Original Article

Influence of (formal and hidden) syllabus in the formation of medical students' professional identity

Influência dos currículos (formal e oculto) na formação da identidade profissional dos estudantes de medicina

Jacqueline Rego Tardin[1]
Iêda Aleluia[2]

[1]Corresponding author. Escola Bahiana de Medicina e Saúde Pública (Salvador). Bahia, Brazil. jacquelinetardin14.1@bahiana.edu.br
[2]Escola Bahiana de Medicina e Saúde Pública (Salvador). Bahia, Brazil. iedaleluia@bahiana.edu.br

ABSTRACT | BACKGROUND: The professional identity of the medical student is formed during graduation and is subject to the interference of factors included in the formal curriculum and informal curriculum of the student. **PURPOSE:** This study aims to describe the influences that the formal curriculum and the hidden curriculum exert in the formation of the professional identity in the students of the medical course. **METHODS:** This is a cross-sectional, descriptive study with qualitative-quantitative methodology. A questionnaire was applied for the evaluation of the students about activities that occurred during graduation, insertion of humanism in academic practice, and socio-demographic description and group profile, and 200 participants received these questions. Quantitative data were analyzed using the statistical program SPSS 20.0, considering as statistically significant p <0.05 and qualitative data by content analysis and categorization. **RESULTS:** 11/200 students answered the questionnaire, the majority coming from the 8th semester of the institution. There was perception of the influence of mentors, the contribution of the curriculum and socialization in the formation of the student's professional identity. The analysis of the participants' speeches showed the internalization of the humanization occurs mainly through the importance of example, the contact with the patient and the importance of the previous formation of character and personality of the student. **CONCLUSIONS:** There is influence of the graduation and faculty in the professional identity of the medical student, in addition to the evidence of the need for new research that describes the impact of the hidden curriculum.

KEYWORDS: Medical education. Syllabus. Hidden syllabus. Professional identity.

RESUMO | INTRODUÇÃO: A identidade profissional do estudante de medicina é formada durante a graduação e está sujeita à interferência de fatores inclusos no currículo formal e currículo informal do estudante. **OBJETIVOS:** Descrever as influências que o currículo formal e o currículo oculto exercem na formação da identidade profissional dos estudantes do curso de medicina da Escola Bahiana de Medicina e Saúde Pública. **MÉTODOS:** Trata-se de um estudo transversal, descritivo, com metodologia qualitativa-quantitativa. Foi aplicado um questionário para avaliação dos estudantes sobre atividades práticas e teóricas ocorridas durante a graduação, inserção do humanismo na prática acadêmica além da descrição sócio demográfica e do perfil do grupo, sendo essas perguntas enviadas a 200 participantes. Os dados quantitativos foram analisados com o programa estatístico SPSS 20.0, considerando como estatisticamente significante p<0,05 e os dados qualitativos pela análise e categorização de conteúdo. **RESULTADOS:** 111/200 estudantes responderam o questionário, sendo a maioria proveniente do 8° semestre da instituição. Houve percepção da influência de mentores, da contribuição do currículo formal e informal e da socialização na formação da identidade profissional do estudante. A análise das falas dos participantes mostrou a internalização da humanização se dá principalmente através a importância do exemplo, o contato com o paciente e a importância da formação prévia de caráter e personalidade do estudante. **CONCLUSÃO:** Conclui-se que há influência da matriz curricular e do corpo docente na construção da identidade profissional do estudante de medicina, além da evidência da necessidade de novas pesquisas que descrevam o impacto do currículo oculto.

PALAVRAS-CHAVE: Educação médica. Currículo. Currículo oculto. Identidade profissional.

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Introduction

Student identity is not a definitive concept, since it is in a constant process of change. As with other professions, medical students need to develop a professional identity, and the way this develops has implications for both their academic and personal future[1]. Acquiring a professional identity therefore plays a crucial role in the transition from medical student to doctor[2].

Medical professional identity could be defined as "a representation of oneself" achieved in stages throughout the course, during which the characteristics, values and norms of the medical profession are internalized, resulting in a way of thinking, acting and feeling like a doctor[2]. It is based on areas that encompass compassionate behaviour and personal characteristics of leadership, resilience and empathy[3].

Students learn to become doctors in clinical and academic settings[4]. Institutions establish models of behavior that are subsequently incorporated by students. During this process, in addition to the formal education provided by universities, the student also learns by observing (and interacting with) colleagues as well as teaching and non-teaching doctors throughout their training[1].

The learning environments that help to form a professional identity are diverse and include classrooms, hospitals and clinics as well as informal areas where socializing occurs[5,8]. Unlike the formal curriculum that takes place in the classroom through classes and seminars, a 'hidden' curriculum, involving doctors socializing, is indicative of a wider "cultural process" within medical training[9]. This hidden curriculum has a great influence on the student's professional identity. It refers to the set of practices that are not explicitly taught in institutions, but are experienced and internalized by students, thus influencing values, attitudes and behaviors. Such practices can have unintended impacts, with positive or negative effects on the students' professional careers[10].

In this context, practices such as the White Coat Ceremony, a symbolic recognition of the transition from student to medical doctor, the Hippocratic oath, activities in the anatomy laboratory, problem-based learning sessions, teaching seminars, insertion of students into the surgical environment and the adoption of a medical vernacular, are all important in graduate training and are significant milestones in the student's professional identity[1,4,5].

The main objective of this study is to describe the influences of the formal curriculum and the hidden curriculum on the creation of the professional identity of medical students at the Bahiana School of Medicine and Public Health. The study also aims to verify if, during the course, practices carried out influence the construction of student identity. In addition, it aims to understand how the curriculum and the faculty can shape the medical student's professional identity and to identify where themes relating to empathy are inserted into the curriculum and how they influence the student's education.

Method

This is a cross-sectional, observational study using a quantitative and qualitative approach involving students in the 8th and 9th semesters of the Medicine course at the Bahiana School of Medicine and Public Health during the fisrt half of 2017. The study population consisted of 200 students in these semesters, who were invited to participate. It was a convenience sample, since part of the population was completing the initial four-year cycle while the other was entering their residency training.

Only medical students, over 18 years of age, attending the semesters referred above and who agreed with the Informed Consent Form (ICF), were included in the research.

The study involved a questionnaire designed by the researchers and based on the literature as well as observation of the students' practices. It contained open and closed questions on formal and informal practices carried out throughout the course and on the Bahiana School of Medicine and Public Health curriculum, as well as questions concerning the students' education and sociodemographic background. The aim was to better understand practices undertaken during the medical course that could conceivably shape the medical student's professional identity.

The project was approved by the Ethics Research Committee (ERC) of the Bahiana School of Medicine and Public Health, registered under the number CAAE 685603 17.9.0000.5544. An Informed Consent Form (ICF) was made available for all participants

Statistical analysis was descriptive and performed using the IBM SPSS Statistics 20.0 program. Numerical variables were analyzed following the central tendancy and dispersion of the variables as appropriate (continuous or categorical) for characterization of the series and presentation of the results.

Qualitative analysis of the answers to the open questions was carried out using the methodology of content analysis in the thematic-categorical modality, based on Bardin[6,7].

Results

Quantitative Data

111 individuals participated in the study, all of whom answered the questionnaire. The average age of the students was 23.1 years (SD: +/- 2.3) and 74 (66.7%) were female. Regarding the semesters included in the research, 75 (67.6%) individuals were in the 8th semester and 36 (32.4%) in the 9th semester (Table 1).

Table 1. Demographic characteristics of the study participants

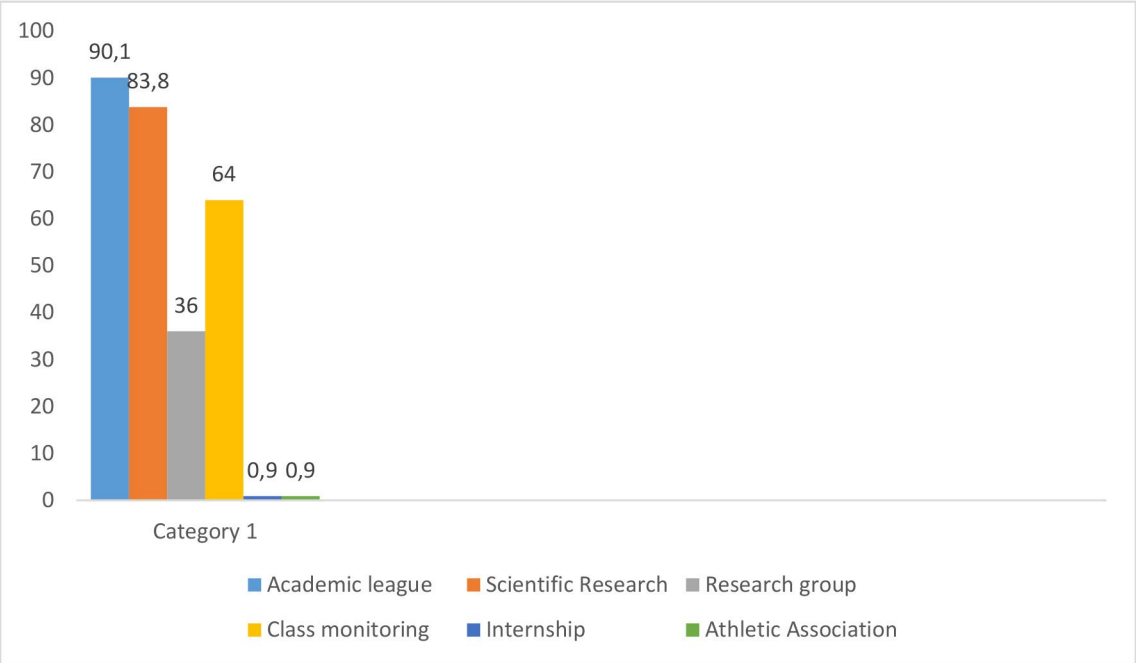
Caracteristic	
Age (years)	**Average/ DP**
Minimum: 20 Maximum: 32	23.1 /± 2.3
Sex	**n (%)**
Female	74 (66.7)
Male	37 (33.3)
Semester	**n (%)**
8th	75 (67.6)
9th	36 (32.4)
Marital status	**n (%)**
Single	100 (99,1%)
Civil partnership	1 (0,9%)

Source: research database

In respect of religion, 49 (44.1%) identified as Catholic, 21 (18.9%) as Spiritist and 23 (20.7%) stated that they did not follow a religion. Regarding professional training, 106 (95.5%) participants had no previous graduate experience, whereas 5 (4.5%) had completed another degree prior to starting the medical course. Of these, 4 (80%) had a health-related degree and only 1 participant (20%) had a degree in an exact science.

Regarding extracurricular activity, 100% of students reported having participated in an activity at some point on the course. Of these activities, the most frequent, in decreasing order, were participation in the Academic League, Class Monitoring and Internship (Graph 1).

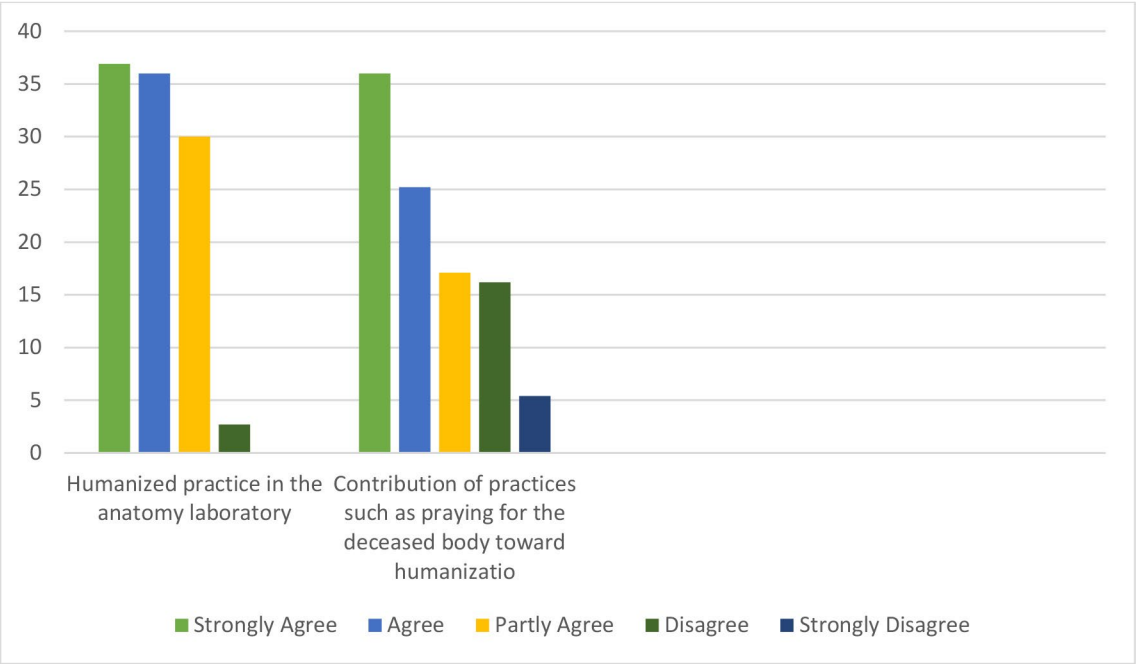
Graphic 1. Frequency of student participation in extracurricular activities



When asked if they had already studied abroad, 89 (80.2%) participants declared that they had not taken any of the modalities available for study abroad. Of the students who answered positively, 21 (18.9%) had studied in another country via an exchange program, 1 (0.9%) participant through the federal government's Science without Borders program and 1 (0, 9%) while on vacation.

When questioned about humanization during practical classes in the anatomy laboratory, 36.9% of students strongly believed that it was performed appropriately. Regarding the ritual of praying for the deceased body, 36% strongly agreed that the practice contributes to the concept of humanization adopted by the educational institution (Graph 2).

Graphic 2. Participants' opinion about humanization based on practices carried out at the educational institution



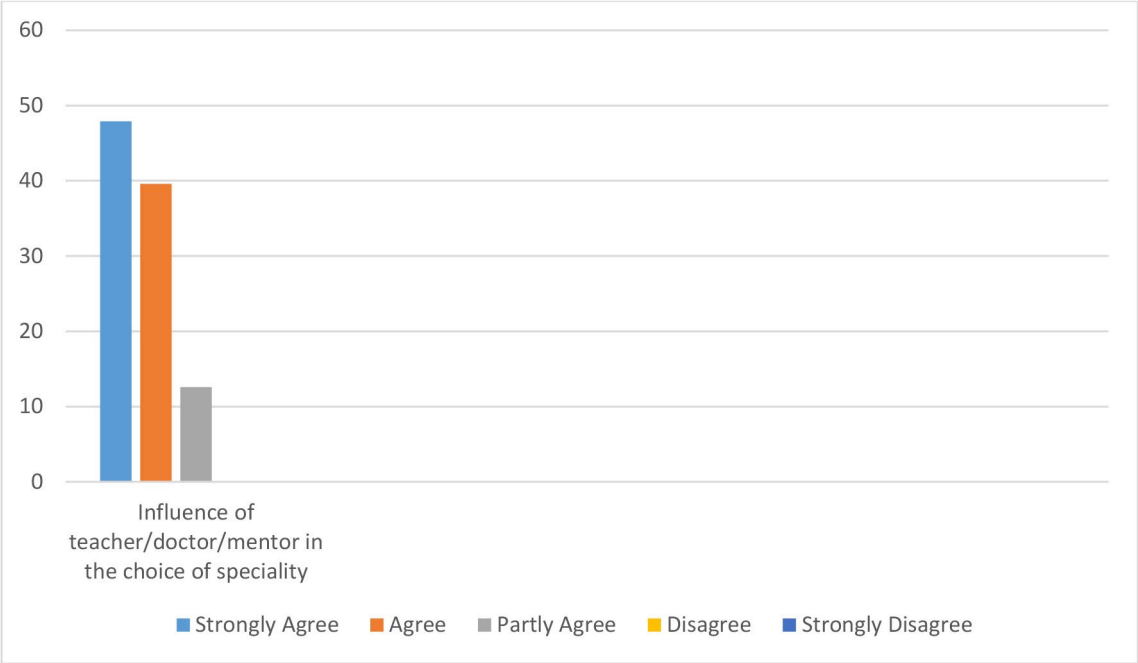
When asked if outpatient contact would help to establish a more humanized doctor-patient relationship, 68.5% strongly agreed, 25.2% agreed and no participant disagreed with this practice.

Regarding the formal medical curriculum, including outpatient and surgical activities, 85.6% of the participants believed that the practices involved are guided by a humanizing approach and the doctor-patient relationship. When asked whether using the Problem Based Learning (PBL) method achieves the objective of making clinical discussions patient-centered, 74 (66.7%) of the students agreed, while 37 (33.3%) disagreed.

Analyzing whether a teacher/doctor/mentor had already adopted behavior that could be considered positive or negative to the doctor-patient relationship, 97.3% of students agreed that the attitude of the relevant mentor is influential. All students claimed to have been in a situation involving a teacher/doctor/mentor that had either a positive or negative influence on them.

85.6% of the participants stated that they had already shown greater application to a particular subject because of their relationship with a teacher. Regarding the influence that a teacher/doctor/mentor may have on specialty choice, the highest number (47.9%) strongly agreed that the professional involved has an influence on such a decision (Graph 3) .

Graphic 3. Influence of the teacher / doctor / mentor in the choice of specialty



When asked whether the faculty influences the students' behavior and dress code, 29.4% strongly agree and 36.9% agree that the academic environment influences the way they dress. Only 7.2% of the participants state that the faculty has no influence over this aspect.

Qualitative data

Students reported that they internalized humanization of medicine to a greater extent in informal situations than when the the concept was presented in a more formal classroom situation.

Of those who agreed that humanization is more internalized when practiced informally, three categories emerge: the importance of example, contact with the patient and prior training in relation to the patient, and the personality of the student.

To follow are extracts from comments made by students in respect of the inspiration and overall sensibility that they derived from teacher contact:

"Yes. Being able to practice what is taught is more important and has more impact than the theory. It sensitizes and inspires the student more".

"I would say that having an example is better: Just saying "we need to be human" or something similar during classes does not make much of an impression. What stays with the student is that patient who brings a "psychological" problem greater than the "biological" problem they complain about. This happened several times - a patient would come to me and I didn't understand the problem, or when I did, I didn't know how to deal with it. In situations where this happened I was fortunate to have an attentive teacher-doctor, who knew how to glean the real story from the patient while I was present and also how to discuss with me what I felt during that conversation, so I certainly learned a lot."

In respect of personal experience with the patient, the following is indicative of students' comments:

"Humanization in less formal settings is much more internalized, as it guarantees hands-on access to the medical routine and, therefore, proximity to the patient"

Regarding the extent that humanization can refer to self-development, the following comments were made:

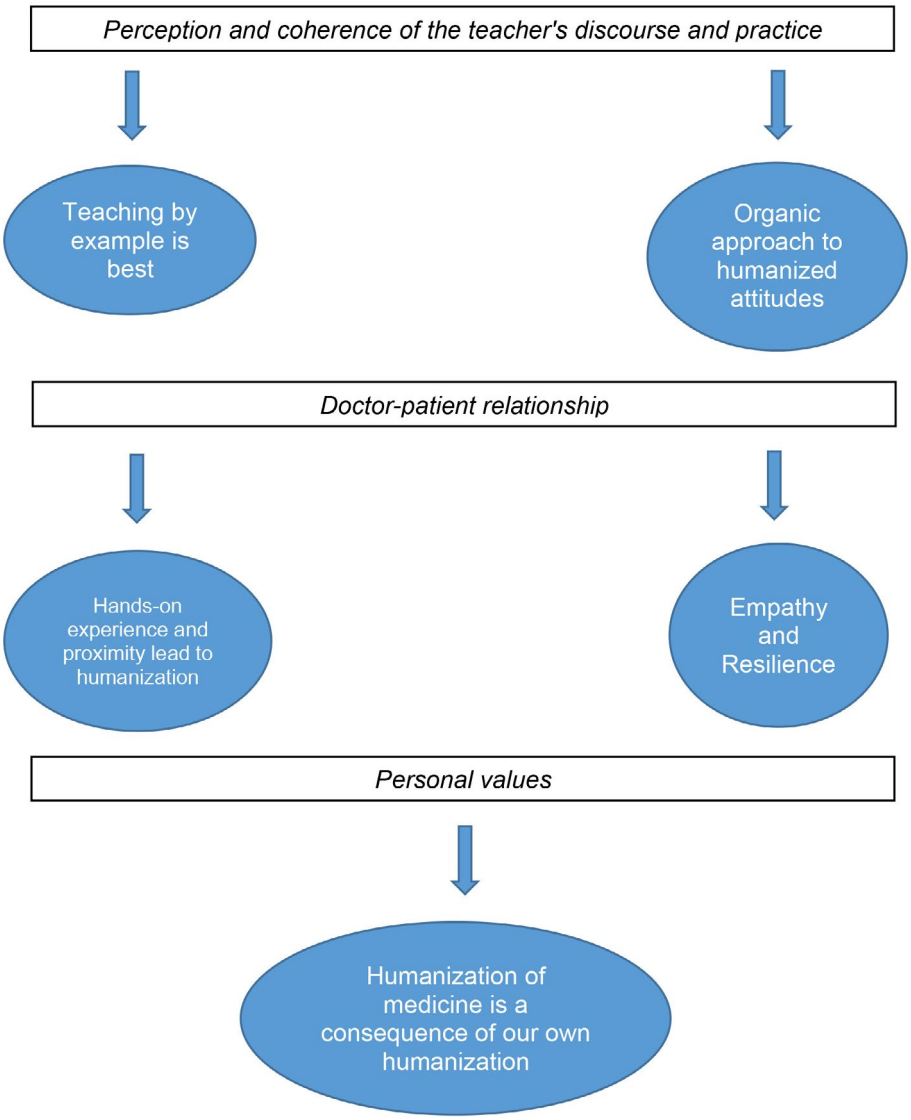
"Yes! Humanization in medicine is only valid if we practice humanization of ourselves, so even though the faculty can help, this is something that only life can teach us".

Participants that partially agreed with humanization in informal settings suggested that it was still relevant in a formal context:

> *"In part. I believe that humanization of medicine is more feasible and can be internalized when discussing cases and "witnessing first-hand" such holistic approaches at the time advice is given to the patient. In other words, witnessing humanization attitudes in the doctor's discourse with the patient contributes to the internalization of more humanized practices. Also, practical training in laboratories or simulation situations can contribute just as much to the internalization of such practices."*

A schematic diagram was constructed in an attempt to establish the relationship between the students' statements and the researcher's perception of the extent to which humanization had been internalized.

Figure 1.



Discussion

This study aimed to assess the influence that the graduate teaching process (including both the formal and informal curriculum) has on the shaping of professional identity, by observing the practice of humanization by students of the Bahiana School of Medicine and Public Health. The influence of the hidden curriculum on practices carried out throughout the graduate course was analysed along with activities that are part the formal curriculum.

It was observed that the transition from medical students to doctors plays an important role in shaping the student's professional identity[2,5]. The literature generally recognizes this transformation from the perspective of the doctor as educator although few studies examine the construction of this identity from the student's perspective. In this context, it could be seen that practices carried out in some medical teaching institutions, such as the White Coat Ceremony and praying for the deceased body, can influence this construction[9]. These rituals constitute a process for the newly-enrolled student's journey into the academic environment, establishing themselves as landmark events, where students learn the meaning of responsibility and what is expected from them in terms of adopting a humanizing approach within a professional environment[11,18]. They are rites of passage that take place throughout the course, and become key moments for reflection and identity construction.

An analysis of elements of the formal curriculum, such as teaching practices in the anatomy laboratory and the application of PBL[14], revealed that the student recognized a humanized character to these activities. The curriculum involves the promotion of ethics, principles and skills relating to reason and discourse. The practical application of these elements contributes to an awakening within the student to the teaching methods and tools used in the learning process[15] that will have repercussions on the behavior of the future professional towards his/her patient. In addition it helps students enrichen their understanding of professional identity.

The idea of the hidden curriculum as a generator of unintended effects on values, attitudes and behaviors that can impact both positively and negatively[14] on the student is confirmed in this study. When asked about their mentor's influence, having observed the role and conduct of the mentor first-hand, the majority of students reported positive and negative contributions. This highlights the importance of "role modeling"[16] and the value of the cultural process arising from different experiences of college social life, especially when involving doctor-mentors. Negative learning experiences can adversely affect the development of the medical student's professional identity and risk being replicated by students in their social circles. However, when values, behaviors and ethical standards are received positively, both the professional identity and the professionalism[17] constructed by the student can benefit, an example being the development of humanistic attitudes[16,18]. Socialization then becomes important when there is positive feedback about patient care and professional values.

Further to the teacher-student relationship, the study showed that the respective teacher/doctor/mentor's discourse has an indirect influence on the student favoring a particular discipline, as well as the possibility of direct interference[5,19] on the behavior of the future professional and the student's choice of medical specialty.

When questioned as to whether a humanizing approach was applied in their practical outpatient and surgical clinic activities, it was clear that the initial contact between patient and student is particularly important in shaping the medical student's professional identity. This data corroborates the literature to the extent that these practices involve a complex learning curve for the student when adopting a more holistic approach, such as the need to reflect on the doctor-patient relationship and construct empathy and resilience throughout the process[10,11,20]. This aspect is highlighted in the students' discourse.

When analyzing whether the college influences students' behavior and dress code, we observed a gradual change to both dress and behave like a doctor: in this way, the influence of the hidden curriculum could seen by observing the students' choice of clothes[14,19], in as much as this change represents a transition in the student's professional identity.

Final considerations

Since medical professional identity is the representation of oneself during the medical course, it is achieved when characteristics, values and norms of the medical profession are incorporated, resulting in an individual being able to think, act and feel like a doctor ("think, act and feel like a physician ")[3,4].

Most studies consider the influence of the hidden curriculum on the student's graduate training to be more negative than positive[13,18,21], despite the fact that it remains extremely difficult to identify all the elements involved in such a curriculum. Our study showed that, although there are formal teaching practices involving humanization within the academic curriculum, students internalize the humanization of medicine to a greater extent when observing attitudes and behaviour of mentors and colleagues. In addition, contact with the patient brings a fresh perception of empathy and an understanding of the resilience required to complete the medical course. It could be seen, therefore, that the student's professional future is an evolutionary process, one that gradually reveals the necessary characteristics of a medical social identity.

Author contributions

Jaqueline Rego Tardin was responsible for project design, collection and analysis of the data and also wrote the article. Iêda Alleluia analyzed the data and supervised both the research and the writing and editing of the article.

Competing interests

There are no financial, legal or political conflicts of interest involving third parties (such as government bodies, private businesses or foundations) for any aspect of the submitted work, including, but not limited to, grants and funding, participation in advisory councils, study design, preparation of manuscript or statistical analysis.

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