

Determining Factors Affecting International Students' Satisfaction among Iranian Medical Sciences Universities: A Qualitative Study

Kobra Nakhoda¹ , Mohammadali Hosseini^{2*} , Kamran Mohammadkhani³ , Nader Gholi Ghorchian¹ 

¹ School of Management and Economics, Science and Research Branch, Islamic Azad University (IAU), Tehran, Iran.

² Rehabilitation management Department, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran.

³ Department of Higher Education Administration, School of Management and Economics, Science and Research Branch, Islamic Azad University (IAU), Tehran, Iran

Article Info



Article history:

Received 30 Nov 2019

Accepted 01 March 2020

Published 16 March 2020

Keywords:

Satisfaction

International Students

University of Medical Sciences

*Corresponding author:

Mohammadali Rehabilitation management
Department, University of Social
Welfare and Rehabilitation Sciences,
Tehran, Iran.

Email: mahmaimy2020@gmail.com

Abstract

Background & Objective Given the growing global competition between countries and universities to attract international students, determining the level of satisfaction of these individuals and factors involved in their dissatisfaction during the admission and attraction processes is of utmost importance. Therefore, this study aimed to identify the factors affecting the satisfaction of international students who are studying in medical Universities in Tehran.

Materials and Methods: This qualitative research was performed with a conventional content analysis approach. Up to data saturation, 17 participants were selected from the international students of three universities in the second semester of the academic year of 2018-2019. The subjects were selected by purposeful sampling considering maximum diversity. In addition, data were collected via individual semi-structured interviews and simultaneously analyzed based on Graneheim and Lundman analysis method.

Results The interviews were classified in more than 680 open codes, six categories, and 25 subcategories. According to the results, the main factors for dissatisfaction of international medical students included low language proficiency, lack of financial support, weaknesses in academic-educational and managerial processes, and weaknesses in counseling and information processes, welfare problems and improper encounters and interactions.

Conclusion: According to the results of the study, it is suggested that more attention be paid to the mentioned factors by higher education policymakers and managers and attempts be made to eliminate these challenges in order to strengthen the system of attracting international students and achieving a high position at the regional and global levels in this respect.



Copyright © 2019, This is an original open-access article distributed under the terms of the Creative Commons Attribution-noncommercial 4.0 International License which permit copy and redistribution of the material just in noncommercial usages with proper citation

Introduction

One of the main pillars of competition among higher education institutions around the world in the field of internationalization is attracting more international students. In this competitive market, universities of various countries have realized that innovative marketing and strategic arts are vitally important in attracting and retaining a higher number of international students. On the other hand, more than any other time, students seek to gain a high-quality international educational experience that would ultimately lead to an opportunity for a better life and occupation and even long-term immigration (1). One of the benefits of accepting international students is a contribution to the economy of the country since these individuals have a considerable economic share in the destination country through life costs and registration fees (2). For instance, the international education industry accounts for 15% of the revenue of Australian universities, which is the third export revenue source in Australia (2). Australia's sector of international development programs has anticipated

global demand for international education in about 7.2 million students by 2025 (3). This intense competition among higher education institutions in global markets is one of the globalization challenges that requires taking students' satisfaction into account as customers and monitoring their needs (4).

Customer orientation is so important that has led to fierce competition among organizations (5). In addition, student satisfaction has been identified as an important factor for maintaining universities and institutes' ability to attract students (6). In this respect, student satisfaction depends on certain conditions and factors that exist in the university. Given the fact that student satisfaction is a complex structure and has no single global definition, researchers have generally defined this notion as the result of students' mental evaluation of the different results and experiences related to their educational environment services. Meanwhile, the educational environment's support is very important in their academic success (7). In a research by Aslam et al. performed in five public universities of Pakistan to

assess the factors affecting the satisfaction of students with semester system of the universities, professors, among the variables affecting students' behaviors, efforts, and satisfaction, had the main and significant impact on student satisfaction (8).

Regarding the satisfaction of foreign medical students in Iran, Moghadan et al. (2016) pointed out in a research conducted in Isfahan University of Medical Sciences that the educational problems of foreign students in the quality section in the mentioned study were low Farsi proficiency, the difference in the educational system, improper teaching method of professors and dissatisfaction with educational books (9). Moreover, Kheradmand et al. (2015) conducted a research in Tehran University of Medical Sciences to assess the satisfaction of medical students, reporting a favorable status in eight main areas of acceptance and registration process, education and learning, Farsi language teaching, library and information, facilities, IT equipment of the university, sports facilities and accommodations. In addition, the overall satisfaction of students was reported around 70% (10).

Iran is a country that has had a long experience of higher education; for instance, Ahvaz Jundishapur University of Medical Sciences of Iran was the center of scientific and research activities of Iranian, Indian and Greek scientists in the fifth century, which shows the high potential of the country to attract international students, especially in Asia continent. On the other hand, the development and dissemination of science and technology and the education of students at the international level and the establishment of a balance and the promotion of the quality of higher education and research and technology have been mentioned in the upstream documents and the sixth five-year plan of the Islamic Republic of Iran (in paragraph c of Article 4 and in section 12: Articles 64 and 66) (11). Moreover, serious attention has been paid to the internationalization of education in the 20-year vision plan of Iran (2025) (11). Given the fact that the world's population of international students will reach eight million by 2025 (3), it remains to be seen what Iran's share in this competitive market will be and how can we increase the number of attracted students. While the world's most reputable universities have been successful in student attraction, Iran's share of this market has been small, according to the latest statistics, in a way that the share of foreign students in the country in 2016-2017 was reported at 3804 individuals by the ministry of science, research, and technology.

According to the statistics, the share of foreign students in Iran in 2017 was 0.8%, which must

increase to 1.8% by 2021, and 10 universities of Iran must be among the top 100 universities of the world by that time (12). Therefore, since foreign students are the main and immediate applicants for international higher education services and understanding their opinion is very useful and necessary for monitoring the quality and recognizing the weaknesses and strengths of higher education services, the present study aimed to recognize the factors for the satisfaction of foreign medical students in Tehran, Iran. The current research aimed to take effective steps toward reaching macro educational goals by announcing the results and making them applicable for heads and international education directors of universities. With this background in mind, this study aimed to identify the satisfaction factors of foreign students in medical sciences disciplines in three universities of Tehran, Iran and Shahid Beheshti in the academic year of 2018-2019.

Materials and Methods

This was an applied research in terms of qualitative data collection and had a conventional content analysis method regarding the implementation technique. Subjects were selected in the second semester of the academic year of 2018-2019 via purposeful sampling. In addition, the criteria for theoretical saturation in interviews were applied to determine the sample size. Ultimately, semi-structured interviews lasting for 45-60 minutes, up to data saturation interviews were carried out with 17 foreign medical students in Tehran University of Medical Sciences, Shahid Beheshti University of Medical Sciences, and Iran University of Medical Sciences in the second semester of the academic year of 2018-2019. The interviews would start with a general and open question such as "could you please compare this university with other universities?" and would continue with prompts including "could you elaborate on that?". Extracting and analyzing data from interviews were carried out using the conventional content analysis method concomitantly with the data collection process based on five steps by Granheim & Lundman. In this respect, the interviews were first recorded separately and transcribed fully. Simultaneously, preliminary codes were extracted, and classes categories and subclasses subcategories were determined by subsequent interviews.

Data validation was evaluated using the verifiability method and review technique by the participants and peer were reviewed by the professors of the research team. Validity and reliability in the qualitative content analysis were

presented by considering four criteria for evaluating the obtained results, including credibility, transferability, dependability, and conformability. Credibility refers to the adequate representation of the social structure that the researcher seeks to examine. Several strategies are used to yield credible results, including long-term study and engagement with data, continuous monitoring, assessing data from different aspects, contrasting data analysis, review of raw data interpretations and dialogue with colleagues.

Transferability is similar to the generalizability of results in a quantitative approach to research, whereas dependability refers to the stability of results over time. On the other hand, conformability refers to the level of confirmation of the characteristics of the data studied by the researcher by the readers (13). In this research, we applied the constant comparative analysis (CCA) method to validate the results. In addition, the researcher ensured the accuracy, consistency, stability, significance, and feasibility of the research model and results by going back and forth between coding stages, asking questions again and comparing them again. The necessary modifications were made by the CCA method up to this stage, and the final model had conceptual density and distinction, which led to its necessary explanatory power (14).

Ethical considerations included voluntary participation in the study, the ability to withdraw

from the research at any time, explaining research objectives to the participants and ensuring them of the confidentiality terms regarding their personal information during interviews. In addition, the researcher cited the participants' statements and views with no change and avoided selective action in choosing interviews or statements. Moreover, the researcher sought to remain unbiased in scientific arguments, avoid siding blindly with dialogues and observe accuracy and fairness in translating texts and phrases into Farsi. Notably, the present study was approved by the ethics committee of Islamic Azad University, Science and Research Branch, Tehran on January 13th, 2019.

Results

According to the results obtained from interviews performed with 17 foreign medical students (57% female and 43% male subjects) using contractual content analysis method, a total of 680 open codes were classified in six classes and 25 subclasses including language problems, lack of financial support, weakness of educational-academic and managerial processes, weakness of counseling and information processes, welfare problems, and inappropriate encounters and interactions. These results are presented in the table below. The mentioned classes are explained below:

Table 1: Results of the factors affecting the satisfaction of foreign students in medical sciences in Tehran

No	Main Category	Sub Category
1	Language problem	Language problem (Persian language weakness of foreign students)
		Teaching professors in Persian and exams in Persian (problem of teaching in Persian)
2	Lack of financial support	Weakness of English language professors in teaching
		The problem of providing foreign exchange for tuition and its risks
3	Weakness educational-academic and managerial processes	Impossibility to pay tuition due to currency fluctuations
		Not distinguishing between different types of foreign students
		Obtaining dollar tuition (and not equivalent in Rials) by the university
4	Weakness of counseling and information processes	Low internet speed and quality
		Impossible to spend internet time in their country
		Inadequate exam schedule (little time to study) and final semester pressure
5	Welfare problems	Separation of Iranian students from foreigners (being classmates with Iranians)
		Teaching irrelevant courses in medicine at the university
		Lack of necessary student counseling
6	Improper encounters and interactions	Lack of coordination and planning - disorder
		Lack of proper and timely guidance of students about educational processes
		Lack of proper information & change of rules and programs
5	Welfare problems	Lack of proper sports and recreational facilities
		Ignoring students' emotional and mental health issues (reducing stress)
		Dormitory problems (relocation of dormitories and stress in students and the problem of providing dormitories)
6	Improper encounters and interactions	Lack of leisure and tourism tours
		Staff and manager behavior - communication problems with employees
		Teachers pay more attention to Iranian students
6	Improper encounters and interactions	Inadequate interaction between professors and foreign students in the classroom
		Inadequate interaction of dormitory university officials with foreign students
		Inadequate interaction of Iranian students with foreign students

3.1. Farsi Language Problems

In this study, 15 students interviewed referred to this problem. This high frequency shows that the language issue has led to the dissatisfaction of foreign students as a pervasive problem. This problem mainly affects the learning process and academic performance of foreign students. In this respect, the following must be taken into account:

Language Problem (Low Farsi Proficiency of Foreign Students):

“This place is great, but everything is in Farsi and we do not understand the language.”

“There was a public Farsi language class. They only hold one class for us and no further classes were held after that. Therefore, we are forced to turn Farsi into English, which is very difficult for us. Studying is very hard for us since we have to change everything from Farsi into English.”

“The teaching method of professors is good but we cannot learn what we are supposed to learn because we do not understand them. I mean, it takes time to understand them. The professor proceeds in teaching the curriculum but we get stuck where we did not understand. Our educational content is in Farsi and I do not understand what it says at all. Therefore, I have to translate it into English first to realize what the topic is. On the other hand, my Iranian friend reads the handouts in a few hours.”

In addition to low Farsi proficiency, teaching in Farsi is another issue that has led to the dissatisfaction of foreign students. In this regard, one of the students stated:

“Before registration, they told us that the classes are held in English. Now that we are in Iran, the classes are held in Farsi. We want the classes to be held in English.”

In terms of language problems, another issue was low English proficiency of professors:

“Because we registered through the international education process, all of our classes are held in English. However, the problem is that our professors had a low English proficiency and were unable to speak English fluently. While they have a good level of scientific knowledge, they fail to convey the contents to students in English.”

3.2. Lack of Financial Support

Another reason for the dissatisfaction of foreign medical students is issues related to funding and receiving fees in USD in the universities of Iran. This has sometimes posed serious risks to foreign students and has caused them dissatisfaction. In interviews with students, the researcher realized that this is a serious problem and has led to the dissatisfaction of many interviewees (the frequency of this class was 14 individuals). In this regard, the following examples can explain the current situation

of these problems.

The first aspect of the financial problem is related to the problems of providing foreign exchange for tuition fees:

“We have serious problems in this area because finding currency (USD) is an issue for us.”

“Some time ago, a medical student was attacked with a knife. He had received \$3700 for his tuition fee. Then, it was reported that the dealer selling him currency had sent his accomplice to attack the student and steal his money.”

Not only foreign students (especially Afghan students, some of whom lived in Iran and their families earned revenues in Rial) dealt with the issue of providing foreign exchange for tuition, but also they believed that universities should receive fees in Rial and do not involve students in providing foreign exchange. The university's disobedience in this regard has been one of the reasons for the students' dissatisfaction:

“Our issue was to find a way to eliminate USD so that international students could pay the equivalent amount of their tuition fee in Rials, similar to the students born in Iran, or pay in the amount of government USD (4200 Rials per dollar).”

“Many students dropped out because of their lack of ability to pay the tuition fee in USD”.

Another cause of students' inability to pay the tuition fee (especially for students with no scholarships) was currency fluctuations in recent years in Iran:

“We came to classes with a low USD rate (3000 Tomans per dollar). Now, each dollar is 12,000-13,000 Tomans, which is very difficult for us. Each semester's fee is about 40 million Tomans. In other words, we must pay 90-100 million Tomans per year.”

Another cause of dissatisfaction was the lack of differentiation between different foreign students in universities. Some of the foreign students (especially Afghan and Iraqi students) are born in Iran and their families are often in Iran (and earn income in Rial). Even some of these students are enrolled in medical courses by taking the nationwide university entrance exam of Iran. However, the university considers no privilege for these students (especially in terms of paying tuition fees in Rial instead of USD or a discount on the fee or estimating the tuition fee based on government currency rate). This issue has led to the dissatisfaction of international students:

“Another differentiation between students must include those born in Iran, who earn income in this country, and those coming from other countries. Our concern was eliminating USD and receiving the equivalent amount of the tuition fee in Rial for those

born in Iran or receiving the tuition fee based on the government USD rate (4200 Tomans per dollar)."

"I told them that the international students from overseas must be differentiated from the students living in Iran and those entering the university by taking the nationwide university entrance exam of Iran. All I say is that a person who has dedicated efforts to take the exam and enroll in the course must be treated the same as Iranians. If they do not receive fees from Iranian students, they should not receive fees from these foreign students as well or receive a lower amount."

3.3. Weaknesses of Educational-Academic and Managerial Processes

Another issue repeatedly cited by international students as reasons for dissatisfaction (42 times) was related to the educational, administrative, managerial and organizational processes of universities. According to the students, these processes lacked the necessary quality or effectiveness and sometimes caused dissatisfaction for international students. Issues such as a short time to study before exams, lack of opportunity to pass tests from their home country via the Internet (which logically has to do with the patients of their own country), and the Internet speed, which is presented in Table 1, were mentioned as the causes of dissatisfaction in students.

Examples in this regard include:

Internet Speed:

"Another issue is that some of our tests are held online but the Internet speed is very low and we cannot work with it. The mobile phone internet is also very poor and we cannot talk to our families."

Improper Exam Schedule and Final Semester Pressure on Foreign Students

"We have a very short time for our exams. We all know that the medical field is very hard. We have tests every day but cannot study for them properly due to a lack of time. We just study to pass the exam and cannot fully learn the content. We must have time to deeply understand the topic."

Lack of Possibility to Pass the Internship in Home Country

"It was better if we could pass the internship course in our own country. We must work in hospitals in our home country."

Separating Iranian Students from International Students (being classmates with Iranians)

"First, we were in the same class as Iranian students. After a while, they separated our class from Iranians and put them in day-time classes"

3.4. The weakness of Counseling and Information Processes

It is clear that international students that study and live in another country and are not fluent in the

language of that country need counseling, guidance, and information more than other students. These individuals often lack the ability to comprehend news, announcements and notifications, guidelines and rules. Therefore, they expect to be guided by the university system on time and correctly. Unfortunately, international students were dissatisfied with the information, guidance and counseling processes of universities in Iran (13 times). Issues and processes such as student counseling, information about rules or changing rules, and lack of coordination in student planning and student confusion (disruption in planning) are some of the issues mentioned by international students in this regard:

"We are informed very late about changes in courses and tuition fees and no one takes responsibility for this inadequacy."

"You can see that we have been depressed but no one cares about it. We have no counselors and I just cry sometimes."

3.5. Welfare Problems

Welfare and leisure issues and extracurricular programs and psychological counseling make students happy, lively and fresh and significantly affect their mental state and spirit. The frequency (repetition) of this component was 41, which showed that this issue significantly affected the satisfaction or dissatisfaction of international students.

In other words, the mental health of students largely depends on the development of university's welfare facilities (e.g., dormitories, dining hall, and gyms) and the presence of psychological counseling mechanisms and educational support and guidance systems. The international students were dissatisfied with the overlooking of their need for a decrease in stress by the university system. The following sentences are examples of the emphasis on the existence of many problems in this field:

Lack of Attention to Emotional Issues and Mental Health of Students (Stress Reduction)

"Mental and psychological problems occur with each displacement. For instance, we were five international students in the beginning but two of us were sent to another dormitory, which was harder on us than themselves. They cannot come to see us since it is against the law. We really need to study for exams with each other."

"There is zero attention to the mental and psychological health of students in dormitories."

Dormitory Problems (Displacement and Increase of Stress in Students and Problem of Supplying Accommodation)

"We had no room in the university's dormitories and they gave us a temporary room in a hotel. After that, we were transferred to another place for almost

a semester but we were informed that the building was being closed. Therefore, they took us someplace else. Time is also another concern for us since the semester is almost over and we must dedicate our short time to data collection and preparation of our proposals.”

Lack of Time for Leisure

We have no time for leisure. In the past, we could have some fun after one-two months but now we have no time. There is no suitable tour. Meanwhile, there are many places to see in Iran.”

3.6. Improper Encounters and Interactions

The behavior of Staff and Managers-Communication Problem with the Staff

- For instance, whenever we visited the person responsible for costs, he would say that no one has sent you invitations to come and study in this country and you can go back to your own country.”

Improper Behavior of Some Professors- Focus of Professors on Iranian Students

- Some professors say in the class that they are against the presence of international students. Some of them study hard and have changed the opinion of professors. However, some professors still have this attitude to foreign and international students and show it in scoring their exams.”

Improper Behavior of Iranian Students with International Students

- Even some of the Iranian students treat us badly.

Comparison to Iranian Students

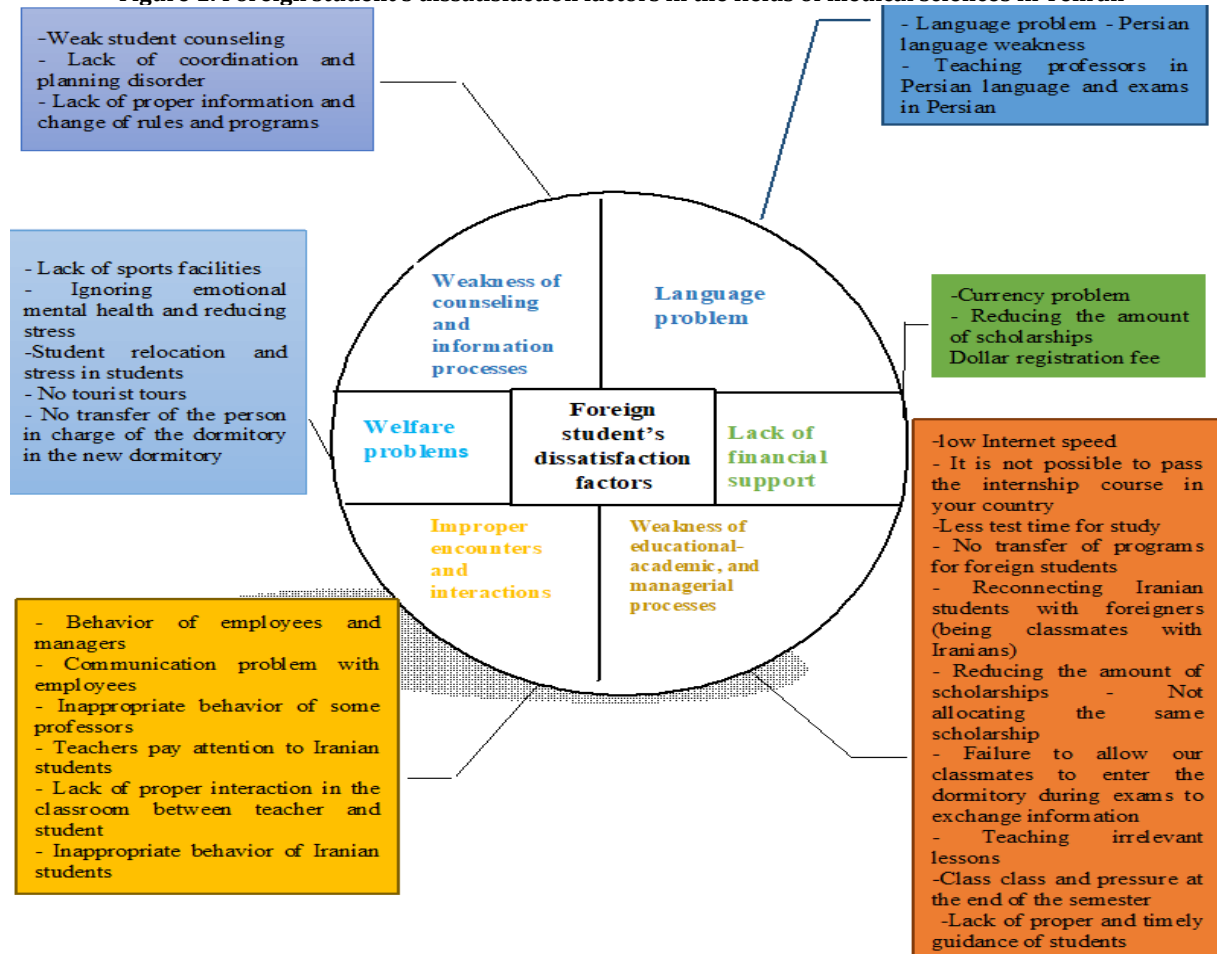
- What is more important for us is being compared to Iranian students accepted in day-time courses. We do not want to be compared to them. We want to be compared to ourselves.”

- We do not want to compete but we want to study better. We always get depressed when we see them.

Authorities Threatening to Cancel Scholarship in Case of Complaints by Students

- They say that they will cancel our scholarship if we complain.

Figure 1: Foreign student’s dissatisfaction factors in the fields of medical sciences in Tehran



Discussion

This study aimed to identify the factors affecting the satisfaction of international students studying in medical fields in Tehran. According to the results, universities face many challenges regarding the satisfaction of international medical students, which are mostly in educational, financial, welfare, managerial, counseling and information areas. The majority of the participants had low language proficiency. In this regard, the main factors recognized as the causes of international students' dissatisfaction were lack of financial support, weaknesses in educational-academic and managerial processes, weaknesses in counseling and information processes, welfare problems and improper encounters and interactions. Language problems are among the most challenging aspects of academic learning and social interactions for the majority of international students (15). Difficulty in listening and establishing verbal communications and lack of knowledge of the domestic vocabulary of the destination country reduce the self-confidence of international students (16). Assessing the international students' satisfaction by Fuzzy performance analysis, Wang and Tsang (2011) (17) reported that international students were dissatisfied with their inability to communicate appropriately in their interactions with classmates and professors, as well as their inability to read and write.

In the present research, one of the most important challenges was low language proficiency, pointed out in two levels including low Farsi proficiency of students in the comprehension of educational content and low English proficiency of professors. Kheradmand et al. (10) and Yamani et al. (19) also reported that poor language efficiency was among the most important challenges of international students. Another factor for dissatisfaction among the participants was the lack of financial support. Given the political issues, students had problems in providing currency due to a lack of reliable currency exchange centers and a lack of safety to convert their currency. On the other hand, the international students residing in Iran received income in Rial and were frustrated with the increased currency rate, demanding a solution to deal with the issue of inflation since they had to drop out in case of a lack of solving this issue. Another factor for the dissatisfaction of international students was the decrease and elimination of discounts and scholarships (20, 21).

According to the results of the study, weaknesses in educational-academic and managerial processes were among the factors for the dissatisfaction of international students. The low speed of the Internet

in communicating and receiving and sending scientific content, as well as in communicating with their families, caused students to protest. In addition, class schedules and several cancellations from one hand, and a low amount of time to study for exams, on the other hand, increased mental pressure and stress in these individuals. According to the participants, studying books and booklets in Farsi was more difficult and took more time. Therefore, compared to Iranian students, the international students were more dissatisfied with the content preparation method in classes and felt that they fell behind, compared to their Iranian classmates. As such, they demanded being separated from and not being compared to Iranian students. Furthermore, they requested the elimination of courses irrelevant to their field of study or the ability to select their desired courses.

The international students participating in the present study demanded online course to pass in their home country since passing these courses in the hospital of Iran was extremely difficult and would fail to meet their scientific expectations due to their low Farsi proficiency. In this regard, our findings are congruent with the results obtained by Parahoo in terms of the effect of infrastructural features and academic facilities and educational services on the satisfaction of students (22). The effectiveness of the educational programs of universities and behaviors of administrative staff on the satisfaction of students was also confirmed by Virasinje & Fernando (2018). Another problem of international students was improper encounters and interactions of professors and staff with these individuals. Behaviors and interactions between professors and students and staff in international educational institutions around the world are considered to be influential dimensions in the level of student satisfaction. According to the results obtained by Gkhal et al. (2017), scientific and educational support, in other words, the interaction between teacher and student, is one of the most important dimensions in the level of satisfaction of international students (24). While international students tend to be more friendly and interactive with the hosts, and they often get discouraged when their expectations of this friendship and local communication are not met (25). In the present research, international students complained about some behaviors of Iranian students.

Discrimination against international students by native professors and students has been a major issue for researchers, including Marginson (26). In addition, Yamani (19) reported a sense of discrimination in some of the international students, in a way that affected their educational status. In the

current research, the participants stated that their professors paid more attention to Iranian students and overlooked international students. In addition, references were more in the form of booklets and the content was taught in Farsi. Therefore, it seems effective to hold cultural workshops for native professors and students to reduce discrimination in universities. Welfare problems were other important challenges for international students. Despite the fact that considering the welfare of international students is one of the important dimensions in educational institutions, unfortunately, there are problems in this dimension that have caused students' dissatisfaction. For instance, being transferred to another dormitory, especially during the exams, was identified as a stressful factor reported in the present study for these individuals. Meanwhile, all participants were satisfied with the behavior of their dormitories' authorities and even considered them as a shoulder to cry on during difficult times. Assigning rooms to too many students and inhibiting the visit of their friends during exams for group study were among other issues that must be considered by managers and policymakers.

Siahrivar (2016) pointed out that variables such as economic considerations, safety, residential status, technology, and international student services independently affect the satisfaction level of international students (21). Several other studies have shown that a lack of social support might have a significantly negative effect on the mental health of international students. In addition, stressful life conditions caused by familiarity with a new environment lead to hopelessness and disappointment (27). Therefore, the presence of counselors and psychological-emotional support seems crucial for these individuals. Moreover, providing a high-quality social support system is necessary to emotionally support students to overcome their mental stress (22).

In the present study, most international students complained about a lack of support for their mental health and emotional issues, which must be taken into account by decision-makers in terms of providing emotional and mental counseling for international students. In 2011, a research was performed to evaluate the positive effects of extracurricular educational courses on students. In the mentioned research, the effective factors and extracurricular activities were sports, clubs, discussion, play, publications, student council and other social occasions (28). In the current study, international students demanded the establishment of gyms and cultural tours.

Conclusion

According to the results of the study, by recognizing some of the most important factors for dissatisfaction of international students studying in medical fields in Tehran, including language problems, lack of financial support, weaknesses in educational-academic and managerial processes, weaknesses in counseling and information processes, welfare problems and improper encounters and interactions, we can eliminate the issues to improve satisfaction in these individuals and attract more students, especially in three universities of Tehran University of Medical Sciences, Shahid Beheshti University of Medical Sciences, and Iran University of Medical Sciences. On the other hand, our findings can be used by managers and heads of universities and higher education policymakers to learn about the current status of students and make short and long-term decisions. Therefore, periodic assessment at various academic levels seems crucial to achieve this important issue. In addition, more studies must be carried out to assess the satisfaction of international medical students at various academic levels separately in each university.

Acknowledgments

This article was extracted from a PhD dissertation approved by the ethics committee of Islamic Azad University, Science and Research Branch, Tehran on January 13th, 2019 and received no financial support from any specific organization. Hereby, we extend our gratitude to all participants, as well as the international deputies, managers, and experts of the three universities for assisting us in performing the research.

References

1. Alpenidze O. Conceptualizing internationalization strategies for higher education institutions. *Cent East Eur J Manage Econ*. 2015; 3(3):229-42.
2. Becker R, Kolster R. International student recruitment. The Hague: Nuffic; 2012.
3. Australia Education International (2012). International education snapshot. Available from: URL: <https://www.Aei.gov.au/research/research-snapshots/pages/default.aspx>
4. Mustafa Z, Basri N, Abidin NZ, Suradi NR, Ali ZM, Shahabudin FA, Ab Hamid MR. Modeling of engineering student satisfaction. *J Math Stat*. 2011; 8(1):64-71.
5. Fischer AC, Suwunphong P. Customer Satisfaction in the Higher Education Industry. [Dissertation]. Lund University; 2015.

6. Arambewela R, Hall J. The interactional effects of the internal and external university environment, and the influence of personal values, on satisfaction among international postgraduate students. *Stud High Educ.* 2013; 38(7): 972-88.
7. Lo CC. How student satisfaction factors affect perceived learning. *JoSoTL.* 2010;47-54.
8. Aslam HD, Younis A, Sheik AA, Maher MZ, Abbasi ZA. Analyzing factors affecting students' satisfaction regarding semester system in universities of Pakistan. *J Am Sci.* 2012; 8(10):163-70.
9. Jamshidi-Moghaddam Kh, Nasr A, Mirshah-Jafari E. An Investigation of Factors Effective on Foreign Students' Educational Problems in Isfahan University of Medical Sciences, Iran. *Strides Dev Med Educ.* 2016; 13(1):20 -33.
10. Arab Kheradmand A, Shabani E, Azadi T. Evaluating Satisfaction of International Students at Tehran University of Medical Sciences (TUMS). *Payavard.* 2015; 9(1):97-10. [Persian]
11. Norooz Zadeh R, Shafizadeh H, Rouhani SH. Assessment and analysis of science and technology section of the Fifth Economic Development Plan Act In The Light of Large-Scale Instruments. *Rahbord* 2013; 22(66): 285-314.
12. Ameli S. The 14th Consultative Meeting of Vice-Presidents and International Managers of Selected Universities and Educational and Research Centers. Tehran: Amirkabir University of Technology; 30 July 2019.
13. Momeni Rad, A. Qualitative content analysis in research tradition: nature, stages and validity of the results. *Educ Measure.* 2013; 4(14): 187-222. [Persian]
14. Farasatkah, M. Qualitative research method in the social sciences with emphasis on basic theory (Grand Theory, GMT). Tehran: Agah Publications; 2016.
15. Yakunina ES, Weigold IK, Weigold A, Hercegovac S, Elsayed N. International students' personal and multicultural strengths: Reducing acculturative stress and promoting adjustment. *J Couns Psychol.* 2013; 91(2): 216-23.
16. Sawir E, Marginson S, Forbes-Mewett H, Nyland C, Ramia G. International student security and English language proficiency. *J Stud Int Educ.* 2012; 16(5): 434-54.
17. Wang R, Tseng ML. Evaluation of international student satisfaction using fuzzy importance-performance analysis. *Procedia Soc Behav Sci.* 2011; 25:438-46.
18. Arab Kheradmand A, Shabani E, Azadi T. Evaluating Satisfaction Of International Students At Tehran University Of Medical Sciences (TUMS). *Payavard.* 2015; 9(1):97-105.
19. Yemini M, Timur M. Academic Status of International Students of Iranian Public Universities in Academic Year 2013-2014. *J Iran Higher Educ.* 2015; 26: 71-112. [Persian]
20. Yee CP, Yean TS, Yi J, Kam A. Verifying international students' satisfaction framework for the development of MISS-model in Malaysia. *Pertanika J Soc Sci Humanit.* 2018; 2: 1-18.
21. Syahrivar J. Factor affecting international student satisfaction (ISS). *FIRM J Mang Stud.* 2016; 1(1): 14-25.
22. Parahoo SK, Harvey HL, Tamim RM. Factors influencing student satisfaction in universities in the Gulf region: does gender of students matter? *J Market High Educ.* 2013; 23(2): 135-54.
23. Weerasinghe IMS, Fernando RLS. Critical factors affecting students' satisfaction with higher education in Sri Lanka. *Qual Assur Educ.* 2018; 26(1): 115-30.
24. Ganguli S, Roy SK. Service quality dimensions of hybrid services. *Manag Serv Qual.* 2010; 20(5):404-24.
25. Hendrickson B, Rosen D, Aune RK. An analysis of friendship networks, social connectedness, homesickness, and satisfaction levels of international students. *Int J Intercult Relat.* 2011; 35(3): 281-95.
26. Marginson S. Student self-formation in international education. *JSIE.* 2014; 18(1):6-22.
27. Sümer S, Poyrazlı S, Grahame K. Predictors of depression and anxiety among international students. *J Couns Dev.* 2008; 86(4): 429-37.
28. Massoni E. The Positive Effects of Extra Curricular Activities on Students. *Essai.* 2011; 9(1): 84-7.