Original Article

Identify and Prioritize Of the General Medicine Curriculum Challenges with Medical Ethics Approach

Maryam Nemati[1], Vahid Fallah[1*], Taraneh Enayati[2]

[1] Department of Curriculum Planning, Sari Branch, Islamic Azad University, Sari, Iran.
[2] Department of Educational Management, Sari Branch, Islamic Azad University, Sari, Iran.

Article Info

Article history:
Received 23 May 2020
Accepted 20 Oct 2020
Published 10 Mar 2020
Keywords:
Curriculum,
Ethics,
Medical students

***Corresponding author:**
Vahid Fallah Department of CurriculumPlanning, Sari Branch, Islamic Azad University, Sari, Iran.
Email: vahidfallah20@yahoo.com

Abstract

Background & Objective: Medical ethics is one of the most important principles in medical curriculum. This study aims to identify and prioritize of the Medical Curriculum Challenges using Medical Ethics Approach.

Materials and Methods: The study is mixed type, applied in terms of goal and descriptive-analytical. The qualitative data were collected as purposeful and by semi-structured interviews with 14 experts of Medical Ethics and analyzed by inductive qualitative content analysis. The questionnaire was extracted from interviews result and its validity was calculated using Lawshe and Waltz-Bausell method with R software, the consensus among the experts was measured by Kappa coefficient and reliability was estimated by Alpha-Cronbach with SPSS-21. The statistical community of the quantitative part consisted of 457 clinical physicians and residents and according to Cochran formula, 209 individuals were selected by random stratified sampling method. The confirmatory factor analysis test and the Importance-Performance Map Analysis (IPMA) were performed by Smart Pls-3 software.

Results: In the qualitative section, 13 themes and 48 categories were extracted and converted into the items. The indices CVR=0.9, CVI=0.93, Kappa index >0.7 and reliability (r=0.89) were estimated and confirmed. In the factor analysis, all research themes were confirmed and IMPA indicated that the most important challenges of Medical Ethics are the factors known as "Review of Content and Resources", "Inappropriate Implementation", "Poor Facilities and Opportunities" and "Hidden Curriculum Management".

Conclusion: Identifying and prioritizing the challenges can be applied as a guide to improve the policy making and effectiveness of the curriculum.

Copyright © 2021, This is an original open-access article distributed under the terms of the Creative Commons Attribution-noncommercial 4.0 International License which permit copy and redistribution of the material just in noncommercial usages with proper citation

Introduction

Medical ethics is an analytical approach that accurately and critically evaluates the thoughts, beliefs, behavior, and decision-making of physicians when faced with various issues and proposes suitable suggestions and instructions (1). The main goal of medical ethics training is to gain the skills of analysis, deduction, decision-making, and solving ethical dilemmas in students (2). With the advancement of medical sciences and increased complications of ethical dimensions, many students lack sufficient skills in this area and have doubt and uncertainty in decision-making and ethical judgment in the real world (3). Today, ethical education is an important part of the medical curriculum (4). In the novel medical education system, not only is the curriculum responsible for training individuals who can detect and understand ethical challenges, but also is to teach them how to behave ethically in these situations. In other words, the goal of the curriculum is beyond education and skill and improves students' ethical sensitivity and performance (2). According to some researchers, the medical ethics field has failed to adequately increase physicians' medical skills and overlooking this issue has led to a decrease of trust in society and damage to the dignity of this profession (5).

Despite numerous efforts made to develop ethical education for students and its confirmation by medical associations, councils, and colleges as a

[Downloaded from edujournal.zums.ac.ir on 2026-09-07]
[DOR: 20.1001.1.22519521.1399.13.40.2.5]
[DOI: 10.52547/edcj.13.40.1]

[Downloaded from edujournal.zums.ac.ir on 2026-09-07]

[DOR: 20.1001.1.22519521.1399.13.40.2.5]

[DOI: 10.52547/edcj.13.40.1]

necessity (6), one of the most important challenges of medical education is still how to shape professional behaviors in students (7, 8). Some researchers have reported dynamic indexes, such as clinical section content and implementation, to be unfavorable in comparison national and global standards (9). Many students complained about the unbalanced, highly theoretical approach taken in some traditional teaching programs in medical ethics (10). Some studies reported that the behavior, attitude, and values of the medical profession were affected by the complicated structure of religion, culture, geographical situation, and social education of students and the diverse cultural views of students complicated their training (11). Moreover, some scholars believe that medical students may experience ethical erosion and cynicism during education (2). With this background in mind, the present study aimed to identify and prioritize general medicine curriculum challenges with professional ethics approach using an important performance map analysis (IPMA) model in Mazandaran University of Medical Sciences in 2020.

Materials and Methods

This was an applied, cross-sectional, and descriptive- analytical research and data were collected by the exploratory mixed method. In the qualitative section, targeted semi-structured interviews were performed with 14 clinical and medical faculty members of Mazandaran University of Medical Sciences working in Medical School of Sari and Ramsar Campus and instructors of medical ethics and ethics units and members of the medical ethics committee of universities and training hospitals. Interviews were carried out face-to-face and the process was recorded. Each interview session lasted 45-60 minutes, and data collection continued until reaching saturation (12). Conventional inductive content analysis (Hsieh and Shannon) was used to analyze the data (13). The interviews were transcribed verbatim in the shortest time possible and the main statements were underlined. Following the extraction of primary codes, we removed the repetitive and additional items, as well as parenthetical phrases and deviant sentences (14). In addition, we referred to the primary text several times to ensure not neglecting any keyword. Finally, we extracted 670 initial codes and formed primary and secondary categories and themes by classification of the codes in the form of more abstract concepts.

After eliminating or integrating similar codes, the content analysis table was reviewed by five specialists in curriculum planning and medical and clinical education, followed by the elimination, correction, or integration of a number of codes due to having similar meanings. Ultimately, 98 codes were approved under 13 themes. To validate the findings, the researcher used the opinions of medical ethics experts and dealt with qualitative data for a long period during the process. In addition, the audio of the interviews was listened to several times and compared to the extracted items. Moreover, we kept a sufficient and bilateral relationship with the subjects, who approved the codes and perceptions obtained from data analysis. Furthermore, their opinions were used to make the necessary corrections. To confirm verifiability, the consensus was obtained among the subjects and several experts outside the research regarding the codes and their classification. In addition, reliability was confirmed using the purposive sampling method while observing diversity. Using the opinions of experts, attempts were made to present a comprehensive description of the research process. Transferability was ensured by providing a detailed description of sample selection, characteristics of experts, data collection, and analysis process (12). Moreover, we adhered to ethical considerations by ensuring the participants of the confidentiality terms regarding their personal information. In addition, participation was voluntary and the subjects could withdraw from the study at any time. The number of interviews and data saturation method are shown in Table 1.

[Downloaded from edujournal.zums.ac.ir on 2026-09-07]

[DOR: 20.1001.1.22519521.1399.13.40.2.5]

[DOI: 10.52547/edcj.13.40.1]

Table 1: Number of interviews & Data saturation

Themes \ person	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Repetition
Review of content & resources	*	*	*	*	*	*	*	*	*	*	*	*	*	*	14
Attention to teacher	*		*	*	*	*	*	*	*	*	*	*	*	*	13
Multidimensional Evaluation	*		*	*	*	*	*		*	*	*		*	*	11
Hidden curriculum management	*	*	*		*	*		*	*	*	*		*	*	11
Attention to student	*		*		*		*	*	*		*	*	*		9
Appropriate time & location		*	*			*	*		*		*		*	*	8
Modifying objectives	*		*	*	*	*	*			*	*				8
Active teaching methods				*	*	*	*		*	*	*			*	8
External factors				*	*	*	*		*		*	*		*	8
Poor facilities and opportunities			*	*	*	*			*	*	*	*			8
Learning strategies							*	*	*		*		*	*	6
Inappropriate Implementation						*	*	*	*			*		*	6
Implementation of extra-curriculum										*		*			6
Sum	**6**	**1**	**1**	**2**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	–

In the following, Codes obtained from the analysis of interviews were turned into items and adjusted in the form of content validity index (CVI) and content validity ratio (CVR) tables. Furthermore, 10 clinical physicians and medical education and planning experts were asked to express their opinions about the proportion, relevance, ambiguity, elimination, or integration of items. According to the Polit and Beck method (2006), the two indexes were estimated for all items using the R software, and the unfavorable items were eliminated. In addition, CVR was estimated by the Lawshe technique (15-17). In this method, the minimum acceptable value was 0.62 when receiving opinions from 10 experts (18, 19). Furthermore, CVI was assessed by Waltz & Bausell's method (20). This coefficient has three components of simplicity, relevance, and clarity. The minimum acceptable CVI mean was ≥0.79 for each item and ≥0.9 for the entire scale when using the opinions of 10 experts (21-23). After eliminating 17 items with unfavorable CVI and CVR, the total mean score of simplicity, relevance, and clarity was estimated at 0.94, 0.91, and 0.94, respectively. Therefore, CVI-Total/Ave=[(simplicity 0.94)+(Relevancy 0.91)+(Clarity 0.94)]/3=0.9 and CVR-Total/Ave= 0.9 were confirmed (24, 25).

The Kappa coefficient was assessed to evaluate the level of agreement among the assessors. This coefficient of content validity ensures that there is agreement among the experts and the calculated validity is not related to probability (28). In this regard, a Kappa coefficient of above 0.74, 0.6-0.74, and below 0.6 is interpreted as excellent, good, and poor, respectively (26). In the present study, the index was above 0.7 in all items and was, therefore, favorable. Moreover, reliability was confirmed at a Cronbach's alpha of 0.89 and based on the values above 0.8, which were reported to be favorable (27).

[Downloaded from edujournal.zums.ac.ir on 2026-09-07]

[DOR: 20.1001.1.22519521.1399.13.40.2.5]

[DOI: 10.52547/edcj.13.40.1]

Ultimately, the questionnaire was formed with 71 closed-ended questions, and the items were scored based on a five-point Likert scale. In the quantitative section, the participants included 457 clinical faculty members of Mazandaran University of Medical Sciences (n=215) and second and higher-year residents (n=242). Using Cochrane's formula (28), a total of 209 participants were selected by stratified random sampling from educational groups encompassing residents and interns. To ensure the appropriateness of sample size, we used the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, Bartlett's test, and confirmatory factor analysis. In addition, SMART PLS (3) was used to confirm the themes in the qualitative section of the research and analyze performance-significance. This analysis is used to identify the degree of priority of the indicators and to help improve the decision-making process (29). In this model, the X axis indicates the importance of the factors and the Y axis indicates their performance. The importance dimension was calculated by examining the linear relationships between the research factors and the analysis of path coefficients and the performance dimension by calculating the mean of the latent variables and their indices (30).

Results

After 14 interviews in the qualitative section, we identified 13 curriculum factors, including modifying objectives, review of content and resources, appropriate time and place, implementation of extracurricular, modification learning strategies, Inappropriate Implementation, poor facilities and opportunities, active teaching methods, multidimensional evaluation, hidden curriculum management, and attention to teachers, students, and external factors. The descriptive results of the participants in the qualitative and quantitative sections are presented in Table 2.

Table 2: Descriptive of the participants in quantitative & qualitative sections

Variables		Qualitative	Quantitative
Gender	Female	3	97
	Male	11	112
Academic Degree	Assistant	6	79
	Associate	4	40
	professor	4	7
	Resident	–	83
Teaching Background	<10 years	6	157
	20-10 years	4	34
	>20 years	4	18
Age	<50	2	141
	60-50	9	59
	>60	3	9
Degree of Education	Ph. D	2	–
	Specialist	5	107
	Fellowship	1	4
	Sub-specialist	6	15
	Resident	–	83

According to Table 1, the highest and lowest ranks were allocated to the factors of "review of educational content and resources" with 14 iterations and "implementation of extracurricular" with two repetitions, respectively. According to the results of the second step (quantitative section), from 209

[Downloaded from edujournal.zums.ac.ir on 2026-09-07]

[DOR: 20.1001.1.22519521.1399.13.40.2.5]

[DOI: 10.52547/edcj.13.40.1]

participants, 120 were faculty members (57.4%) ad 89 were residents (42.6%). In addition, confirmatory factor analysis was used to approve the qualitative results. In addition, the KMO index was estimated at 0.785, Sig=0.0009. In this index, values above 0.7 showed sample size adequacy (31, 32). According to the quantitative results, all themes obtained from the qualitative content analysis were significant in the confirmatory analysis test. Results of confirmatory factor analysis calculations are presented in Table 3.

All the above elements were confirmed in the results obtained from Varimax rotation, and 5 items (3, 4, 23, 32, and 49) were removed from the final analysis due to heterogeneity or low factor loads. Moreover, the Eigen Value of all factors was above one, showing that all of them were statistically approved (33). In addition, they were responsible for 67.34% of the entire changes.

We also calculated the significance-performance analysis and ranking of factors. The status of research factors is shown in Table (4) and Figure (2).

Table 3: Extracted Factors and Variance % Explained after Varimax rotation

Factors	Extraction Sums of Squared Loadings			Extraction Sums of Squared Loadings after Varimax rotation		
	Total	Variance %	Cumulative variance %	Total	Variance %	Cumulative variance %
Modifying objectives	17.51	24.66	24.66	5.81	8.19	8.19
Review of content & resources	4.93	6.95	31.61	5.69	8.01	16.20
Appropriate time & location	3.97	5.58	37.20	4.99	7.03	23.22
implementation of Extra-curriculum	3.75	5.29	42.48	4.22	5.94	29.16
Inappropriate Implementation	2.87	4.05	46.53	4.02	5.67	34.83
Learning strategies	2.41	3.39	49.92	3.98	5.61	40.44
Active teaching methods	2.30	3.25	53.16	3.43	4.84	45.27
Multidimensional Evaluation	2.10	2.95	56.12	3.24	4.56	49.84
Poor facilities and opportunities	1.98	2.79	58.91	3.07	4.32	54.16
Attention to teacher	1.78	2.50	61.41	3.06	4.30	58.47
Attention to student	1.54	2.17	63.58	2.71	3.82	62.29
Hidden curriculum management	1.38	1.94	65.52	2.09	2.95	65.24
External factors	1.29	1.82	67.34	1.50	2.11	67.34

[Downloaded from edujournal.zums.ac.ir on 2026-09-07]

[DOR: 20.1001.1.22519521.1399.13.40.2.5]

[DOI: 10.52547/edcj.13.40.1]

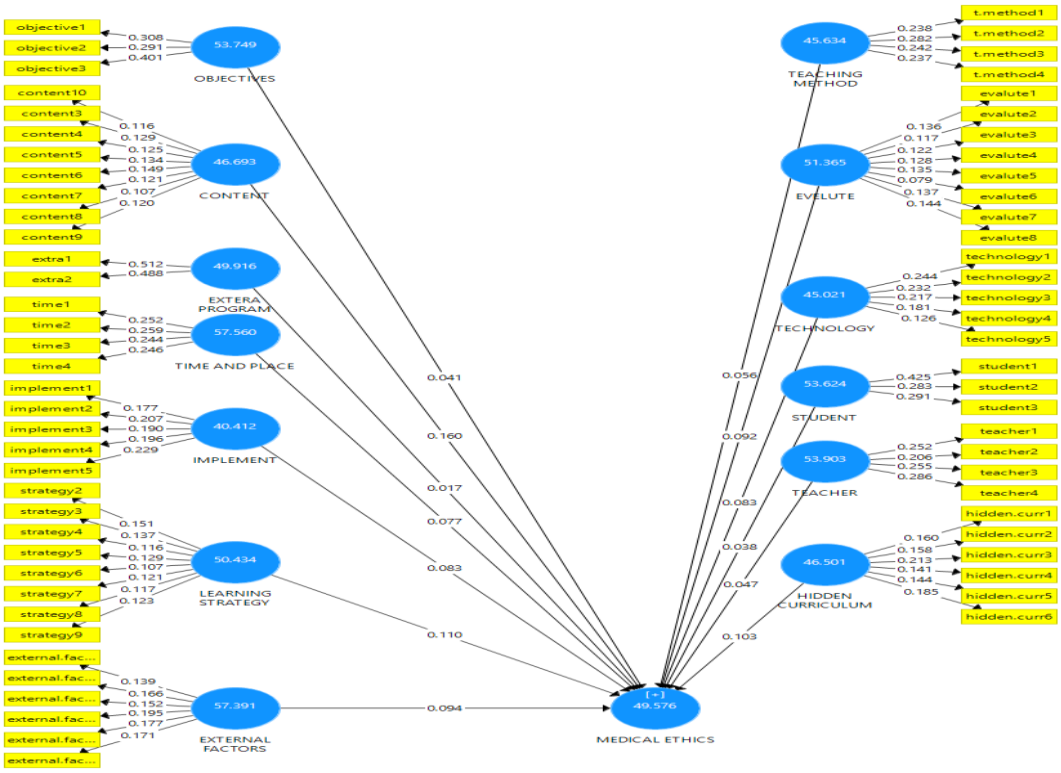

Figure 1: Importance Performance Map Analysis

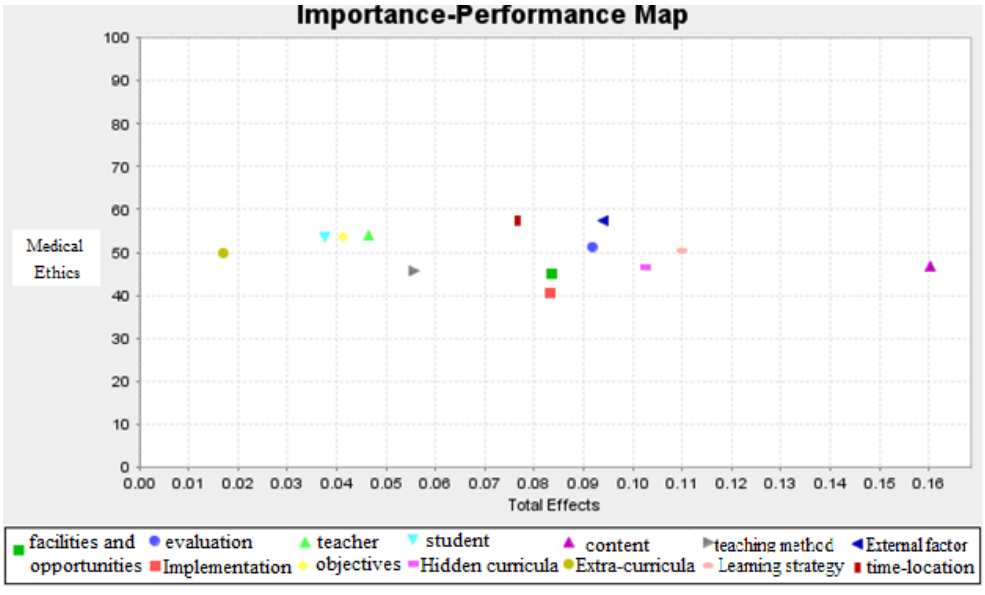

Figure 2: Status of research elements in IPMA

[Downloaded from edujournal.zums.ac.ir on 2026-09-07]

[DOR: 20.1001.1.22519521.1399.13.40.2.5]

[DOI: 10.52547/edcj.13.40.1]

Table 4: Ranking & prioritize the elements of medical ethics in curriculum

Themes	Categories	Medical Ethics				Priority
		Important		Performance		
		Factor Load	Rank	Weight	Rank	
Modifying objectives	Fit to needs of the community, Attention to the three areas of learning	0.014	11	53.749	4	Q1
Attention to teacher	Careful selection and recruitment, Training and empowerment, Attention to material and spiritual motivations	0.047	10	53.903	3	
Attention to student	Personality characteristics, Feeling the need, Individual expectations and motivations	0.038	12	53.624	5	
Multidimensional evaluation	Improving the scoring method, formative evaluation, Guiding students to self-assessment, Use variety of questions, Application of qualitative methods	0.092	5	51.365	6	Q2
Appropriate time & location	Modify the presentation time of units, Observe continuity, Practical training	0.077	8	57.560	1	
External factors	Economic policies, cultural believe, Social values, Religion, Other organizations	0.094	4	57.391	2	
Learning strategies	Student participation, Attractive class, Expressing expectations to the student, Provide effective feedback, Use encouragement no Punishment	0.110	2	50.434	7	
Active teaching methods	question and answer, Role playing, Problem Solving, group discussion, Scenario execution	0.056	9	45.634	11	Q3
Implementation of Extra-curriculum	Holding seminars and panel, Tourist camp, Holding symbolic ceremonies	0.017	13	49.916	8	
Inappropriate Implementation	compliance of the implementation method with the objectives, Necessity of implementation in field	0.083	7	40.412	13	Q4
Review of content & resources	Modify resources and update content, Provide practical and useful content, Integration of theoretical and practical content	0.160	1	46.693	9	
Hidden curriculum management	Contradiction between theory and practice, Impact of educational environment, Observance of laws, Role of peers, Teacher as a model	0.103	3	46.501	10	
Poor facilities and opportunities	Supply of equipment, Application of technology in teaching, Application of technology in information, Teaching ethics in the use of technology	0.083	6	45.021	12	

[Downloaded from edujournal.zums.ac.ir on 2026-09-07]

[DOR: 20.1001.1.22519521.1399.13.40.2.5]

[DOI: 10.52547/edcj.13.40.1]

In terms of importance, the factor of educational content and resources had the highest factor load (0.160) and was ranked first, whereas the implementation of extracurricular activities had the lowest factor load (0.017), there by being ranked last, which is in line with the results of the qualitative section shown in table 1. Regarding performance, the factors of time and location, and implementation received the highest and lowest ranks with factor loads of 57.560 and 40.412, respectively. Afterwards, the two-dimensional diagram of performance-importance was drawn based on the mean factor load (0.77) and weight of indexes (50.2) based on the PLS(3) software (34). The status of significance-performance of each factor in the four regions can be observed in Figure (3).

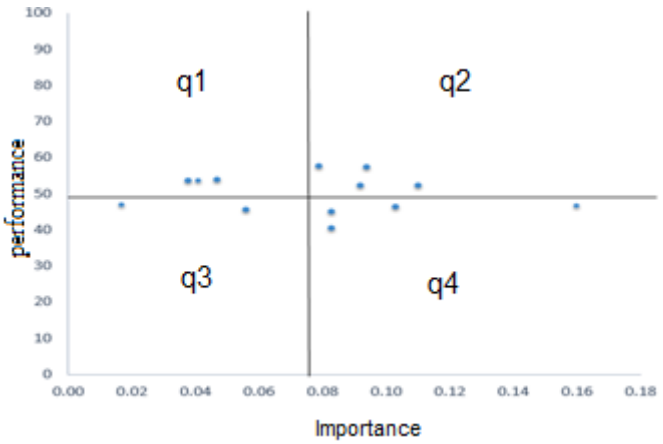

Figure 3: Two-dimensional diagram of performance-importance.

According to table 4 and figure 3, the factors of "modifying objectives" and "attention to teacher" and "students" in the first quarter were considered to have low importance and acceptable performance based on the opinions of the subjects. On the other hand, "proper time and place", "modification of learning strategies", "multidimensional evaluation", and "attention to external factors" were placed in the second quarter and had appropriate performance and importance. Moreover, the factors of "implementation of extracurricular" and "active teaching methods" were in the third quarter, which means that they had poor performance and importance. The fourth quarter included the "review of content and resources", "hidden curriculum management", "poor facilities & opportunities" and "inappropriate implementation", which showed high importance and low performance.

Discussion

In the analysis of the performance-importance map, factors that were included in the first quarter had a relatively acceptable status. The second quarter was one of the safe points, showing that the existing trend is relatively satisfactory. Factors in the third quarter were minor weaknesses, and efforts to improve them can be the next priority. Therefore,

[Downloaded from edujournal.zums.ac.ir on 2026-09-07]

[DOR: 20.1001.1.22519521.1399.13.40.2.5]

[DOI: 10.52547/edcj.13.40.1]

factors in the fourth quarter were prioritized and required immediate intervention and correction. In addition, they were considered as crisis and damage points (35). In this section, we explained the factors of the fourth quarter, which had the most importance and least performance and played, in fact, more vital roles. Despite the fact that the existence of appropriate, balanced, and practical educational content is necessary for achieving goals, participants were not satisfied with the current situation, mentioning that it could not respond to students' attitude and skill-related goals and today's needs of the medical community. In this regard, Participant 3 stated: "the ethics course has been developed more recently and has had more problems. There are no appropriate references and the headings and syllabuses defined in this area are mostly vague." Moreover, Subject 7 expressed: "medical ethics could be taught everywhere and in all courses." In addition, Participant 6 marked: "new topics should be added to the content and theoretical courses should be merged with practice." Based on the opinions and experiences of the participants, the curriculum was relatively acceptable in terms of educational goals but should be more update with the current needs of the medical community. In addition, there was a gap between educational content and goals, which could not be removed by the efforts of teachers alone, and the possibility of various decisions and differences between different faculties and universities was not unexpected. The second element was "inappropriate implementation", and there were some barriers in the qualitative section, including lack of implementation of workshops, weakness of the faculty in the accurate implementation of the curriculum, the large number of students in the classrooms, and conflict between theory and practice. In this regard, Participant 6 mentioned: "efficiency increases and lasting learning will occur if topics are presented in the form of a workshop, the teacher is not the sole speaker in the classroom and students are also involved in the teaching process."

Since the effectiveness of any curriculum depends on the correct implementation and compliance with the criteria set out in the educational curriculum, solving administrative challenges, holding workshop classes, and providing practical training by all teachers, especially clinical teachers, will improve performance. According to the participants, they could not properly gain ethical skills due to the high number of students and the independent form of teaching. The third factor was inadequate facilities and opportunities. In this regard, Subject 9 expressed: "even though the class is held in the form of a workshop, the way it is practically handled is not the same as a workshop. This is mainly due to the lack of proper facilities. In fact, the way classes are held today is not ideal." Participant 4 asserted: "I am not content with classes since they are sometimes held in the conference hall, which is very large for just 50 students." Subject 6 mentioned: "professional regulations and checklists can be made available on the website and students can be advised to use them." According to the subjects, there were sufficient video projectors and laptops for displaying slides and films and the U-shaped arrangement of seats in the classroom was a good choice. However, lack of access to sufficient facilities to hold workshops, inadequate number of teachers, and lack of proper access to ethical movies that fit the social values and cultural situation of the community were recognized as the most important problems in this area.

The fourth factor was hidden curriculum management, which had poor performance despite its significant importance. In this respect, Participant 11 marked: "the behavior of people who are in constant contact with students may be in line with synergy, God forbid, have the opposite effect." In addition, Subject 10 stated: "people learn behaviors unintentionally and teach them to others. The apprentices look up to interns and interns look up to higher-level individuals." In addition, Participant 7 mentioned: "teachers are role models and should deal with bad-tempered student. I hold a briefing session

[Downloaded from edujournal.zums.ac.ir on 2026-09-07]

[DOR: 20.1001.1.22519521.1399.13.40.2.5]

[DOI: 10.52547/edcj.13.40.1]

for students at the beginning of the course and teach them the dressing code and discipline. In order to oblige students to adhere to these rules, I have to adhere to them myself." According to the subjects, professional ethics were affected by various factors such as the behavior of teachers, staff, managers, and even other students. In addition, the educational environment and all of its parts (e.g., library, dormitory, dining hall, corridors, clinic, hospital yard, and school) affected the teaching of ethics to students. In this respect, Participant 6 marked: "being a good role model is much more important than just focusing on the teaching method."

To this end, training human resources, the obligation to implement professional rules and regulations by the teacher and the student, creating role models and constructive interactions in the mentor-mentee relationship, and focusing on the role of peers are effective in the management of the hidden program. While the frequent emphasis of participants on "review of content and resources" showed that medical ethics are taught mostly by theory, and since the ultimate goal of education of ethics is to gain medical student's reasoning and clinical judgment skills, the university's educational approach is expected to shift to from focusing on content to focusing on skills. According to the challenges in the performance section, it is suggested that the theoretical units be implemented as a workshop according to the curriculum in the presence of simulated patients. In addition, students should gain real and specialized experience in practical units and internships under the supervision of experienced teachers.

However, the ethical behavior of residents requires continuous and serious monitoring by educational managers and senior residents as the first level of interaction between interns and apprentices with patients. Regarding the factor of facilities and opportunities, it is suggested that proper planning be carried out both at managerial and expert level for optimal distribution of the existing facilities, such as student grouping, paying tuition fees to experienced and specialized teachers, and effective use of the green space, the school and training hospitals. Regarding hidden curriculum management, it is recommended that strategies to strengthen positive outcomes and deal with negative outcomes be predicted and implemented in the school of medicine and the form of a strategic program in order to align with the formal program. Our findings are congruent with the results obtained by Mohebi regarding the unfavorable internal and external quality of the medical ethics curriculum and the results of Khaghanizadeh in terms of inadequacy, balance, and coherence of educational content (36-39). It seems that the recent review of the program has eliminated some of the problems of the objective section. Nevertheless, content and resources are still not appropriate (regarding the way it fits up date goals and topics) or balanced (between theoretical and practical content) and there are some issues in the continuity between basic and clinical science courses. In fact, content is presented separately in specific theoretical credits and the course ends with receiving a passing grade in the medical ethics course. Meanwhile, it is expected that the continuation and spiral integration be considered by all teachers and in all theoretical and practical courses. In this regard, our findings are in line with the results obtained by Yousefi regarding challenges such as the need for training of teachers, executive issues and disasters of the educational system, cultural vacuum and lack of experienced and ethics-oriented teachers, lack of continuation of the clinical course, and content disproportionate to course, culture, tradition, and religion (40). Moreover, our findings are consistent with the results obtained by Azarkolah regarding the effectiveness of workshop education of ethics compared to theoretical classes, Kelly in terms of the effectiveness and importance of hidden curriculum, O'Sullivan in terms of weaknesses in the elements of educational content and implementation, and Joynt regarding incompatibility between the formal

curriculum and the hidden curriculum in medical students, Jha in terms of intervention of culture and social education in students' moral behavior and attitude, and Birden regarding modeling teachers for learning ethical topics in medical students (5, 11, 41-44).

According to the results of the present study, it seems appropriate for the university to plan and address the existing challenges, given the resources and potential constraints in line with regional priorities. It should be noted that all the challenges arising from the research are the product of the ideas and experiences of medical ethics experts of this university and their prioritization does not mean neglecting other challenges. In fact, they were recognized as a criterion of priority and precedence in decision, intervention and resource allocation.

Conclusion

Identifying and prioritizing the challenges can be applied as a guide to improve the policy making and effectiveness of the curriculum.

Acknowledgments

This article was extracted from a doctoral dissertation written by Maryam Nemati with Dr. Falah as the advisor and Dr. Enayati as the counselor with the ethical code of IR.IAU.SARI.REC.1399.001. Hereby, we extend our gratitude to all participants for assisting us in performing the research. It is also notable that no conflicts of interest were declared.

Conflicts of Interest: The authors declare that there are no conflicts of interest.

References

1. Zali A. The role of medical ethics in comprehensive health system. *Med Ethic J.* 2008;2(3):11-32.

2. Eckles RE, Meslin EM, Gaffney M, Helft PR. Medical ethics education: where are we? Where should we be going? A review. *Acad Med.* 2005;80(12):1143-52.

3. Kazemi A, Kazemi M, Faizollahi N, MasoudiFar R. Medical Ethics Programming for Education of Professionalism. *J Educ Stud (NAMA).* 2017;5(10):35-44.

4. Kheirkhah M, Soltani Arabshahi K, Meshkat Z. Relationship between Teachers Professional Ethics and Midwifery Students' Self-Efficacy in Shahid Sadoughi University of Medical Sciences, Yazd, 2015. *J Med Educ Dev.* 2016;11(2):161-73.

5. Azarkolah A, Ghanizadeh M, Molavi P, NaderMohammadi M, Salvat H. Comparison of Effectiveness of Theoretical Training Versus Operational Training in Psychiatric Medical Ethics. *Med Ethic J.* 2019;13(44):1-11.

6. Ten Have H. Implementation of ethics education. *Int J Ethic Educ.* 2019;4(2):95-6.

7. Wagner P, Hendrich J, Moseley G, Hudson V. Defining medical professionalism: a qualitative study. *Med educ.* 2007;41(3):288-94.

8. Azim SR, Shamim MS. Educational theories that inform the educational strategies for teaching ethics in undergraduate medical education. *JPMA.* 2020;70(1):123-8.

9. Khajehazad M, Yamani douzi sorkhabi M, Zarei mahmood abadi A, Naghizadeh J. Assessing the Quality of General Medicine Curriculum in Baqiyatallah University Based on Iranian National and WFME Global Standards. *Iran J Med Educ.* 2011;10(4):417-29.

10. Rameshkumar K. Ethics in medical curriculum; Ethics by the teachers for students and society. *Indan j urolog.* 2009;25(3):337-9.

11. Jha V, Mclean M, Gibbs TJ, Sandars J. Medical professionalism across cultures: A challenge for medicine and medical education. *Med Teach.* 2015;37(1):74-80.

12. Speziale HS, Streubert HJ, Carpenter DR. Qualitative research in nursing: Advancing the humanistic imperative: Lippincott Williams & Wilkins; 2011.

13. Hsieh H-F, Shannon SE. Three approaches to qualitative content analysis. *Qual health res.* 2005;15(9):1277-88.

14. Erlingsson C, Brysiewicz P. A hands-on guide to doing content analysis. *Afric J Emerg Med.* 2017;7(3):93-9.

[Downloaded from edujournal.zums.ac.ir on 2026-09-07]
[DOR: 20.1001.1.22519521.1399.13.40.2.5]
[DOI: 10.52547/edcj.13.40.1]

15. Neamatshahi M, Salehi M, Pezeshkirad M, Emadzadeh M, Yaghoubi S. Validation of the Persian Version of Aberdeen Varicose Vein Questionnaire. *Rev Clin Med.* 2019;6(3):104-7.

16. Keyghobadi Khajeh F, Faridaalaee G, Ghaffarifar S, Pezeshki M, Keyghobadi Khajeh F, Pezeshki M, et al. Development of the Persian Hypertension Self-Management Questionnaire. *Int Cardio Res J.* 2019;13(1):e83035.

17. Shrotryia VK ,Dhanda U. Content Validity of Assessment Instrument for Employee Engagement. SAGE Open. 2019;9(1):2158244018821751.

18. Anuar A, Sadek DM. Validity Test of Lean Healthcare using Lawshe's Method. *Int J Sup Chain Mgt Vol.* 2018;7(6):197-203.

19. Dolatkhah N ,Aghamohammadi D, Farshbaf-Khalili A, Hajifaraji M, Hashemian M, Esmaeili S. Nutrition knowledge and attitude in medical students of Tabriz University of Medical Sciences in 2017–2018. *BMC Res Notes.* 2019;12(1):757.

20. Waltz CF, Bausell BR. Nursing research: design statistics and computer analysis. 7th ed. Philadelphia: Davis FA; 1981.

21. Yusoff MSB. ABC of Content Validation and Content Validity Index Calculation. *Educ Med J.* 2019;11(2):49-54.

22. Gol MK, Dorosti A, Montazer M. Design and psychometrics cultural competence questionnaire for health promotion of Iranian nurses. *J educ health promot.* 2019;8(155):PMCID: PMC6745883.

23. Polit DF, Beck CT. The content validity index: are you sure you know what's being reported? Critique and recommendations. *Res nurs health.* 2006;29(5):489-97.

24. Polit DF, Beck CT, Owen SV. Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Res nurs health.* 2007;30(4):459-67.

25. Mahmoudi D, Alizadeh SS, Rasoulzadeh Y, Asghari Jafarabadi M .The validity and reliability of organizational resilience questionnaire (ORQ) in dealing with major accidents. *J Health Safe Work.* 2019;8(4):383-96.

26. Zamanzadeh V, Rassouli M, Abbaszadeh A, Majd HA, Nikanfar A, Ghahramanian A. Details of content validity and objectifying it in instrument development. *NPT.* 2014;1(3):163-71.

27. Mohammadbeigi A, Mohammadsalehi N, Aligol N. Validity and Reliability of the Instruments and Types of MeasurmentS in Health Applied Researches. *J RafsanjanUniv Med Sci.* 2015;13(10):1153-70.

28. Cochran W. The estimation of sample size. Sampling techniques. New York: Wiely & Sons; 1977. 72-90 p.

29. Bamdadsoofi, J, Ghodrat, S.R, MansurimohammadAbadi, S, et al. Performance Evaluation of Library of Accounting and Management Faculty of Allameh Tabataba'i University, Using Importance-Performance Analysis (IPA) Approach. *Knowldge Study Quarterly.* 2016;2(8):101-20.

30. Ringle CM, Sarstedt M. Gain more insight from your PLS-SEM results. *Industrial Management & Data Systems.* 2016;116(9):1865-86.

31. Chan LL, Idris N. Validity and reliability of the instrument using exploratory factor analysis and Cronbach's alpha. *International Journal of Academic Research in Business and Social Sciences.* 2017;7(10):400-10.

32. Mooi E, Sarstedt M, Mooi-Reci I. Principal component and factor analysis. Market Research: Springer; 2018. p. 265-311.

33. Cerny BA, Kaiser HF. A Study Of A Measure Of Sampling Adequacy For Factor-Analytic Correlation Matrices. *Multivariate Behav Res.* 1977;12(1):43-7.

34. Ringle CM, Sarstedt M .Gain more insight from your PLS-SEM results. *Indust Manag Data Sys.* 2016;16(9):1865-86.

35. Andry JF, Christianto K, Wilujeng FR. Using Webqual 4.0 and Importance Performance Analysis to Evaluate E-Commerce Website. *Journal of Information Systems Engineering and Business Intelligence.* 2019;5(1):23-31.

36. Mohebbi Amin S, Rabiei M, Keizoori AH. A review of students' evaluation of the medical ethics curriculum. *J Med Ethic Hist Med.* 2015;8(3):77-86.

[Downloaded from edujournal.zums.ac.ir on 2026-09-07]
[DOR: 20.1001.1.22519521.1399.13.40.2.5]
[DOI: 10.52547/edcj.13.40.1]

37. Khaghanizadeh M, Maleki H, Abbasi M, Abbasi pour A, Mesri M. The challenges of medical ethics curriculum: a qualitative study of instructors view. *J Med Ethic Hist Med.* 2012;5(2):70-9.

38. Khaghanizade M, Maleki H. Critical on Content of Medical Ethics Curriculum from the Perspective of Medical Ethics Experts: A Qualitative Study. *J High Educ Curric Stud.* 2013;4(7):70-84.

39. Khaghanizade M, Maleki H, Abbasi M, Abbaspour A. Pattern of medical ethics curriculum with Islamic approach. *Educ Strategy Med Sci.* 2013;6(1):1-6.

40. Yusefi Mr, Ghanbari Mr, Mohagheghi Ma, EmamirazaviI Sh. The Possibility Of Including Medical Ethics Courses In The Clinical Traning Of Medicine Students: Academic Members' Viewpoints. *Strid Dev Med Educ.* 2012;9(1):1-10.

41. Kelly AM, Mullan PB. Designing a curriculum for professionalism and ethics within radiology: identifying challenges and expectations. *Acad radiol.* 2018;25(5):610-8.

42. O'Sullivan H, Van Mook W, Fewtrell R, Wass V. Integrating professionalism into the curriculum: AMEE Guide No. 61. *Med teach.* 2012;34(2):64-77.

43. Joynt GM, Wong W-T, Ling L, Lee A. Medical students and professionalism –Do the hidden curriculum and current role models fail our future doctors? *Med Teach.* 2018;40(4):395-9.

44. Birden H, Glass N, Wilson I, Harrison M, Usherwood T, Nass D. Teaching professionalism in medical education: A Best Evidence Medical Education (BEME) systematic review. BEME Guide No. 25. *Med Teach.* 2013;35(7):1252-66.

Nemati M, Fallah V, Enayati T. Identify And Prioritize Of The General Medicine Curriculum Challenges with Medical Ethics Approach. J Med Educ Dev. 2021; 13 (40) :1-13

[Downloaded from edujournal.zums.ac.ir on 2026-09-07]

[DOR: 20.1001.1.22519521.1399.13.40.2.5]

[DOI: 10.52547/edcj.13.40.1]