



### Survey on Topics related to Traditional Medicine in Modern Medical Education

### مسح موضوعات متعلقہ بالطب التقليدي في التعليم الطبي الحديث

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**Background:** Traditional medicine has been formally accepted in the country for many years, but it has an indefinite place in the modern medicine curriculum. While it exists in the modern medical curriculum; however, the extent of its use in this program is not clear. Therefore, the purpose of this study was to study the level of attention to issues related to traditional medicine in the curriculum of modern medical education at Mazandaran University of Medical Sciences from the students' perspectives.

**Methods:** This descriptive-analytical study was conducted using a researcher-made questionnaire among 297 medical students of Mazandaran Medical School as a statistical sample. Data were analyzed using one-sample t-test.

**Results:** 59% of the total respondents were women, 57% of whom were married and 44% of them were residents. According to students, the use of 'lifestyle adjustment' (essential set) and 'traditional medicines' in the modern medical education curriculum of students as well as the use of 'preventive methods' of traditional medicine in modern medical education are moderate. The use of traditional medicine treatment methods in medical education in the students' curriculum is insignificant.

**Conclusions:** Results showed that the concepts of traditional medicine as complementary medicine were included in the modern medical education curriculum to a moderate extent. But it is not formally defined in the curriculum but is provided to students in the form of history or side information. This study suggests that the concepts of traditional medicine should be formally included in the curriculum of modern medical education, and the importance and value of years of experience in this science should be provided to modern physicians.

**Keywords:** Students, Medical Schools, Medical Curriculum, Medicine, Traditional Complementary Therapies, Physicians

**الخلفية:** تم قبول الطب التقليدي رسمياً في الدولة منذ سنوات عديدة، لكن له مكاناً غير محدد في مناهج الطب الحديث بحيث يكون موجوداً في مناهجه لكن مدى استخدامه في هذا البرنامج غير واضح. لذلك، كان الغرض من هذه الدراسة هو دراسة مستوى الاهتمام بالقضايا المتعلقة بالطب التقليدي في مناهج التعليم الطبي الحديث في جامعة مازندران للعلوم الطبية من وجهة نظر الطلاب.

**المنهجية:** هذه الدراسة الوصفية التحليلية عبارة عن دراسة ميدانية أجريت باستخدام استبيان من إعداد الباحث بين 297 طالب طب من كلية الطب في مازندران كعينة إحصائية. تم تحليل البيانات باستخدام اختبار t لعينة واحدة.

**النتائج:** 59% من مجموع المستجيبين نساء و 57% من مجموع المستجيبين متزوجات و 44% من المقيمين. وفقاً للطلاب، فإن استخدام "تعديل نمط الحياة" (سته مواضيع الأساسية) و "الأدوية التقليدية" في مناهج التعليم الطبي الحديث للطلاب و استخدام "الأساليب الوقائية" للطب التقليدي في التعليم الطبي الحديث معتدل. لم يتم استخدام طرق العلاج بالطب التقليدي في التعليم الطبي بشكل كبير في مناهج الطلاب.

**الخلاصة:** أوضحت النتائج أن مفاهيم الطب التقليدي باعتباره الطب التكميلي متضمنة في مناهج التعليم الطبي الحديث بدرجة متوسطة. و لكن لم يتم تعريفه رسمياً في المناهج الدراسية و لكنه يتم توفيره للطلاب في شكل تاريخ أو معلومات جانبية. تقترح هذه الدراسة أن مفاهيم الطب التقليدي يجب أن تُدرج رسمياً في مناهج التعليم الطبي الحديث، و أن أهمية و قيمة سنوات الخبرة في هذا العلم يجب أن تقدم للأطباء المعاصرين.

**الكلمات المفتاحية:** طلاب، طبي؛ المدارس الطبية؛ مقرر؛ الطب، العلاجات التكميلية التقليدية، الأطباء

### بررسی مباحث مربوط به طب سنتی در آموزش پزشکی نوین

### جدید طبی تعلیم میں روایتی ادویات سے متعلق موضوعات کا جائزہ

**زمینہ و ہدف:** طب سنتی سالہاست کہ بہ طور رسمی در کشور پذیرفته شده است اما در برنامه درسی طب نوین جایگاه مبہمی دارد. ہدف این پژوهش بررسی سہم مباحث مربوط بہ طب سنتی در آموزش پزشکی نوین است.

**روش:** این پژوهش توصیفی - تحلیلی از نوع زمینہ یابی بودہ کہ با استفادہ از پرسشنامہ محقق ساخته در بین تعداد 297 نفر از دانشجویان پزشکی دانشکدہ پزشکی استان مازندران بہ عنوان نمونہ آماری انجام شد. دادہا با استفادہ از آزمون t تک نمونہ ای تجزیہ و تحلیل شد.

**یافتہہا:** 59 درصد را خانمہا، 57 درصد متأهل و 44 درصد را رزیدنتہا تشکیل دادند. میزان استفادہ از "تنظیم روش زندگی مطابق مزاج" (ستہ ضروری) و "داروہای سنتی" در برنامه درسی آموزش پزشکی نوین دانشجویان و میزان استفادہ از "روشہای پیشگیرانہ" طب سنتی در آموزش پزشکی نوین در حد متوسطی قرار دارد. میزان استفادہ از روشہای درمان طب سنتی در برنامه درسی آموزش پزشکی ناچیز می باشد.

**نتیجہ گیری:** یافتہہا نشان داد بہ طور مستتر در برنامه درسی آموزش پزشکی نوین مفہیم طب سنتی بہ عنوان طب مکمل در حد متوسطی گنجانندہ شدہ است. اما بہ صورت رسمی در برنامه درسی تعریف نشدہ است بلکہ بہ صورت تاریخیچہ و یا اطلاعات جنبی بہ دانشجویان ارانہ می شود. بنابراین، پیشنهاد می شود مفہیم طب سنتی بہ صورت رسمی در برنامه دروس آموزش پزشکی نوین جای گیرد و اہمیت و ارزش سالہا تجربہ این علم در اختیار پزشکان نوین قرار گیرد.

**واژہ های کلیدی:** دانشجویان، دانشکدہای پزشکی، برنامه ریزی تحصیلی، پزشکی، طب سنتی و مکمل، پزشکان

**پس منظر اور مقصد:** ملک میں کئی سالوں سے روایتی ادویات کو سرکاری طور پر قبول کیا گیا ہے، لیکن جدید ادویات کے نصاب میں اس کی جگہ مبہم ہے۔ اس مطالعے کا مقصد جدید طبی تعلیم میں روایتی ادویات سے متعلق موضوعات کے تعاون کی کوشش کرنا ہے۔

**طریقہ:** یہ وضاحتی-تجزیاتی مطالعہ ایک فیئلڈ اسٹڈی تھا جو مازندران میڈیکل اسکول کے 297 میڈیکل طلباء میں شماربائی نمونے کے طور پر محقق کے بنائے گئے سوالنامے کا استعمال کرتے ہوئے کیا گیا تھا۔ ایک نمونہ ٹی ٹیسٹ کا استعمال کرتے ہوئے ڈیٹا کا تجزیہ کیا گیا۔

**نتائج:** 59% خواتین، 57% شادی شدہ اور 44% ریاضی تھے۔ طلباء کے جدید طبی تعلیم کے نصاب میں "مزاج کے مطابق طرز زندگی کو ایڈجسٹ کرنا" (ضروری سیٹ) اور "روایتی ادویات" کا استعمال اور جدید طبی تعلیم میں روایتی ادویات کے "احتیاطی طریقوں" کا استعمال میانہ ہے۔ طبی تعلیم کے نصاب میں روایتی ادویات کے علاج کے طریقوں کا استعمال نہیں کیا گیا ہے۔

**نتیجہ:** نتائج سے پتہ چلتا ہے کہ روایتی ادویات کے تصورات بطور تکمیلی ادویات کو جدید طبی تعلیم کے نصاب میں شامل کیا گیا ہے۔ تاہم، نصاب میں اس کی باقاعدہ تعریف نہیں کی گئی ہے، لیکن طلباء کو تاریخ یا اضافی معلومات کی صورت میں فراہم کی جاتی ہے۔ لہذا تجویز کیا جاتا ہے کہ جدید طبی تعلیم کے نصاب میں روایتی ادویات کے تصورات کو باضابطہ طور پر شامل کیا جائے اور اس سائنس میں برسوں کے تجربے کی اہمیت اور اہمیت جدید معالجین کو فراہم کی جائے۔

**مطلوبہ الفاظ:** طلباء، طب، اسکول، طب، تعلیمی منصوبہ بندی، طبی؛ روایتی ادویات؛ معالجین

## INTRODUCTION

Complementary and alternative medicine (CAM) is becoming more widely used in the community; however, there are differences in knowledge and attitudes among and within the various health professions (1). Traditional medicine or temperamental medicine is a type of alternative medicine in which four spirits and sputum (cold, hot, dry and wet or tail, bile, phlegm and soda) are believed (2). Traditional medicine is a kind of medical method that has the ability to teach and learn, and its roots, like all ancient sciences, are based on science, temperamental thinking, and in many matters pave the way for modern medicine. Today, medicine, despite benefiting from many strengths, also faces many shortcomings. Relying on traditional medicine to recreate a comprehensive view of man and his treatment, not disease, as a solution has attracted the attention of many experts (3). The term "traditional medicine" has a long history. It is the sum total of the knowledge, skill, and practices based on the theories, beliefs, and experiences original to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness. The terms "complementary medicine" or "alternative medicine" refer to a broad set of health care practices that are not part of that country's own tradition or conventional medicine and are not fully integrated into the dominant health-care system. They are used interchangeably with traditional medicine in some countries. The term "herbal medicines" contain herbs, herbal materials, herbal preparations, and finished herbal products that contain as active ingredients parts of plants, or other plant materials, or combinations (4). In Tasmania referrals to other medical practitioners were concentrated among three types of complementary therapy. Referral for other therapies was far less common, with only 5% of doctors referring for the next most popular therapy – spinal manipulation. The complementary therapists to whom GPs referred were more evenly spread among chiropractic (51%), massage (49%), osteopathy (25%), acupuncture (13%), naturopathy (12%) and hypnotherapy (10%). Therapies referred to by one-third or less of the Victorian sample were vitamin and mineral therapy, osteopathy, reiki, naturopathy, herbal medicine, homeopathy, aromatherapy, and reflexology (2). Statistics indicated that in Belgium 66%-75%, in Iran 42%, in US 34%, in UK 33%, in Germany 20-30%, and in Netherlands 18% were using complementary medicine (5). Nursing and chiropractic students also demonstrated similar knowledge levels. Factors that were most influential in shaping both chiropractic and nursing students' attitudes and beliefs towards Complementary and Alternative Medicine (CAM) were personal experience and the influence of external peers. Nursing students would not dissuade future patients from CAM; however, chiropractic students were more probable to recommend CAM to their future patients. Nursing and chiropractic students reveal relatively positive attitudes and beliefs towards CAM despite, their limited knowledge regarding CAM modalities generally (1). Moderately positive beliefs about CAM were confirmed in

both groups (physiotherapy and counselling students), with mean scores of 42.8/70 for physiotherapy students and 43.3/70 for counselling students. The main factors that influenced the students' responses were personal experience for counselling students and scientific evidence for physiotherapy students. Counselling students were more likely than physiotherapy students to recommend CAM therapies to their future patients (6).

The lack of evidence-based information and guidance has prohibited the development and permission of traditional/complementary/ alternative medicine methods and has not extended the development of its systems. The tendency to research in the field of traditional/ complementary / alternative medicine is the result of the desire of health professionals to create scientific evidence in this field and to convert the experiences into evidence from scientific experiments and

Research. Despite the good growth of theses in the field of traditional medicine/ complementary/ alternative medicine in recent years, it is still not satisfactory in comparison with the total number of theses. Because of support and information policies, the trend towards this subject can be promoted among theses of the University of Medical Sciences (3). The medical profession is involved in the political processes affecting legislation governing complementary medicine and it is therefore important to determine the views of doctors when considering the use of complementary therapies by nurses within the health-care system. These studies suggest doctors' interest in complementary medicine but they also raise a number of concerns including lack of evidence to demonstrate effectiveness, possible harmful effects, inadequate knowledge of doctors and lack of statutory regulation for most therapies. Doctors, in particular GPs views regarding complementary medicine are important since they may influence referral of patients to complementary therapists. A number of surveys have explored the attitudes to complementary medicine of members of the medical profession, in particular GPs, but also hospital doctors, GP trainees and medical students (7). Some heterogeneity between users of different therapies has been identified—for example, acupuncture patients tend to have the most chronic medical history and to be the least satisfied with their conventional treatment and general practitioner. Physicians pay special attention to the methods of complementary medicine, but they also express concerns about the lack of scientific evidence about the effects of these methods and the lack of appropriate and codified rules (8). Patients who use complementary medicine usually value the longer time allotted to them and the detailed explanations given about their illness. In addition, since most of these people have chronic illnesses, they attach great importance to the psychological support they receive (5).

Finally, most physicians in various studies believe that complementary medicine methods are effective in many cases (even because of the placebo or placebo effect). Although advances in science and technology have created serious competition in healthcare. Patients' use of complementary medicine methods indicates that these methods are still a serious applicant in this field. Thus, even if these methods

seem contradictory with conventional and modern medicine, it is necessary to determine the standards of these methods using clinical research and evaluate their effectiveness (9). Despite the progress of modern medicine, there are still many failings and uncertainties. The use of traditional medicine can be helpful in overcoming some of these disadvantages. The World Health Organization and specialists in traditional and Iranian medicine also urge the use of traditional medicine. However, there is a gap in formal academic education in traditional medicine in Iran. Education related to traditional medicine in the Iranian medical education system was limited to only two optional units of traditional medicine for the general medicine course. Given the importance of traditional and Iranian medicine education, this study aimed to examine the use of traditional medicine in the medical education curriculum of Mazandaran University of Medical Sciences from the perspective of students who are closely related.

**METHODS**

The method used in this research is applied in terms of purpose and survey in terms of method. In order to collect data, from the survey method, the data collection tool was a researcher-made questionnaire using a review of relevant backgrounds and texts. The content validity of the questionnaire was confirmed by 10 experts, and its reliability was calculated to be 0.87 with Cronbach's alpha. A total of 297 out of 1235 medical students of different medical schools of Mazandaran University of Medical Sciences were selected using Krejcie and Morgan table of statistical population. Sampling was performed by stratified random sampling. The questionnaire consisted of two main parts, a) questions related to demographic information (gender, marital status, employment status, age group and stage of education) and b) with 16 thematic questions classified into the following four sections: 1) adjusting lifestyle accordingly to Temperament, 2) Traditional medicines; 3) Traditional medicine treatment methods in modern medical education; 4) Preventive methods of traditional medicine in medical education) was traditional medicine in medical education. The main research question was to what extent does the hidden medicine curriculum address issues related to traditional medicine? Data were analyzed using one-sample t-test.

**RESULTS**

59% of the total respondents were women, 57% of them were married, and 44% of these respondents were medical assistants (Table 1).

Considering that in the research variables, the p-value is higher than the significance level of 0.05, it is concluded that the research variables are normal. Therefore, parametric tests (t-test) are used to test the research hypotheses (Table 2). Lifestyle adjustment variable according to temperament (Setteye Zarorie) (p-value is less than  $\alpha = 0.05$ ) and calculated t (3.49) is larger than table t (1.65). Also, due to the fact that the average value calculated is greater than the theoretical value of 3 with 95% certainty, this result is obtained: The amount of use of lifestyle adjustment according to temperament (Setteye Zarorie), which is one of the methods of traditional medicine, is moderate in the modern medical education curriculum. Traditional medicine is based on the traditional medicine method in the modern medicine curriculum (p-value is less than  $\alpha = 0.05$ ) and the calculated t (2.98) is larger than the table t (1.65). Due to the fact that the average value calculated is higher than the theoretical value of 3 with 95% certainty, it is concluded that: the use of traditional medicines based on traditional medicine in the modern medical education curriculum is moderate. In Table (3) the variable of traditional medicine treatment methods in the modern medical education curriculum (p-value is greater than the level of  $\alpha = 0.05$ ) and the calculated t (1.44) is smaller than the table t (1.65). Also Due to the fact that the average value is less than the theoretical value of 3 with 95% certainty, it is concluded that: Traditional medicine methods have not been used in the modern medical education curriculum. In Table (3), the variables of concepts and topics of preventive medicine in the modern medical education curriculum (p-value is less than  $\alpha = 0.05$ ) and the calculated t (4.10) are larger than the table t (1.65). Also considering that the average value calculated is higher than the theoretical value of 3 with 95% confidence, it is concluded that: the use of concepts and preventive topics of traditional medicine in the modern medical education curriculum is moderate (Table 3).

**Table 2. Description of main data and normal test**

Variables	Mean (SD)	Kolmogorov-Smirnov test	
		p-value	Test Result
Temperament	3.12 (0.57)	0.127	Normal
Traditional medicines	3.14 (0.85)	0.067	Normal
Treatment methods	2.92 (0.86)	0.058	Normal
Preventive methods	3.19 (0.81)	0.051	Normal

**Table 1. Distribution of respondents according to demographic characteristics**

		Sample	%			Sample	%			Sample	%
Gender	Male	122	41	Married	Single	128	43	Education Process	clerkship	116	39
	Female	175	59		Married	Married	169		57	Internship	50
<b>Total</b>		<b>297</b>	<b>100</b>			<b>297</b>	<b>100</b>		Assistant	131	44

**Table 3. T-test table examining the concepts of traditional medicine in the modern medical education curriculum**

Concepts of traditional medicine	Mean (SD)	T Table	Calculated T	DF	$\alpha$	p-value
Adjusting lifestyle according to temperament (Setteye Zarorie)	3.12 (0.57)	1.65	3.49	296	0.05	0.000
Traditional medicines in the curriculum	3.14 (0.85)	1.65	2.98	296	0.05	0.003
Treatment methods in the curriculum	2.92 (0.86)	1.65	-1.44	296	0.05	0.148
Preventive concepts and topics in the curriculum	0.81 (0.81)	1.65	4.10	296	0.05	0.148

**DISCUSSION**

This study was conducted to measure the views of students of Mazandaran University of Medical Sciences about the use of traditional medicine in the underlying medical curriculum via conducting a questionnaire. Results showed that in the curricula of the new education system, with the purpose to achieve its goals, the issue of temperament has been paid some attention. Since 1977, the World Health Organization has called for an interaction between Western and traditional medicine (10). It can be acknowledged that although the concept of temperament is an ancient concept and is in harmony with traditional medical and natural principles, it can be reinterpreted based on the principles approved by modern experimental sciences. Temperament, according to the ancient definition, is the quality resulting from the reaction between the primary elements of the body in such a way that as a result of this reaction, none of the constituent elements of the body prevails over the other; Rather, a quality that is separate and different from the basic elements is achieved (11). The findings of this study showed that in the curriculum of modern education, attention has been paid to the methods of breathing, type of eating and drinking, as well as the quality of sleep. In this regard, Maftoon et al. (2007) in a study showed that the use of these methods is increasing and the prevalence of using at least one of the unconventional methods (complementary medicine) in the United Kingdom is 33%, Australia 45%, Iran 42 Percent, the United States 34 percent, Belgium 75-66 percent, France 49 percent, the Netherlands 18 percent and Germany 20-30 percent(5). Mirzaei et.al showed that 53.8% had a good knowledge and 5% had a positive attitude about complementary and alternative medicine, as well as knowledge and positive attitude of general physicians of Rafsanjan about complementary and alternative medicine is low (12). Studies in Australia (people aged 15 and over) and the United Kingdom (people aged 18 and over) reported an annual prevalence of complementary medicine of 48.5% and 28.3%, respectively(5).

MacLennan et.al. (1996), Thomas et.al. (2001) and Walker et.al (2017) concluded that in general, the students' attitude in this field was positive. Nursing and surgery students showed the same level of knowledge(1, 13, 14). Factors that had the greatest impact on the formation of attitudes and beliefs of nursing students and nursing students towards traditional and complementary medicine were personal experience and the encouragement of foreign peers. Avijgan et.al. (2017) by reviewing the book of Akbari medicine, showed that traditional medicine looks at infections like

other diseases with a temperamental temperament and knows the etiology of temperament change. Also, since there is no place for antibiotics in traditional medicine, there is a complete disagreement about treatment (15). The findings showed that the use of traditional medicines is also comprised in the modern medical education curriculum. Some trainings use the properties of herbal medicines as well as traditional mineral medicines obtained from different soils and waters. Previous research by Abuelgasim et al. (2018) in Saudi Arabia showed that traditional medicine is widely used for cancer. Even, many patients use traditional medicine and traditional animal medicines without considering the hospital and the doctor (16).

Amusoltani et.al (2017) in a research entitled: "Vest gating knowledge and attitudes of caregivers of patients affected by mental disorders towards complementary medicine treatments in health centers affiliated to Isfahan University of Medical Sciences in 2014" concluded that Patients' caregivers had a relatively good knowledge of medication and complementary medicine. The most common methods used in the present study were herbal remedies and prayer therapy (17). Both studies of Barnes et.al (2004) and Ni et.al (2002) done in the United States showed that Prayer therapy has been questioned as one of the methods of complementary medicine. This method has been at the forefront of the methods used, followed by herbs and its products (18, 19). Peltzer e.al. in research entitled: "A survey of the training of traditional, complementary, and alternative medicine in universities in Thailand" concluded that: Half of the medical schools (50%) confirmed the presence of TCAM education in their medical school, of which most were a required and some an elective course. In all surveyed 14 TCAM departments or faculties a bachelor's degree and in five institutions a master's degree in TCAM are offered. Undergraduate and postgraduate degrees included Thai Traditional Medicine, Applied Thai Traditional Medicine, Chinese Traditional Medicine, and Oriental Medicine. All the programs offered a research course and almost all indicated that their curriculum covers "scientific proofs about the efficacy and safety of treatments." More than half (9) indicated that their curriculum covers "how TCAM professionals should interact with biomedical peers in their practice." Traditional, complementary and alternative medicine are widely used by the Thai population (20). Inspired by the cultural safety approach, a medical curriculum was being developed in Colombia to promote respect for users of traditional medicine (21). The findings showed that the patterns and methods of traditional

medicine used in the curriculum of modern medicine have changed a lot and could not proceed with the columnar patterns. With new methods in this regard, Baluchi et al. (2018) in a study of three databases from the launch to September 2017 examined this issue. Findings showed the average knowledge of traditional/complementary medicine treatment methods by Nurses was 62.2%, with an attitude of using the average of 65.7%. Nearly two-thirds (65.9%) reported using traditional/complementary medicine treatment with patients (22).

The main reasons nurses used traditional / complementary medicine were to reduce stress and anxiety and improve health. According to Chitindingu, the growing demand for traditional medicine in multicultural environments is making medical students more interested in participating in intercultural education (23). Considering the ethnic and cultural diversity in Iran, it seems obvious to pay attention to this aspect in medical education as well.

The results showed that modern medical education, similar to traditional medicine methods, emphasizes methods to stay away from stressful environments, and modern methods emphasize preventive methods such as diet, not eating fat for the elderly, and not eating sugar for people at risk of diabetes. Therefore, it can be acknowledged that in modern methods such as traditional medicine, preventive methods are used, but with some changes. According to the very well-documented scientific justifications that exist in modern medicine, the level of students' knowledge about traditional medicine is either low or moderate, which indicates the lack

of traditional medicine in a country that has the largest and most valuable books of traditional medicine and many methods. The gap in complementary medicine in the modern medical education system is very obvious. Therefore, it is suggested that the concepts of traditional medicine will be formally included in the curriculum of modern medical education and the importance and value of years of experience in this science be provided to modern physicians. One of the limitations of the research is that the sample of fields of study was obtained from only one university; Therefore, the results may not be generalizable to all universities. It is hereby suggested that this research be conducted in the general health areas of the Ministry of Health with respect to ethnic and cultural diversity.

#### Ethical considerations

Ethical issues including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc. have been completely observed by the authors.

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