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Medical students maintain their humanistic and patient-centred vocation throughout Medicine Degree in Spain: a study based on narratives

Víctor Afán de Rivera Atienza[1] · Alicia Gutiérrez-Misis[1,2,3] ·
Augusto César Blanco Alfonso[1] · José María Vizcaíno Sánchez Rodrigo[1] ·
José María Arribas[1] · Natividad Puche López[1] · María Victoria Castell-Alcalá[1] ·
María Teresa Blanco Ramos[1] · Jacinta Landa Goñi[1] · María Dolores Cano Pérez[1] ·
María Fátima Prado Gutiérrez[1] · Rosa María García Panadés[1] ·
Esteban Gonzalez-Lopez[1] · Teresa Gijón-Conde[1]

Abstract

Narrative medicine has great educational potential in the degree of medicine. This study explores for the first time the use of narrative medicine in relation to longitudinal evolution of medical vocation for the same group of students. In the context of the Degree in Medicine at the Universidad Autónoma de Madrid (Spain), students wrote narratives about what it meant to them to be a doctor at the beginning and end of their studies. The narratives of 338 students of the academic years 2012/13–2017/18 and 2013/14–2018/19 were analysed and compared. Students mostly pursued a degree in medicine on account of humanistic motivations, which are reinforced throughout their degree. In contrast, up to 10% of students reference to have experienced vocational crises and suffered frustration, with up to 25% of the references pertaining to having made significant sacrifices. Students maintain and evolve their humanistic, patient-centred vision throughout their degree studies, despite the difficulties they appear to encounter. We suggest that efforts must be made to include more humanistic perspectives in the medical degree to keep this trend, which may improve both the educational experience created in universities and the health care given to patients.

Extended author information available on the last page of the article

Introduction

The presence of evidence-based medicine is especially hegemonic in universities, given the research curriculum of their professors (National Agency for Quality Assessment and Accreditation 2020). Since these same professors are partly responsible for modelling the academic curriculum, medical training ends up containing a low teaching load of subjects that include instruction in humanistic values, buried by others of greater significance among the students. Thus, although training in humanistic values is essential, it ends up being less significant in medicine degrees (Baños and Cambra 2020; Kidd and Connor 2008).

In the end, humanistic values, if not their opposites, are assimilated by students mostly through the observation of their tutors in clinical practice. Hence, the student will or will not learn about effective communication, active listening, empathy and professional ethics from a training process without guarantees regarding these "orphan" skills. This is known as the hidden curriculum in medicine (Hafferty and Franks 1994).

It is possible that the way in which students are treated throughout their medical training mirrors the aforementioned lack of a humanistic perspective in their formation. This is especially worrying given the differential prevalence of mental health problems among them. In fact, 21.5% of Spanish medical students regularly experience high levels of anxiety, 41% have some degree of depression, 10.2% have severe depression, and 11% have had suicidal thoughts at some point (Capdevilla et al. 2020). By comparison, 6.8% of the Spanish population in general report chronic anxiety, and 6.7% depression (Ministry of Health 2017). The lifetime prevalence of suicidal ideation in Spain is 4.4% (Gabilondo et al. 2007) and in Europe, it is 7.8% (Bernal et al. 2007). Finally, 6.8% of students state that they have high levels of burnout, defined by the presence of two components: exhaustion and cynicism (Capdevilla et al. 2020). These values present prevalence levels similar to those described for medical students in other countries (Bernal et al. 2007; Bert et al. 2020; Rotenstein et al. 2016).

There are multiple explanations that could respond to these alarming data, many related to the medicine curriculum, the strenuous dedication to study, the endless days of memorisation, the lack of social life, and even the neglect suffered by their tutors during clinical practices. As we have seen, problems such as anxiety, depression, or suicidal ideation triple the average of the population once the degree has begun. It is worth asking how the perspectives regarding their profession values and medical vocation will evolve throughout the course of their studies, since it is hard to believe that these data do not have an impact on them.

Justification and theoretical framework of the vocation and motivations (and its factors) to study Medicine, and its articulation with narrative medicine.

The primitive healers and shamans were the first doctors of humanity, who through herbs, rites, and suggestion fulfilled the function of healers of the community. Their role in the tribe was not limited to the fight against disease, but to accompanying and advising during the vital transition of the members of the

tribe, whom they guided during stages of epidemics or natural disasters (Gargantilla Madera 2019).

Medicine should not only be the application of natural remedies that produce a curative effect. What defines us and makes doctors one of the oldest professions is precisely that, from primitive healers and shamans, we are together with people to care for them, understanding and integrating the complexity of their physical, emotional, and spiritual needs. Before the nineteenth century, the scientific method did not exist as we know it today. The so-called natural philosophy took the place of science. Medical practice was based for millennia on the empiricism of Aristotelian medicine, which combined anatomical and pathophysiological knowledge with the common sense of professionals of each era. Knowledge was never certain but probable. Probability was based on the opinion and intuition of wise men and experts (doxa), generating postulates that are not always verifiable and/or reproducible (Gracia 2009). Most of the medical theories emerged from some philosophical-magical thought, seeing themselves modified on innumerable occasions, surpassing the failed cosmological theories, the humours, and an infinity of superstitions (Gargantilla Madera 2019).

The eighteenth and nineteenth centuries would mark a paradigm shift in the knowledge of medical science. Daniel Bernoulli and Pierre-Simón Laplace elaborated their theory of probabilities, which made it possible to calibrate the level of certainty by assigning it objective values and applying it to the study of natural phenomena. In 1747, James Lind carried out what could be considered the first clinical trial in history, evaluating the response of patients with scurvy through six different diets in six groups of sailors with similar clinical presentations (Gargantilla Madera 2019). For his part, the physician Pierre Louis used a numerical method for the first time to evaluate the efficacy of bloodletting in patients with pneumonia, erysipelas, and pharyngitis, without finding any difference with other therapies (Vega-de Céniga et al. 2009). For the first time, medical science arose from careful observation and measurement, and not from the prevailing deductive and intuitive method.

This is how modern medicine was born, which Claude Bernard called experimental medicine and separated from clinical medicine. As a rationalist, Bernard thought that scientific medicine achieved certainty through experimentation, and that the clinic was the "art" of applying said truths in the form of diagnosis and therapy (Gracia 2009).

From its shamanic beginnings, medicine has been essentially a narrative practice. The first doctors diagnosed by interpreting the appearance and history of the patient. Claude Bernard already advanced that the clinic was an art; that medical thought and practice are eminently narrative processes, rather than hypothetical deductive. Patients demand human quality and time to demonstrate it (Center for Sociological Research (CIS). Study no. 8.817. Barómetro sanitario 2017, s. f.). Literature can teach us to work effectively on this less scientific side.

Rita Charon, physician and professor at Columbia University, has defined the most widespread concept of narrative medicine today: The ability to recognise, absorb, interpret, critically understand, and be moved by a patient's story of illness (Charon 2004). The study and practice of medicine requires the use of language that goes beyond scientific terms, integrating subjectivity, affectivity, and

existential categories such as grief, fear, and senselessness, which characterise human suffering. In scientific literature, tools have been found in the humanities, and especially in narrative, to facilitate reflection regarding oneself, the relationship established between peers, patients and society, and balance in terms of mental health (Charon 2001).

Among its many applications, narrative medicine includes the premise that narration brings to light the processes that direct us without knowing it, since it requires prior reflection that allows us to identify them, so that we can capture them on paper. Writing makes visible and audible what would otherwise go unnoticed (Charon 2007). Through narrative, reflective physicians will be able to make sense of their life journeys and thus interpret their own emotional responses to patients, which will improve the clinical care provided through clinical interactions and therapeutic links of greater value (Pololi and Frankel 2005). Narrative competence requires textual, creative, and affective skills. If the medical staff is unable to perform these tasks, the patient may end up not telling the full story, not asking the most difficult questions, or not feeling heard at all. This competence is essential for training reflection and empathy (Charon 2004). Students who have been trained in narrative medicine increase their ability to assimilate and understand other people's experiences and perspectives, which is why they are able to reach therapeutic alliances more powerful (Charon 2007). In this spirit, the inclusion of narrative medicine in medical schools becomes an invaluable tool, taking advantage of the ease of integrating teachings that come from ourselves and not from the outside. Thus, teachers will be able to favour and mark a path that the students themselves will follow, and that will help them reach their own conclusions and the reduction of their professional frustration (Kidd and Connor 2008).

There have been numerous international experiences of applying narrative/ reflective practice in pre- and post-graduate medicine, showing improvements in the development of skills such as empathy, communication, and medical professionalism (Shapiro et al. 2005; Kidd and Connor 2008; Pololi and Frankel 2005). However, in Spain, very few experiences of training in reflective practice in medicine have been carried out, both with graduate and undergraduate medical students. These are usually more oriented towards reflection on clinical cases of real patients, films, or literary texts from outside (Baños 2003; Cantabrana et al. 2016).

To the best of our knowledge, the literature contains no publications on the use of reflective writing in relation to the longitudinal evolution and development of professionalism, medical vocation, and the values that drive them during undergraduate studies for the same group of students.

In this study, we seek to explore whether there exists a humanistic transformation in their medical vocation through university and which factors might be influencing it, by encouraging students to examine through narratives their medical vocation, the reasons that led them to study Medicine, and analysing their evolution from the beginning to the end of their medical degree

Objectives

– To identify and analyse indicators of the motivations of medical students at the Universidad Autónoma de Madrid (UAM) Faculty of Medicine as to why they choose to study a Degree in Medicine.
– To analyse the evolution of these indicators at the end of the degree.
– To study the concurrency of other variables of interest: satisfaction versus frustration with their decision, vocational crises, and personal sacrifice.
– To analyse most frequently used words in the narratives of medical students, making a comparison at the beginning and the end of their medical degrees.

Materials and methods

Materials

The materials used for this study are the texts written by the same medicine students along the degree. In the first year of their medical degree, as part of the subject Introduction to Clinical Practice (IPC), medicine students are asked to write a narrative about "Being a doctor: Self-reflection on medical vocation", with three guiding questions: "What does being a doctor mean to you?" "Why do you want to be a doctor?" and "What do you expect from the profession?" In the sixth year, as part of the subject Clinical Rotation in family medicine, they are asked to reflect and write again on "Being a doctor", considering the text they wrote in the first year on the same topic and assessing their evolution throughout their medical studies. None of the texts are graded, but they must be submitted as a prerequisite to pass the respective subjects.

Study population

The study population was made up by the students enrolled in IPC subject for the courses 2012/13 and 2013/14 who have their corresponding narrative matches from the family medicine rotation of the sixth year for 2017/18 and 2018/19. For the years 2012/13–2017/18, the sample for study was 163 students and for the years 2013/14–2018/19 the sample for study was 175 students (total sample = 338 students).

Methods: The methodology of this study is original and includes two big steps: First, classifying and matching texts to obtain the total sample of cases to analyse and second, to analyse those cases.

Classifying and matching texts and obtaining the total sample of cases to analyse

Firstly, the narratives were downloaded from the University's electronic platform (Moodle©), and then matched by the name of each student between the respective

academic years. From October 2018 onwards, teachers belonging to the IPC subject carried out the initial task of pairing the narratives from the same students in the first and sixth years of their degree. These cases were read by the research team in February 2018, and a rigorous review of publications on motivations for studying medicine was conducted to identify the theme-codes.

Within this study, the narratives from the first-year subject IPC for the courses 2012/13 and 2013/14 have been used, as well as their corresponding matches from the family medicine rotation of the sixth year for 2017/18 and 2018/19. For the years 2012/13–2017/18, there were 163 students classified with their pairs of narratives ($N = 163$ students and 326 narratives), and for the years 2013/14–2018/19, there were 175 students classified with their pairs of narratives ($N = 175$ students and 350 narratives). The total number of narratives was 676.

Analysis of narratives

To analyse the narratives, we used a software programme (ATLAS.ti; 8 version) which allows for processing big amount of texts and find relationships among them. The narratives were imported into the software programme ATLAS.ti version 8, assigning them to four different hermeneutical units (as are called the groups of texts in ATLAS.ti); one for each academic year.

With these narratives, two analyses were performed. The first one, on the main motivations that lead students to get into the medical profession and the factors that modify these motivations throughout the degree. This analysis must be carried out qualitatively, since it requires interpretation through the reading of the texts to code the motivations and the different factors. The second analysis was performed on the evolution of the students' written language throughout the career. It means the transformation of the terms they use to explain the same or similar concepts at the beginning and at the end of the grade. This analysis can be carried out quantitatively, by counting the words most used in their narratives and comparing them at the beginning and end of the grade.

Qualitative thematic analysis

Of the 163 students (or pairs of narratives) from the years 2012/13 and 2017/18, a sample was chosen by means of convenience, consisting of the first 100 pairs of documents in alphabetical order according to the last names of the students in the year, assuming a total of 200 narratives. In them, citations were selected, to which different codes were assigned. These codes were created according to the findings obtained from the reading following the qualitative analysis model of grounded theory (Murillo 2003) and were agreed by the researchers of the team. These codes could be find in the Figs. 1, 2 and 3 for each aspect consider by the researchers. For example: for the aspect "Motivations for studying medicine" (Fig. 1), all the texts were classified by the researcher in one of the following codes depending on their content: "be of service. Help", respect and admiration, human contact, earn lots of money (to be rich), financial security, various career
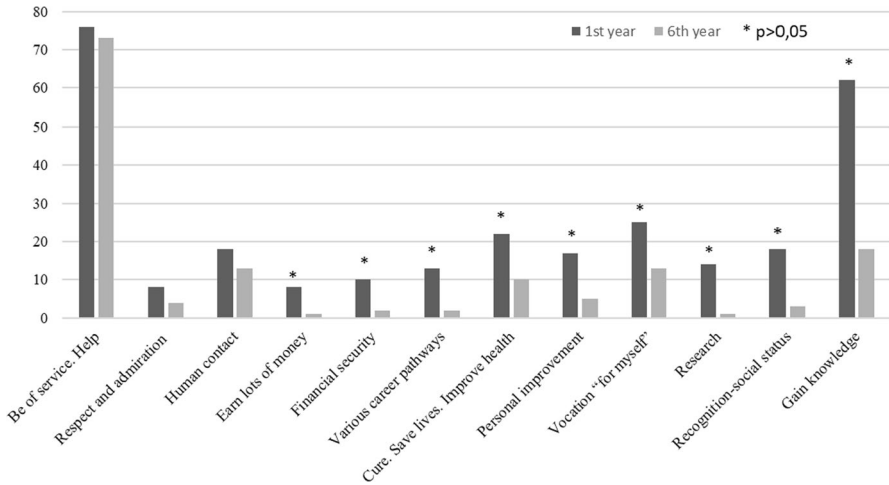
Fig. 1 Motivations for studying medicine codified in 200 narratives of first- and sixth-year students (McNemar)
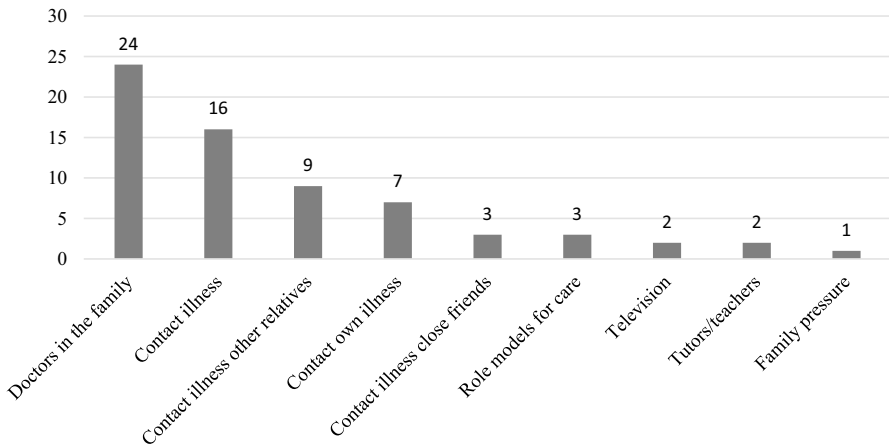

Fig. 2 Factors influencing the decision to study medicine obtained in 200 narratives of first- and sixth-year students (McNemar). Since they pertain to 100 students, absolute frequencies can be understood as percentages. The column showing contact with illness results from the combination of contact with illness among other family members, contact with their own illness, and contact with the illness of close friends

pathways, "cure. Save lives. Improve Health", "personal improvement", Vocation "for myself", research, recognition-social status and gain knowledge. All the codes identified in each narrative were incorporated. The absolute frequencies of each of the codes described were exported to the Microsoft Excel 365 programme, and the following analyses were performed:
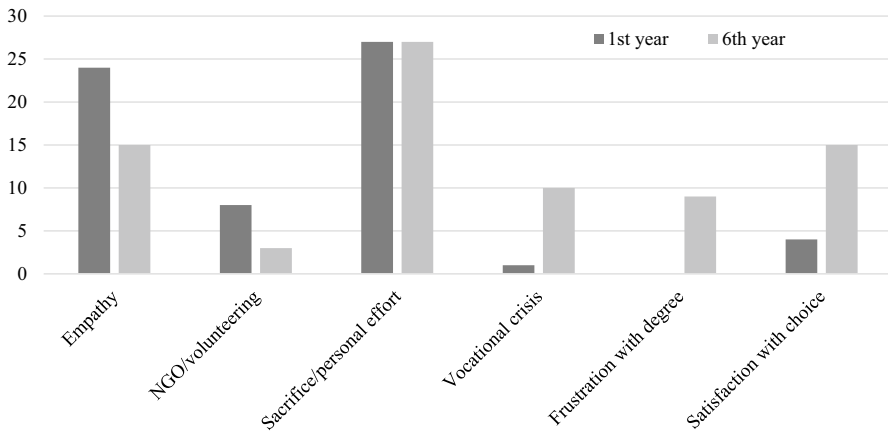
Fig. 3 Interest codified in 200 narratives of first- and sixth-year students (McNemar).

1. The differences between the frequencies of the codes with respect to the academic year were analysed by means of the statistical test for the comparison of paired qualitative variables (McNemar).
2. Differences between the frequencies of codes for motivations to study medicine over the academic years were analysed, depending on whether students have had close contact with illness and whether students have relatives who are health professionals. This analysis was performed by means of the statistical test for the comparison of independent qualitative variables (Chi square).

Quantitative analysis: absolute frequency of words

Using the "List of words" command offered by ATLAS.ti, the list of words used in the 676 narratives was obtained, along with their absolute frequencies. These lists were analysed using Microsoft Excel 365 and SPSS V26 programmes.

The lists of words for the IPC subject in both academic years, 2012/13 and 2013/14, as well as those for the Family Medicine Rotation in 2017/18 and 2018/19, respectively, were joined together. The following words were excluded:

– Elimination of words whose total absolute frequency is less than ten.
– Elimination of words that are less than or equal to three letters in length.
– Elimination of words with no phenomenological utility (articles, prepositions, auxiliary verbs, etc.).
– Grouping of words corresponding to the same lexical family.

Finally, the Kolmogorov–Smirnov test was performed, which found that all the words followed a non-normal distribution. A comparison of the words between the first and sixth academic year was therefore carried out, by means of the statistical test for related non-parametric quantitative variables (Wilcoxon sign-ranked test).

Ethical aspects

Consent was requested from students to use teaching material for research purposes, ensuring anonymisation of the data in the event of their scientific publication.

This study was approved by the Research Ethics Committee of the Universidad Autónoma de Madrid on 5th June 2020.

Results

Qualitative thematic analysis

After reading and coding the 200 paired narratives, the motivations for studying medicine shown in Fig. 1 were obtained. First-year students referred to the following motivations for studying medicine: "Earning a lot of money", "Financial security", "Varied career pathways", "Curing. Saving lives. Improving health", "Personal improvement", "Research", "Social recognition" and "Gaining knowledge" to a greater extent than students in the sixth year of their studies, in a statistically significant manner. The motivations "Being of service, helping", "Respect and admiration for the profession", "Human treatment/contact" and "Vocation 'for myself'" yielded no statistically significant differences. No motivation was referred to in greater proportion by sixth-year students than first-year students.

The factors that influenced the decision to study medicine are shown in Fig. 2.

In Fig. 3, we can see the frequency with which concepts related to empathy, interest in volunteering/NGO projects, self-sacrifice/effort, vocational crises, frustration, and satisfaction with their studies were mentioned, comparing the first and sixth years. Higher frequencies were obtained among sixth-year comparatively with first-year students for the last three concepts, with statistically significant differences.

Table 1 shows the result of the analysis of differences in motivations for studying medicine based on whether students referred to having relatives who are doctors as influencing factors or having had previous contact with illness. Statistically significant differences are highlighted.

"I know it is a tough challenge, but several students want to return to what we consider the roots of medicine (…), the doctor-patient relationship", "I want to take to the hospital what sets family medicine apart from the rest: the importance of the patient" ,"Three years go by and in the fourth we discover the core of medicine: people.", "In front of me is what I have sacrificed so much for in the last five years: the patient"… these are some of the phrases found in the narratives of students in the 6th year of their degree in medicine. When we look at motivations to study medicine (Fig. 1), only four of them remain relatively stable throughout the degree: help, admiration for the profession, human treatment, and vocation; the first of these remains almost identical from the first to the last year.

In the final year of the degree, the number of students who report feeling satisfied with their choice increases substantially. However, up to 10% of spontaneous references appear in the last year in relation to greater frustration with the degree, as well

Table 1 Impact of influencing factors on motivations for studying medicine (Chi square)

Motivations	1st year				6th year			
	E (%) n=14	No E (%) n=86	F (%) n=24	No F (%) n=76	E (%) n=16	No E (%) n=84	F (%) n=24	No F (%) n=24
Be of service. Help	92.9	73.3	70.8	77.6	87.5	72.6	75.0	75.0
Gain knowledge	35.7	66.3	50.0	65.8	6.3	20.2	16.7	18.4
Cure. Save lives	7.1	24.4	33.3	18.4	12.5	9.5	16.7	7.9
Earn lots of money	0.0	9.3	25.0	2.6	0.0	1.2	4.2	0.0
Research	14.3	14.0	20.8	11.8	0.0	1.2	4.2	0.0
Recognition-social status	35.7	15.1	12.5	19.7	6.3	2.4	0.0	3.9
Admiration for the profession	7.1	8.1	4.2	9.2	0.0	4.8	0.0	5.3
Financial security	7.1	10.5	12.5	9.2	0.0	2.4	8.3	2.6
Personal improvement	7.1	18.6	20.8	15.8	6.3	6.0	16.7	3.9
Human contact	14.3	18.6	12.5	19.7	6.3	14.3	0.0	11.8
Various career pathways	7.1	14.0	16.7	11.8	12.5	1.2	20.8	2.6
Vocation "for myself"	35.7	23.3	25.0	25.0	6.3	11.9	4.2	9.2

"E" includes all types of contact with illness prior to the decision to study medicine, "No E" includes cases complementary to "E", "F" includes students with relatives who are doctors, "No F" includes students complementary to "F"

as vocational crises over the course of the degree, possibly because of continued sacrifice and personal effort during the course, recounted by more than 25% of the students asked (Fig. 3). Some of their narratives express this as follows: *"My experience studying to be a doctor teaches me that it has never been helpful to understand the patient or try to make them feel ok. The only thing that has been valued has been my grades" ,"I can't thank the university for nurturing my spirit because it hasn't" ,"Five hundred words are not enough to express all the existential frustration" "Medicine is a long, difficult course, (…) which makes you laugh, but above all it makes you cry".*

Quantitative word analysis

After getting the list of words used in the narratives and filters above, the results shown in Fig. 4 were obtained, which sets out the absolute frequencies of the most commonly used nouns in the 676 narratives, sorted according to the difference of their use between the two academic years. Higher use among first-year students was statistically significant for the words: person/people, health, satisfaction; effort, ill, money, vocation, wellbeing, prestige, rewarding, and altruism. Higher use among sixth-year students was statistically significant for the words: affection, stress, patience, biopsychosocial, primary, empathy, hospital, treatment, pathology(s), and patient(s). The use of the words doubt(s) and sacrifice showed no statistically significant differences.

The results of the most used verbs are shown in Fig. 5, ordered equally according to the difference in their use between the two academic years. Higher use among first-year students was statistically significant for the following verbs: help, study, save, cure, learn, contribute, and enjoy. Higher use among sixth-year students was statistically significant for the following verbs: support, listen, and accompany.
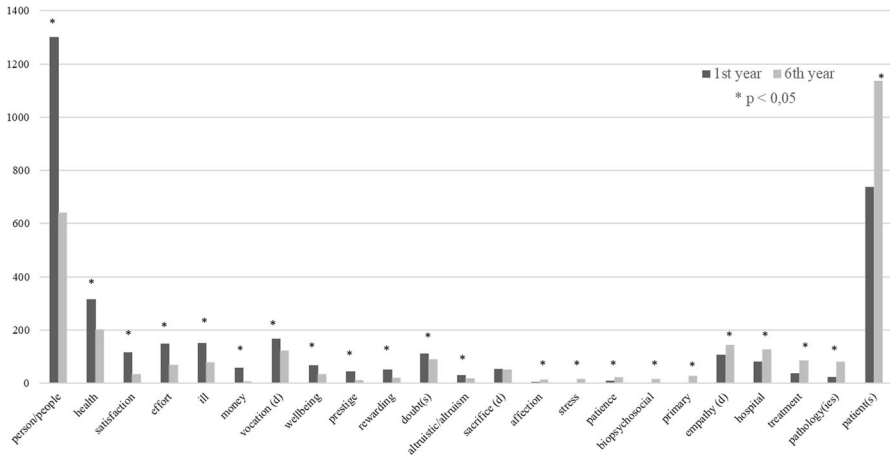
Figure 4 Absolute frequencies of nouns used in the 676 narratives. Comparison between first and sixth academic years (Wilcoxon). Abbreviations: (s) includes the word and its plural; d. includes the lexical family of the word; * indicates a statistical significance of $p < 0.05$ between the two academic years
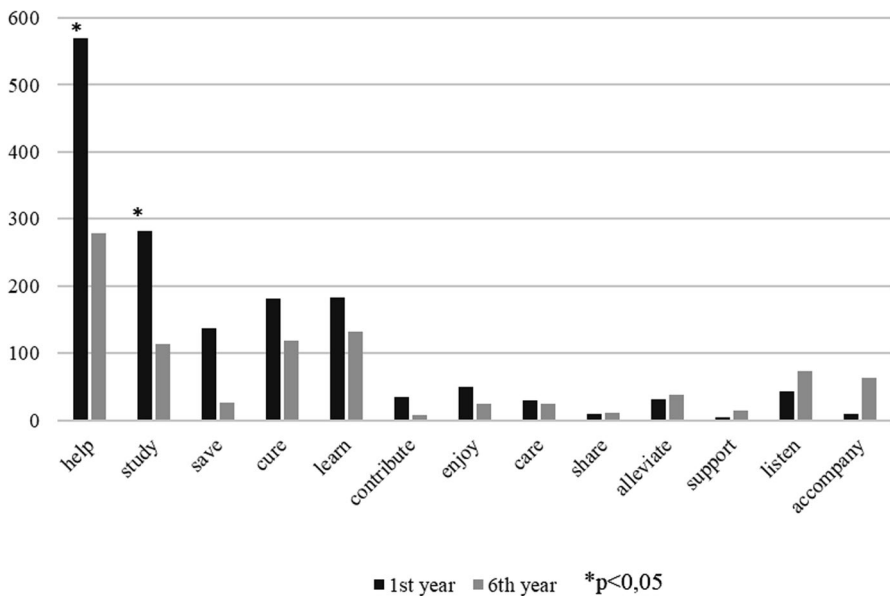

Fig. 5 Absolute frequencies of verbs used in the 676 narratives. Comparison between first and sixth academic years (Wilcoxon)

The use of the verbs care, share, and alleviate showed no statistically significant differences.

As we see in the qualitative analysis, regarding the motivations to study medicine, the greatest fall occurs in the motivation to acquire knowledge, which is consistent with the less frequent use of the verbs study and learn from (Fig. 5).

Discussion

The results of this study shown that, throughout the degree, the most humanistic motivations to study medicine are maintained, while the other profiles lose strength, both in relation to the level of scientific knowledge (acquiring knowledge, research) and those related to personal benefits (earning money, financial security, social status, personal improvement). These results are consistent with those found in other studies (Millan et al. 2005; Soria et al. 2006).

For the most part, two factors significantly marked or influenced the decision to choose the medical profession: contact with illness; and knowledge of illness from relatives who are health-care providers. Television, high school teachers, and family pressure seem to be unimportant factors among all the students (Fig. 2). It therefore seems clear that previous personal experience with the world of medicine plays a significant role. This leads us to think about the importance of bringing the professional world closer to high school education, which would probably foster not only more educated decisions, but students who are more satisfied with their choices. We see how, for first-year students who have had contact with illness, acquiring knowledge is not such a weighty motivation, and that their motivations are distributed mainly between a greater intention to help and social recognition that probably comes from what they themselves feel. Among students with relatives who are doctors, there are no major differences in motivations to study medicine, apart from a greater inclination to take money into account in the decision (Table 1). However, these two differences become blurred when they are in the last year of their studies, which is compatible with what was said in the previous paragraph regarding the endurance of humanistic motivations that seems to occur during the degree.

This same conclusion can be seen in the analysis of words most used in the narratives. Practically all of them revolve around the words "person" and "patient", although there is a reversal in terms of their predominant use; "person" is the most widely used term among first-year students, whereas "patient" is the most frequently used term among sixth-year students (Fig. 4). Despite the greater professionalisation of the terms used (pathology, treatment, hospital, biopsychosocial, patient), concern for the human sphere of medicine remains, with an increasingly count of words like empathy, patience, or affection, versus money, prestige, satisfaction, or rewarding. However, words such as doubt and sacrifice remain stable throughout the degree course, which is consistent with the sacrifice/effort codes (Fig. 3), which remain identical between the two years of the degree course.

The use of verbs confirms this suspicion (Fig. 5), since in the first year, when a more simplistic notion of medicine is held, the verbs help, save, and cure are the most common. This view becomes more nuanced over the course of their studies, giving way to verbs with greater semantic load and similarity with the real complexity of practising medicine, such as support, listen, and accompany.

Furthermore, in the final year of the degree in our University, the number of students who report feeling satisfied with their choice increases substantially. However, up to 10% of spontaneous references appear in the last year in relation to greater frustration with the degree, as well as vocational crises over the course of the degree, possibly as a result of continued sacrifice and personal effort during the course, recounted by more than 25% of the students asked. It is important to note that these percentages are probably much lower than the real ones, given that the instructions offered to the students for the development of the narratives did not include any of these issues as guidelines. These results are consistent with those found in other studies (Bert et al. 2020; Capdevilla et al. 2020).

In view of the research findings presented here, we believe that the use of narrative medicine during the degree course is useful in exploring the most human spheres of the profession, something that cannot easily be achieved in theoretical classes (Baños 2003; DasGupta 2004).

Their impact should be recorded and reflected through specific surveys, which show that students consider the proposal to use literature as part of the medical training curriculum to be satisfactory (Cantabrana et al 2016). Carrying out quality assurance in health education will allow us to stay ahead of the challenges of medical practice in a world of rapidly changing needs and realities, and to implement measures to improve the mental health of future professionals during their studies.

This study presents the following strengths and limitations:

Limitations

The format of the narratives provided in the second academic year contained three guiding questions, while in the sixth academic year, there was only one, "Being a Doctor", as explained in detail in the section on materials and methods. The different format might have yielded differences between the two, although they share the same axis of medical vocation and information analysed.

The use of grounded theory when analysing the material includes an inevitable subjective component that is, on the other hand, characteristic of qualitative research, which has a predictive validity comparable to quantitative research (Susser et al. 2008).

The fact that the narratives are not anonymous to the teachers who read them within the subjects and fall within the evaluation of degree subjects might have influenced the honesty of the reasons given by the students.

Strengths

The original methodology of this study is one of its strengths.

The qualitative results found through the analysis of grounded theory coincide with those obtained quantitatively through the analysis of word frequencies.

The high number of narratives included in the analyses adds robustness to the results obtained.

The conclusions obtained are longitudinal throughout the degree, since the narratives belong to the same students in the first and sixth years of the course, avoiding biases that would occur if the narratives belonged to different samples. As far as we have found in the literature review, this is the first study of its kind.

Conclusions

In this study, the Medicine students maintain and evolve their humanistic, patient-centred vision throughout their degree studies, despite the difficulties they appear to encounter during their training. Helping others and society is the greatest motivation for studying medicine throughout the degree course, while knowledge acquisition suffers the greatest decline as a motivation between the first and sixth years. However, from the total sample of 338 students, up to 10% of students spontaneously reference to have experienced vocational crises and suffered frustration throughout the degree, with up to 25% of the references pertaining to having made significant sacrifices during the course in Universidad Autonoma de Madrid.

The main factors that influence their choice of medicine are both the presence of doctors in the family and having previously had contact with illness and disease. The presence of such influencing factors seems to change some of the reasons that drive them to study medicine.

Efforts must be made to include more humanistic perspectives in medicine, such as narrative and reflective medicine, which improve both the educational experience created in universities and the health care that is ultimately given to patients.

Data availability The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Conflict of interest The authors have no relevant financial or non-financial interests to disclose.

Ethical statement Consent was requested from students to use teaching material for research purposes, ensuring anonymisation of data in the event of scientific publication. The manuscript data will be made available on reasonable request.

Informed consent This study was approved by the Research Ethics Committee of the Universidad Autónoma de Madrid on 5th June 2020.

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Authors and Affiliations

Víctor Afán de Rivera Atienza[1] · **Alicia Gutiérrez-Misis[1,2,3]** ·
Augusto César Blanco Alfonso[1] · **José María Vizcaíno Sánchez Rodrigo[1]** ·
José María Arribas[1] · **Natividad Puche López[1]** · **María Victoria Castell-Alcalá[1]** ·
María Teresa Blanco Ramos[1] · **Jacinta Landa Goñi[1]** · **María Dolores Cano Pérez[1]** ·
María Fátima Prado Gutiérrez[1] · **Rosa María García Panadés[1]** ·
Esteban Gonzalez-Lopez[1] · **Teresa Gijón-Conde[1]**

✉ Alicia Gutiérrez-Misis
 alicia.gutierrezm@uam.es

[1] Department of Medicine, School of Medicine, Universidad Autónoma de Madrid, Madrid, Spain

[2] Simulation and Clinical Skills Laboratory, School of Medicine, Universidad Autónoma de Madrid, Madrid, Spain

[3] Simulation and Clinical Skills Laboratory, Family Medicine and Primary Care Division, Department of Medicine, School of Medicine, Universidad Autónoma de Madrid, C/ Arzobispo Morcillo, 4, 28049 Madrid, Spain