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ORIGINAL ARTICLE

Proposing an Effective Model for Improving the Integration of Medical Education System with Health Services at Iran's Ministry of Health and Medical Education

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Background: In Iran, the medical education system was integrated with the healthcare provision system in 1985 and this was led to the creation of a new ministry titled “Ministry of Health and Medical Education”. Regarding this integration, some problems were emerged. Therefore, the current study intended to provide an effective pattern for improvement of this integration.

Methods: The present study is both fundamental and applied in terms of its objectives. The statistical population of the client study included all of the managers, faculty members, and experts in the universities of medical sciences in Khuzestan Province, in Southwest Iran, who were chosen by the use of full census sampling. Finally, 103 participants filled in the questionnaires. The data collection instrument was a researcher-devised questionnaire. The data analysis was done by SPSS Ver. 24, the descriptive statistics (percentage, mean, and standard deviation), and the inferential statistics (Pearson Correlation Test).

Results: In order to increase the effectiveness of this integration, four scenarios were suggested among which, finally “the separation of the medical education from the medical science universities and placing under direct supervision of the Ministry of Health and Medical Education” with 3.84 (based on a maximum score of 4) achieved the highest score. Based on this score, a model based on the upstream laws of Iran was designed and suggested and in each province, instead of having a unit and independent institution under the title of the university of medical sciences and healthcare services, two separate institutions as “The Provincial University of Medical Sciences” and “The Provincial Health Service Organization” would be created and would work under the supervision of Ministry of Health and Medical Education.

Conclusion: The results of this study showed that medical education defined by the Ministry of Health is affected by the discussions of medical care provisions. Therefore, to realize it and improve the educational tasks, producing knowledge, conducting research in the universities, and protecting it from other departments, were suggested as effective patterns.

Key words: Integration, Medical Education System, Health Services, Effective Model, Iran

اقتراح نموذج فعال لتحسين تكامل نظام التعليم الطبي مع الخدمات الصحية في وزارة الصحة والتعليم الطبي في إيران

الخلفية: في إيران ، تم دمج نظام التعليم الطبي مع نظام توفير الرعاية الصحية في عام ١٩٨٥ ، وأخيراً ، أدى ذلك إلى إنشاء وزارة جديدة بعنوان "وزارة الصحة والتعليم الطبي". فيما يتعلق بهذا التكامل قد خلق بعض المشاكل ، تهدف الدراسة الحالية إلى توفير نمط فعال لتحسين هذا التكامل.

الطرق: الدراسة الحالية أساسية وتطبيقية من حيث الهدف. شمل المجتمع الإحصائي لدراسة العميل جميع المديرين وأعضاء هيئة التدريس والخبراء في جامعات العلوم الطبية في مقاطعة خوزستان ، في جنوب غرب إيران ، الذين تم اختيارهم باستخدام أخذ عينات التعداد الكامل. وأخيراً ، قام ١٠٣ أشخاص بملء الاستبيانات. كانت أداة جمع البيانات عبارة عن استبيان ابتكره الباحث. تم إجراء تحليل البيانات بواسطة SPSS الإصدار ٢٤ والإحصاء الوصفي (النسبة المئوية والمتوسط والانحراف المعياري) والإحصاءات الاستنتاجية(اختبار ارتباط بيرسون).

النتائج: من أجل زيادة فاعلية هذا التكامل ، تم اقتراح أربعة سيناريوهات من بينها ، أخيرًا "فصل التعليم الطبي عن جامعات العلوم الطبية و وضعه تحت الإشراف المباشر لوزير الصحة والتعليم الطبي" بنسبة ٣,٨٤ (على درجة ٤ كحد أقصى) حقق أعلى درجة. بناءً على هذه النتيجة ، تم تصميم و اقتراح نموذج يستند إلى قوانين المنبع في إيران و في كل مقاطعة ، بدلاً من وجود وحدة و مؤسسة مستقلة تحت عنوان جامعة العلوم الطبية وخدمات الرعاية الصحية ، مؤسستان منفصلتان باسم " سيتم إنشاء جامعة المقاطعة للعلوم الطبية "و" منظمة الخدمات الصحية بالمقاطعة "وستعملان تحت إشراف وزير الصحة والتعليم الطبي.

الخلاصة: أظهرت نتائج هذه الدراسة تأثر التعليم الطبي في الجامعات الخاضعة لإشراف وزارة الصحة بالمناقشات حول تقديم الرعاية الصحية والطبية على التعليم الطبى. لذلك و لتحقيقها و تحسين المهام التعليمية و إنتاج المعرفة و إجراء البحوث في الجامعات و حمايتها من الأقسام الأخرى فقد تم اقتراح نمط فعال.

الكلمات المفتاحية: التكامل ، نظام التعليم الطبي ، الخدمات الصحية ، النموذج الفعال ، إيران

ارائہ الگویی اثربخش برای بهبود ادغام نظام آموزش پزشکی با سیستم ارائه خدمات بهداشتی و درمانی در وزارت بهداشت، درمان و آموزش پزشکی ایران

زمینه و هدف: در ایران سیستم نظام آموزش پزشکی (که جزء وزارت علوم بود) و سیستم ارائه خدمات بهداشتی و درمانی(که جزء وزارت بهداشت بود) در سال ۱۳۶۴ با هدف جبران کمبود شدید نیروی متخصص بهداشتی و درمانی، افزایش ظرفیت پذیرش دانشجو برای جبران کاستی های موجود و همچنین با هدف تعامل دوجانبه نظام آموزش پزشکی و نظام سلامت و در نهایت جهت دسترسی عادلانه همه مردم به خدمات بهداشتی و درمانی با کیفیت، ادغام و منجر به تشکیل وزارت جدیدی تحت عنوان وزارت بهداشت، درمان و آموزش پزشکی شده است. لذا با توجه به اینکه ادغام ۳۵ ساله مشکلاتی را به وجود آورده است، این پژوهش به دنبال ارائه الگویی اثربخش برای بهبود این ادغام می باشد.

روش: این پژوهش از نظر هدفمندی، هم بنیادی و هم کاربردی است. جامعه آماری آن، شامل همه مدیران هیأت علمی و کارشناسان خبره دانشگاههای علوم پزشکی استان خوزستان در جنوب غربی ایران بودند که به روش نمونه گیری سرشماری انتخاب شده بودند و در نهایت تعداد ۱۰۳ نفر از آنها پرسشنامه ها را تکمیل کرده بودند. ابزار جمع آوری داده ها، پرسشنامه ای محقق ساخته بود. تحلیل داده ها با استفاده از نرم افزار SPSS نسخه 24 و با استفاده از آمار توصیفی (درصد، میانگین و انحراف معیار) و آمار استنباطی (آزمون همبستگی پیرسون) انجام شده است.

یافته ها: برای افزایش اثربخشی این ادغام، چهار سناریو پیشنهاد شده بود که در نهایت سناریوی "جدایی آموزش پزشکی از دانشگاههای علوم پزشکی و قرار گفتن آن تحت نظر مستقیم وزیر بهداشت، درمان و آموزش پزشکی" با امتیاز ۳/۸۴ (از حداکثر امتیاز ۴) بیشترین امتیاز را به خود اختصاص داده بود که با توجه به آن، یک مدل با توجه به قوانین بالادستی ایران طراحی و پیشنهاد گردیده است و در هر استان ایران به جای داشتن یک نهاد مستقل تحت عنوان دانشگاه علوم پزشکی و خدمات بهداشتی و درمانی، دو نهاد جداگانه یعنی" دانشگاه علوم پزشکی استان" و "سازمان خدمات بهداشتی و درمانی استان" به وجود خواهد آمد و زیر نظر وزیر بهداشت، درمان و آموزش پزشکی خواهند بود.

نتیجه گیری: نتایج پژوهش نشان داد آموزش پزشکی در دانشگاه های وابسته به وزارت بهداشت، درمان و آموزش پزشکی ایران، تحت الشعاع مباحث ارائه خدمات بهداشتی و درمانی قرار گرفته است. لذا با هدف اصلاح آن و برای تقویت وظیفه آموزش، تولید دانش و انجام پژوهش در دانشگاه ها و محافظت از آن در برابر فشارهای سایر بخش ها، الگویی اثربخش پیشنهاد شده است.

واژه های کلیدی: ادغام، نظام آموزش پزشکی، خدمات بهداشتی و درمانی، الگوی اثربخش، ایران

ایران میں میڈیکل تعلیمی نظام اور وزارت صحت میں میڈیکل اور صحت عامہ کی سروسز پیش کرنے والے ڈپارٹمنٹ کہ جو منضم ہوچکے ہیں اس کی بہتر کارکردگی کے لئے موثر ماڈل کی تیاری

بیک گراونڈ : اسلامی جمہوریہ ایران میں میڈیکل تعلیم کا نظام وزارت سائنس کے تحت آتا تھا اور میڈیکل خدمات اور معالجاتی سہولتیں فراہم کرنا وزارت صحت کا کام تھا۔ انیس پچاسی میں ماہرانہ افرادی قوت کی شدید کمی اور میڈیکل تعلیم اور میڈیکل خدمات فراہم کرنے والے شعبوں کے درمیان مفید تعاون اور بہتر خدمات پیش کرنے کی غرض سے ان دونوں وزارتوں کو ایک کردیا گیا۔ اس کا ایک ھدف یہ بھی تھا کہ عوام بہتر اور منصفانہ طریقے سے طبی سہولتیں مل سکیں ۔ اس ھدف کو پانے کے لئے وزارت صحت کے نام سے وزارت تشکیل دی گئي ۔ اگرچہ دونوں وزارتوں کو منضم ہوئے چونتیس برس ہوچکے ہیں تاہم اب بھی بعض مسائل موجود ہیں جن کا حل کیا جانا نہایت ضروری ہے اسی وجہ سے اس وزارت نے ان مسائل کو حل کرنے کے لئے ایک ماڈل کی مانگ کی ہے تاکہ اس وزارت خانے کو موثر بنایا جاسکے ۔

روش : یہ تحقیق ھدف کے لحاظ سے ایک بنیادی اور عملی تحقیق ہے ۔ اس تحقیق میں صوبہ خوزستان میڈیکل یونیورسٹیز کے تمام اساتذہ ، ماہرین اور اکیڈمیک کونسل کے ممبران کو شامل کیا گیا تھا۔ اس میں ایک سو تیں افراد شامل تھے اور انہیں ایک سوالنامہ دیا گیا تھا۔ ڈیٹا کا تجزیہ کرنے کے لئے ایس پی ایس ایس چوبیس اور پئیرسن کورولیشن ٹسٹ سے کیا گیا ۔

نتیجے : مذکورہ بالا دو وزارتوں کے انضمام کو بھرپور طرح سے فائدہ مند بنانے کے لئے چار سیناریو پیش کئے گئے تھے جس میں طبی تعلیم کو میڈیکل یونیورسٹیز سے نکال کر براہ راست وزارت صحت کے تحت دینے کے نظریے کو سب سے زیادہ نمبر یعنی چار میں سے تین اعشاریہ آٹھ چار نمبر ملے ہیں ۔ اس ماڈل کو ایران کے آئین کے مطابق بنایا گیا ہے جس کی رو سے ہر صوبے میں میڈیکل سائنسس یونیورسٹیز اور طبی سہولتوں کے دو مستقل ادارے تشکیل پائیں گے اور یہ ادارے وزارت صحت کے تحت ہونگے ۔

سفارش : اس تحقیق سے معلوم ہوتا ہے کہ وزارت صحت کے تحت آنے والی میڈیکل یونیورسٹیوں پر میڈیکل سہولتیں فراہم کرنے کے ادارے کا گھنا سایہ ہے جس کی وجہ سے وہ صحیح طرح سے کام نہیں کرپارہی ہیں۔ لھذا اس مسئلے کو حل کرنے اور میڈیکل تعلیم کو موثر اور فائدہ مند بنانے کےلئے نیز یونیورسٹیوں میں تحقیقاتی پروجکٹس کو بہترین طریقے سے انجام دیا جاسکے اور دیگر اداروں کے دباو سے انہیں محفوظ رکھا جاسکے ۔

کلیدی الفاظ : منضم کرنا ، طبی تعلیم کا نظام ، طبی سہولتیں ، ایران

INTRODUCTION

Currently, one of the main subjects in the revision of an organizational structure is the issue of integration which, if implemented successfully, creates the platform for organization success (1). Most of major planning for economic, social, and cultural development in Iran has been implemented to date. As well as the "Law on the Sixth Five-Year Economic, Cultural, and Social Development Plan for (2016–2021)", and integration of governmental organizations have been considered as basic solutions for revision of the administrative system and restoration of organizational structure (1, 2). Some researchers of management science have also addressed the different aspects of integration (3-6). Iran, at least in the last four decades, has been under the influence of political, economic, cultural, and social upheavals such as the Islamic Revolution in 1979, the 8-year imposed war with Iraq between 1981 to 1989, economic sanctions (which still continue), etc. The healthcare provision system has been also affected by such changes and upheavals (7). In Iran, the medical education system (which was supervised by the Ministry of Sciences) was integrated with the healthcare provision system (which was supervised by Ministry of Health) in 1985 to compensate for the severe shortage of an expert health and medical workforce, to increase the student admission capacity to cope with the existing shortages, and establish a mutual interaction between the medical education system and the healthcare system, so that it can provide all people with qualified health services. It led to the creation of a new ministry titled "Ministry of Health and Medical Education (MOHME)" (8, 9). Each independent medical science university or faculty, in their own geographical area, was tasked with the provision of medical education in different medical fields and healthcare services, simultaneously. The president of each university was the representative of the Ministry of Health and Medical Education in that geographical area (8, 9). Generally, there is much controversy in terms of the advantages and disadvantages of this integration (9). Some studies have also dealt with the investigation of medical education quality (10) and the quality of the healthcare provision system after the implementation of this integration (11). The studies conducted in this regard have only dealt with the absolute rejection or acceptance of this plan, and have not provided an optimal pattern for the effectiveness of this integration (9). The current study aimed to propose an effective pattern for improving integration of the medical education system with the healthcare provision system in the Ministry of Health and Medical Education of Iran, based on the upstream laws. The originality of the current study can be emphasized in terms of the thematic aspects, the statistical population under study, approach and method of data analysis, presentation and testing of scenarios, answering specific questions, and modeling. The proportionality of the subject of the current study with the predicted national research priorities and the Ministry of Health and Medical Education's requirements, as well as the needs of the academic community of the country, is among the prominent attributes of the current study. However, the authors claimed that they have taken a huge step in terms of the pathology of this integration, and then, provision and evaluation of the ideal scenarios to solve the problems and ultimately, design an effective model for this integration. Regarding the fact that the integration of the medical education system with the healthcare provision system is specific to Iran, it can be said that the current research is the first of its type in the world. The results of this study can be used by the Ministry of Health and Medical Education (MOHME), Ministry of Science, Research and Technology, Supreme Council of the Cultural Revolution (SCCR) and Parliamentary Health Commission in Iran.

METHODS

The present study is both fundamental and applied in terms of its objectives. It has been a fundamental study since the researcher claimed that the current integration is not effective and seeks to design an effective model for integration of the medical education system with health services at Iran's Ministry of Health and Medical Education, which will result in better understanding of the issue and enhanced knowledge in this area. It is also an applied research since the researcher sought to develop applied knowledge in the area of effective integration of medical education system with health services, so that the research results would be applied in practice. This research is descriptive in terms of nature and mixed (quantitative and qualitative) in terms of research method. The statistical population of the current study included all the managers, faculty members, and experts in medical science universities and independent faculties in Khuzestan Province, who were chosen by the full-census sampling method. Finally, 103 of them filled in the questionnaires. The total numbers of faculty managers were 169. The data collection tool was a questionnaire. To design this researcher-made questionnaire, a simple review study was conducted and 10 articles that evaluated the integration of the medical education system with health services at Iran's Ministry of Health and Medical Education between 2010 and 2018 were reviewed. Also, after this integration, 10 participants have been in charge of Iran's Ministry of Health and Medical Education, and 7 of them have already commented on this issue. Their opinions were also evaluated, the result of which was published in the form of a review article by the authors (9). Also, 16 faculty members of Ahvaz Jundishapur University of Medical Sciences, who have held the most executive positions in recent years, were interviewed in a semi-structured way. Finally, according to this information and based on the studies conducted in recent years to evaluate the quality of educational services provided by medical universities and the quality of health services provided by hospitals affiliated to the Iran's Ministry of Health and Medical Education (11-12), the research questionnaire was designed in 3 sections and 4 scenarios were proposed. The first section of the questionnaire included questions on demographic information. In the second part of the questionnaire, respondents were asked to rank on each of these scenarios from numbers 1 (lowest

priority) to 4(highest priority). In the third part, the strong and weak points of the 4 suggested scenarios were expressed as a default, and the respondents answered with the options completely agree, agree, partly agree, disagree, and completely disagree. This questionnaire was scored in a 5-point Likert scale, and its validity and reliability were evaluated. The validity of the questionnaire was approved by the experts' opinions in a way that it was distributed among 16 experts in the fields of medical sciences and the healthcare provision system. The re-test was used for the determination of the reliability of the questionnaire in a way that 20 questionnaires were distributed among the expert members of faculty in a 2-week interval, and the reliability of the questions was measured by a Cronbach's alpha of %75. The data analysis was done by SPSS Ver.24, the descriptive statistics (percentage, mean, and standard deviation), and the inferential statistics (Pearson Correlation Test).

RESULTS

The first part of the questionnaire (Table 1) included the demographic data of 103 participants from the statistical population, all the managers, faculty members, and experts in the universities of medical sciences in Khuzestan Province in Southwest Iran (including the Ahvaz Jundishapur University of Medical Sciences, Dezful University of Medical Sciences, Abadan University of Medical Sciences, Behbahan University of Medical Sciences, and Shushtar University of Medical Sciences), who filled in the questionnaires. Their demographic data are as follows:

Based on the present questionnaire, to achieve and propose an effective model for integrating the medical education system with health services at Iran's ministry of health and

Table 1. The demographic data of the samples

Variable		Frequency	Percentage
Gender	Male	64	62.2%
	Female	33	32.0%
	No answer	6	5.8%
Age	31-40	29	28.2%
	41-50	41	39.8%
	Above 50	31	30.1%
	No answer	2	1.9%
Education	Master's degree	26	25.2%
	Ph.D.	66	64.1%
	Fellowship	4	3.9%
	Sub-specialist	4	3.9%
	No answer	3	2.9%
Working Experience	Below 5 years	9	8.9%
	5-10	26	25.7%
	11-20	34	33.7%
	21-30	27	26.7%
	Above 30 years	5	5.0%
	No answer	2	1.9%
Academic Degree	Instructor	17	18.5%
	Assistant professor	30	32.6%
	Associate professor	35	38.0%
	Professor	10	10.9%
	Non-faculty member employee	10	9.7%
	No answer	1	1.4%
Location (University of Medical Sciences)	Ahvaz Jundishapur University of Medical Sciences	78	78.0%
	Dezful University of Medical Sciences	7	7.0%
	Abadan University of Medical Sciences	6	6.0%
	Behbahan University of Medical Sciences	3	3.0%
	Shushtar University of Medical Sciences	6	6.0%
	No answer	2	2.9%

medical education, 4 scenarios were suggested. The respondents were asked to express their opinions about each of the scenarios from the highest priority (numbers 4) to the lowest priority (number 1). Also, they were asked to, if possible, add some, if they knew any other scenarios. Based on the opinions of the respondents (with the maximum score as 4), the third scenario was ranked first (with the score 3.84), followed by the fourth scenario (score 3.25), second scenario (score 3.05), and first scenario (score 2.98), respectively (Table 2).

In the third section of the questionnaire, the strong and weak points of the 4 suggested scenarios were expressed as default, and the respondents answered the options as completely agree, agree, partly agree, disagree, and completely disagree. The results of the scores obtained based on the respondents' opinions in the 4 suggested scenarios are as follows (Table 3). In terms of the first scenario: in total, 6.8% of the respondents chose "disagree and completely disagree" option, 51.5% chose "partly agree" (Neither completely agree nor disagree) option, and 41.7% chose "agree and completely agree" option. In terms of the second scenario: in total, 8.7% of the respondents chose "disagree and completely disagree" option, 36.9% chose "partly agree" (Neither completely agree nor disagree) option, and 54.4% chose "agree and completely agree" option. In terms of the third scenario: in total, 1.0% of the respondents chose "disagree and completely disagree" option, 19.4% chose "partly agree" (Neither completely agree nor disagree) option, and 79.6% chose "agree and completely agree" option. And in terms of the fourth scenario: in total, 3.9% of the respondents chose "disagree and completely disagree" option, 35.9% chose "partly agree" (Neither completely agree nor disagree) option, and 60.2% chose "agree and completely agree" option. Based on the respondents' opinions, the third scenario obtained the highest score (with the score 79.6), followed by the fourth scenario (with the score of 60), the second scenario (with the score of 54.4), and the first scenario (with the score of 41.7) which are represented in Table 3.

In Table 3, the prioritization of the strong and weak points for all four suggested scenarios has been represented based on the obtained scores.

Also, through Pearson Correlation Coefficient, the results indicated that there is a significant relationship between managerial experience and scenario number 3. In other words, people with more managerial experience have prioritized the third scenario. ($r=0.223$, $p=0.023$).

Based on the results and regarding the fact that the scenario "Separation of medical education from the medical universities and placing it under the direct supervision of the Ministry of Health and Medical Education" obtained the highest score from the viewpoint of the respondents to increase the effectiveness of integrating medical education with the healthcare provision system in the Ministry of Health and Medical Education; however, based on the upstream laws, a model has been designed in five stages and suggested as follows (Figure 1).

Table 2. The comparison between the scenarios scores based on the opinions of the respondents

Scenarios	Number	Minimum	Maximum	Mean	Std. Deviation
1	103	1.00	4.00	2.98	0.66
2	103	1.00	4.00	3.05	0.83
3	103	1.00	4.00	3.84	0.87
4	103	1.00	4.00	3.25	0.76

Table 3. The scores of the strong and weak points of the suggested scenarios

Line	Scenarios	Agree and completely agree	Neither completely agree nor disagree	Disagree and completely disagree
1	Maintenance of the current situation which is the continuance of the integration of medical education with the Ministry of Health	43 (41.7%)	53 (51.5%)	7 (6.8%)
2	Separation of Medical Education from the Ministry of Health and re-integration of it with the Ministry of Sciences and returning to the past order.	56 (54.4.7%)	38 (36.9%)	9 (8.7%)
3	Separation of medical education from the medical universities and placing it under the direct supervision of the Minister of Health and Medical Education.	82 (79.6%)	20 (19.4%)	1 (1.0%)
4	Assignment of several medical universities to the Ministry of Science and integration of medical education with the Ministry of Sciences (based on the spatial planning of higher education).	62 (60.2%)	37 (35.9%)	4 (3.9%)

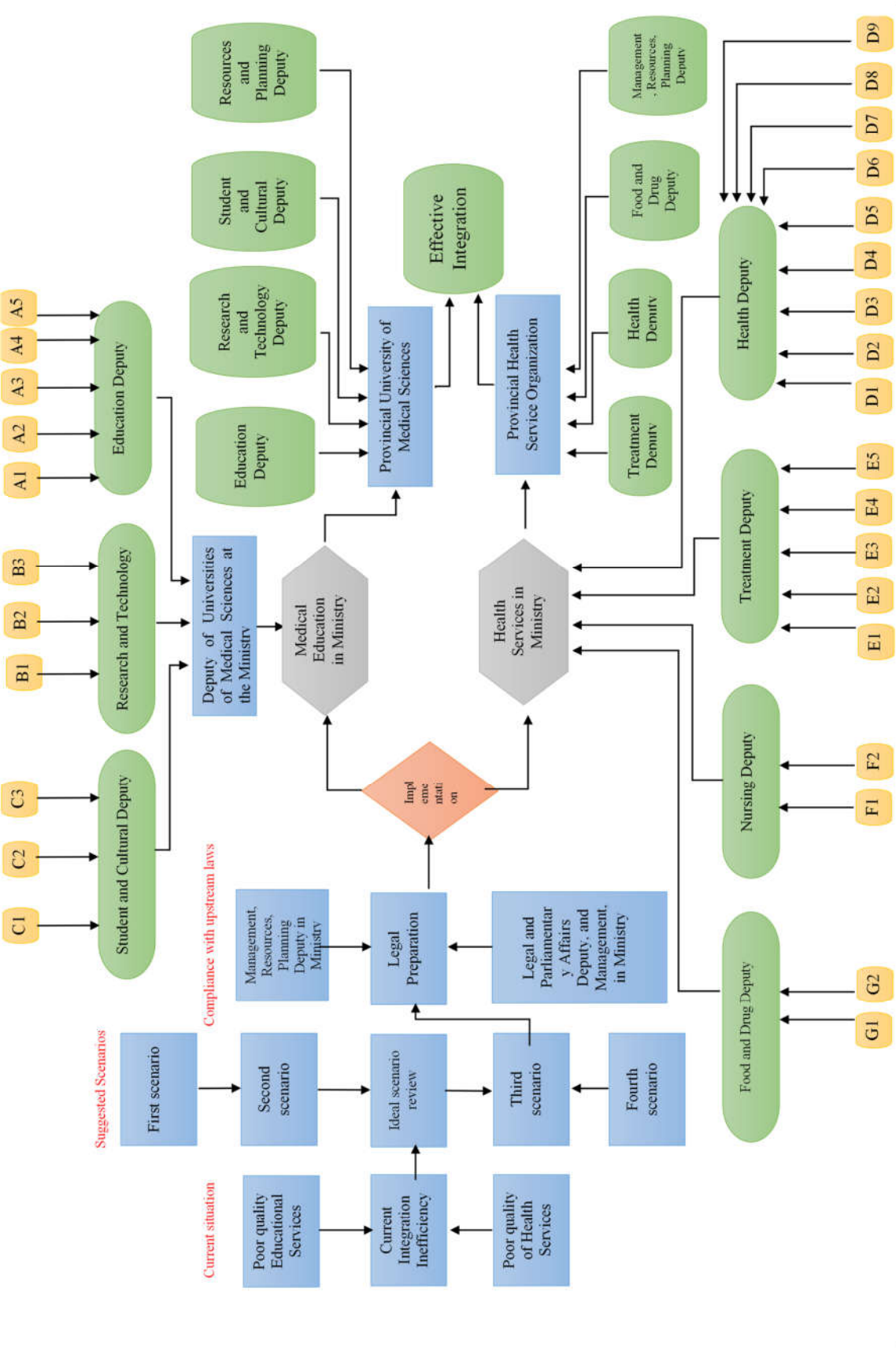


Figure 1. Effective Model for Integrating the Medical Education System with Health Services at Iran's Ministry of Health and Medical Education

According to the current organizational chart of the Ministry of Health and Medical Education there are 9 deputies in Iran: Health Deputy, Treatment Deputy, Medical Equipment Deputy, Nursing Deputy, Education Deputy, Research and Technology Deputy, Student Affairs Deputy, Legal and Parliamentary Affairs Deputy, and Management, Resources and Planning Deputy. Based on the results, the majority of the statistical population gave the highest score to the third scenario (Separation of medical education from the medical universities and placing it under the direct supervision of the Minister of Health and Medical Education). The implementation of this scenario requires changing the current organizational chart of the Ministry of Health and Medical Education. Therefore, a new deputy titled "the Deputy of Universities of Medical Sciences" which is directly supervised by the Minister of Health was created, and the three current deputies, the education, research and technology, and cultural and students affairs were considered as its subordinates. Also, in each province, instead of having a unit and independent institution under the title of the university of medical sciences and healthcare services, two separate institutions as "The Provincial University of Medical Sciences" and "The Provincial Health Service Organization" were created. These organizations are fully independent of each other and work under the supervision of Minister of Health and Medical Education. In this suggested organizational chart, the Iranian Medical Universities would be under the supervision of the Deputy of the Universities of Medical Sciences of Iran's Ministry of Health and Medical Education. And the Organization for Healthcare Services which was established in each province in Iran would be supervised by the "health, treatment, medical equipment, and nursing deputies of the Ministry of Health and Medical Education.

The fifth stage which was the "effective integration" is the outcome of this proposed model, and is expected to have the following results:

1- The improvement of educational services provision quality
2- Improvement of healthcare provision quality
3- Increasing organizational agility
4- Increasing organizational effectiveness

However, for measurement of the effectiveness of this model, it was necessary to conduct a test or pilot study in one of the provinces before its permanent implementation, so that its possible weak points would be identified and eliminated.

The image of the designed model is provided in the last section of this article.

DISCUSSION

Based on the findings of the current study, the third scenario, which was "Separation of medical education from the medical universities and placing it under the direct supervision of the Minister of Health and Medical Education" obtained the highest score. The reason was that the Iranian Ministry of Health and Medical Education has currently had heavy responsibilities in the field of administration and also the presidents of its affiliated medical universities have responsibilities that are not educational at all, thus medical education is overshadowed in healthcare provision matters. It is better to use a mechanism for reinforcement of the educational task and knowledge production in the universities and protect it against the pressures from the other departments of the university. Also, most of the studies conducted on the evaluation and pathology of this integration so far, besides mentioning the advantages and disadvantages of such integration, have considered the separation of medical education from the Ministry of Health and Medical Education is not appropriate nowadays, and they have suggested that the maintenance and revision of the existing discipline are much more useful (8).

The results of the study by Ebrahimnia et al. showed that this integration would make the administrative structure smaller and more efficient, however, it has not been as effective (12). The results of the study by Majdnejad et al. also indicated that integration of medical education with the healthcare fields leads to the development of human resources in one hand and improvement of health indices on the other hand; however, paying too much attention to the healthcare component, the main task of the universities, which is the production of the knowledge, is ignored (9). Also, the results of the research by Shakibaei et al. indicated that from the viewpoint of the faculty members of the Kermanshah University of Medical Sciences, this integration has managed to achieve 37.52% of its primary goals. Also, this plan has been more successful in health fields other than the treatment and educational fields, and it has been significantly less successful in the research and social fields (13). Also, according to Abbasi Moghaddam et al., most of the participants believed that although this integration has had good achievements in terms of healthcare services provision and improvement of the health indices, the quality of the medical education has dropped compared to the past. Also, most of the participants expressed that the reintegration of medical education with the Ministry of Sciences would lead to numerous problems and this ministry may not ready for that. Besides, they believed that the drop in medical education quality, which has happened in this era according to many of the participants, is possibly due to other factors and it is not related to the integration (14). The results of the study by Rajabpour also indicated that after several decades from the implementation of this plan, with consideration of people's responsibilities during the plan implementation, and based on the resources used in this regard as well as its achievements, and comparing these three factors from the viewpoint of the experts, this plan must be continually evaluated by the high-ranking authorities of Iran, and its weak points must be obviated based on the related studies (15). Also, seven members of health and medical education who have been responsible for this ministry after implementation of this plan in Iran, have not expressed their opinions about this plan. Five of them, including the current Minister of Health, opposed to the separation of medical education from the Ministry of Health and Medical Education and believed that the management and revision of this integration is the only logical mechanism (8). The results of all these studies are in line with our results. Therefore, based on the research results and for solving this problem, a 5-stage model has been designed and proposed in the current study,

so that by the independence of the "medical education", the medical sciences universities can completely and flawlessly fulfil their main tasks which are production of knowledge, conducting research, and evading the pressures from other sections such as the provision of healthcare services.

Almost, in all countries in the world, the medical education system and the healthcare provision system are independent of each other and supervised by two separate ministries. However, in Iran, due to some problems and the decisions made by the government, these two systems have been integrated during the last 35 years. Normally, this integration also, like many other big projects and plans, needed revision and correction, and it was not a plan to be extended and generalized for further years; however, a revision was to take place to compensate for the shortcomings and meet the needs. But it did not happen and now, it has led to numerous problems. On the other hand, the re-incorporation of medical education into the Ministry of Science imposes huge costs upon the country, since replacement of a huge collection with 65 universities or independent faculties, 200,000 students, and 20,000 faculty members does not seem to be logical. Also, it requires the revision of many upstream documents and the current laws. Also, a tremendous shock may affect both the medical education and healthcare provision systems which might finally not be beneficial for society, and society would not be able to tolerate it.

Citing our results, it can be claimed that integration of the medical education and the healthcare provision system in the way which is currently implemented (Despite having some advantages), has not been a successful experience and it requires correction and revision since this integration has led to the provision of healthcare services by the students in the medical hospitals which has decreased the quality of treatment. It has also decreased medical education quality due to paying much attention to treatment, and finally, this integration has led to the universities' ignorance of their main task which is the production of knowledge and conducting research. Therefore, based on what has been mentioned, it seems that maintenance and revision of this integration is much more useful than trying to separate the education from the healthcare provision system, and it is better to use a mechanism to reinforce the education, knowledge production, and conducting research, and protect it against the pressures from the other parts of the university. Also, it should be taken into consideration that maybe, many of the existing problems in the field of education, research, and healthcare provision systems are not due to this integration and their separation cannot solve such problems. Iran, at least in the last 4 decades, has been under the influence of the political, economic, cultural, and social upheavals such as the Islamic Revolution in 1979, the 8-year imposed war with Iraq (1981-1989), economic sanctions (which still continue), etc. which might have disrupted the quality of the medical education and the healthcare provision system as disrupting variables. On the other hand, investigation of the challenges of the non-medical universities in Iran showed that these universities also have similar significant problems in the educational and research field.

The limitation of our study is this study was conducted only at universities of medical sciences in Khuzestan Province, in Southwest Iran and authors are not sure to extend the results of this study to all medical universities in Iran.

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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