Original Research

The Virtual Course of Persian and Complementary Medicine of Smart University of Medical Sciences from the Students' Point of View: An Online Survey Study

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Abstract

Persian medicine is an ancient medical school that prioritizes preserving health over treatment. It is a holistic approach that considers genetics, lifestyle, and other factors to find the root cause of a disease. This study investigated the virtual course of Persian and complementary medicine from the perspective of students. We conducted a cross-sectional study. A standard questionnaire was used to collect data from 750 participants. The tool's validity was confirmed based on its content validity, and Cronbach's alpha coefficient was used to estimate the internal consistency of this questionnaire. The questionnaire measured the effectiveness of the virtual education system in various dimensions, and the participants completed it electronically at the end of the course. SPSS 26.0 was used to analyze the collected data. The study used frequency, percentage, and mean to describe data and a desirability score was calculated for each question to evaluate course quality from participants' perspective. The results of the one-sample t-test indicate that the sample mean (57.111) is higher than the population mean (90) ($p < 0.01$). Based on the independent samples t-test, the mean attitude score of female students towards course is higher than that of male students ($p > 0.05$). The ANOVA analysis results regarding the mean attitude scores of students towards the course based on their field of study show that the mean attitude scores vary across different fields of study ($p < 0.05$). The result of present study emphasizes the importance of developing education in Persian medicine in universities to meet the clinical needs of the community and improve health and well-being. This can also promote the status of Persian medicine globally.

Keywords: Undergraduate medical education; Persian medicine; Distance education; Cross-sectional study; Survey method

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Introduction

Persian medicine is one of the oldest medical schools in the world with a history of ten thousand years. Even though the chair of traditional medicine training remained in place until the final days of *Dar al-Funun*, an opposing discourse against modern medical education developed outside *Dar al-Funun* [1]. Obviously, until the end of the Qajar era, opposition to Western-style medical education was one of the collective and public demands. This demand compelled the government to formally develop the chair of traditional medicine more than before and assign its management to "Mirza Mohammad Hakim Bashi Kashani," a skilled physician in this field in 1860 [2]. Therefore, contrary to *Dar al-Funun*, traditional medicine education was established in the heart of the four semi-formal institutions that regarded most modern medicine teachings as irrelevant to temperament evidence, humor, and hygiene in traditional medicine. When the confrontation between the two schools of traditional and contemporary medical education had cast a shadow on the Qajar society, a third discourse appeared with less-biased attitudes, intended to construct a bridge between these two philosophical schools [2,3].

In Persian medicine, preserving health takes priority over treatment, and the correct principles of lifestyle are presented based on the conditions of each individual in the form of "six essential principles for maintaining health" [4].

As Sheikh al-Ra'is Abu Ali Sina states in his book "The Canon of Medicine", "Medicine is a science by which the conditions of the human body are known in terms of what causes health and disease, in order to maintain the existing health and, in the event of its loss, restore it to the body." [5].

Therefore, the first duty of a physician in Persian medicine is to preserve health. Persian medicine is a holistic school in the sense that to accurately identify the disease and provide appropriate treatment, the health of all parts of the body, genetics, living conditions, psychological traits, age, geography, and so on are measured together to find the disrupting factor of the physical balance and harmony in the individual patient. In the initial stage of treating the disease, lifestyle, especially nutrition, is corrected, and after correcting the lifestyle, drug treatment and therapeutic interventions such as massage are also among the other treatment principles in Persian medicine [6].

Given the widespread use of traditional and complementary medicine services worldwide and the increasing demand of different segments of our society to use Persian medicine and its strong historical and cultural background, it seems that the use of Persian medicine in combination with modern medicine can be an appropriate solution to promote the health of the community [7].

The World Health Organization (WHO) has recognized various traditional and complementary medicine schools for many years and has developed and published its strategy on traditional and complementary medicine in two documents for 2002-2005 and 2014-2023 [8]. In addition, the new strategy document of WHO of Traditional medicine for 2025 to 2034 is developing [9].

According to this organization's documents, traditional and complementary medicine is an important but undervalued part of healthcare that is present in all countries and is increasingly popular among people [10]. The lack of access to primary healthcare services by a large part of the world's population (more than 80%) and people's facing problems in the treatment of chronic diseases and drug-related complications led to the introduction of the integrative medicine system by the WHO as an effective method for using traditional and complementary medicine alongside modern medicine in healthcare centers for patients [8,11].

Currently, many countries have realized the importance and necessity of the integrative medicine approach in the medical system of their societies and have planned to expand it [12].

The rational promotion and education of Persian medicine through the establishment of Persian medicine faculties and the training of physicians and pharmacists as experts have begun in Iran and it is hoped that the integrative medicine approach can continue with the support and supervision of the medical community, and play its role in promoting the health of the community [13].

Persian and complementary medicine courses are considered an important educational program in medical education. These courses teach medical students how to use Persian and complementary medicine methods to improve and maintain the health of patients. This course is offered as a two-credit, compulsory course called "Foundations of Persian and Complementary Medicine" for seven medical fields, including medicine, dentistry, pharmacy, nursing, midwifery, nutrition, and physiotherapy, and as an elective course for other fields. The course was designed and implemented by the Traditional and Complementary Medicine Department of Smart University of Medical Sciences, with the participation of the Office of Traditional and Complementary Medicine of the Ministry of Health, Treatment, and Medical Education and faculty members from medical universities across the country. One of the main goals of designing and implementing this course in medical universities is to educate medical students in the field of Persian medicine while considering the latest documented evidence and to promote culture and

combat superstition in the country. Another goal of offering this course in the country is to create a reliable reference in the field of Persian and complementary medicine and take a step towards integrating Persian medicine with modern medicine.

On the other hand, the importance of evaluating such educational courses is also noteworthy. Evaluating educational courses can be one of the important tools for improving the quality of education and increasing the ability of students to provide medical services. Since the education of Persian and complementary medicine requires the expertise and knowledge of specialists, evaluating courses can be a useful tool for evaluating and improving the quality of education and developing students' skills in this field [6]. This research has been designed based on various topics in combined education with the aim of improving the quality of education and providing desirable educational programs.

Materials and Methods

We conducted a cross-sectional study to investigate students' views towards the virtual training course of Persian and complementary medicine. The study population consisted of all students participating in the training program offered during the academic years of 2019 to 2023 at Smart University of Medical Sciences. In order to select the study sample, cluster sampling method was used. In other words, the study sample were randomly selected from among the panels and lesson groups in the learning management system (Navid system). In total 750 questionnaires were completed by the students, including 397 males and 353 females. A standard questionnaire with 10 dimensions based on Gregorc's 360-degree comprehensive evaluation model, using a 5-option Likert spectrum, was used as the data collection tool. The ten dimensions of Gregorc's model used to measure the effectiveness of the virtual education system included: organization of educational materials, teaching activities, learning, motivation of students, page design, flexibility, content, workload, feedback provided, support, and evaluation methods. The scientific validity of the data collection tool has been confirmed based on its content validity after library studies (including numerous theses, books and articles) and experts' opinions. In a study by Jafari (2011), two groups of teachers and students were involved to measure the reliability of the questionnaire, and the Cronbach's alpha coefficient was obtained as 0.93 and 0.88, respectively [14]. Accordingly, in the present research, the face and content validity of the questionnaire was checked and/confirmed by the approval of 10 teachers and 10 students. The reliability of this questionnaire was calculated using Cronbach's alpha for students and teachers and confirmed with Cronbach's alpha

coefficient of 0.85 and 0.87, respectively.

Ethical considerations and informed consent

All participants were informed of the research objectives at the time of data collection and were assured that participation in research was voluntary. Data confidentiality and anonymity of respondents were guaranteed in the questionnaire-based survey in writing. Finally, informed consent was obtained from all the participates involved in the study.

Result

Description of demographic information

Table 1 provides a description of the demographic information of participants in the online survey.

As shown in table 1, approximately 53% of the participants in this study were male, while 47% were female. Additionally, based on the description of demographic characteristics, the majority of participating students in this study were 22 years old. Lastly, the highest number of participants in this online survey were from the field of medicine.

Analysis of students' attitudes towards the course

To describe qualitative data, frequency and percentage were used; while mean was used for quantitative data. To evaluate the quality of the course from the participants' perspective, for each question in the questionnaire, we calculated the desirability score by dividing the sum of the product of each option score by its frequency by the total number of respondents. For each question, a score of 1 to 2.33 was considered

Table 1. Description of demographic characteristics of participants in the study

Variables	Frequency	Percent
Gender		
Male	397	52.9
Female	353	47.1
Age		
21 years old	212	28.2
22 years old	306	40.8
23 years old	164	21.9
24 years old	35	4.7
25 years old	33	4.4
Mean ± SD		
22.1 ± 1.0278		
Field of Study		
Medicine	244	32.5
Dentistry	78	10.4
Pharmacology	123	16.4
Nursing	63	8.4
Midwifery	68	9.1
Physiotherapy	57	7.6
Nutrition	117	15.6
Total	750	100.0

Table 2. Students' attitude toward the traditional and complementary medicine virtual course based on questionnaire items

Row	Attitude Statements towards Virtual Persian and Complementary Medicine Course	Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree	Mean	Desirability Level
1	In the preparation of course materials, learners' interests and needs, including up-to-date and practical content, have been considered.	2.4	5.5	30.5	43.3	18.3	3.69	Desirable
2	Access to virtual course materials is easily available.	3.2	8.3	24.4	32.9	31.2	3.80	Desirable
3	Virtual education enables learners to interact with instructors.	3.5	14.9	29.5	26.1	26.0	3.56	Relatively Desirable
4	Virtual education enables learners to interact with each other.	2.9	11.3	24.1	27.9	33.7	3.78	Desirable
5	Images, animations, and other multimedia methods are used to present facts and facilitate learning of concepts.	3.1	6.4	31.6	31.5	27.5	3.73	Desirable
6	Learning activities (exercises, questions, and research) engage learners in the learning process.	5.3	5.5	27.3	31.3	30.5	3.76	Desirable
7	Diverse activities (such as online conferences and discussions) are used to enhance interaction and learning of learners.	8.4	14.5	31.9	28.5	16.7	3.30	Relatively Desirable
8	The time for completing and submitting course assignments is specified.	4.0	5.5	22.9	32.7	34.9	3.89	Desirable
9	The teaching methods of instructors are appropriate for the taught course.	6.0	4.7	28.0	33.3	28.0	3.72	Desirable
10	There is a compatibility between program and educational group activities and learners' needs.	6.1	5.3	25.2	32.3	31.1	3.76	Desirable
11	I have a high motivation to continue this course.	4.5	6.9	22.7	28.0	37.9	3.87	Desirable
12	Virtual course materials are presented clearly and explicitly.	5.5	3.7	21.7	32.7	36.4	3.90	Desirable
13	The visual appearance of the pages is organized and suitable.	7.1	6.8	34.5	33.2	18.4	3.49	Moderately Desirable
14	Important course materials are appropriately emphasized.	3.3	7.1	23.5	30.1	36.0	3.88	Desirable
15	Animations, diagrams, tables, and figures are appropriately included in the course content.	7.9	12.1	27.5	32.1	20.4	3.45	Moderately Desirable
16	Suitable frames and frameworks are used consistently to present text in the course.	8.0	9.7	28.0	31.5	22.8	3.51	Moderately Desirable
17	The presented content is influential in motivating and engaging learners.	4.5	6.0	23.9	29.1	36.5	3.87	Desirable
18	The presented content is relevant to learners' previous knowledge and experience.	4.9	9.2	19.7	27.6	38.5	3.85	Desirable
19	The presented content in the course is up-to-date and valid.	7.1	7.2	25.1	30.8	29.9	3.69	Desirable
20	The course content is well-organized and logically sequenced.	4.5	6.0	25.7	29.3	34.4	3.83	Desirable
21	The course content is relevant to the topic and aligned with learners' needs.	5.3	8.3	26.4	27.1	32.9	3.74	Desirable
22	Various examples and samples are used to present new information to learners.	4.8	5.6	30.1	28.7	30.8	3.75	Desirable
23	The volume of instructional content is coordinated with the necessary study time.	9.7	4.8	32.0	28.3	25.2	3.54	Moderately Desirable
24	The number of course assignments is appropriate for the course level.	4.4	8.9	25.2	27.1	34.4	3.78	Desirable
25	Constructive and relevant feedback for better learning is provided throughout the virtual course.	8.8	4.8	26.0	25.7	34.7	3.72	Desirable
26	Virtual access to instructors is available for guidance and support to learners.	8.7	13.7	18.9	25.9	32.8	3.60	Moderately Desirable
27	Assessments of learners are proportional to the presented content	5.5	9.2	27.2	26.4	31.7	3.69	Desirable
28	Various methods are used to assess learners' learning (quizzes, written assignments, oral presentations, etc.).	3.7	8.4	21.5	26.7	39.7	3.90	Desirable
29	Assessment methods are appropriate for the educational program's objectives.	7.7	6.0	27.3	28.4	30.5	3.68	Desirable
30	Clear expectations and criteria exist for task completion.	6.3	10.4	22.4	25.7	35.2	3.73	Desirable

Table 3. One-sample t-test of students' satisfaction with the course

Variable				Test Value= 90			
	N	Mean	SD	Mean Difference	t-value	df	*p* value
Students' attitudes towards the course	750	111.57	16.35	21.57	36.11	749	**0.000**

Table 4. Independent-samples t-test of students' attitude towards the course based on gender

Variable		N	Mean	SD	Mean Difference	Levene's Test for Equality of Variances		t-value	df	*p* value
						F	Sig.			
Students' attitudes towards the course	Male	397	111.23	16.31						
	Female	353	111.94	16.41	-0.714	0.005	0.943	-0.597	748	0.551

Table 5. Test of Homogeneity of Variances

Levine Statistic	df1	df2	Sig.
0.74	6	743	0.998

value of 11.36 at significance level of 0.01 (p < 0.01). To examine the students' attitudes towards the Persian and complementary medicine virtual course based on gender, the independent samples t-test was conducted

Table 6. ANOVA analysis in relation to students' attitude score towards the course according to field of study

Variable	Groups	N	Mean	Coefficient of variation	Sum of squares	df	Mean square	F-test	*p* value
Students' attitudes towards the course	Medicine	244	112.16	Intergroup	1106.547	6	184.425	0.687	0.045
	Dentistry	78	113.33	In-group	199331.207	743	268.279		
	Pharmacology	123	109.76	Total	200437.755	749			
	Nursing	63	112.34						
	Midwifery	68	112.70						
	Physiotherapy	57	109.71						
	Nutrition	117	110.88						

undesirable, 2.34 to 3.66 relatively desirable, and 3.67 or higher desirable. Based on the collected data, the status of the evaluation questions related to the program's quality from the participants' perspective is presented in table 2.

As observed in table 2, according to the results, the majority of students evaluated this course as satisfactory and had a positive attitude towards it. To assess the statistical significance of students' attitudes towards the Persian and complementary medicine virtual course, the one-sample t-test was utilized that the results are presented in table 3.

According to table 3, the results of the one-sample t-test indicate that the sample mean (57.111) is higher than the population mean (90) and this observed difference is statistically significant based on the t-test

that the results are presented in table 4.

As observed, based on the results in the above table, the *p* value of Levene's test is greater than 0.05. Therefore, the assumption of homogeneity of variances for the attitude scores of the two groups (male and female students) is satisfied. Additionally, the results in table 4 indicate a difference in the mean attitude scores between female and male students towards the Persian and complementary medicine course. Specifically, the mean attitude score of female students is higher than that of male students, but this difference is not statistically significant (p > 0.05).

To compare the mean attitude scores of students towards the Persian and complementary medicine course based on their field of study, a one-way analysis of variance (ANOVA) was used. Prior to conduct-

ing this test on the data, the assumption of homogeneity of variances for the attitude scores across different fields of study (medicine, dentistry, pharmacy, nursing, midwifery, physiotherapy, and nutrition) needs to be examined. To assess this assumption, Levine's test was employed. In order for this assumption to hold, the Levine's test should not be statistically significant. The results of this test are presented in table 5.

As observed in table 5, the p value of Levine's test is greater than 0.05. Therefore, the assumption of homogeneity of variances for the attitude scores across different fields of study is satisfied. Consequently, to examine and compare the mean attitude scores of students towards the Persian and complementary medicine course, ANOVA can be used. The results of this test are presented in table 6.

As per table 6, the ANOVA analysis results regarding the mean attitude scores of students towards the Persian and complementary medicine course based on their field of study are shown. It can be observed that the mean attitude scores vary across different fields of study, and this difference is statistically significant ($p < 0.05$).

Discussion

There is an increasing demand for the integration of traditional and complementary medicine with conventional medicine in different countries. In Iran, in order to integrate Persian medicine into the medical education curricula, a two-credit course is implementing across the country. Based on this, more attempts should be made to identify appropriate education and research in this field [9].

Examining the attitude using different questionnaires has been recognized as an effective method in improving the quality of education in various educational programs. The use of questionnaire-based survey allows students to provide their opinions, criticisms, and suggestions about the quality of education [15,16].

In these studies, medical students have mentioned problems such as the lack of educational facilities, the absence of suitable educational programs, the lack of direct communication with patients, and the lack of emphasis on practical skills in education. Some of the suggestions made by medical students include increasing practical exercises and using experiential-based teaching methods. However, given the increasing need for specialized physicians in the community, better understanding of this field is essential, and various studies and research should be conducted to improve the educational situation in Iranian medical universities.

One of the most important issues in this regard is examining the attitudes and opinions of medical students about the quality of education and their

suggestions for improving educational programs in various universities. Some of these studies have emphasized the importance of training physicians who are compatible with the social and cultural environment of the country and are able to communicate with different patients. Therefore, it is recommended that social and cultural challenges in the country should also be considered in educational programs [17].

In the present study and based on the results (Table 1), it can be concluded that all the questions of the questionnaire were generally acceptable to the participants. Additionally, according to table 2, the mean total score of the questionnaire for the participants was 97.98, indicating that the program was generally desirable from the participants' perspective.

On the other hand, as shown in table 3, a one-sample t-test was conducted to examine the statistical significance of the program's desirability from the participants' perspective. The t-value was 2.03 and the p value was 0.051. Since the p value is greater than the significance level of 0.05, there is no significant difference between the mean total score of the questionnaire and the value of 100 (the desired value for the mean). This result indicates that the program was statistically desirable from the participants' perspective. The study's results directly contribute to improving the quality of education in Persian medicine by highlighting the overall positive effectiveness of the virtual course and identifying specific areas for enhancement. The high desirability scores and significant findings from the one-sample t-test indicate general student satisfaction, while gender-based and field-specific differences in attitudes, as revealed by the independent samples t-test and ANOVA analysis, respectively, suggest the need for tailored content and inclusive strategies. These insights guide curriculum developers to refine the course, making it more engaging, relevant, and beneficial for a diverse student population, ultimately enhancing the preparation of future practitioners and promoting the global status of Persian medicine.

In a general overview, the results of the study can be evaluated in four main sections

1. Evaluation of the educational content: In this section of the questionnaire, students answered questions to evaluate various aspects of the educational content, including theoretical and practical sections as well as their relationship with other educational sections. The results show that most students are satisfied with the educational content, although some aspects of the educational content (such as; visual aspects of content, up-to-date content, volume of content) are below the average score based on the evaluation of some students.

2. Evaluation of the instructors: In this section of the questionnaire, students answered questions to evalu-

ate the skills and expertise of the instructors, teaching methods, communication methods between instructors and students, etc. The results show that most students are more satisfied than the average score in evaluating the instructors.

3. Evaluation of the educational structure: In this section of the questionnaire, students answered questions to evaluate various aspects of the educational structure, including evaluating the overall structure of the educational program, the method of presenting educational videos, the number of practical exercises, and the degree of adaptation of the education to the students' needs. The results show that most students are satisfied with the overall structure of the educational program, but in some cases, such as the method of presenting educational videos, the number of practical exercises, and the degree of adaptation of the education to the students' needs, the average score was obtained.

4. Evaluation of adherence to educational principles: In this section of the questionnaire, students answered questions to evaluate the adherence to educational principles, such as the degree of attention to students' needs, providing opportunities for practical education, diversity in educational programs, etc. The results show that most students are more satisfied than the average score in evaluating adherence to educational principles.

In general, the results of the study show that students are satisfied with the Persian and complementary medicine course held in the Smart University of Medical Sciences, but there are some specific needs and necessary improvements in the structure and methods of providing education that can be considered in future suggestions for improving the educational program. Persian medicine in Iranian universities, given the history and importance of this branch of medicine, should be in a way that can make the best use of the experiences and knowledge in this field. In this regard, several practical suggestions can be provided to develop education in this field.

1. Using problem-based learning approaches: Instead of focusing solely on theoretical knowledge, students should be encouraged to solve problems and apply their knowledge in practice. For example, by using clinical simulations, students can be brought closer to real clinical situations and prepared to solve clinical problems [18].

2. Developing practical knowledge and skills: Students should also gain practical knowledge and skills. For this purpose, equipped laboratories and practical workshops should be used. Additionally, students should be given the opportunity to work with patients and observe their treatment process [19].

3. Updating educational content: Given the new developments in the field of medicine, the educational content of Persian medicine should also be updated.

To achieve this, reputable scientific journals and new books should be used [20].

4. Collaboration with experienced physicians and specialists: To improve the education of Persian medicine, collaboration with experienced physicians and specialists in this field is necessary. They can share their experiences with students and help them solve clinical problems [21].

The strengths and limitations of the study

To date, this is the first research that investigates the students' point of view regarding the provision of a two-credit Persian medicine course in medical education curricula. Furthermore, although the results of this research may be enriched by collecting data from a large national sample (students across the country), we accept that our study has limitations. First, since the data of this research was collected through a survey and a self-report questionnaire, we cannot reject the bias of the answers. Second, our study is not an educational intervention evaluation. Rather, it is a cross-sectional study and based on its data, we cannot determine the merit and effectiveness of the course. In this regard, it is suggested that future studies evaluate this course via Kirkpatrick's evaluation model or other evaluation approaches.

Conclusion

In conclusion, the development of education in Persian medicine in Iranian universities requires effective and serious steps so that students can be equipped with the necessary knowledge, skills, and experience to meet the clinical needs of the community. Improving this education not only helps improve the health and well-being of society, but also contributes to the promotion of the status of Persian medicine globally.

Conflict of Interests

The authors declare that they have no conflict of interests.

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References

[1] Javanmardi F, Abadin H, Fallah Totkar H, Rahimi A. Reflection of medical discourse in press the constitutional and first pahlavi periodicals. J Hist Sci 2019;17:117-134.

[2] Ahmadi M, Aghamiri SS, Sadeghi S. Bureaucratization of Iran's health structure during the Pahlavi I Era. Med Hist 2022;14:e19.

[3] Javanmardi F, Abadian H. The Transformation of medical and health discourse in iran from the constitutional to the end of the first Pahlavi. Med Hist J 2018;10:25-41.

[4] Naghibi Harat Z, Jalali N, Zarafshan M, Ebadiani M, Karbakhsh M. A glance on Iranian traditional medicine and determining

the medical students' perspective. Iran J Med Ethics Hist Med 2008;1:45-54.

[5] Hosseinzadeh H, Nassiri-Asl M. Avicenna's (Ibn Sina) the canon of medicine and saffron (Crocus sativus): a review. Phytother Res 2013;27:475-483.

[6] Tafazoli V, Tavakoli A, Mosaffa-Jahromi M, Cooley K, Pasalar M. Approach of Persian medicine to health and disease. Adv Integr Med 2022;9:3-8..

[7] Aval SB, Rouhani M. PhD Curriculum for the traditional and complementary medicine program: a qualitative comparative study in the chinese and iranian medical universities. Future Med Educ J 2016;6:5-8.

[8] World Health Organization. WHO traditional medicine strategy 2014–2023. Geneva: World Health Organization; 2013.

[9] Ayati MH, Pourabbasi A, Namazi N, Zargaran A, Kheiry Z, et al. The necessity for integrating traditional, complementary, and alternative medicine into medical education curricula in Iran. J Integr Med 2019;17:296-301.

[10] Deniz D, Sevimli E, Ünlü TN. An overview of traditional and complementary medicine initiatives and strategies. Sağlık Akademisyenleri Dergisi 2021;3;8:85-89.

[11] Zargaran A, Karimi M, Rezaeizadeh H. COVID-19: natural products and traditional medicines; opportunity or threat? Trad Integr Med 2021;6:1-2.

[12] Kruk ME, Gage AD, Arsenault C, Jordan K, Leslie HH, et al. High-quality health systems in the sustainable development goals era: time for a revolution. Lancet Glob Health 2018;6: e1196-e1252.

[13] High Council of Medical Education Planning. Handbook of Ph.D. curriculum for Iranian traditional medicine. Tehran: Health and Medical Education Ministry; 2008

[14] Jafari E, Measuring the effectiveness of Shahid Beheshti University's virtual education courses by using a comprehensive 360-degree evaluation model based on Greg Kressley's 10 dimensions. Master's thesis in the field of information technology, electronic business, Shahid Beheshti University 2011.

[15] Luanne ML. An evaluation of an online high school summer credit recovery program to maintain virginia on-time graduation. 2019; dissertations, theses, and masters projects. paper 1563898802.

[16] Simpson, Ormond. Supporting students for success in online and distance education. Routledge 2013.

[17] Malekinia E, Malekinia Z, Feizi S. Survey on imperative strategies for Iranian's higher education system in globalization age. Qtrly J Macro Strat Policy 2018;22;6:518-545.

[18] Dolmans DH, Loyens SM, Marcq H, Gijbels D. Deep and surface learning in problem-based learning: a review of the literature. Adv Health Sci Educ Theory Pract 2016;21:1087-1112.

[19] Lowell VL, Moore RL. Developing practical knowledge and skills of online instructional design students through authentic learning and real-world activities. Tech Trends 2020;64:581-590.

[20] Volkova SA. Strategy for the updating of the school education content in the chemical information noosphere civilization. In SHS Web of Conferences 2016;29:01077.

[21] Easley J, Miedema B, Carroll JC, Manca DP, O'Brien MA, et al. Coordination of cancer care between family physicians and cancer specialists: importance of communication. Can Fam Physician 2016;62:e608-e615.