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In love with medical humanities! A survey on medical students' opinions and satisfaction with an integrated elective course

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Abstract

Introduction Internationally, the teaching of medical humanities (MH) in medical schools is often limited to elective courses. It is therefore important to understand students' views in order to increase their participation in these courses. Three elective courses in medical humanities have been activated at the University of L'Aquila, which constitute a single educational pathway for medical students: a course in Visual thinking strategies, a course in Narrative medicine and a course in Reflective practices. This study aims to investigate medical students' opinions and satisfaction with these three medical humanities courses.

Materials and methods We administered a questionnaire to all medical students who took a medical humanities course in the academic year 2023–2024 at the University of L'Aquila. The questionnaire aimed to assess students' opinions on the content and usefulness of the course and to gather suggestions for improving it. The data collected were analysed both quantitatively and qualitatively, by using various qualitative analysis techniques.

Results Thirty-eight students took an MH course during the selected academic year and were recruited for the survey. The survey revealed higher course participation among female students. The courses proved to be important opportunities for students to compare themselves with their colleagues. The students were very satisfied with the three courses (especially the VTS and RP courses), considering them useful for their personal, professional and social growth. They reported improving their observational, reasoning and communication skills (VTS course), developing an empathic attitude towards patients (VTS and NM courses), and learning to work in groups (RP course). They appreciated more workshops than theoretical lectures and suggested increasing the chances to practice what they learnt, also in real life.

Conclusions Although some aspects can still be improved, medical humanities courses have been very successful among medical students due to their educational and social value.

Keywords Medical humanities, Medical education, Visual thinking strategies, Narrative medicine, Reflective practices, Medical skills, Satisfaction, Qualitative research

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Introduction

Medical humanities (MH) represents a movement that has introduced the strategies, methods and techniques of humanistic disciplines into the field of medicine. MH has its roots in the theories of Edmund Pellegrino, which began to spread in America in the late 1960s [1]. Since then, MH has been enriched by the contributions of numerous theorists, spreading worldwide. By extension, the term 'Medical humanities' (MHs) is often used to refer to those hybrid disciplines that apply humanities to the medical field (i.e. Bioethics, History of medicine, etc.) [2].

The MH approach has been successfully applied in care processes to promote new declinations of the biopsychosocial paradigm. One of the objectives of MH is, in fact, to emphasise the importance of comprehensive patient care. In many countries, humanities have been incorporated into health education programmes to train healthcare professionals in more patient-oriented care practices [3–6]. Indeed, MHs have been shown to promote in healthcare students and workers the development of important skills such as empathy, communication skills, observation and reasoning abilities [7–9]. Furthermore, MHs have been shown to have positive effects on students' well-being, by improving self-awareness and reducing their stress levels [10, 11].

In Italy, MHs are included within the degree courses in medicine or other health professions, with some differences between one university and another. Disciplines such as Bioethics and History of medicine are usually delivered as curricular courses. In some universities, less common types of MHs are also available as elective courses (e.g. Art, Narrative or philosophical specialities other than Bioethics), whereas in other universities MH teaching strategies are adopted within curricular courses, as in the case of art applied to the teaching of Clinical Semiotics [12].

The University of L'Aquila offers three elective courses in MH, which form a single integrated course designed for students from the third to the sixth year of the medical degree course. The aim of this integrated course is to enable medical students to acquire a set of skills that are functional to clinical practice and personal growth, and to foster the development of greater awareness in personal and professional choices. These differences are mainly due to the educational choices of the various universities, which choose to favour one type of training over another. It must be noted that Italian universities have little decisional autonomy regarding medical course programmes, since it is the Ministry that defines the core curriculum at national level.

The integrated course in medical humanities

The Integrated Course in Medical Humanities was first activated in its full version in the academic year 2022–2023. It comprises three modules: a course on Visual Thinking Strategies (VTS), a course on Narrative Medicine (NM) and a course on Reflective Practices (RP). All courses include a theoretical part and a practical part, which vary depending on the type of course.

The VTS course utilises the Visual Thinking Strategies method, developed by Abigail Housen and Philip Yenawine, and first applied in Italy to medical education by Vincenza Ferrara [13, 14]. This method uses workshops on the observation and analysis of works of art, which are conducted on an individual or group basis, and other forms of interactive workshops, such as active listening and portrait practices. The active listening exercise stimulates the use of purposeful communication and interpreting ability; it requires the participant to reproduce an artwork that he/she cannot see, after listening to the description of the artwork made by another participant [15].

The NM course is based on the methodology of narrative medicine, as theorised by Rita Charon [16]. In addition to the classical approach by Dr. Charon, this course proposes the application of a modern method by Cristina Cenci and colleagues, the Illness Digital Storymap (IDS) [17]. During the course an application of the new method is simulated, by using the written stories of real patients. Testimonials from doctors and patients who have successfully used the method are also analysed. Film clips are shown to facilitate the assimilation of concepts.

The RP course is not based on a specific methodology, but uses several techniques drawn from the MH tradition, as well as other techniques borrowed from philosophical disciplines. In this course, students experience in each class different workshops on maieutics, mythobiography, close-looking and close-reading, etc.

Classes are held weekly and vary in length, depending on the type of course: the VTS and MN courses are spread over 7 weeks, whereas the RP course is spread over a month. The VTS and the NM courses are taught by two teachers, whereas the RP course is taught by six different teachers, three for the first lesson and one for each of the subsequent lessons. The courses do not include an evaluation of the Intended Learning Objectives (ILOs), as is the case for most elective courses. However, the Expected learning Outcomes are assessed through a research project that supports the ICoMH. The ILOs and ELOs are available as supplementary material, together with the outcome measures chosen to measure the ELOs. Other details on the three modules and the whole integrated course have been given in a previous article [18].

To our knowledge, this is a unique educational pathway, the first in Italy to be structured in parallel with

curricular training. To improve the integrated course and shape it to the students' needs, it is essential to understand their point of view. Since this integrated course is elective, we have already explored what motivates students to choose to take it [19]. It is also important to understand what students' opinions of these courses are. Therefore, the present study aims to investigate students' opinions and satisfaction with the course they took, and to gather their suggestions for improving it.

Materials and methods

This study represents the second phase of an ongoing research project on the Integrated Course in Medical Humanities (ICoMH) at the University of L'Aquila [18]. The research project was approved by the 'Internal Review Board' of the University of L'Aquila.

Study design and participants

The present study has a mixed-method design, as we collected and analysed both qualitative and quantitative data. Hence, the present report follows the Standards for Reporting Qualitative Research (SRQR) checklist, as the qualitative methodology is predominant [20].

All students who attended an MH course (VTS, MN or RP) in the academic year 2023–2024 were considered eligible for the study. After completion of their respective courses, these students were invited to participate in the study. All the students who agreed to participate in the study were administered a questionnaire. Prior to the start of the MH courses, all participants had already been informed of the objectives of the study and the research project of which this study represents the second phase. Students who agreed to participate in the study were asked to provide written consent. However, consent was not binding, and students could either refuse to answer the questionnaire or stop completing it at any time.

Questionnaire development and administration

Two authors with extensive experience in teaching MHs (V.F., A.F.) and an author with a medical and humanistic background (F.T.) – all engaged in research on MH – developed the questionnaire. V.F. originally developed the first version of the questionnaire; A.F. and F.T. independently revised the draft and proposed amendments. The proposed amendments were discussed and re-evaluated by the three researchers and any conflicts were resolved by consensus. The final version comprised 9 questions (3 closed-ended and 6 open-ended). The questionnaire aimed to investigate five domains: (1) expectations of MH courses (1 item), (2) opinions on course contents (2 items), (3) opinions on course utility (2 items), (4) satisfaction with the courses (3 items), and (5) suggestions for improving the courses (1 item). Closed-ended questions were scored on Likert scales, ranging from 1 to 5; open-ended questions had no word limits. A translated version of the questionnaire is available as supplementary material.

The questionnaire was administered at the end of the last class of each course by one trained investigator. To administer the questionnaire, we used an online platform (Google Forms). Given the small sample size, no personal data were collected, to ensure anonymity. We only considered the registry gender (i.e. sex), which was extracted from the list of course participants, without any connection to the individual questionnaires completed.

Data collection and analysis

Through the questionnaires, we collected both quantitative data (closed-ended questions) and qualitative data (open-ended questions). The numerical outputs from the Likert scales were analysed as categorical data and described as frequencies and percentages. Qualitative data from the open-ended questions underwent thematic and content analysis. Given the varied nature of the questions, a single qualitative methodology was not applied universally; instead, analytical approaches were tailored to the type of data. Likewise, we chose not to adopt a single paradigm for qualitative analysis, not to limit the perspectives and possibilities of analysis [21, 22].

For thematic analysis, we adopted an inductive approach, following the six-step framework outlined in the AMEE Guide No. 131 by Kiger and Varpio [23]. Two authors with backgrounds in medical sciences and humanities (F.T. and A.I.) independently read and familiarised themselves with the responses, identifying significant codes. The identified codes were subsequently grouped into broader themes through a joint discussion, with one author (F.T.) providing a narrative description for each defined theme. We preferred thematic analysis to other approaches, as our aim was to analyse the students' responses to understand their most relevant aspects. Thematic analysis is an intermediate level of analysis that explores the contents of a text in depth, with no need to transform them hermeneutically (as phenomenological analysis does) or develop theories (as grounded theory does) [23].

We also performed a content analysis to quantify the presence, meanings and relationships of the most significant words and concepts identified in the students' answers. To this end, we analysed the vocabulary used (lexical analysis) and the semantic networks hidden behind the students' answers. We performed a semantic network analysis to map interconnections among recurring themes in students' answers to a specific question ('What did you learn from the course?') [24]. For this purpose, we used a semantic network detection software and Gephi for network visualisation [25, 26]. Finally, we performed a lexical analysis of all the student responses

to uncover cross-cutting linguistic patterns across the dataset.

Content analysis was supplemented by a word-count analysis to assess student engagement with open-ended questions. We analysed 4 out of the 6 open-ended questions, because the other two (*Please, bring proposals and suggestions that can help us improve the course* and *Would you recommend this course to your colleagues?*) could be answered in a few words. The results of word-count analysis are described as medians and frequencies of class intervals.

We analysed the groups separately and, whenever possible, compared them qualitatively. We did not perform a statistical comparison, as the groups were heterogeneous (each course was taken by students enrolled in different years of the degree course in Medicine). All the quantitative analyses were performed with R software, version 4.3.3.

Results

Data were collected in December 2023 for the VTS course, which was held in the first semester, and in May 2024 for the NM and RP courses, which were held in the second semester.

Thirty-eight students attended MH courses in academic year 2023–2024 and were considered eligible for the present study: 18 students attended the VTS course, 14 the NM course and 6 the RP course. All agreed to participate in the study by completing the questionnaire. Almost 80% of the students ($n = 30$) were female. The gender composition varied from group to group, with the percentage of female students being approximately 89% in the VTS group, 72% in the NM group and 67% in the RP group.

Table 1. Word count distributions for open-ended questions

		Overall sample *n*(%)	VTS *n*(%)	NM *n*(%)	RP *n*(%)
Questions	Number of words	38 (100)	18 (47.37)	14 (36.8)	6 (15.8)
Q3_What did you learn from the course?	≤ 20	19 (50)	9 (50)	6 (42.9)	4 (66.7)
	21–40	13 (34.2)	5 (27.8)	7 (50)	1 (16.7)
	41–60	2 (5.3)	2 (11.1)	-	-
	61–80	1 (2.6)	1 (5.6)	-	-
	> 80	3 (7.9)	1 (5.6)	1 (7.1)	1 (16.7)
Q4_What did you find most interesting? And what least interesting?	≤ 20	16 (42.1)	9 (50)	5 (35.7)	2 (33.3)
	21–40	15 (39.5)	4 (22.2)	9 (64.3)	2 (33.3)
	41–60	5 (13.2)	4 (22.2)	-	1 (16.7)
	61–80	-	-	-	-
	> 80	2 (5.3)	1 (5.6)	-	1 (16.7)
Q5_What did you find most surprising?	≤ 20	22 (57.9)	11 (61.1)	6 (42.9)	5 (83.3)
	21–40	13 (34.2)	7 (38.9)	6 (42.9)	-
	41–60	2 (5.3)	-	2 (14.3)	-
	61–80	-	-	-	-
	> 80	1 (2.6)	-	-	1 (16.7)
Q6_Do you think that the course topics could be relevant to your training? If so, in what way?	≤ 20	18 (47.4)	6 (33.3)	10 (71.4)	2 (33.3)
	21–40	14 (36.8)	9 (50)	2 (14.3)	3 (50)
	41–60	4 (10.5)	2 (11.1)	2 (14.3)	-
	61–80	-	-	-	-
	> 80	2 (5.3)	1 (5.6)	-	1 (16.7)

Engagement with open-ended questions

The majority of the students (approximately 83% in the VTS group, 91% in the NM group, and 79% in the RP group) answered the open-ended questions using less than 40 words per question (Table 1). Overall, the number of words used varied between 3 and 207 for the VTS group, between 1 and 83 for the NM group, and between 8 and 205 for the RP group (Fig. 1a/b/c). Word-count analysis revealed consistent student engagement with the open-ended questions. The median length of the responses varied depending on the question type instead of the question order. On average, students used more words to answer the question *What did you find most interesting? And what was less interesting?* (median 23) and fewer words to answer the question *What did you find most surprising?* (median 18). Students in the RP group used on average fewer words (median = 16) than their colleagues did (median = 21 for both the NM and VTS groups).

Figure 1d shows the trend in the median number of words used for open-ended answers, by order of appearance in the questionnaire.

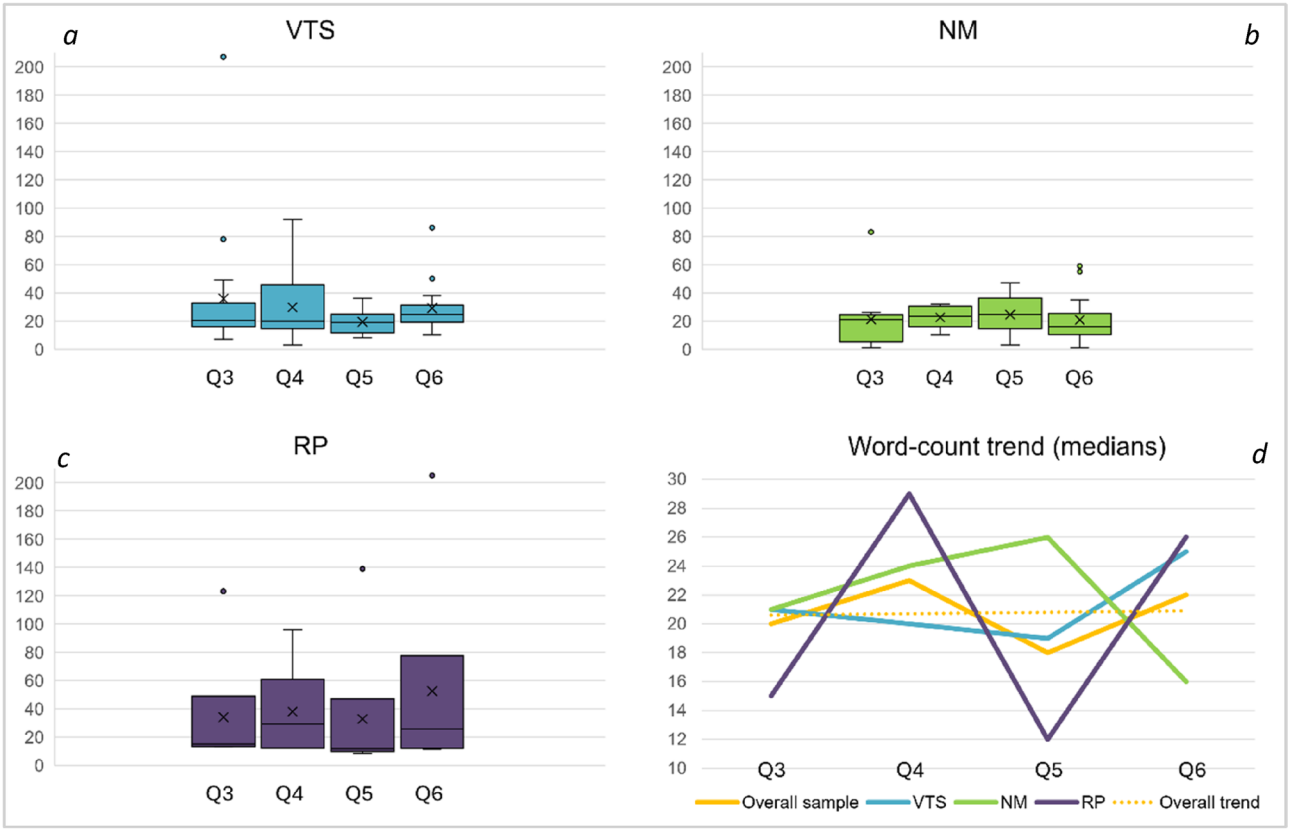
Students' expectations

When asked whether the course content had met their expectations, almost all the students responded positively, with 42% answering 'Yes' and 55% answering 'Absolutely yes'. Only one student in the NM group reported that the course content 'scarcely' met his/her expectations. Figure 2 summarises the variability of responses among the groups.

Students' opinions on the course contents

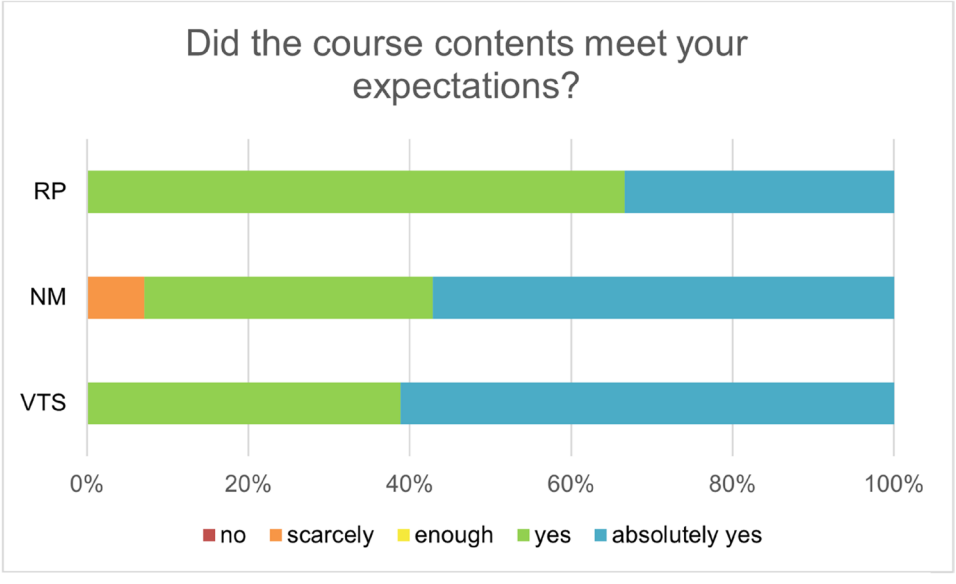
We asked the students which aspects of the course they found most interesting and which least interesting. Most students expressed a preference for only one aspect, whereas 9 students (24%) mentioned more than one aspect.

VTS group – For the VTS course, half of the students ($n = 9$) stated that they liked the workshop activities most; in particular, 3 students mentioned active listening and 2 students mentioned observing and analysing works of art as the most interesting activities. Almost half of the students ($n = 8$) in this group stated that they found the group works and discussions interesting because they



Q3: What did you learn from the course?; Q4: What did you find most interesting? And what least interesting?; Q5: What did you find most surprising?; Q6: Do you think that the course topics could be relevant to your training? If so, in what way?.

Fig. 1 Word count trends for open-ended questions



RP: Reflective practice course; NM: Narrative Medicine course; VTS: Visual Thinking Strategies course

Fig. 2 – Students' expectations versus course contents

were given the chance to dialogue with peers and share different points of view:

> *'The most interesting thing was the interpretation that everyone could give to a work of art. It helped me understand that other points of view can enrich my vision.'*
> *'I found it very interesting to see and be exposed to the different points of view shared in the classroom, during the course, by my peers.'*

Just under 40% of the student ($n = 7$) found the use of art and humanities in the medical field most interesting, particularly with respect to training of empathy and communication skills.

Over 60% of the students stated that they found the theoretical part less interesting, mainly because it was redundant (around 28%). Only one student expressed that he did not find anything uninteresting, while the other students did not comment on this.

We also asked the students to report what surprised them most. A large proportion stated that they found the interpretative dynamics surprising (over 44%) because of the plurality of viewpoints (17%), because of the evolution in interpretation processes and reasoning skills observed in the participants during the course (17%) or simply because they discovered an interpretative ability they did not think they had. Four students reported being surprised by their ability to observe and pay attention to details. The same number of students found the application of art and humanities to medicine surprising. Another four students were surprised by the effect the course had on them:

[What did you find most surprising?]

> *'My reaction: I realised many aspects of myself.'*
> *'The speed with which my view of art and my ability to interpret it have changed, but also the sense of liberation and the possibilities of expressing myself that workshop activities have given me.'*

NM group – In the NM group, the topics in which the students showed more interest were heterogeneous: 4 students (over 28%) showed interest in the Illness Digital Storymap (IDS) method and its practical application; the same percentage of students stated that they found the teaching strategies interesting, particularly watching videos and film clips to facilitate the assimilation of concepts. Five students expressed great interest in practical activities, particularly in interactive workshops and group work. Overall, 4 students reported appreciating the possibility to compare and collaborate with peers:

> *'Most interesting was the interaction with peers (in group work and discussions) and the integration of movie-clips for the amplification of concepts.'*
> *'It was interesting the way the activities were proposed to us, through group work and collaboration.'*

Approximately 43% of the students ($n = 6$) stated that they found the theoretical parts least interesting, one student explicitly stated that he found nothing uninteresting, while the other students did not comment on this.

Half of the students ($n = 7$) reported being surprised by the effectiveness of NM in the care pathway and by the application of NM through the IDS method. Two other students were surprised by the speed with which they learnt the method. One student reported being surprised by the professional attitudes shown by all the students during the course, whereas another student found it surprising the plurality of perspectives expressed. Finally, 3 students reported becoming aware of some relational dynamics between doctor and patient:

[What did you find most surprising?]

> *'Sometimes we believe we are doing the best possible thing, but we are not because we have not understood the patients' intentions and expectations.'*
> *'How many details, minutiae, and attentions are behind everything a doctor does and are perceived by the patient, completely conditioning his or her course of treatment.'*
> *'Realising that sometimes we think we have been very clear in our exposition when this is not always the case.'*

RP group – The third course consisted of 4 lessons with different topics and methodologies. In general, the students stated that they found the lesson on the relationship between literature and medicine (4 students) and the lesson on close-looking and close-reading activities (4 students) most interesting. Only one student reported finding it interesting the mix of literature, philosophy, art, and medicine that characterise this specific course.

One student stated that he found the second lesson (on reflective practices) still interesting, but less than the other lessons. One student stated that he found nothing uninteresting. The other four students did not comment on this.

Three students mentioned aspects related to the human component of the course as the most surprising, reporting that they were impressed by the teachers, the people they met during the lessons, or the enthusiasm shown by their colleagues. The other students mentioned different aspects:

[What did you find most surprising?]

'Discovering the importance of medical humanities and especially how little they are still applied in clinical practice.'
'How art and literary works can describe life so profoundly.'
'Patients' stories and their experience of illness.'
'Students' opinions on course utility.'

We asked the students to report what they learnt from the course they had taken. A great percentage of the students in the VTS group reported that they improved their ability to observe ($n = 8$) and pay attention to details (9 students); some students also reported learning to go beyond appearances ($n = 7$) to better interpret what is hidden behind ($n = 4$). Five students reported learning to empathise more with others. Other students mentioned attention to communication and word choice, and active listening as skills learnt during the course ($n = 5$).

The semantic network analysis revealed some co-occurring themes in VTS students' responses (Fig. 3).

In the NM group, some students reported learning to listen to patients ($n = 3$) and to consider their opinions and expectations ($n = 3$). Two students reported learning that empathy has great value and 'can be trained', and two others reported learning how to use it.

Other students ($n = 2$) reported learning the importance of personalizing care and patient stories. Finally, two students reported learning to work in groups:

'To give space in group work to the contribution of individuals, in a listening to the other that is often lacking in the context of a pathway that is unfortunately so individualistic as that of the medical student today.'

Also for the NM group, the semantic network analysis revealed some relevant co-occurrences (Fig. 4).

Students in the RP group responded in very different ways. Some focused on the personal dimension (in relation to the importance of cultivating one's own interests):

'The importance of devoting time to reading and art for personal growth.'

Other students emphasised the relational dimension:

'I learnt that when dealing with people you should never take anything for granted.'
'I discovered the beauty of sharing one's insecurities with colleagues.'

Another student linked the personal dimension to the relational dimension:

'I learnt that dedicating oneself to someone or something does not necessarily mean annihilating oneself and that, on the contrary, cultivating personal interests is an incentive to give one's best at university now and at work in the future.'

For the RP group, semantic network analysis revealed no co-occurrences.

We also asked the students whether they found the course useful for their training, specifying how. All but one of the students considered the course useful. In

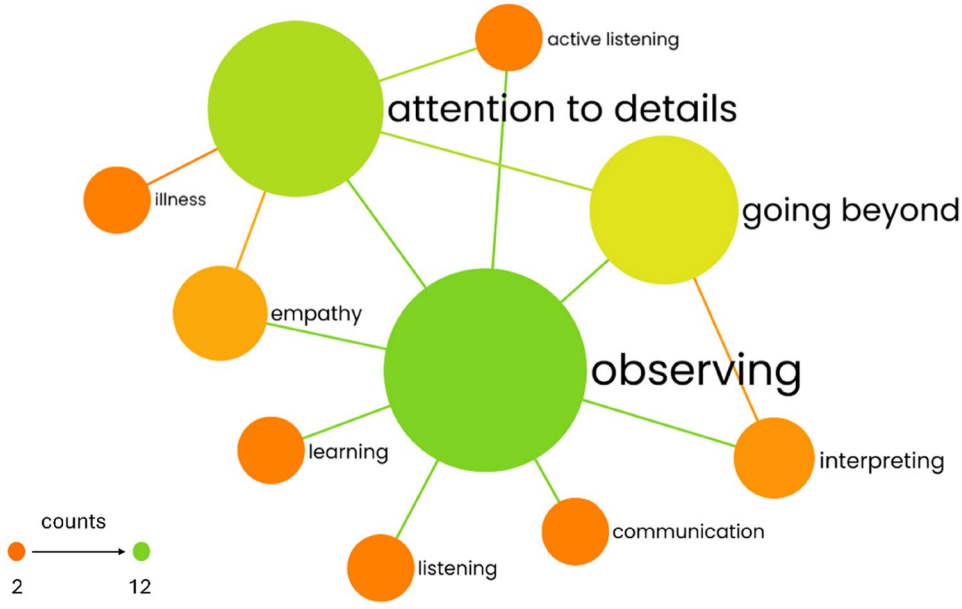


Fig. 3 What students learnt from the VTS course

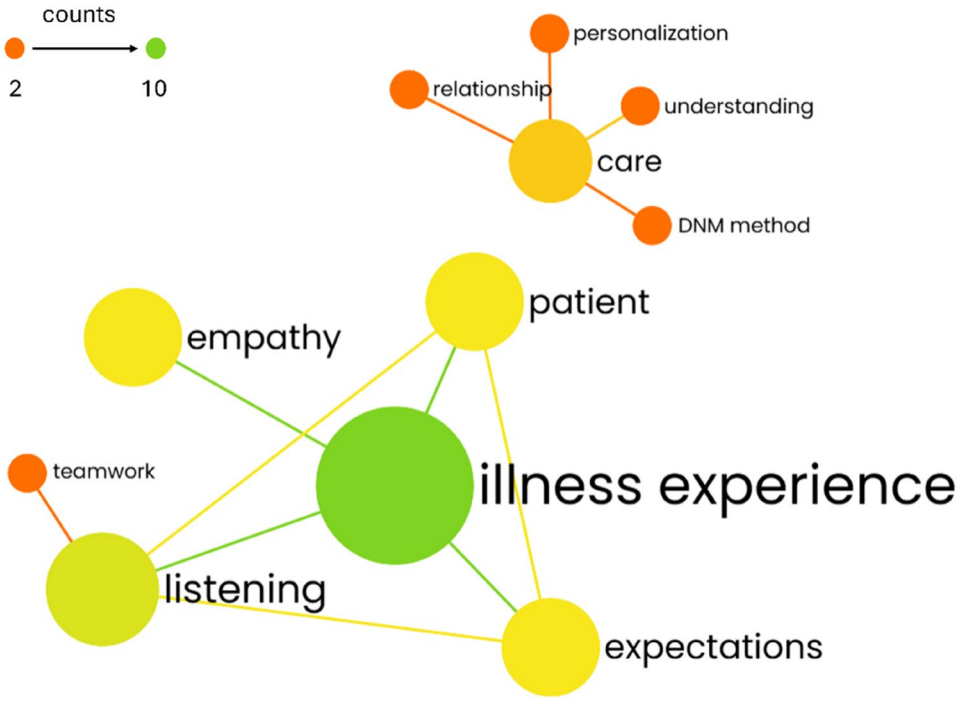


Fig. 4 What students learnt from the NM course

particular, 3 students from the VTS group and 1 from the NM group found the course *very useful*, whereas 4 students from the VTS group, 2 from the NM group, and 2 from the RP group found it *absolutely useful*. One student who took the NM course expressed otherwise, finding the topics of the course redundant with those of curricular courses.

More than half of the students (8 in the VTS group, 9 in the NM group, and 4 in the RP group) found the course they took useful for their professional training, particularly for interacting with patients (13 students overall). The others found the course useful also for the personal and relational growth. Figure 5 illustrates the areas for which the 3 courses were considered useful by the students.

Students' suggestions for improving the course

We asked the students to provide suggestions that could help us improve the MH courses. Overall, there were many suggestions about the organisational management of the courses (32 students) and some thematic suggestions (10 students).

For the VTS course, the organisational suggestions were mainly about increasing (7 students) or diversifying (3 students) practical activities, and about reducing the theoretical parts (6 students). Some students proposed variations in the way the active listening exercises were conducted (such as introducing these activities from the first lesson or conducting them in two or more groups). Only two students provided suggestions on the course content:

> *'Choosing works that are more particular and of ambiguous interpretation, such as surrealist works.'*
> *'Carrying out interpretation activities in places where art can be 'breathed', such as a museum or art institute.'*

Also for the NM course, some students suggested reducing the time devoted to theoretical lectures ($n=4$) and increasing the number of practical activities ($n=7$). Two students suggested testing directly on real patients the techniques learnt; one student suggested improving the organisation of schedules; another student suggested including the course among the curricular activities. One student made a specific topic proposal, suggesting that the management of paediatric cancer patients should be addressed.

For the RP course, the organisational proposals made by the students were mainly about increasing practical activities: in fact, 5 students proposed increasing the number of workshop activities, and one student suggested continuing to carry out those activities with some frequency, even after the end of the course, to reinforce the practices learnt. As for thematic proposals, two students suggested introducing simulated clinical practice scenes into the course so that they could be analysed together with colleagues, whereas 1 student proposed giving more space to art within the course. One student

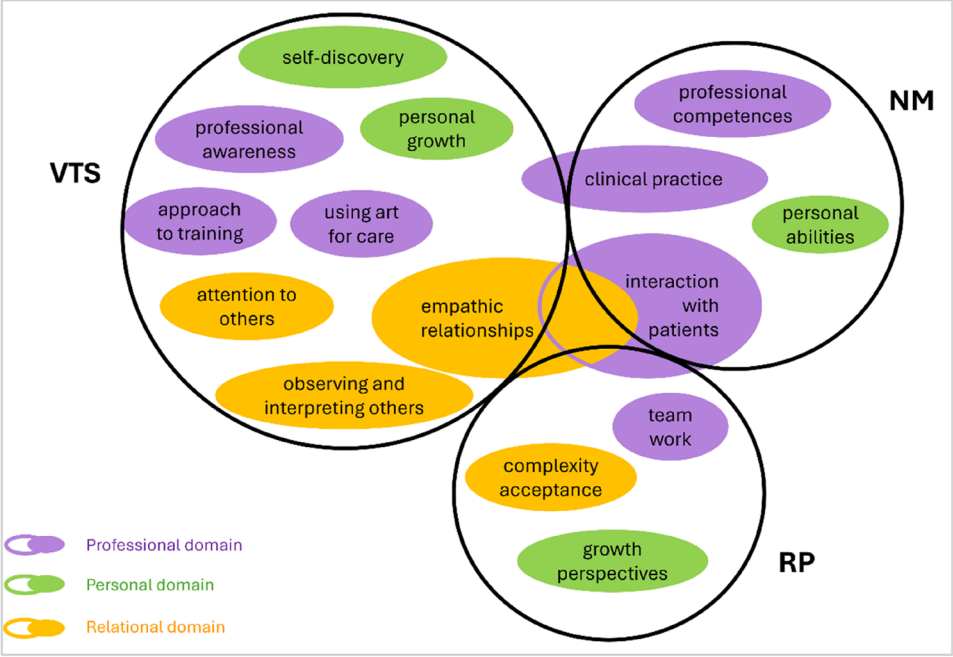


Fig. 5 Domains for which students considered the MH courses useful

also proposed including workshop activities guided by a mental health professional. Interestingly, 2 students mentioned the importance of discussion:

> *'... to have more and more moments of discussion, which I find extremely enriching.'*
> *'I find that the intermittent reinforcement of learned practices and concepts can be very constructive, as well as a valuable opportunity to exchange views with colleagues and other professionals with whom, otherwise, there would hardly be any way to discuss in such a purposeful and edifying way.'*

Students' satisfaction and course rating

Teachers' clarity We asked the students to rate the expository clarity of the teachers who delivered the lectures in the three courses, giving a grade between 1 = *poor* and 5 = *excellent*. Interestingly, all the students rated the RP teachers' clarity as *excellent* ('5'), whereas for the other two courses the teachers' clarity rating ranged between *fair* ('3' - only one student in each group) and *excellent* (78% in the VTS group and over 78% in the NM group).

Overall quality rating We asked the students to rate the overall quality of the course taken by assigning a score from 1 to 5. As Fig. 6 shows, almost all the students rated the quality of the course very positively, with a score of 5 or 4.

Finally, we asked the students whether they would recommend the course they took to their peers: all of them answered *'yes'*, and one student pointed out that he had already done so.

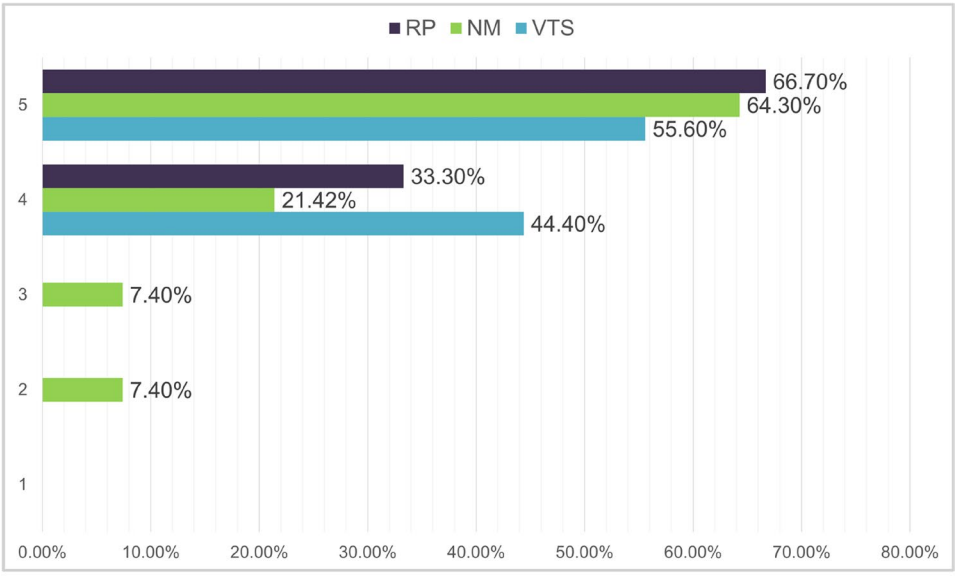
Cross-cutting linguistic patterns

We performed a lexical analysis to identify linguistic patterns and narrative frameworks behind participants' word choices. We counted the recurring words in the answers given by all the students to all the open-ended questions. Net of accessory words, the analysis identified 212 recurring (≥ 2 occurrences) morphemes. As Fig. 7 shows, the most recurring words were: patient (55); other (23); doctor, practice (21); art (19); learnt, person (18); better, details, empathy (16); activity, perspective (15); being, topics (14); attention, listening, pathway, skill, time, understanding, workshops (13); and illness, medicine, observing, relationship, stories (11).

Discussion

Considering students' perspectives when designing academic elective courses can foster student participation in these courses. It can also improve student compliance and course effectiveness [27]. Hence, the present study aimed to investigate medical students' opinions and perspectives on three MH elective courses offered at the University of L'Aquila, Italy.

We performed a quantitative analysis of numerical data and a qualitative analysis of open-ended questions. As reported in the 'Materials and methods' section, we did



RP: Reflective practice course; NM: Narrative Medicine course; VTS: Visual Thinking Strategies course

Fig. 6 Overall quality rating

not choose a single paradigm or methodology for qualitative analysis. Our decision stems from a deep conviction that the arbitrary choice of a single paradigm can be limiting, since no single paradigm can account for the complexity of qualitative data, which are an expression of participants' subjectivity. Rather, paradigms are an expression of the mental constructs of the researchers who adopt those paradigms and of the scientific system within which the researchers operate [28]. Moreover, we believe that any analysis must keep in mind the deconstructionist teaching that predefined paradigms reduce the possibilities of meaning, since no strategy for approaching the text can be given once and for all, but must be renegotiated with the text itself, every single time [29].

Gender composition of groups

We preferred a qualitative comparison to a quantitative comparison because of the heterogeneity of the groups. The students who attended the different MH courses were in fact enrolled in different years of the medical degree course. The groups also differed in their composition by registry gender, although they all presented a predominance of the female gender. The percentage of female students taking an MH course (79%) was, in fact, greater than the prevalence of female gender among medical students at our university (61%). This can be explained by the fact that, by tradition, women show a preference for humanistic subjects, whereas men tend to prefer scientific subjects. This tendency is confirmed by the latest report on students graduating in Italy in 2023 [30]. Despite the social changes and the efforts made across the years to overcome gender differences, gender stereotypes still guide students' choices, limiting their possibilities for exploration and education [31]. This aspect should be considered when promoting elective courses whose choice may be influenced by gender characteristics.

Engagement with open-ended questions

Turning to the analysis of the results, we first assessed students' engagement with open-ended questions as an indicator of the reliability of their answers. In fact, during the filling in of questionnaires, the attention of respondents can decrease, and respondents may answer the last questions in a superficial manner [32, 33]. To assess students' engagement, we counted the words they used to answer the open-ended questions. The word-count analysis did not show a constant downward trend in the answers but only fluctuations related to the specific question (median range for the overall group = [18;23]). Hence, we can assume that there was no reduction in the effort put into answering the last questions. The word-count analysis also revealed differences related to the type of course, with students in the RP group using on average fewer words than their peers did.

Students' expectations and learning outcomes

We asked the students whether the course taken (VTS, NM or RP) had met their expectations. All the students but one answered this question positively. This may indicate that the modes and contents of the course did match the students' preferences and training needs. A study we conducted during the last academic year revealed that medical students choose to take an MH course mainly because they are interested in humanistic subjects, but

Fig. 7 Word occurrences

also to improve their personal and professional skills [19]. This is consistent with what the participants in this study reported having learnt from the MH course they took. As Fig. 3 shows, the students who attended the VTS course reported improving their observation skills, acquiring a greater ability to pay attention to details and to decipher them (*interpreting*, *going beyond*). According to the semantic network analysis, active listening workshops seem to play a role in this learning process. In fact, these workshops were designed to maximise the effectiveness of communication by enhancing observation, comprehension and verbal expression skills. These skills belong to the cognitive domain of empathy, that over a quarter of the students who took the VTS course reported having improved [34].

Empathy takes on an even more central aspect within the NM course, where it is promoted as a tool to better understand the patient's experience of illness. The students who participated in this course reported learning to use empathy as a tool for reading patients' stories; they also realised the importance of listening to the patient's point of view and considering his or her expectations when choosing the appropriate treatment. Comprehension, relationships and personalisation also emerged

as components of care from the analysis of the semantic networks (Fig. 4). This conception can be inscribed within a paradigm of care which is based on a patient-centred approach [35]. These results are consistent with the ones of a previous study by Axelrod and colleagues, which explored medical students' perceptions of a particular elective curriculum on MH at the University of Toronto (called 'Companion Curriculum'). As the authors reported, the students found the use of MH in medical education effective in promoting connection with the patient, centralising the illness experience and enabling personalised care [36].

Being able to work in groups is another skill that some respondents reported learning. Moreover, group work and interactive workshops were the activities that students appreciated most (50% in the VTS group and 36% in the NM group), as those activities allowed students to discuss with their colleagues and to share different points of view. In fact, opportunities for medical students to interact with each other are not frequent within curricular classes and they rarely have the chance to share their opinions with peers. This is not only the case at our university, but at most Italian universities, where frontal teaching activities are preponderant in curricular courses.

The importance of relational experience emerges also from the answers given by students in the RP group, as an opportunity for learning and sharing ('I learnt that when dealing with people you should never take anything for granted', 'I discovered the beauty of sharing one's insecurities with colleagues'). The human component in this course seems to be particularly relevant, as it results from the answers to the question 'What did you find most surprising?'. In fact, in this course many laboratory activities are presented by different teachers; consequently, students have the chance to relate to people with very different backgrounds and to experience various modes of interaction. This multifaceted approach to teaching and learning can help students develop cognitive and behavioural flexibility, which can enhance tolerance for ambiguity and promote resilience [37–39].

The majority of the students reported they did not expect humanities to be effectively applicable to clinical practice; in particular, the students in the VTS group found it surprising that art could promote interpretation and reasoning abilities, whereas the students in the NM group were surprised by the use of narrative for care and by the ease of use of the IDS method. These results imply that students who take MH courses often do not know what to expect from this type of course. This can be explained by the weak inclusion of MHs in the curriculum of Italian medical schools [40].

Students' preferences and suggestions

Approximately half of the study participants declared preferring practical activities to theoretical lectures. Among practical activities, the most appreciated were active listening (VTS), close-looking and close-reading (RP), literature and medicine workshops (RP), and the application of the IDS method (NM). Interestingly, all the practical activities above mentioned were performed in couples or groups, and they required the students not just to interact but also to cooperate with others. The preference for practical activities also emerged from the suggestions made to improve the course: many students, indeed, suggested increasing the number of practical activities (7 in each of the VTS and NM groups, and 5 in the RP group) and reducing the time devoted to theoretical lectures (6 in the VTS group and 4 in the NM group).

The students' indications revealed a desire to extend the course activities, even beyond its duration: someone suggested increasing the opportunities to put into practice what was learnt (VTS); someone else suggested organising regular workshops, so to keep on training the skills acquired (RP); furthermore, a student suggested including the NM course among the curricular ones. Certainly, extending the duration of training, ensuring continuity, can improve student learning. It is known, in fact, that repetition and recall of information enables the consolidation of acquired skills, thus stimulating deep learning [41].

In all the groups, at least one student proposed applying in real contexts what was learnt in the workshops: observing artworks in museums, using narrative medicine directly with patients, and simulating real situations for reflective analysis. These suggestions probably stem from the need to experience the real effectiveness of the techniques learned. In fact, although these techniques are taught in elective courses at our university, our students do not have the opportunity to put them into practice during their internships (as is the case with what they learn in curricular courses).

Satisfaction with the courses

Overall, the students expressed great appreciation for all the MH courses (Fig. 6), considering them relevant to their professional, personal and relational growth. Similarly, in a study by Assing Hvidt and colleagues, Danish medical students rated MH as personally, professionally and globally beneficial [42]. Our study revealed that many students found the course topics useful in developing effective strategies for interacting with patients. These results are consistent with those of a previous study on Polish students' perspectives on MH courses [43]. Makowska and colleagues revealed that medical students believe that MHs can prepare them to better

communicate and interact with patients and their relatives, and with medical staff members.

Similarly, one of the participants in our study reported finding the course topics (RP) useful for teamwork. However, interestingly, the students who participated in our study also found the course important for the personal domain: for self-discovery and personal growth (VTS), for the development of personal skills (NM), and for the exploration of new growth perspectives (RP).

The very positive opinions expressed by the students about MH courses are consistent with the fact that all the participants stated that they would recommend the course they had taken to their colleagues.

Finally, the evaluation of the teachers' clarity revealed room for improvement in the presentation methods used in the first two courses. This is an important aspect to attend to, as teacher style and performances can contribute significantly to the success of an elective course. Indeed, a study that examined perceptions of MH among Polish medical students found that students' opinions of MH courses varied widely, largely depending on the style of the teacher [44].

Narrative frameworks

In summary, the participants in our study were very satisfied with the MH course they took, finding it useful for their personal, social and professional growth. They reported having improved their observational, reasoning and communication skills (VTS course); they also reported having learnt to empathise more with patients (VTS and NM courses), to listen to patients' stories and to consider their perspective and expectations when planning a personalised treatment (NM courses). Finally, they reported learning to work in groups and being enthusiastic about sharing opinions with their peers (RP). They appreciated more workshops than theoretical lectures and suggested increasing the chances to practice what they learnt, also in real life.

These findings are consistent with the results of the lexical analysis we performed to understand the narrative frameworks. According to Humboldt's theory of language, words can both express someone's thought and shape the thought itself [45]. Hence, identifying the words people choose to express their thoughts allows researchers to gain insight into people's frameworks of thought. Therefore, we considered analysing answers' contents together with lexical patterns to identify cross-cutting thinking frameworks and obtain a comprehensive view of the participants' perspectives. The lexical analysis revealed that 'patient' was by far the most used word, followed by 'other'. This confirms that the patient took a central role in the students' reflections. The word 'other' mostly referred to the 'other than oneself', conveying a sense of awareness of otherness and of the difficulty of relating to it ('*…when dealing with people you should never take anything for granted*'). Many recurring words can be traced back to the sphere of the relationship with the other ('empathy', 'point of view', 'attention', 'listening', 'understanding', 'relationship'), particularly the relationship with the other as a patient ('illness', 'medicine', 'stories') and as a 'person' ('…I realised that, one day, there will be a person in front of me…', 'Each person is a world apart…', '…the patient is not just a patient, but behind him/her there is a person who is ill and needs help.'). Among the humanities involved in these courses, 'art' was the most frequently mentioned, perhaps because it appeared more distant than the others from the scientific dimension, and its application to medical education did surprise the students most.

Students' perspectives in the global framework

Unfortunately, there is lack of evidence on this topic. Few studies have investigated medical students' opinions of MH courses, and from very different perspectives, making it difficult to compare their findings with ours. Petrou and colleagues explored students' perspectives on the inclusion of MH in the medical curriculum [46]. According to their results, students recommended the incorporation of MH in the earlier years of the medical school, with no agreement on whether this should be in the form of elective or compulsory courses. The preference for MH inclusion in earlier years was explained by a greater time-flexibility for early years students. This is consistent with the results of our previous study exploring the reasons that lead medical students to take elective MH courses [19]. Our study revealed that students in the late years are less likely to take these courses due to lack of time. This can appear in contrast with our choice to reserve MH courses to students enrolled in the last four years of the medical degree course. However, our decision stems from the need to support the curricular training by promoting the development of skills that are propaedeutic to internship activities (3rd –6th years) [18]. Interestingly, the students interviewed by Petrou and colleagues suggested a vertical approach for the teaching of MH, that is exactly the one we chose to adopt for the ICoMH. Participants to our study showed a great interest and appreciation for MHs, considering them relevant to their professional growth. However, the number of students who take such elective courses – though increasing – is still low. This can be explained by a tendency for medical students to prioritise biomedical knowledge over humanities, as pointed out in a study by Assing Hvidt and colleagues [42]. The students interviewed in this study also reported perceiving MHs as being undervalued by educational institutions. This deserves further investigation, as it could represent a strong barrier to the integration of MHs into medical curricula.

Research strengths and limitations

To the best of our knowledge, this study represents the first study of its kind conducted in and outside the Italian context. Our study provides an insight into Italian medical students' perspectives on medical humanities courses; furthermore, it provides an initial assessment of the effectiveness of a unique educational pathway in the field of medical humanities. Regarding the methodological approach, the combined use of qualitative and quantitative methods, together with the use of advanced techniques - such as thematic analysis, semantic network analysis and lexical analysis - allowed an in-depth analysis of the data collected. Finally, the participation of all eligible students ensured a complete representation of the target population.

Nevertheless, our study has several limitations. Although qualitative research does not require large samples, the small number of participants in our study may influence the study results, while the single-centre study design can limit their generalizability. The samples were not only small, but also different in size, because the three courses under examination were (and still are) elective, so students were free to choose whether to take them. Furthermore, the heterogeneity of the samples did not allow us to quantitatively compare students' opinions on the different MH courses under investigation. To ensure anonymity, we did not collect any personal data, with the result that it was not possible to stratify by demographic characteristics, comparing gender/age subgroups. However, given the small sample size, any stratification would have been questionable. Other limitations are related to the questionnaire used, as the limited number of items included may not provide a complete overview of the constructs under investigation. Moreover, the methodology adopted for data collection may be source of potential response bias: firstly, the study results can be affected by self-report bias; secondly - despite the efforts made to ensure anonymity - we cannot exclude a distortion due to courtesy bias effect. Finally, it must be noted that an investigation of learning contents must consider also a follow-up analysis to assess long-term changes in behavioural patterns.

Study implications and future research

Integrating MH into medical training can broaden and complement the scientific perspective with a human, cultural and ethical dimension, fostering a bio-psycho-socio-cultural approach to care. It can also improve critical thinking, communication, listening and the ability to handle the ambiguity and complexity of clinical cases. The MH approach promotes more innovative, interactive and interdisciplinary teaching methods (workshops, storytelling, contemplation of art, ethical discussions, etc.), enriching students' education. Moreover, MH fosters dialogue between medical and humanities teachers, stimulating the intersection of different skills and approaches.

However, integrating MH into medical training requires conversion into practice. The study revealed the need for students to practically experiment with MH techniques, both by increasing laboratory and simulation activities, and by testing these techniques in real-life settings. The application of these techniques not only to the training of medical students, but also to the clinical care of university hospitals could allow students to practice with patients during their internship activities. To support our findings, future studies should replicate our analysis on a broader population, possibly with bigger samples. Comparing our results with those from studies on different approaches to teaching MH may help identify the weaknesses and strengths of the chosen training methods.

Conclusions

The present study investigated the opinions and perspectives of medical students who took a medical humanities elective course at the University of L'Aquila in the academic year 2023–2024. The study showed that the MH courses largely met the expectations of the students, who found them very useful for their personal, social and professional development. Overall, the students reported that they were very satisfied with the course they took, which led them to hone important skills and strategies for dealing with patients and colleagues. The courses also proved to be opportunities for the students to meet and compare notes, and the participants appreciated interacting and exchanging views with their colleagues. The study allowed us to understand how to tailor MH courses to students' aspirations and needs, and highlighted aspects to be considered to improve course quality. Finally, the study revealed the need for some students to practice in real life what they learned during the courses.

Abbreviations

ELOs	Expected Learning Outcomes
MH	Medical Humanities (interdisciplinary movement and/or field)
MHs	Medical Humanities (hybrid disciplines)
VTS	Visual Thinking Strategies
NM	Narrative Medicine
RP	Reflective Practices
IDS	Illness Digital Storymap
ILOs	Intended Learning Objectives
ICoMH	Integrated Course in Medical Humanities
SRQR	Standards for Reporting Qualitative Research

Supplementary Information

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Supplementary Material 1.

Supplementary Material 2.

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Authors' contributions
All authors conceptualized the research project; V.F, F.T., and A.F. developed the questionnaire; A.F. collected the data; F.T. and A.I. analysed the data; F.T. wrote the original draft; L.F., S.N., V.F., V.C., L.G. and F.T. revised and edited the draft. All authors read and approved the final manuscript.

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Data availability
The datasets used for the statistical analysis are available from the corresponding author upon reasonable request.

Declarations

Ethics approval and consent to participate
Ethics approval was obtained from the institutional review board of the University of L'Aquila, named 'Internal Review Board' (approval number 19/2023). Informed consent was obtained from all participants. The study was performed in accordance with the Declaration of Helsinki.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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