

Inclusion of bioethics and gender in university teaching: conceptual bases in the medical curriculum of a new medical career in northern chile

Abstract

This study analyzes the incorporation of the concepts of bioethics and gender in medical education, focusing on the experience of the new Medical School of the Universidad de Tarapacá, in Arica, Chile. The objective is to evaluate how these subjects have been implemented in the original curriculum in 2016 and to evaluate the integration of these concepts in the curriculum. For this purpose, an exhaustive documentary analysis of international literature was conducted and the curricular documents and pedagogical strategies adopted by the institution were reviewed. The main findings show that the integration of bioethics and gender in medical education at this school has been a challenging process. Of the 44 subjects at the undergraduate level, there is evidence of the implementation of 18.18% of humanistic subjects during the first to fifth year, of which 6.82% correspond to medical humanities. This shows a gap that requires not only the insertion of these subjects in the curriculum, but also the adoption of innovative pedagogical strategies and a strong institutional commitment. Both positive aspects of inclusion and points for improvement were identified, highlighting the need for a holistic approach to achieve effective integration. The conclusions suggest that the experience of the Universidad de Tarapacá offers a valuable perspective on the teaching of these concepts in underrepresented regional contexts, contributing to the debate on how to address bioethics and gender in medical education at the national level.

Keywords: career of medicine, curriculum, bioethics and gender, medical education, chile

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Pedro Hecht-López, Eduardo Parra-Villegas

Anatomy Laboratory, Faculty of Medicine, University of Tarapacá, Chile

Correspondence: Pedro Hecht-López, Anatomy Laboratory, Faculty of Medicine, University of Tarapacá, Arica, Av. 18 de Septiembre 2222, Arica, Chile, Tel +56582385777

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Introduction

In medical education, bioethics and gender play a crucial role in training future healthcare professionals. Bioethics is responsible for questioning and reflecting on the ethical dilemmas that arise in the field of biology and medicine. On the other hand, the gender perspective seeks to analyze and understand the social, cultural, and biological differences between men and women, as well as non-binary and transgender identities.¹

The concepts of bioethics and gender must be present in medical education in order to train professionals with a comprehensive and respectful view of human diversity. Bioethics and its principles provide tools for reflecting on ethical dilemmas, such as the fair distribution of resources, respect for patient autonomy, and confidentiality. The gender perspective, for its part, helps to understand the health differences between men and women and to avoid prejudice and discrimination in medical care.²

It is important to mention that bioethics and gender are not isolated concepts, but rather interrelated. For example, bioethics can help to question and challenge traditional gender roles in medicine, which often place men in positions of power and women in subordinate roles. Similarly, the gender perspective can enrich bioethics by introducing the idea that gender differences should be considered in ethical decisions. Considering the above, medical education should incorporate both bioethics and the gender perspective in order to train professionals who respect human diversity and are capable of making ethical decisions in their practice.³

The integration of bioethics and gender perspectives into medical education is a task that remains to be accomplished in many educational institutions around the world.⁴ The absence of a gender perspective in medical education can have significant implications for patients, students, and teachers.⁵

A precedent can be found in the “Medical Education Summit on Sex and Gender,” which proposed a plan for curriculum innovation, recognizing the need to incorporate gender and sex into medical education.⁶ Despite these efforts, much remains to be done. As an example of the latter, a study at a Swedish medical school found that the gender perspective was still far from being effectively incorporated into the written cases used in medical teaching.⁷

Another important aspect to highlight is gender identity, which is multidimensional and also has implications for psychological adjustment.⁸ Therefore, it is crucial that healthcare professionals are equipped with a solid understanding of gender perspective. However, a recent study found that the perception of gender equality in the training of university students in the health field is still limited.⁹ Furthermore, as outlined in a study conducted in Argentina, the challenges of the gender perspective in defining the government agenda are significant.¹⁰

Therefore, it is essential that educational institutions, including medical schools, commit to incorporating bioethics and gender perspectives into their curricula.¹¹ Training in bioethics and gender benefits not only future doctors, but also patients. Doctors who understand and respect gender differences can provide more personalized and fair care. Furthermore, by understanding the ethical dilemmas that can arise in medicine, doctors are better equipped to make decisions that respect patients' rights and dignity.¹² Thus, bioethics and gender are essential concepts in medical education and must be incorporated into the training of all future health professionals.^{13,14}

In this context, the present study focuses on the experience of a new medical degree program in the far north of Chile, which has been implementing these concepts in its curriculum since 2016. The development of this study is essential to provide objective data on how

these medical humanities are represented in the medical curriculum of what is currently the only medical degree program located in the northernmost part of Chile. The objective is to provide an initial overview of how this process has been carried out in the curriculum and to begin to answer the following question: what lessons can be learned and considered by other institutions seeking to implement bioethics and gender as subjects of study in medical school?

Material and methods

This study was based on an exhaustive literature review and detailed contextualization focusing on the new Medicine Degree at the Universidad de Tarapacá (UTA), located in the city of Arica, in the far north of Chile. A critical analysis of the existing related literature was conducted, using various academic and scientific databases, including Google Scholar, Scielo, and PubMed. Studies published in Spanish or English were sought with titles emphasizing the development, challenges, and opportunities of teaching bioethics and gender in medical schools, also considering those located in similar geographical areas or with challenges comparable to those in northern Chile. A literature review technique was used to obtain an overview of the topic, identify gaps in existing research, and provide a framework for the study. The search focused on articles related to medical education in terms of the inclusion of bioethics and gender, to ensure the relevance and pertinence of the information. Studies that did not provide information relevant to the educational context of the extreme north of Chile were excluded from the analysis.

In addition to the literature review, a detailed contextualization of the new UTA Medicine Degree was carried out. This involved gathering available information on its history, structure, study programs, faculty, degree, students, challenges, and opportunities in the local context of northern Chile. Official documents, reports, and statistics available on the internet were also examined to obtain a more detailed picture of the new medical degree program and its environment.

The information gathered through the literature review and contextualization was analyzed and interpreted within the framework of the reality of the new medical degree program. Although this work is descriptive, a mixed-methods study design was used, first exploring the evidence available on the internet qualitatively and then quantifying the main findings using basic descriptive statistics to analyze the data with a focus on identifying emerging themes and/or patterns. Due to the preliminary nature of the study and the limited data available that was collected, inferential statistics and hypothesis testing were not used. Nevertheless, this methodology allowed for an initial understanding of the reality of the new UTA Medical Degree Program and provided a consistent basis for the study's conclusions and recommendations.

Results

A systematic search was conducted for available evidence from official sources published on the internet,¹⁵ it has been found that the UTA School of Medicine in Arica, Chile, has undergone remarkable development since its creation. The main milestones and results achieved by this training center are presented below:

Institutional development

Creation and financing: In 2013, through the Arica headquarters of the UTA, the "National Regional Development Fund" (FNDR) No. 30133757-0, entitled "Construction of the School of Medicine of

the Arica and Parinacota Region," was presented and approved. This project received initial funding of 7.689 million of Chilean pesos for the construction and equipping of the School of Medicine building. In 2016, a supplementary budget of 3.234 million of Chilean pesos was approved for additional construction. In total, the contribution from the Chilean Ministry of Social Development amounted to 10.525.724 million of Chilean pesos.¹⁶

Structure and accreditation: The UTA School of Medicine was officially created in June 2015 by Exempt Decree No. 00.528/2015, initially attached as a department to the Faculty of Health Sciences (FACSAL) of the same university. It began teaching in March 2016, with the first cohort of students in the newly created "Medicine Degree" program, belonging to the new "School of Medicine Department."

The Medicine Degree underwent mandatory accreditation from its first year of operation in 2016, being evaluated by the National Accreditation Commission (CNA) and obtaining accreditation for three years, the maximum allowed for degrees without graduates, until September 13, 2020 (Exempt Resolution No. 254).

After that date, in the context of the Covid-19 pandemic health emergency and after submitting a new self-evaluation report for 2020, it was again submitted to the CNA accreditation process, once again being granted the maximum of three years of accreditation for a medical degree program without graduates, a process that was not without delay due to the continuing limitations resulting from the health emergency. During the first half of 2024, the final phase of the latest self-assessment report submitted to the CNA was carried out, undergoing the mandatory accreditation process once again (a milestone still in progress at the time of writing), this time applying the criteria for evaluating medical degree programs with graduates.¹⁷

Consolidation and creation of the faculty of medicine

Following the launch of the Medicine Degree program in 2016, in November 2022, the UTA Faculty of Medicine (FACMED) was officially created by Decree 12/2022, consolidating the functions previously carried out within the School of Medicine Department, then attached to FACSAL.¹⁸

Mission and vision

Mission: FACMED focuses on undergraduate and graduate teaching, as well as medical research, with the aim of developing professionals who respond to the health needs of the region, respecting cultural diversity and promoting dignified and efficient care.

Vision: To be a benchmark in the training of high-level academic physicians with critical thinking skills and a focus on solving health problems, contributing to the social well-being of the region and the country, with an emphasis on the South Central Andean Region. FACMED seeks to develop the clinical area and the training of specialists, as well as master's and doctoral programs.

Values: FACMED is guided by principles of academic excellence, intellectual hierarchy, academic freedom, university autonomy, participation and dialogue, constructive critical awareness, ethics and social responsibility, gender equality, mental health, care for the environment, respect for human rights, and an inclusive and respectful approach to diversity.

Departmental structure

The direct teaching and research activities carried out by FACMED at UTA originate mainly from two departments:

Department of clinical sciences

Responsible for teaching clinical subjects, conducting research in university teaching, and carrying out community outreach activities on health issues.

Department of biomedical sciences

Responsible for basic and biomedical science courses in the medical program. This department is very active in scientific research in areas such as molecular oncology, morphology, molecular and tumor immunology, high altitude medicine, and cell proliferation control, supported by various research projects.

Description of the medicine program

The Medicine Program, part of the UTA's FACMED, is currently the only one in the far north of Chile, responsible for training doctors in the area. Graduates of this program are characterized as professionals who respond to the most prevalent health needs in the country and those emergencies that cannot be safely and efficiently referred elsewhere. Their hallmark is the dissemination of preventive medical knowledge to the population of the Arica and Parinacota Region, making them a benchmark among their peers trained in northern Chile.

Graduates play a supportive role in the health sector, participating in promotion, prevention, protection, and recovery activities in public and/or private health institutions (hospitals, clinics, urban and rural health centers, among others). In addition, they work in primary health care, primary emergency care services (SAPU), medical centers, emergency services, research centers, and teaching development in higher education institutions, integrating research teams, in addition to practicing their profession independently.

Purpose of the degree, student population, and occupational field

The Medicine program has clearly defined objectives, admission and graduation profiles, and the occupational field of its graduates. This information is accessible to both students and the general community and is available on the institutional website. Graduates are trained to perform healthcare roles, including promotion, prevention, protection, and recovery, in public and private healthcare institutions.

In addition, they can join research teams, teach at higher education institutions, and practice their profession independently.

The degree program is primarily aimed at high school students, mainly graduates from the Arica and Parinacota Region, as well as the rest of Chile.¹⁹ Students entering the program tend to demonstrate high academic performance, a strong commitment to service, and good university performance. The student admission profile reported in the 2020 accreditation process includes the following characteristics:

Most come from lower-middle socioeconomic backgrounds, with 66% belonging to the bottom three quintiles and 63% receiving free tuition.

They come mainly from subsidized private schools (65%) and municipal schools (20%).

They show outstanding academic performance with an average "secondary school grade" (NEM) of 6.6 (with scale 1.0 minimum and 7.0 maximum); an average "university selection test" (PSU) score of 682.61; and a weighted PSU average of 748.84.

There is notable ethnic and cultural diversity among the students, with 42.5% identifying as part of an indigenous ethnic group, 30% of whom are of Aymara origin.

Most students come from the Arica and Parinacota Region (63%), followed by Tarapacá (13%) and Antofagasta (10%). As of 2020, there were no students admitted via special admission from other countries.

Inclusion of medical humanities subjects in the UTA Medicine Degree curriculum

Figure 1 shows the curriculum for the medicine degree at UTA.²⁰ Subjects related to medical humanities are present, with special representation in the first year, where "Introduction to Medicine" is taught during the first semester, and "Medicine and Ethics" during the second semester. In the fifth year, they are also well represented in the subject "Bioethics," which is taught during the second semester. Formally, it is in these subjects that the content on bioethics and gender is reflected in the respective course programs. However, there is room for "academic freedom" in the other subjects of the curriculum to present content on bioethics and gender, thus configuring this content as part of the hidden curriculum (Figure 1).

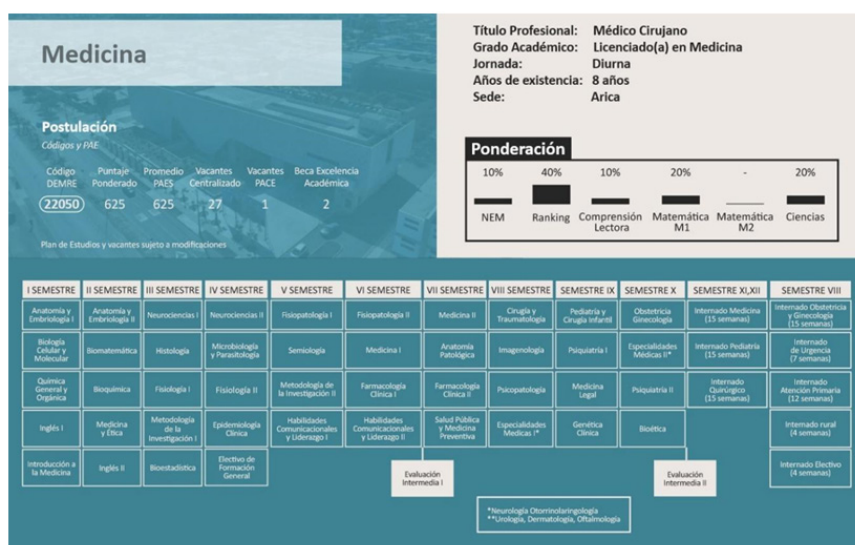


Figure 1 Curriculum for the medical degree at UTA

Percentages of subjects by type in the undergraduate curriculum for the UTA Medicine degree.

Figure 2 shows a graph representing the distribution of subjects by type and percentage within the undergraduate curriculum for the 2016 academic year. Considering only undergraduate-level subjects, reaching n=44, this includes subjects taken from the first to fifth year of medical studies.

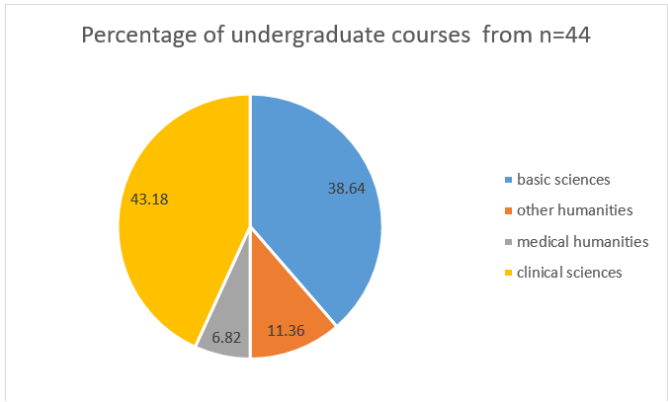


Figure 2 Distribution of subjects according to type and percentage within the undergraduate curriculum for the 2016 academic year.

Although the published curriculum brochure does not distinguish between basic, preclinical, and clinical subjects, it can be seen that subjects usually considered “basic sciences” and “clinical sciences” make up 81.82% of the undergraduate subjects. On the other hand, humanities subjects account for 18.18%. Within these, the medical humanities subgroup has the lowest representation in the curriculum, accounting for 6.82%, and is formally taught through the three subjects mentioned in the preceding paragraph (Figure 2).

Results of a specific search for articles on the inclusion of bioethics and gender in medical education at universities in northern Chile.

To evaluate the inclusion of bioethics and gender issues in new medical schools located in an extreme region of Chile, an exhaustive search was conducted for articles published in journals indexed in various databases. The results are summarized in Table 1. The following article search criteria were considered in conducting the search:

Scientific articles published in English or Spanish in the last 10 years (2014-2023).

Types of studies included: systematic reviews, reports, meta-analyses, educational experiences, descriptive research, mixed research, quasi-experimental research.

Types of studies excluded: letters to the editor, experimental research.

The systematic search was conducted on July 11, 2024, for all selected databases, including search terms traceable in the respective title section. Due to the specific and underreported nature of the subject of this research, search terms were used in three attempts for each database, prospecting from the general to the specific, in order to refine the results and obtain an overview of the subject in Chile, with a special focus on the northern part of the country.

Table 1 below summarizes the findings from the systematic search for articles addressing the inclusion of bioethics and gender issues in medical school curricula in Chile, specifically in the northern part of the country. The PubMed search was conducted using keywords in the titles of article-type publications, first in general and in English, without obtaining any results, and then specifically for northern Chile, where again no results were obtained. When searching the Scielo database, the general search without the keyword “Chile” yielded only one result, which refers to philosophical and ethical aspects linking bioethics and gender in the biomedical context, but without addressing the specific issues of medical education or the implementation of content in teaching. When the search was conducted including the keywords “Chile” or “north AND Chile,” no results were obtained in the Scielo database.

Finally, the search in the Google Scholar database was conducted from the general to the specific, first using the keywords “Chile” or “northern Chile,” and then searching for specific results using the words ‘curriculum’ and “medical education.” The Google Scholar search engine has the limitation that its advanced search options do not allow for the definition of several parameters in the same way as the aforementioned databases. As a result, thousands of results were obtained that included the keywords described in Table 1, but were not exactly related to the topic of this research. However, filters were applied in terms of title and date range. Finally, an attempt was made to refine the search by obtaining review articles, but none of those obtained included the terms in a way that related to the focus of this study.

In summary, the exhaustive search of various databases did not yield specific results on articles that mentioned the inclusion of bioethics and gender in the context of medical schools in northern Chile. This indicates a possible gap in the existing literature and underscores the importance of developing research that addresses this issue to enrich the medical education curriculum in that region of Chile (Table 1).

Table 1 Search in English and Spanish for the Inclusion of the concepts of bioethics and gender in scientific articles on Medical education for medical schools located in Northern Chile

Database	Search date	Keywords within the article title	Results obtained
PubMed	July 11, 2024	bioethic and gender and medicine and school and Chile	0 results
		Bioethics and gender and school and medicine and north and Chile	0 results
		bioethics and gender and curriculum and medical education and new and school and medicine and region and north and Chile	0 results
Scielo	July 11, 2024	Bioethics and gender and medicine	1 article obtained: Figueroa, Gustavo. "Gender bioethics in medicine: foundations and challenges".Acta bioeth., Jun 2017, vol.23, no.1, p.83-90.

Table I Continued....

Google Scholar	July 11, 2024	Bioethics and gender and new and school and medicine and region and Chile	0 results
		bioethics and gender and new and school and medicine and region and north and Chile	0 results
		bioethics and gender and school and medicine and north and Chile	5,590 articles (of any type), 62 review articles (Latin American in Spanish), 0 review articles about Chile and the research focus.
		bioethics and gender and new and school and medicine and region and Chile and curriculum and education and medical	3,090 articles (of any type), 25 review articles (Latin American in Spanish), 0 review articles about Chile and the research focus.
		Bioethics and gender and medical education and curriculum and northern Chile	2,540 articles (of any type), 24 review articles (Latin American in Spanish), 0 review articles about Chile and the research focus.

Discussion

The implementation of bioethics and gender in the initial curriculum of the Medicine Degree at UTA presents novel and revealing results for the local context of medical education. In our environment located in a remote region, as well as in other medical schools, the inclusion of content on bioethics and gender in the curriculum is crucial for the comprehensive training of future physicians, promoting a more inclusive and ethical clinical practice.²¹ The relevance of bioethics in medical education has been widely discussed in the literature, which highlights the need to train students in ethical principles that guide their professional practice.²² With regard to gender perspective, recent studies underscore the importance of addressing gender inequalities in medical education in order to prepare students to confront and overcome these barriers in their future practice.²³

With regard to the inclusion of subjects dedicated to teaching knowledge about bioethics and gender, analysis of the medical degree curriculum at UTA revealed that these subjects are distributed asymmetrically across the different cycles of undergraduate training and prior to the internship.

When reviewing the information available on the internet or in scientific article databases, no reports were found with detailed information on this training center or on how these subjects are addressed within other subjects not exclusively dedicated to these contents. In contrast to the above, there is a previous study that reports the cross-curricular implementation of humanities subjects taken during the undergraduate medical degree program, as is the case with the 1998 curriculum at the Universidad de Chile School of Medicine.²⁴

Continuing on from the above, it is important to consider that integrating bioethics into the curriculum significantly improves students’ understanding of ethical principles and their application in clinical cases. Evidence shows that including bioethics modules improves students ability to address ethical dilemmas in their clinical practice.²⁵ Regarding gender, although it was not observed as a subject dedicated exclusively to the topic, it is suggested that it forms part of other subjects as an element of the hidden curriculum. The literature shows that the inclusion of a gender perspective has a positive impact, increasing students awareness of gender inequalities in healthcare.²⁶

Regarding the current curriculum, observation of the original degree program revealed areas for improvement in terms of the inclusion of bioethics and gender issues, either as thematic units or as new subjects dedicated to these topics. The latter raises the need to

also investigate local students perceptions of the inclusion of bioethics and gender, as well as their assessment of their professional training. This is important as part of the humanities taught in their medical education.²⁷

The initial implementation of bioethics and gender studies in the medical school curriculum at UTA highlights the importance of medical training that integrates ethical and gender issues, preparing students for a more equitable and responsible professional practice.^{28,29} However, it is important to recognize the limitations of this study, which is an initial exploration of the evidence available on official websites and scientific publication databases. Future research should consider larger data samples that analyze the inclusion of subjects and their local assessment, as well as longitudinal follow-up of the implementation of the subjects, to evaluate the long-term impact of these interventions on the clinical practice of graduates.

Conclusion

The results of this study, although preliminary, provide a baseline for the continuation and expansion of new work on medical humanities within undergraduate medical education in the far north of Chile. At the same time, it shows room for improvement in the local curriculum to optimize teaching on bioethics and gender in medical studies in an extreme region. There is a need for further research to study the perceptions of UTA medical students regarding the teaching of bioethics and gender during their undergraduate studies.

It is also worthwhile to survey the opinions of interest groups such as academics and administrators, who have a say in determining curricular changes or influencing the updating of the curriculum in the UTA medical program. In summary, the inclusion of bioethics and gender perspective in medical education is essential to train medical professionals who are aware and prepared to face ethical and equity challenges in their daily practice.

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Ethical aspects

The study followed international regulations in accordance with the Declaration of Helsinki. Did not require approval from a scientific ethics committee due to the type of study.

Conflicts of interest

The authors have no conflicts of interest for the development of this article.

Authors contribution

All authors contributed to the development of the article.

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