a lack of support from the college, community, partner institutions, and other students.

The main barrier is when the group that participates does not do the work they were supposed to, while the other members are overloaded. (Female, 25 years, 5th year)

Institutions do not accept our projects or create unsustainable conditions (for example, an unviable number of weekly visits). (Male, 32 years, 3rd year)

Teachers were also concerned about the possible losses in academic performance. This is because students would require time for CBEA and thus spend less time studying. Students were also concerned about the money they spent on transportation to CBEA and eating before they attended classes; they also expressed concerns regarding working during their spare time.

Students described that physical exhaustion, such as tiredness and lack of sleep, also make participation difficult. A student stated:

Table 2 Qualitative Analysis of the Data Produced from the Central Theme: Learning

Categories	Items	Example of Speech
Knowledge	Expansion Integrating	I have deepened my knowledge in the area. (Male, 24 years, 3rd year) Develop greater clinical reasoning with the possibility of correlating it with other areas of medicine. (Male, 24 years, 3rd year)
Skills	Time management Communication Teamwork Organization and Leadership	Personal learning and better time management skills. (Male, 22 years, 3rd year) I learned to stop feeling shy and to pass on some of my knowledge to other people. (Female, 19 years, 3rd year) I learned how to work in a team to make decisions about activities. (Female 24 years, 3rd year) I learned to deal with a group and to develop ideas as a team. (Female, 25 years, 4th year) I learned to deal with people who have different opinions. (Female, 19 years, 2nd year) I learned about bureaucratic issues and management. (Female, 23 years, 4th year)
Attitudes	Commitment Leadership	Visits make it possible to acquire a responsible attitude toward the commitments that we make. (Male, 24 years, 3rd year) I [have] developed leadership skills. (Male, 22 years, 3rd year)
Emotional skills	Empathy Resilience	I [had] participated in these activities to become empathetic. (Female, 20 years, 3rd year) I [have] learned to recognize my privilege, and to understand others beyond what they show, in an integral way. (Female, 21 years, 3rd year) A very important lesson was to keep calm when treating a patient who is seriously ill. (Female, 23 years, 3rd year)
Experiences	Hospital environment Community	I acquired hospital experiences. (Female, 24 years, 3rd year) I learned that information that I thought was basic is not as widely known by others in the community. (Female, 20 years, 3rd year)

Due to extracurricular activities, I am constantly rushing, and [I] do not have time for my meals or to sleep. (Female, 23 years, 3rd year)

Other barriers mentioned by students included personal difficulties associated with self-displacement and a lack of knowledge regarding the activities. First-year students also stated that they did not participate because they needed time to adapt to the medical school and the problem-based learning approach.

Furthermore, the inability to decide on the extracurricular activity in which to participate was a barrier. The participants also stated that they had difficulty in time management. A student elaborated:

The main barrier is the personal difficulty associated with time management, as sometimes I cannot fully benefit from the activity that I participated in because I have not organized my time properly. (Female, 23 years, 3rd year)

Table 3 elaborates on the comments pertaining to the barriers.

Most of the responses demonstrated that the participants were concerned about time management. This was followed by the distance that they needed to travel to participate, their physical limitations, and the limit on the number of participants by the type of activity. Further barriers included perception of their lack of skill, the time required to adapt to the school, experiencing financial problems, lack of support from institutions and organizations, the pressure of maintaining their academic achievement, and their indecision on which activity to choose.

Table 3 Qualitative Analysis of the Data Produced from the Central Theme: Barriers

Categories	Items	Example of Speech
Format	Limited number of participants Selection Organization	These activities allow only a limited number of participants. (Female, 21 years, 3rd year) The tests to participate in the programs act as a hindrance. (Male, 23 years, 3rd year) Some of the activities are highly disorganized. (Female, 20 years, 3rd year)
Lack of support	From the college From community From partner institutions From the students	[There are a] limited number of programs that one can participate in. (Female, 23 years, 4th year) "[There is] Low population adherence." (Male, 23 years, 3rd year) Sometimes schools do not open their doors, and at times we have to ask the city hall for permission. (Male, 25 years, 3rd year) [There is a] lack of collaboration from other participants. (Female, 21 years, 4th year)
Losses	Academic achievement Financial Physical	I do not want to compromise on my academic performance. (Female, 28 years, 4th year) [There is a] lack of money. (Female, 20 years, 3rd year) I do not want to participate in more extracurricular activities because I need to work to help with the financial issues. (Female, 23 years, 4th year) Tiredness, collective stress, and physical exhaustion. (Male, 22 years, 3rd year)
Personal	Accessibility Perception of inability Adaptation phase Indecision Time management	It is difficult for me to participate in extracurricular activities because I live far away. (Male, 23 years, 3rd year) The initial contact with the subject was the biggest barrier for me when participating in activities that I did not have knowledge about. (Male, 29 years, 4th year) I am currently in the first semester and am adjusting to the course and methodologies, hence I have not started participating in extracurricular activities yet. (Female, 19 years, 1st year) I do not participate in any extracurricular activities because I do not know which one to pick. (Female, 21 years, 1st year) I cannot decide which activity would be most suitable to my profile and my interests. (Male 20 years, 2nd year) I have trouble in time management when I have to allocate [time] for extracurricular activities, other tasks, and studies. (Female, 24 years, 3rd year)

Abbreviations: COREQ, Consolidated Criteria for Reporting Qualitative Studies; EA, extracurricular activities in the community; USP, São Paulo University.

Discussion

Most students (58%) stated that they were interested in participating in CBEA. However, the participation was lowest among students in their first year (10.9%). Participation increased with each year. The participation of fourth-year students was 88.8%.

This study reiterates that medical students are motivated to participate in CBEA as this experience adds to their credits and leads to improvement in the curriculum.^{1,3,8–12} Students also expressed that their desire to help society is a motivating factor to participate in these activities. It is noteworthy that the desire to help people is the reason that many students choose medicine as a profession. However, while their subject matter expertise develops, they often lose sight of their primary motivation.¹³ Community-based CBEA allows for a curriculum balance. This teaches students to develop an understanding of their patients.

Other important motivations stated are the opportunities to gain experiences and personal learning that might help students develop as individuals and professionals. These experiences allow students to see beyond their own universe, reflect on their values and internalize, adopt, and practice values that are important for their future. Da Silveira et al¹⁴ stated that students who participate in CBEA display high levels in the affective domain, indicating that they could internalize new experiences and change how they were living. Additionally, these students also had high cognitive levels that corresponded to the synthesis capacity, while students who did not participate in these activities remained in the lowest taxonomy,¹⁵ strictly pertaining to knowledge. Lins et al¹⁶ mentioned that CBEA promotes the integration between teachers, students, and the community and allows them to share and exchange knowledge.

According to Cohen and Sherif,¹⁷ human values include honesty, integrity, care, compassion, altruism, empathy, and respect for oneself, patients, peers, and other professionals involved in medical care. A number of these skills and competencies are mentioned as learnings that are acquired through participation in CBEA.

It is important to consider that practical experience is required to develop the right skills and attitudes. Therefore, after the completion of the medical degree, without the practical experience of these activities, practitioners should not be expected to possess the appropriate skills.^{18,19} It is necessary to complement technical training with practical experience.¹² By participating in CBEA, professionals will be able to comprehend that solely theoretical knowledge is not sufficient to develop the skills required for coping with social complexities.¹⁹

Community-based CBEA provides exposure to real-life in higher education and creates the right skill set for the benefit of the community.⁵ Thus, professionals will understand that health does not merely imply the absence of disease and a vision that is restricted to biological functioning. It is an integration of the biological, social, cultural, economic, political, and historical dimensions of an individual.

Paulo Freire, an educator and philosopher recognized for his work in adult education, stated, “Nobody educates anyone, nobody educates themselves, men educate themselves, mediated by the world”²⁰ [pp. 78]. This statement implies that before someone can teach something to another person, they must first learn about the other person to understand their situation.

According to Lins et al¹⁶ the confrontation with reality allows students to learn, for example, that the lack of information regarding the prevention of certain pathological problems leads to a higher incidence of their occurrence. Therefore, CBEA can contribute to the democratization of knowledge. Students can act as facilitators of knowledge. Consequently, this can have an impact on public health through the association between the learned theory and the experience.¹⁶ Evidently, these activities contribute to the advancement of local education because they assist students in uncovering gaps in their community’s knowledge.

Emotional skills such as empathy and resilience can be developed through CBEA. De Almeida and Barbosa¹⁹ reinforced that empathy is the social aptitude to understand the feelings of others and the adoption of their perspective with respect to the differences in the way people deal with the situations they experience. The responses indicated that these activities allow students to experience emotions when they observe others, reflect on their own privileges, or are surprised by the unexpected events of daily life.

If the emotions and rationales contribute to the culture of a society, new practices can be introduced based on the same.²¹ Developing a humane attitude is easier during education than after a professional has developed his or her method of conduct.¹³ The empathy arising from social contact also encourages students to work in favor of a more just and egalitarian society.¹⁶ This will solidify the desire for a democratic public health system that is capable of ensuring services for all segments of society.²²

The participants also mentioned that CBEA made it possible to integrate their accumulated knowledge. These activities assist in integrating all areas of health and may include several university courses. They are extremely beneficial in the context of professional training for ensuring interdisciplinarity.²³ However, activities that focus only on providing medical assistance may be ineffective for comprehensive training as the students are not usually required to learn how to provide assistance in terms of the community's social reality and the integration of health activities.²³ When detached from the social perspective, these activities remain locked in a biological perspective. The individuals of a community are the only recipients of the university.⁵

Students reported that these activities provided a more mature outlook and offered the possibility of enhancing the knowledge garnered from their classes. They also provided a realistic view regarding the socioeconomic difficulties and other social differences existing within the community.

The literature establishes the relevance of these activities for the development of communication skills.^{10,13,24–27} The ability to communicate technical knowledge in a simple manner that can be understood by others requires practice. Practitioners may also need to learn the regional language at times to establish a productive relationship between themselves and their patients.²⁸ De Almeida and Barbosa¹⁹ state that these activities also enhance the student's ability to listen and understand.

However, to enable students to participate in CBEA, it is necessary to remove these barriers. An important barrier mentioned by the respondents is the lack of support from the different segments involved in these activities. This reinforces the proposal by Cohen and Sherif¹⁷ regarding the need to ensure that a joint effort is made by the teachers, institution directors, health managers, preceptors, and students. These activities can be conducted efficiently only if all the sectors involved are cooperative and engaged.

Another barrier mentioned exclusively by the first-year students was related to their perception of the inability to enter the programs. To address this, activities such as play therapy, clown therapy, and music therapy could allow students to participate. Additionally, tests for entering the extension programs were also mentioned as a demotivating factor. Amorim and Bedaque¹⁰ stated that students could be motivated to participate in activities that only require the demonstration of will and responsibility through a letter of interest.

Community-based CBEA contributes to the accumulation of knowledge, skills, and competencies that are essential for complete medical education. Based on an understanding of the barriers that hinder students' participation, medical schools can work with academic centers to minimize these factors. Students can then be assimilated into a wholesome extracurricular experience.

This study achieved a good response rate with a balanced sample between the genders. A limitation of the study was the absence of students in the sixth year of medicine, which would allow an even more detailed analysis comparing the years of graduation.

Conclusion

This study analyzes the motivation of medical students to participate in CBEA to contribute to society, support their professional choices, and improve their learning.

CBEA enable medical students to expand their knowledge of medicine and help them to acquire skills, such as time management and communication abilities. Furthermore, students develop the necessary competencies required to work with an organization and to collaborate with others. Through these activities, academics can improve their attitude regarding leadership, commitment, and responsibility. These activities allow students to gain experience and develop emotional skills, such as empathy and resilience. Unfortunately, the literature lacks studies with the same structure of extracurricular activity or that analyze the CBEA in a qualitative perspective.

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Disclosure

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