

Original Research



# Comparison of hidden medical curriculum of Tabriz University of Medical Sciences and Tabriz Azad University of Medical Sciences from the students' perspectives

Amir Nahavandi Takab<sup>1</sup>, Eskandar Fathi Azar<sup>2\*</sup>, Zarrin Daneshvar Heris<sup>1</sup>, Hossein Baghaei<sup>3</sup>

<sup>1</sup>Department of Humanities Sciences, Tabriz Branch, Islamic Azad University, Tabriz, Iran

<sup>2</sup>Department of Psychology and Educational Sciences, Tabriz University, Tabriz, Iran

<sup>3</sup>Department of Educational Sciences, Kaleybar Branch, Islamic Azad University, Kaleybar, Iran

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## Abstract

**Background:** Considering components of the hidden curriculum in medicine in the higher education system is a useful adjunct to the formal curriculum since the learning and function of medical students are strongly affected by these components. The current study compares the hidden medical curriculum of Tabriz state and non-state Universities of Medical Sciences from the students' perspectives.

**Methods:** In the current descriptive-comparative study, the statistical population included the total students of Tabriz state and non-state Universities of Medical Sciences. The statistical sample of the given study consisted of 400 students from senior and higher academic levels at the Tabriz state and non-state Universities of Medical Sciences based on Morgan's table. Two hundred students from each university were selected using stratified random sampling. The data collection tool was a researcher-created valid questionnaire. The validity and reliability of the given questionnaire in respect to its components were 0.94 and 0.76, respectively. In the analysis of data, an independent inferential T<sub>test</sub> was utilized.

**Results:** The results of the analysis found that from the students' perspectives, the mean scores of the hidden curriculum in medicine in the Tabriz state university of medical sciences ranked the following components higher than the Tabriz non-state university of Medical Sciences: (1) Education, including curriculum and goal-setting, clinical education and content, (2) Social-physical environment, (3) Regulations and rules, including reward and punishment system, organizational structure, respect for rights and value system and (4) Relations, including moral behavior, approach, participation, and responsibility. However, in the fifth component of contexts and perspectives, including personal-environment/family context and professional-financial perspectives, there was no significant difference between the hidden curriculum of Tabriz state and non-state Universities of Medical Sciences

**Conclusion:** The components of the hidden curriculum in medicine affect the learning richness and function of students and should be taken into consideration by universities of medical sciences, particularly non-state universities.

## Introduction

The curriculum is the basis and heart of the education system<sup>1</sup> There are three categories of curriculum in any educational system<sup>2</sup>: formal or explicit, unproductive or null, and hidden or implicit. The hidden curriculum consists of implicit values, behaviors, and norms present in the educational system that are not explicitly indicated in formal and letter documents.<sup>1</sup> Among these three curriculum categories, the hidden one plays a leading role in educational systems, particularly in higher education.<sup>3</sup>

The hidden curriculum is applied to teaching the non-formal and intangible context of values, systems, norms, and concepts as well as non-academic aspects of higher education and non-formal aspects of higher education affected by the whole education system in the dominant philosophy and the general context of the society.<sup>4</sup> The hidden curriculum is an unknown part of the total education system, yet because of its expanse, it can have a determining role in the learning and education of students. The hidden curriculum is considered part of the field

\*Corresponding author: Eskandar Fathi Azar, Email: e-fathiazar@tabrizu.ac.ir

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of the educational system that can transfer professional special values to students and even change their personal behaviors in the educational environment.<sup>5</sup>

The education system in any society is not exempt from the hidden or the explicit transfer of norms and unique approaches to learners in the form of this hidden curriculum. The academic curriculum, as one of the most influential scientific and moral growth periods of students, encounters explicit and formal curriculums while students also obtain experiences that shape their acceptable values and culture indirectly or unconsciously through the hidden curriculum. The effectiveness of these experiences is more than direct methods and conscious efforts.<sup>6</sup>

The hidden curriculum in universities of medical sciences, which have a great duty in the creation, conservation, and preservation of society's health system, is important.<sup>7</sup> The hidden curriculum is one of the principal tools and elements to reach general aims and commissions of medical education and has particular importance and position.<sup>8</sup>

The concept of the hidden curriculum in medical education can be understood as a set of effects that act on the structure and culture of organizational levels whose layer of curriculum is influential through its strong potential on the function of medical educators and students, and its effect is observable in the practical content of graduates' thoughts.<sup>9</sup>

By considering that the medical education system, in addition to obtain professional skills and knowledge, is an educational environment, regarding the development and reinforcement of values, approaches, moral norms, social skills, and other factors forming human behavior of a physician along with professional skills, increasingly emphasizes the role of hidden curriculum.<sup>10</sup>

In relation to the main role of the hidden curriculum in the medical education system, it can be said that hidden medical curriculum is directed to convey such items as medical ethics, moral values, social roles of a professional in the future life of its practitioner, values, beliefs, and behavior, authority, responsibility, culture, role and professional culture, and even study methods and cooperative activities. For example, a student learns how to fit into a work team and develop his/her social and cooperative skills.<sup>11</sup>

Thus, one of the primary roles of the curriculum is to increase the participation of students and decrease the distance between the hidden curriculum and the explicit one, until students follow educational aims with more interest and awareness.<sup>12</sup> Nonetheless, the hidden curriculum in different educational systems does not always play an acceptable and favorable role. Thus, neglecting hidden curriculum in medical education has led to various cases of irrecoverable effects. Since medicine is a money-making profession and has its own prestige in society for physicians, it is essential to educate medical students to

become physicians with their primary aim being to serve to patients with regard to professional morality; this has unfortunately been neglected in modern medical society.<sup>13</sup> Teaching clinical and scientific knowledge in the formal curriculum is suitably covered, there are some issues in the service and health system which point out the effective role of the hidden curriculum in the transfer of values and norms in sometimes unfavorable and immoral forms.<sup>14</sup> The results of some research show the determinant role of the hidden medical curriculum in the function of students. A descriptive study conducted<sup>15</sup> in the surgery department of Southern Illinois University around utilizing the hidden curriculum in teaching professionalism for 134 medical students in a two-year surgery education course based on medical students' perspectives about medical ethics found that morality of medical students is affected by the hidden curriculum. The hidden curriculum which is considered important during the education course along with formal education, and can affect students' approaches and behaviors, may assist physicians in the mitigation of abnormalities experienced between the ideal function and the present situation.<sup>16</sup> Research history in Iran also indicates a relationship between the hidden curriculum and the activities, functions, and experiences of students.<sup>17</sup>

In reviewing research, it can be seen that the richness and importance of the hidden medical curriculum has been neglected because of a perception of not being meaningful in designing educational contexts along with a lack of predication of interaction in the learning environment. As a result, through a comparative study between Tabriz state and non-state universities of medical sciences, it can be seen that environmental and syllabus factors have created different hidden medical curriculum. Thus, it is necessary to conduct the current study to determine which components of the hidden medical curriculum have led to different learning experiences at Tabriz state and non-state universities of medical sciences. The current research compared the hidden curriculum from the students' perspectives of Tabriz state and non-state universities of medical sciences to understand their interpretation of the hidden curriculum in the medical higher education system.

### Materials and Methods

The current research is a descriptive-comparative study conducted to compare the hidden medical curriculum of Tabriz state and non-state universities of medical sciences from the student perspectives. The statistical population consisted of the total enrollment at the Tabriz state and non-state universities of medical sciences. The inclusion criterion was passing at least four years of education. Using stratified random sampling, 400 students were selected based on Morgan's table as the statistical sample, from which 200 students from each university were selected. The data collection tool was a researcher-created hidden medical curriculum questionnaire. This questionnaire

includes five major components and 13 minor ones, and 61 Likert-type items (from 1 to 5 - 1 very low, 5 very high). The components consist of education (aim and curriculum, clinical education and concept with 20 items), environment (physical and social with 4 items), contexts and perspectives (personal environmental context, approach and financial and professional perspectives with 6 items, regulations, and rules (reward and punishment system, organizational structure, respect for rights and value system, with 17 items) and relations (moral behavior, approach, participation and responsibility with 14 items). In surveying five experts, the validity determined to be 0.94. For the current research, the questionnaire was tested with 26 students and Cronbach's alpha coefficients were between 0.78 and 0.92 for each of the components and overall.

Following obtaining the ethics code and approval of authorities to collect data from the students, the author introduced himself and the objective of the research to invite students to participate.

Therefore, considerations of confidentiality and ethics codes, including confidentiality of sample, oral consent and receiving the letter of introduction and formal licenses as well as confirmation of the ethical committee (code of ethics IR.IAU.TABRIZ.REC.1398.094) were observed. To analyze data, descriptive statistical tests such as mean and standard deviation and inferential statistics, independent T-test, were used. Results are significant at  $P < 0.05$ .

## Results

Demographic characteristics of participants are provided in Table 1, including the sex, field of study, and educational level.

Regarding characteristics compared in the current research, the characteristics of learning environments were compared, and it is not necessary to analyze and review the characteristics of the population and statistical sample in detail. Tables 2-6 show the mean and T-value in comparing the hidden medical curriculum from the students' perspectives in both the Tabriz state and non-state universities of medical sciences around education, environment, context and perspective, regulations and rules, and relations.

Based on the results of Table 2, the mean and standard deviation of the hidden medical curriculum in the

component of education was 46.51 (SD 6.164) for students of the Tabriz University of Medical Sciences and 37.16 (SD 9.911) for the students of the non-state (Azad) university.

T-test results ( $t = 11.32$ ) found a significance level of  $P < 0.05$ , indicating that from the students' perspectives at the Tabriz State and non-state (Azad) Universities of Medical Sciences, there is a significant difference in the educational aspect of the hidden medical curriculum.

Concerning the results in Table 3, in the component of social-physical environment for students of the Tabriz University of Medical Sciences, the mean (SD) was 11.42 (SD 1.808), while for the students of the non-state (Azad) university it was 5.87 (SD 2.525). T-test results ( $t = 25.25$ ) a significance level of  $P < 0.05$ , showing that from the students' perspectives in the Tabriz University of Medical Sciences and non-state (Azad) University of Medical Sciences, there is a significant difference in the social-physical environment aspect of the hidden medical curriculum.

Concerning the results of Table 4 for the components of contexts, perspective, and pattern, the mean (SD) for students of the Tabriz University of Medical Sciences was 26.33 (S.D. 2.588) and for students of Azad University the mean was 26.33 (SD 3.319). The T-test ( $t = 0.571$ ) showed a significance level of  $P = 0.568$ , indicating that, from the students' perspectives in the Tabriz University of Medical Sciences and non-state (Azad) University of Medical Sciences, there was no significant difference in context, perspective, and pattern aspects of the hidden medical curriculum.

As can be seen in Table 5, for the components of regulations and rules for students of Tabriz University of Medical Sciences, the mean (SD) was 56.91 (SD 6.573) and for the students of Azad University of Medical Sciences the mean was 45.06 (SD 12.258). The T-test ( $t = 12.053$ ) found a significance of  $P < 0.05$ , showing that from the students' perspectives at the Tabriz University of Medical Sciences and non-state (Azad) University of Medical Sciences, there is a significant difference in regulations and rules aspect of the hidden medical curriculum.

Based on Table 6, the mean (SD) of the hidden medical curriculum for students of Tabriz University of Medical Sciences was 25.68 (SD 2.663) and for the students of Azad university of Medical Sciences it was 22.31 (SD 6.402). The T-test are 22.31 and 6.40, respectively. The T-test ( $t = 6.874$ ) found a significance of  $P = 0.0000$ , showing that from the students' perspectives at the Tabriz University of Medical Sciences and non-state (Azad) University of Medical Sciences, there is a significant difference in the "relations" aspect of the hidden medical curriculum.

## Discussion

The current research tried to answer the question, "How is the hidden medical curriculum of the Tabriz University of Medical Sciences different from that of Azad University of Medical Sciences from the students' perspectives?"

Table 1. Demographic characteristics of participants

Variable		Number	Percent	
Gender	Male	Azad (Tabriz)	98	24
		Tabriz University	100	25
	Female	Azad (Tabriz)	102	26
		Tabriz University	100	25
Field	Medicine	400	100	
Grade	Fourth year and up	400	100	

**Table 2.** Education

Group	n	Mean	Std. deviation	df	t	Sig. (2-tailed)	Mean difference
1 (Tabriz)	200	46.51	6.164	398	11.329	0.000	9.35
2 (Azad)	200	37.16	9.911				

**Table 3.** Social-physical environment

Group	n	Mean	Std. Deviation	df	t	Sig. (2-tailed)	Mean difference
1 (Tabriz)	200	11.42	1.808	398	25.251	0.000	5.545
2 (Azad)	200	5.87	2.525				

**Table 4.** Contexts and perspectives

Group	n	Mean	Std. Deviation	df	t	Sig. (2-tailed)	Mean difference
1 (Tabriz)	200	26.34	2.588	398	-0.571	0.568	-.17
2 (Azad)	200	26.51	3.319				

**Table 5.** Regulations and rules

Group	n	Mean	Std. Deviation	df	t	Sig. (2-tailed)	Mean Difference
1 (Tabriz)	200	56.92	6.573	398	12.053	0.000	11.855
2 (Azad)	200	45.06	12.258				

**Table 6.** Relations

Group	n	Mean	Std. Deviation	df	t	Sig. (2-tailed)	Mean Difference
1 (Tabriz)	200	25.69	2.663	398	6.874	0.000	3.37
2 (Azad)	200	22.32	6.402				

The results and data analysis found significant differences between the hidden medical curriculum of Tabriz and Azad universities in four components based on students' views. The mean scores for the hidden medical curriculum of Tabriz University of Medical Sciences were higher than those of Azad University of Medical Sciences in all components except one (context, perspectives and patterns). Generally, the current research shows that curricula, learning environment, facilities and equipment, relations, regulations, and rules shaping hidden medical curriculum in Azad University have lower richness than in the Tabriz University of Medical Sciences.

Notably, the mean of the hidden medical curriculum at the Tabriz University of Medical Sciences for the aspect of "education," which consists of curriculum and aim-setting, clinical education, and education content, was higher than at Azad University and this difference was significant. This finding seems reasonable and accurate, as the educational infrastructure, laboratories, and faculties belonging to Tabriz University of Medical Sciences are richer and more extensive than Azad University. Some research has shown that the richness of curriculum and education, the type of education and being clinical produce hidden curriculum with different effects.

The results<sup>18</sup> show that current education course

for medical students is more related to behaviors and characteristics, which contrasts with professional and medical ethics context. These negative cases disagree directly with the current study, expectations of patients, society, and medical educators.

These cases are part of a hidden organizational culture with structural problems and part of the hidden curriculum in medical faculties and hospitals.

The findings show a significant difference between the mean of the hidden medical curriculum of medical sciences in the aspect of "environment," which consists of physical, social, and mental environment of the Tabriz University of Medical Sciences, where the mean is higher than Tabriz Azad University of Medical Sciences. Some research in line with the result of this section is the research of Amini et al<sup>19</sup> which shows that based on students' views of medical sciences, physical and structural space of the university, behavioral and personality characteristics of educators, and value methods have the strongest effects and influence on particular hidden consequences, learning, education function and approach of students. The education and hospital context of Tabriz University of Medical Sciences benefits from more equipment and facilities than Azad University of Medical Sciences and interactions among individuals also would be more.



Thus it appears that the context of Tabriz University of Medical Sciences is richer in terms of space, facilities and interactions among individuals and has more effect on the learning and function of students.

Family, personal and environmental contexts, and professional and financial perspectives are factors affecting the affinity for the medical field and education in medical universities that produce hidden curriculum through interaction with the higher education system of medical sciences. In this course, one thought-provoking finding is that the medical hidden curriculum does not show significant differences in aspect of contexts, perspectives including personal and environmental contexts, professional and financial perspectives and patterns from the students' perspectives at either university.

This means that in terms of contexts and perspectives affecting learning and function of students, there is no significant difference between Tabriz and Azad Universities of Medical Sciences, but the higher mean shows the importance of its influence on learning and function of students at both universities.

Azmand et al,<sup>20</sup> in their research titled, "Professional learning through the hidden curriculum: view of Iran medical students," showed that creating suitable professional and moral identities in medical practitioners demanded a close review of the hidden curriculum and its functional components. Thus, approaches, beliefs, and experiences related to medical practitioners were considered valuable sources to recognize and review the intrinsic situation of Iran's educational health settings. Therefore, following the function of educators and their relations and behaviors with students and interactions of these patterns with personal and environmental contexts as well as approaches, beliefs, and financial and professional perspectives on medical education could produce a special hidden curriculum for any of students and influence their function. As Bijandi<sup>21</sup> showed in his research, educators of the Tabatabai State University of Medical Sciences had better social and behavioral patterns than educators at a non-public science and culture university. Thus, the effect of a given component in the hidden curriculum can be high in students at the Allameh Tabatabai University.

The finding of the regulations and rules section, including the reward and punishment system, organizational structure, respect for rights and the value system shows that, based on students of the Tabriz University of Medical Sciences and Azad Universities of Medical Sciences, there was a significant difference. In the higher education system, which has a more extensive education system and social and physical environment, it is expected that rules and regulations produce more learning content for students and the function of students is more affected by such educational systems.

Also, in the component of relations, including moral behavior, approach, participation and personality, there was a significant difference between both universities

from the students' perspectives. Glicken and Mernstein<sup>22</sup> asserted that the component of social relations in the hidden curriculum shows that there is a primary distinction between whatever is taught to students in educational content and whatever they learn, including the hidden curriculum. The hidden curriculum is a theoretical element that creates moral education, transfer of values and norms, transfer of values and expectations, the transmission of authority, laudation, adoration, social group, social transmission, social communications transmission, interpretation of social education function, explanation of the interaction between teacher and learner and emphasis on academic context. In the state higher education system, concerning the extensiveness of the educational system and context, it is expected that, through the application of rules and regulations, more interactions between employees, patients, and students can be created and lead to effective learning and function of students in this educational context.

### Conclusion

The result of the current research shows that the effect of hidden curriculum is different between the higher education system at the Tabriz University of Medical Sciences and Azad University of Medical Sciences from the students' perspectives in several aspects of teaching, context, regulations, rules, and relations. Since the hidden curriculum is as important as formal curriculum in medical sciences universities, Azad University should pay more attention to its hidden curriculum to enrich the function and learning of the students. When formal educational systems and formal curricula of universities are richer, they also produce a more effective and rich hidden curriculum. The presence of renowned faculty members at the Tabriz University of Medical Sciences, students as stakeholders in the medical education system with robust contexts and perspectives, association, companionship and relations between these students and also taking education and learning processes followed by given students seriously can together create a rich social structure which intensifies the difference of hidden curriculum of the Tabriz Medical Sciences and Azad Medical Universities.

Education in the field of medicine, because of its financial benefits and social prestige, has become the goal of young people chiefly in their family and social atmosphere that play a major role because the most critical growth and education setting is the family. These expectations in education and the practical course of medical students contrast with general perspectives of the medical field which is economically severe and with both negative and successful patterns that influence the thought and approach of students that can have even more effect than the formal education system. As a result, the students reinforce values in their learning and practice that emphasize documentarism and follow it in azad

university.<sup>23</sup>

In such a situation, a rich social and physical context and curriculum, regarding regulations, rules, relations and robust participation with others are less important. Therefore, the current research recommends that Azad University provide substructures to buttress the hidden medical curriculum. Although the current research was focused on the Tabriz University of Medical Sciences and Azad University of Medical Sciences, the medical higher education system of the country is centralized and therefore these results may be applicable for universities in other counties. Probably the presence of educators of Tabriz universities in classrooms and laboratories of Azad University and providing communications between universities for students, helping in utilizing the same value system, could partly reduce the difference of hidden curriculum between these universities.

### Ethical approval

All study participants were requested to fill out a consent form, and the researchers assured them that the research results would be confidential. This research is taken from the students of Islamic Azad University, Tabriz Branch.

### Competing interests

According to the author, this article has no conflict of interest and is not funded by any department or organization.

### Authors' Contributions

A Ph.D. student in curriculum, along with two supervisors and a consultant, participated in designing and conducting this research.

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