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Investigating the Satisfaction of Professors and Students with the New Course of Clinical Preparations Followed by the General Medicine Course of Shahrekord University of Medical Sciences

Background: In new clinical preparatory course of general medicine of Shahrekord University of Medical Sciences, topics of surgery, pediatrics, psychiatry, infectious, neurology, pharmacology, and pathology were integrated. This study was conducted to investigate the satisfaction of professors and students of new course of clinical preparations.

Method: This was a cross-sectional study in 2021-2022. 173 students and 43 professors participated. Collection tool was a questionnaire which measured the satisfaction of professors and students with new clinical preparation course. Data were analyzed with SPSS 18 at significance level of $p < 0.05$.

Results: Average score of satisfaction of professors and students with the new course was 34.97 ± 2.65 and 42.58 ± 15.2 , respectively which was average. Professors and students were most satisfied with the integration of pharmacology and pathology. Students were least satisfied with the facilities of the clinical skills center and appropriateness of the amount of material with time. The grade point average of the new course of clinical preparations was significantly higher than basic sciences ($P < 0.001$). But it had an inverse relationship with students' satisfaction ($r = -0.169$, $P = 0.026$).

Conclusion: Professors' and students' satisfaction with clinical preparation course was moderate. The highest satisfaction was regarding integration of pathology and pharmacology. The limitation of clinical facilities and inadequacy of the materials with the time caused dissatisfaction of the students, which needs to be revised. Considering the increase in the grade point average of the clinical preparation course and the change in the way of holding exams, more studies are suggested for confirmation.

Keywords: Satisfaction, Clinical Preparations Course, Grade Point Average, Integration, Curriculum

بررسی میزان رضایت اساتید و دانشجویان از دوره جدید مقدمات بالینی دوره پزشکی عمومی دانشگاه علوم پزشکی شهرکرد

زمینه و هدف: در دوره جدید مقدمات بالینی دوره پزشکی عمومی دانشگاه علوم پزشکی شهرکرد مباحثی از جراحی، اطفال، روانپزشکی، عفونی و اعصاب، فارماکولوژی و پاتولوژی ادغام شد. این مطالعه با هدف بررسی رضایت اساتید و دانشجویان از دوره جدید مقدمات بالینی انجام شد.

روش: این یک مطالعه مقطعی در سال ۱۴۰۰-۱۳۹۹ است. ۱۷۳ دانشجو و ۴۳ استاد در مطالعه شرکت کردند. ابزار گردآوری به سنجش رضایتمندی اساتید و دانشجویان از دوره جدید مقدمات بالینی پرداخت. داده ها با نرم افزار SPSS 18 در سطح معنی داری $p < 0.05$ تحلیل شد.

یافته ها: میانگین نمره رضایت اساتید و دانشجویان از دوره ی جدید به ترتیب 34.97 ± 2.65 و 42.58 ± 15.2 بود که در حد متوسط بود. بیشترین رضایت اساتید و دانشجویان از ادغام فارماکولوژی و پاتولوژی بود. کمترین رضایت دانشجویان از امکانات مرکز مهارت های بالینی و تناسب حجم مطالب با زمان بود. معدل دوره جدید مقدمات بالینی به طور معنی داری بیش از علوم پایه بود ($P < 0.001$) ولی ارتباط معکوسی با رضایتمندی دانشجویان داشت ($r = -0.169$, $P = 0.026$).

نتیجه گیری: رضایت اساتید و دانشجویان از دوره مقدمات بالینی کوریکولوم جدید متوسط بود و بیشترین رضایت در خصوص ادغام پاتولوژی و فارماکولوژی بود. محدودیت امکانات بالینی و عدم تناسب مطالب با زمان سبب نارضایتی دانشجویان شد که نیازمند بازنگری است. با توجه به افزایش معدل دوره مقدمات بالینی و همزمانی با تغییر شیوه برگزاری امتحانات مطالعات بیشتری جهت تأیید پیشنهاد می شود.

واژه های کلیدی: رضایتمندی، دوره مقدمات بالینی، معدل، ادغام، کوریکولوم

استقصاء مدى رضا الأساتذة والطلاب عن الدورة الجديدة للتحضرات السريرية التي تليها دورة الطب العام في جامعة شاهريركد للعلوم الطبية

الخلفية: في الدورة التحضيرية السريرية الجديدة للطب العام بجامعة شاهريركد للعلوم الطبية، تم دمج موضوعات الجراحة وطب الأطفال والطب النفسي والأمراض المعدية وعلم الأعصاب والصيدلة وعلم الأمراض. أجريت هذه الدراسة لمعرفة مدى رضا الأساتذة والطلاب عن المقرر الجديد للتحضرات السريرية.

الطريقة: كانت هذه دراسة مقطعية في 2021-2022. شارك فيها 173 طالباً و 43 أستاذاً. كانت أداة التجميع عبارة عن استبيان يقيس رضا الأساتذة والطلاب عن دورة الإعداد السريري الجديدة. تم تحليل البيانات باستخدام برنامج SPSS 18 عند مستوى دلالة $p < 0.05$.

النتائج: بلغ متوسط درجة رضا الأساتذة والطلاب عن المقرر الجديد 34.97 ± 2.65 و 42.58 ± 15.2 على التوالي وهو متوسط. كان الأساتذة والطلاب أكثر رضىً عن التكامل بين علم الصيدلة وعلم الأمراض. كان الطلاب أقل رضىً عن مرافق مركز المهارات السريرية وملاءمة كمية المادة مع مرور الوقت. وكان المعدل التراكمي للدورة الجديدة للتحضرات السريرية أعلى بكثير من العلوم الأساسية ($r = -0.169$, $P < 0.001$) ولكن كان لها علاقة عكسية مع رضا الطلاب ($P = 0.026$).

الاستنتاج: كان رضا الأساتذة والطلاب عن دورة الإعداد السريري متوسطاً. وكان أعلى مستوى من الرضا فيما يتعلق بتكامل علم الأمراض والصيدلة. تسببت محدودية المرافق السريرية وعدم كفاية المواد مع الوقت في استياء الطلاب، الأمر الذي يحتاج إلى مراجعة. وبالنظر إلى الزيادة في المعدل التراكمي لدورة الإعداد السريري والتغيير في طريقة عقد الامتحانات، يقترح إجراء المزيد من الدراسات للتأكيد.

الكلمات المفتاحية: الرضا، دورة الاستعدادات السريرية، المعدل التراكمي، التكامل، المنهج

شاهريركد یونیورسٹی آف میڈیکل سائنسز کے جنرل میڈیسن کورس کے بعد کلینیکل تیاریوں کے نئے کورس کے ساتھ پروفیسرز اور طلباء کے اطمینان کی چھان بین خلاصہ

پس منظر: شاهريركد یونیورسٹی آف میڈیکل سائنسز کے جنرل میڈیسن کے نئے کلینیکل پریپریٹری کورس میں، سرجری، اطفال، نفسیات، متعدی، نیورولوجی، فارماکولوجی، اور پیتھالوجی کے موضوعات کو شامل کیا گیا تھا۔ یہ مطالعہ کلینیکل تیاریوں کے نئے کورس کے پروفیسرز اور طلباء کے اطمینان کی چھان بین کے لیے کیا گیا تھا۔

طریقہ: یہ 2021-2022 میں ایک کراس سیکشنل مطالعہ تھا۔ 173 طلباء اور 43 پروفیسرز نے شرکت کی۔ جمع کرنے کا ٹول ایک سوالنامہ تھا جس نے نئے طبی تیاری کے کورس کے ساتھ پروفیسرز اور طلباء کے اطمینان کی پیمائش کی۔ ڈیٹا کا تجزیہ SPSS 18 کے ساتھ $p < 0.05$ کی اہمیت کی سطح پر کیا گیا۔

نتائج: نئے کورس کے ساتھ پروفیسرز اور طلباء کے اطمینان کا اوسط سکور بالترتیب 34.97 ± 2.65 اور 42.58 ± 15.2 تھا، جو کہ اوسط تھا۔ پروفیسرز اور طلباء فارماکولوجی اور پیتھالوجی کے انضمام سے سب سے زیادہ مطمئن تھے۔ طلباء کلینیکل اسکلز سینٹر کی سہولیات اور وقت کے ساتھ مواد کی مناسبت سے کم سے کم مطمئن تھے۔ طبی تیاریوں کے نئے کورس کا گریڈ پوائنٹ اوسط بنیادی سائنسز ($P < 0.001$) سے نمایاں طور پر زیادہ تھا۔ لیکن اس کا طلباء کے اطمینان کے ساتھ تعلق تھا ($r = -0.169$, $P = 0.026$)۔

نتیجہ: کلینیکل تیاری کے کورس کے ساتھ پروفیسرز اور طلباء کا اطمینان اعتدال پسند تھا۔ سب سے زیادہ اطمینان پیتھالوجی اور فارماکولوجی کے انضمام کے حوالے سے تھا۔ طبی سہولیات کی محدودیت اور وقت کے ساتھ مواد کی کمی طلباء کے عدم اطمینان کا باعث بنی، جس پر نظر ثانی کی ضرورت ہے۔ طبی تیاری کے کورس کے گریڈ پوائنٹ اوسط میں اضافے اور امتحانات کے انعقاد کے طریقے میں تبدیلی کو مدنظر رکھتے ہوئے، تصدیق کے لیے مزید مطالعات تجویز کی جاتی ہیں۔

مطلوبہ الفاظ: اطمینان، طبی تیاری کا کورس، گریڈ پوائنٹ اوسط، انضمام، نصاب

INTRODUCTION

Educational quality is the first goal of managers, professors, and policymakers in the policy making of society's health system. Ensuring students' satisfaction is one of the growth and development factors of educational centers (1). The technology, the curriculum, the teaching team, and the university management system are among the factors that affect the learner's satisfaction (2,3).

Integration of content fields is one of the main concerns of experts in the field of curriculum planning. In the process of integration, educational subjects are presented in combination instead of being separated (4). Integration through motivation and sustainable learning, the relationship between the situation, the evolutionary process, and the physiological functions of the body organs and the thematic coordination is effective on increasing the efficiency of education (5,6). One of the important academic stages of the general medicine is the new course of clinical preparations, which is before entering the clinical stages and after the basic sciences. Based on the curriculum of the general medicine course, one year has been allocated to this course (4). Before the implementation of the new general medicine course, the new course of clinical preparations, which was known as the physiopathology course, was provided using traditional educational methods with packages separate from other courses. Heart, lung, digestion, rheumatology, blood, and kidney courses are provided in separate packages in a semester; and pharmacology, pathology, and semiology courses are provided separately in another semester (4). According to the above information, no effectiveness was observed on achieving the main objectives of medical education. So, changes in the curriculum of the general medicine, especially, the physiopathology course, both in terms of content and arrangement, as integrated, needed more than before (7). In general medicine in the new course of clinical preparations, topics of surgery, pediatrics, psychiatry, infections, and neurology from the clinical stages of apprenticeship and internship are integrated in the basic clinical course. In addition, pharmacology and pathology courses are integrated in the relevant system courses simultaneously. The new general medicine course for all incoming medical students in the first semester of 2017 was provided in Shahrekord University of Medical Sciences, and the first new course of clinical preparations started in the second semester of the academic year 2019-2020 after holding several meetings of the curriculum planning committee and the justification of the course for the professors of the clinical groups and students. Given that the new course of clinical preparations of the general medicine has recently been provided in Shahrekord University of Medical Sciences, the knowledge of the satisfaction of professors and students with the course can lead to basic decisions regarding its necessary revisions and corrections and even the submission of proposals to the Ministry of Health to improve its quality. Finally this provision can help to achieve the main objective of medicine education, i.e. improving health of society. Therefore, this study was designed and conducted to

investigate the satisfaction of professors and students with the new course of clinical preparations course and the relationship between students' satisfaction and the GPA (Grade Point Average) of their basic clinical course.

METHODS

This is a cross-sectional and descriptive-analytical study. The study inclusion criteria included the willingness of professors and students to participate in the study. Also, the students who studied in the first three semesters of the new course of clinical preparations (second semester 2019-2020 onwards) at Shahrekord University of Medical Sciences were included in the study. 182 students met the study inclusion criteria. The study inclusion criteria for the professors included the professors who participated in the training process of students in at least one of the first three new courses of clinical preparations. 48 professors met the study inclusion criteria. Data collection tool included two questionnaires for professors and students. The questionnaires used were designed by the researcher based on the literature review and the new curriculum. The students' questionnaire investigated the various aspects of the new course of clinical preparations, including satisfaction with the teaching method, course references, unit allocation to courses, paraclinical opportunities, integrated courses, schedule, test questions, proportionality of the volume and time of presenting the materials, and the continuation of this course. At first 21 questions were designed. In the professors' questionnaire, 16 questions were designed for the satisfaction in various dimensions including paraclinical facilities, teaching references, schedule, unit allocation to courses, students' learning, and provision of the integration course. The questions were scored based on the Likert scale from very little (score 1) to very high (score 5). The face and content validity of the questionnaires were confirmed, so that the questions were given to 6 faculty members in the related field.

To confirm the content validity, the content validity ratio (CVR) and the content validity index (CVI) were used. In this study, according to the panel of 6 specialists, CVR higher than 0.99 was acceptable (8). Also CVI (according to the formula) higher than 0.79 was acceptable (9). In the students' questionnaire 7 questions, and in the professors' questionnaire 6 questions had CVR less than 0.99, which were removed. Other questions had CVR greater than 0.99 and cvi greater than 0.79. Finally 10 and 14 questions were determined as the final questions of the professors' and students' questionnaires, respectively. The reliability of the questionnaires was confirmed by Cronbach's alpha. The Cronbach's alpha of the students' questionnaire was 0.77 and it was 0.72 for the professors' questionnaire.

To determine the satisfaction with the scores obtained from the questionnaires, these scores were statistically converted into a scale of 0-100. Accordingly, a score of 0-33 was considered as low satisfaction, a score of 34-66 was considered as moderate satisfaction, and a score of 67-100 was shown as high satisfaction (10).

After obtaining the permission from the Department of Research and Technology of the university, the research

stages were started. The questionnaires were distributed in electronic form among the professors and students. Thus, the electronic version of the questionnaire was placed on Porsline online system and a link was sent to the mobile phones of the participants.

The researcher provided the necessary explanations regarding the objectives of the study in the form of text messages. We assure that the information would remain confidential. In order to obtain their consent to participate in the study, they clicked on the link of the questionnaire to answer. The implementation of this study was during the Covid-19 pandemic. During this period, exams were held in virtual form in some courses. To increase the reliability of the results of the study, 3 courses of new clinical preparatory students were examined. In the first 2 groups, exams were held in a virtual form, and in the third group in a normal and non-virtual way. These conditions made it possible to compare the results of the study in two forms of face-to-face and virtual exams to reduce the limitations of the study.

For quantitative data, mean and standard deviation were used, and for qualitative data the number and percentage of frequency were used. To determine the relationship the Pearson correlation were used. Also the present researchers used t-test and ANOVA to comparison mean and mean difference of quantitative variables by SPSS 18 at a significance level of less than 0.05.

RESULTS

Among 182 students who met the study inclusion criteria, 173 students (95%) completed the questionnaire. 43 professors who met the study inclusion criteria also completed the questionnaires (89.5%). The demographic information of the professors participating in the study is shown in Table 1. The average age of the professors was 46.67 ± 8.56 years. In total, 31 professors (72.1%) were very satisfied with the new course of clinical preparations.

The average score of satisfaction of the professors with the new course of clinical preparations by items is shown in Table 2. The average satisfaction score of the professors with

Variable	Mean±SD	Number (Percent)
Age	46.67±8.56	-
Work experience	7.23±9.02	-
Gender	Male	- 27(62.8)
	Female	- 16(37.2)
Faculty	Yes	- 42(97.7)
	No	- 1(2.3)
Science ranking	Assistant Professor	- 40(95.23)
	Associate Professor	- 2(4.7)
	Professor	-

the new course of clinical preparations was 34.97 ± 2.65 . The score was converted into a scale between 0-100. The average satisfaction score of the professors was 69.94. It was considered as moderate satisfaction. The highest average satisfaction score of the professors was on "Are you satisfied with the integration of other courses (psychiatry, pediatrics, neurology, surgery, and infections) in the new course of clinical preparations?" (3.86 ± 0.51) and the lowest was on "What is satisfaction with the curriculum topics to cover required content in the new course of clinical preparations?" (3.16 ± 0.53). For the satisfaction components, more than 80% of the professors were satisfied with the integration of other courses except internal medicine. Also, more than 70% and 50% of the professors were satisfied with the integration of pharmacology and pathology. Only 47 students (27.2%) were very satisfied with the new basic clinical course. The demographic information of the students participating in the study is shown in Table 3. The average satisfaction score of the students with the new course of clinical preparations is shown in Table 4. The average satisfaction score of the students was equal to 42.58 ± 15.2 . The score was converted

Item	Mean ± SD
Facilities available in the clinical skills center	3.30±0.51
Scheduling of courses in the new basic clinical course	3.30±0.55
The new basic clinical course	3.62±0.48
Pathology as integrated with courses in the new basic clinical course	3.62±0.53
The integration of the pharmacology in the new basic clinical course	3.69±0.59
The integration of courses in other departments except internal medicine in the new basic clinical course	3.86±0.51
Clinical reasoning in the new basic clinical course	3.48±0.63
The topics of the curriculum to cover the required content in the new basic clinical course	3.16±0.53
The proportion of the content presented and the time taken for the basic clinical course	3.23±0.61
Total satisfaction with the new basic clinical course	3.67±0.68
Total satisfaction of professors	34.97±2.65

into a scale between 0-100. The average satisfaction score of the professors was 60.82. It was considered as moderate satisfaction. The highest average satisfaction score of the students was on "Are you satisfied with the provision of pathology unit integrated with the courses in the new course of clinical preparations?" (3.89 ± 0.97) and the lowest was on "Are you satisfied with the facilities available in the clinical skills center?" (2.38 ± 1.15). More than 60% of students were satisfied with the integration of pathology and pharmacology. The Pearson correlation showed a poor inverse relationship between the GPA of the new basic clinical course and the students' satisfaction ($r=-0.169$, $p=0.026$). Overall there was an inverse and weak relationship between GPA of the new clinical preparation course and the satisfaction of students ($r=-0.169$, $P=0.026$). An inverse and significant relationship was

observed between satisfaction and GPA of the new clinical preparation course of students in the second course ($r=-0.438$, $P=0.001$). In first and third groups there was not relationship between GPA and satisfaction of students ($r=0.109$, $P=0.420$ and $r=-0.026$, $P=0.845$ respectively). In the studied students of the three clinical courses, the average of the clinical preparatory course was significantly higher than the GPA of the basic science course (Table 5). However, the difference in the GPA of the basic science course of clinical preparations in the group of students participating in the new course of clinical preparations, by three courses, was significant ($P=0.005$) (Table 6). The difference between the grade point average of basic sciences and the new course of clinical preparations in the second group was significantly higher than the other groups. Also, the average satisfaction score of the students participating in

Table 3. Demographic Information of the students

	Number (Percent) N(%)	Marital status N(%)		Sex N(%)		Job N(%)		Age Mean±SD	GPA basic sciences Mean±SD	GPA new course Mean±SD
		Single	Married	Male	Female	Yes	No			
Course1	57(32.94)	53(93)	4(7)	32(56.20)	25(43.80)	11(19.30)	46(80.70)	23.94±2.5	15.18±1.43	16.10±1.07
Course2	55(31.80)	49(89.1)	6(10.9)	24(43.60)	31(56.40)	12(21.8)	43(78.2)	23.65±2.06	15.18±1.32	16.57±0.88
Course3	61(35.26)	58(95)	3(5)	33(54.10)	28(45.90)	14(23)	47(77)	22.55±1.79	15.94±1.18	16.77±0.93

Table 4. Mean score of satisfaction of students by items

Item	(Mean ± SD)
Facilities available in the clinical skills center	2.38±1.15
Pathology as integrated with courses in the new basic clinical course	3.89±0.97
Pharmacology as integrated with courses in the new basic clinical course	3.65±1.14
Neurology in the new basic clinical course	2.97±1.05
Infections in the new basic clinical course	3.05±1.19
The new basic clinical course	3.02±1.17
Psychiatry in the new basic clinical course	3.29±1.05
Pediatrics in the new basic clinical course	3.05±1.12
Clinical reasoning in the new basic clinical course	3.05±1.15
Scheduling of exams of the new basic clinical course	2.60±1.14
Proportion of the content presented and the time taken for the basic clinical course	2.46±1.16
The continuation of the new basic clinical science course for other students	3.27±1.01
Better memorization of content of the new basic clinical course	2.80±0.97
Total satisfaction with the new basic clinical course	3.10±0.93
Total satisfaction of students	42.58±15.2

Table 5. The average grade point average of the basic course and the new course of clinical preparation, separated by three courses

	GPA of the basic science course (Mean±SD)	GPA of the new course of clinical preparations (Mean±SD)	P value
Course 1	15.185±1.432	16.101±1.076	<0.001
Course 2	15.187±1.327	16.577±0.880	<0.001
Course 3	15.946±1.189	16.779±0.936	<0.001

Table 6. Comparison of the difference between the GPA of basic sciences and the GPA of clinical preparations in the group of students participating in the new course of clinical preparations according to three courses

		Mean ±SD	P value
Course1	Course2	-0.47±0.18	0.011
	Course 3	0.08±0.17	0.641
Course2	Course 1	0.47±0.18	0.011
	Course3	0.55±0.18	0.002
Course3	Course 1	-0.08±0.17	0.641
	Course 2	-0.55±0.18	0.002

the new course of clinical preparations by three courses (first group: 45.85±7.68, second group: 42.18±6.99, third group: 40.06±7.28) showed a significant difference (P=0.0001).

DISCUSSION

In this study, about 30% of students and more than 70% of professors were very satisfied with the new course. The greatest satisfaction of professors and students in the new course of clinical preparations was the integration of pharmacology and pathology courses. Students were least satisfied with the facilities of the clinical skill center and the appropriateness of the amount of material with time. Result showed the grade point average of the new course of clinical preparations in all groups was significantly higher than the grade point average of basic sciences but it had an inverse and weak relationship with students' satisfaction.

Studies have generally shown a low level of satisfaction among students who experience the first course of changes in the curriculum (11), since they are unhappy to experience the trial run of new courses. Therefore, it is necessary to review the things that have caused the reduction in the satisfaction of students. Hossein (2014-2015) evaluated the project of vertical integration in learning and teaching of medical students. In this study, the advantages and disadvantages of the plan were reviewed. Vertical integration was investigated and it was suggested to use the vertical integration to increase the level of teaching to students (12). In a study conducted in Ahvaz University entitled "Integration of the Physiopathology Course", the students found this method useful for better and more coherent understanding of the topics and content (13). In a study conducted by Khadem et al., the majority of professors and students had positive attitudes towards this integration system to help students learn courses (14). No study has been found on the non-continuation of the integration.

Given that the studies have suggested the continuation of the integration, evaluation should be done regularly by those involved to try to improve them by finding the strengths and weaknesses.

The results of the present study on the satisfaction of the professors and students with integrated pathology and pharmacology courses are consistent with a study by Zare et al. in Yazd, entitled "Students' Attitudes to Integrated Pathology and Pharmacology Topics with the Topics of the Physiopathology Courses" (4).

The items of the integration of pathology and pharmacology units in the questionnaires of professors and students showed the highest satisfaction. Also, in a study by Alami in Qazvin, which was conducted to determine the attitudes of students to the integration of the pharmacology and physiopathology, the results indicated the satisfaction of students with the integration (15). The satisfaction of students with the integration of neurology, infections, surgery, and pediatrics courses could be due to the volume of topics presented, the complexity of the content, and the students' unfamiliarity with these topics.

Faizi et al., in a study entitled "Students' Satisfaction with Kurdistan University of Medical Sciences' Educational Services and Facilities and Related Factors" showed that the satisfaction with Kurdistan University of Medical Sciences' educational facilities and services was moderate in the 7 investigated fields (16). These results are consistent with the results of the present study on the satisfaction with the clinical skills facilities, which is reported to be moderate. It seems that the necessary facilities should be sufficiently available for achieving the integration to witness more success. More than 60% of professors believe that, despite the large volume of the new course of clinical preparations, the new clinical course has a significant effect on better learning. Eisenbarth et al also reported that the integrated

course facilitates mental experience of students on the memorization of knowledge (17).

Hence, to increase the satisfaction of students and professors, it is necessary to review the selected topics and the time allocated to each topic for teaching in the new course. In the present study, GPA in students has increased from the basic science to the clinical preparation course. Of course, the way students are evaluated, especially the way the exams are held, the difficulty of the exam questions or virtual exams, or whether the exams are face-to-face due to Covid-19 pandemic can be effective. So, long-term evaluation of this course may be used to confirm the results. However, the difference was still significant among the students of the third group of students who have passed the course and exams in the face-to-face approach. In this study, a significant inverse relationship was observed between the grade point average of the new clinical preparation course and the satisfaction of students in the second group. Maybe the different distribution of gender in this group or the higher grade point average of the students of this course compared to other groups, which can express a different point of view or more sensitivity and precision towards the conditions and favorable facilities for the implementation of the new course of clinical preparations, may have led to this difference. However, conducting longitudinal studies can help to confirm this result. The present study had some limitations. The most important thing was the coincidence of the study with the Covid-19 pandemic and the change in the teaching and evaluation method from face-to-face to virtual. However, an attempt was made to reduce this weakness by increasing the student groups participating in the study and increasing the duration of the study in order to provide the possibility of comparing different educational conditions in the new program. It is suggested that with the end of the Covid-19 pandemic and stability in educational and evaluation methods, longitudinal studies should be conducted to ensure the results. In future studies it is also suggested to measure the long-term effects of changes in the educational

curriculum on the quality of care for medical graduates.

CONCLUSION

The level of satisfaction of professors and students with the clinical preparation course of the new curriculum was moderate, and the highest satisfaction was regarding the integration of pathology and pharmacology courses. The limitation of clinical facilities and the inadequacy of the materials with the time have caused the dissatisfaction of the students, which needs to be revised. Due to the increase in the grade point average of the students' clinical preparation course and the simultaneous change in the way of holding exams from face-to-face to virtual, it is suggested to conduct more studies for confirmation.

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. The Ethics Committee of Shahrekord University of Medical Sciences, Shahrekord, Iran, approved this study (code: IR.SKUMS.REC.1400.195). Necessary arrangements for sampling and data collection were made with the authorities of the study setting and clear information about the study aim was provided to participants. They were ensured that their data would be kept confidential and they would have access to the study results at will.

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