

# Experience of undergraduate medical students of Al-Imam Mohammad ibn Saud Islamic University (IMSIU) about the international summer elective program (ISEP)

Khalid Bin Abdulrahman <sup>1</sup>, Alswayed, Khalid E. <sup>2</sup>, Alomar, Naif A. <sup>2</sup>, Al Thaqfan, Naif A. <sup>2</sup> Abozaid, Hesham S. <sup>2</sup>

(1) Department of Medical Education and Department of Internal Medicine, College of Medicine, Imam Mohammad Ibn Saud Islamic University, Riyadh, Saudi Arabia;

(2) College of Medicine, Imam Mohammad Ibn Saud Islamic University, Riyadh, Saudi Arabia

## Corresponding author:

Khalid Ebrahim Alswayed

Medical intern

College of Medicine, Imam Mohammad Ibn Saud Islamic University (IMSIU)

Saudi Arabia

**Email:** khalid\_alswayed@hotmail.com

Received: September 2022 Accepted: October 2022; Published: November 1, 2022.

Citation: Khalid Bin Abdulrahman et al. Experience of undergraduate medical students of Al-Imam Mohammad ibn Saud Islamic University (IMSIU) about the international summer elective program (ISEP). World Family Medicine. 2022; 20(11): 158-164. DOI: 10.5742/MEWFM.2022.95251373

## Abstract

**Background:** An approach to a way of learning that is not considered as a necessary part of the medical curriculum credits is by having an additional medical course program referred to as 'elective', which is usually conducted in a period other than the yearly academic calendar. Electives are selected based on student interest, whether it be a research type or clinical rotations.

**Purpose:** to understand the student's perception about the experience of the International Summer Elective Program (ISEP) in year 2017 from 1st year to 4th year on the students selected and who traveled for this study.

**Methods:** An online form questionnaire was sent to students during February 2019 from 1st year to 4th, with 21 items, to study their experience of the International Summer Elective Program (ISEP)

**Results:** Twenty-one of the participants (47.7%) stated that their elective scientific research standards had met their expectations, while 9 out of the total participants (20.5%), stated the (ISEP) program was above their standards. Also, 18 students (40.9%) believe they had gained 'good' quality research skills throughout the International Summer Elective Program (ISEP).

**Conclusion:** The International Summer Elective Program (ISEP) study on Al-Imam Muhammad Bin Saud Islamic University College of Medicine students provided a positive impact on multiple areas. We recommend Saudi medical colleges consider initiating international electives courses for their students for a broadly positive effect on multiple areas to maximize the full potential of their future physicians to serve the Kingdom of Saudi Arabia.

**Keywords:** Elective summer program, medical students, extracurricular activities, Saudi Arabia

## Introduction

International health electives are initiated by many medical colleges as part of their curricula, whether during the pre-clinical phase or the clinical phase, to strengthen their student's knowledge and enhance their communication skills (1). The general medical council (GMC) defines an elective as 'A period of clinical experience that the student chooses and is often taken outside the U.K.,' allowing them to form their learning experience (2).

Besides the formal medical knowledge learning process, International health electives play a role in preparing students to face different public health challenges and provide them to face new cultural perspectives, making their future career goals more transparent and more defined (3).

A fair number of medical students from developed countries prefer to have their summer electives in a foreign country to be exposed to various regional outbreaks or country-specific disease cases even though some ethical difficulties and different health risks issues may arise in some developing nations (4).

Students who take health electives abroad have the chance to develop their résumés uniquely, solidifying their research skills and their connection network by establishing multi-aspect projects about certain medical cases that tend to occur in developing or rural areas of the elective country, as well as providing medical care to low resource populations under different health care systems which are not what they are like in their home country(5-6).

The international health electives could be applied to different fields, such as the Pharmaceutical field, clinical practice elective and research-based electives. This can provide insight about the importance of the health electives for the undergraduate medical students in different health care fields in order to allow them to excel in their future career academically and clinically while discovering new cultures.

The Liaison Committee on Medical Education (LCME) states that 'accreditation standards affirm that the medical school curriculum should include elective courses to supplement the required courses and provide opportunities for students to pursue individual academic interests'. International health electives can support different aspects of the medical school curriculum (7-8).

Al-Imam Mohammad Ibn Saud Islamic University (IMSIU) College of Medicine had a summer elective program that provides students with multiple experiences to practice their clinical and research knowledge in many medical fields. We aim by doing this research to find the influence of our international health electives on medical students who enrolled in our programs through either positive or negative results and their overall experience.

## Material and Methods

**Study design:** a cross-sectional study to assess the perceptions of participating students in this study through a survey questionnaire that evaluates the experience of the International Summer Elective Program (ISEP).

Regarding the validity and the methodology of the questionnaire, it was adopted from a previous study conducted in King Saud University medical college after gaining permission for use and editing from the author Prof. Mona M. Soliman before initiating this study(1). Revised sessions were conducted to reevaluate the validity of the questionnaire before initiating this study.

### Study instrument:

A self-administered questionnaire in English language consisting of 19 items divided into 3 parts. The first part is about demographics, the second part consists of 13 questions in a five point Likert scale to assess the experience and perceptions of 44 medical students at Imam Mohammad Ibn Saud Islamic University College of Medicine and the last part was the student's recommendation of the elective itself.

The students were informed about the purpose of the study. Instructions regarding the questionnaires were provided to volunteering students; also the confidentiality of information was ensured.

Once students voluntarily signed the informed consent, they were requested to fill in the study questionnaires. All students were emailed to participate and were reminded by emails and via an SMS web link.

### Research participants

The questionnaire survey was sent in February 2019 to a total number of 60 students who had taken part in the (ISEP), in the summer of 2017 and who participated to the end of the electives. The criteria of selection was based on multiple points (academic performance, extracurricular activities and Curriculum Vitae); reminders were sent to them every three days. Out of a total of 60 students, complete responses were provided by 44 respondents (73%); 12 (27.3%) were from the 1st year, and six respondents (13.3%) from the 4th year, as represented in Table 1. The participants were contacted by their emails and contact information that the student affairs of the college provided.

Students who were enrolled but didn't travel for any different reason were excluded from the study, as well as incomplete responses.

### Data analysis

Data analysis was carried out with a chi-square test of independence variables using the SPSS program. This test allows the researcher to gauge whether there is a relationship between two categorical variables of interest. When interpreting the chi-square independence test, adjusted standardized means can be helpful guidelines

to pinpoint what categories are most influential – that is, where is the most significant deviation from the expected average.

### Ethical approval

The study was conducted after approval from the IMSIU IRB committee project number 75-2019 session number 27, dated 17 November 2019. The study has followed the guidelines of the Helsinki declaration.

## Results

Table (1) shows the demographics of the participants and their distribution into different categories which are gender, academic year, times of elective experienced, countries of elective travelled and the number of publications at the time of taking the survey.

The most significant number of the study sample were elected after their 2nd year with percentage of 34.1% followed by 1st year with percentage of 27.3%, then 3rd year with 25% and 4th year with 13.6%, while 65.9% of the study sample individuals were elected once for summer international health elective, and 34.1% of the study sample individuals were elected twice for the summer international health elective.

The most students traveled abroad to the United Kingdom for their elective with a percentage of 40.9%, followed by the United States of America; United Kingdom with percentage of 25%, equals the percentage of Spain, followed by the United States of America alone with a percentage equal to 2%. Moreover, the highest percentage of students recommend continuing the ISEP program, with (33) 75% saying yes.

**Table 1 shows the demographics of the participants**

Factor	Category	N	Percent %
Gender	Male	44	100
	Female	0	0
Academic year	1st year	12	27.3 %
	2nd year	15	34.1%
	3rd year	11	25.05%
	4th year	6	13.6%
Times of elective experience	Once	29	65.9%
	Twice	15	34.1%
Country of elective	Spain	11	25.0%
	Spain; United Kingdom	1	2.3%
	Spain; United States of America	1	2.3%
	United Kingdom	18	40.9%
	United States of America	2	4.5%
	United States of America; United Kingdom	11	25.0%
	Total	44	100%
Publication status from the elective project	Yes	8	18.2%
	No	26	59.1%

Table 2 perceptions of students on International Summer Elective Program (ISEP)

Item	Mean	SD	Strongly agree, n (%)	Agree, n (%)	Neutral, n (%)	Disagree, n (%)	Strongly disagree, n (%)	$\chi^2$ (P-value)
1-The quality of logistics in your (ISEP) (language barriers, food-chain availability, accommodation, preparations, transportation. etc.) was suitable.	4.05	0.81	14 31.8%	19 43.2%	10 22.7%	1 2.3%	0 0.0%	15.818 (p<0.001)
2-The ISEP program gave you a chance to be aware of different cultures	3.98	0.70	9 20.5%	26 59.1%	8 18.2%	1 2.3%	0 0%	30.727 (P < 0.001)
3-the (ISEP) PROGRAM met your scientific research target standards?	2.95	0.78	1 2.3%	9 20.5%	21 47.7%	13 29.5%	0 0%	18.909 (P < 0.001)
4-You had adequate supervision during (ISEP) program	3.70	0.90	7 15.9%	22 50.0%	11 25.0%	3 6.8%	1 2.3	31.455 (P < 0.001)
5-Do you agree that your experience with (ISEP) was better than if have a similar program but in Saudi Arabia?	3.45	1.27	10 22.7%	15 34.1%	8 18.2%%	7 15.9%	4 9.1	7.591 (.108)
6-the quality of research skills you think you've gained throughout your (ISEP) program is suitable	3.61	0.89	7 15.9%	18 40.9%	14 31.8%	5 11.4%	0 0%	10.000 (.019)
7-you have the opportunity and support to continue your research in your home country after returning from the (ISEP) program.	2.68	1.27	2 4.5%	13 29.5%	9 20.5%	9 20.5%	11 25.0	7.818 (.098)
8-You are overall satisfied with the country's experience where your elective was conducted (not the ISEP program itself).	4.05	0.89	16 36.4%	16 36.4	10 22.7%%	2 4.5%	0 0%	12.000 (.007)
9- the (ISEP) program made you aware of what future career/specialty to chase?	2.59	1.17	2 4.5%	7 15.9%	17 38.6%	7 15.9%	11 25.0	14.182 (.007)
10- You feel you have become more advanced in research skills in comparison with my other colleagues after the (ISEP) program.	3.66	0.99	11 25.0%	12 27.3%	16 36.4%	5 11.4%	0 0%	5.636 (0.131)
11-you've got an idea on what are the trends globally about research topics after you completed the (ISEP) program	3.32	0.93	3 6.8%	18 40.9%	14 31.8%	8 18.2%	1 2.3	23.500 (P < 0.001)
12- you are still connected with research/faculty members since you finished your (ISEP) program.	2.55	1.25	3 6.8%	7 15.9%	13 29.5%	9 20.5%	12 27.3	7.364 (.118)
13- You are overall satisfied with your experience from the (ISEP) program.	3.55	0.90	7 15.9%	15 34.1%	17 38.6%	5 11.4%	0 0%	9.455 (.024)
Mean all	3.40	0.56						

Regarding the student's perception of International Summer Elective Program (ISEP), Table (2) demonstrates their agreement levels on a five point Likert scale from strongly disagree to strongly agree in thirteen different statements of their experience regarding the elective, with the statistical significance for each statement.

Individuals in the study sample who are students in the medical college show that students' perceptions contribute to the International Summer Elective Program's necessity; the mean of all phrases is 3.40, with a standard deviation of 0.56. This Mean lies in the third category of Five Scale which indicates most of study sample individuals agree and the results are as follows:

- Where the phrase "The quality of logistics that were in your (ISEP) (language barriers, food-chain availability, accommodation preparations, and transportation. etc.) was good?" shows that the student agrees on the quality of logistics with a mean value equal to 4.05 ( $p < 0.001$ ) and the phrase "Your overall experience of the country your elective was in (not the ISEP program itself)." came in the first rank with mean value equal 4.05 out of 5 ( $p < 0.05$ ), which shows that the students agree the country of participation has a strong effect for them.

- The phrase "The ISEP program gave you a chance to be aware of different cultures" came in the second rank with a mean value equal to 3.98 out of 5 ( $p < 0.001$ ), showing that the students agree that the election gave them a chance to be aware of different cultures.

- The phrase "You had adequate supervision during (ISEP) program" came in the third rank with a mean value equal to 3.70 out of 5 ( $p < 0.001$ ), which shows that the students agree that the election gave them a chance to be aware of different cultures.

- The phrase "You feel you have become more advanced in research skills in comparison with other colleagues after the (ISEP) program." was in the mean value equal 3.66 out of 5, which was not statistically significant.

Table 3 shows the students recommendation regarding the continuation of the International Summer Elective Program (ISEP) or not, with multiple written responses from the students.

75% of the study sample individuals recommend continuing the ISEP program in our college.

#### Recommendations regarding (ISEP) program:

- The International Summer Elective Program (ISEP) should be taking place every year to help students be aware of a different culture.
- The International Summer Elective Program (ISEP) orientation sessions should be periodically for the students, should be organized more often with advanced tools such as online registration for elective selection to improve accessibility.
- ISEP program should be advertised more prominently and offered to the students at an older stage of their

academic year, i.e., fourth and fifth years.

- Increasing the number of spots of students to allow further students to benefit from the program.
- Involving additional countries for the International Summer Elective Program (ISEP) to increase students' benefit from the program.

- It encourages the students to participate in the ISEP program where it improves their experience.

Qualitative analysis of the study :

A few students respond freely about their experience, and some of those follow

A: 'It would be better if publication were a mandatory point from the hosting institute.'

B: 'Continuous support and supervision from "our college" is significant for a good outcome to be observed; because it was almost nonexistent after the program.'

C: 'It was an honor and pleasure to be part of this program and college; it was an excellent experience that I will remember and helpful. What I would recommend is that it focus more on how to conduct a good research article.'

D: 'Personal improvement exceeds research skills benefits.'

## Discussion

International health electives demonstrated different ways on how students can develop their skills, whether in research or preparing their clinical skills in other countries while interacting with vulnerable communities or among cultural differences, encouraging them to expand their awareness on how they can deal with more compassion and empathy. However establishing a framework of the health elective like three stages of "Pre-departure planning and briefing, in-country experiences and returning from the elective evaluation." promotes a promising role in ensuring medical students are "safe, and healthy" during their elective work and 'do no harm' when facing ethical issues when dealing with things beyond their clinical scope of training. Also to prepare the students before their elective it's essential to review applicants academic records and their professional history as well as past extracurricular activities. Moreover, students willing to take their electives in developing countries need to obtain medical evacuation insurance with specific prophylaxis such as HIV and antimalarial medications for their safety measures (10). Medical students may face ethical and moral dilemmas because the geographical settings are not very familiar; as in our results, 22 students (50%) agree they had adequate supervision during their ISEP program ( $P$ -value of  $< 0.05$ ). Even if the student's response is still valuable, other studies highlight the critical aspect of the host's experience with elective programs(11-12).

In contrast, our students strongly agree (36.4%), and agree (36.4%) to have had a satisfying experience in countries in which their elective was conducted ( $P$ -value of  $< 0.05$ ).

Table 3 shows recommendations of study sample individuals to continue the ISEP program

	Frequency	Percent (%)	Some Student responses
yes	33	75.0 %	<p>- I think the program was about opening doors and horizons for the student that he knew not to exist more than developing skills.</p> <p>-It was an honor and pleasure to be part of this program and college; it was an excellent experience that I will remember and helpful. What I would recommend is that to focus more on how to conduct a good research article</p> <p>- Personal Improvement exceeds research skills benefits.</p>
No	1	2.3 %	
Maybe	10	22.7 %	<p>- Continuous support and supervision from "our college "is significant for a good outcome to be observed; because it was almost nonexistent after the program.</p> <p>-It should be more organized, with clear goals, the students, and the research center.</p> <p>-It was biomedical research. It should be medical. That's my point.</p>
Total	44	100.0 %	

Health electives also influence students' career choices in the future and provide hindsight guidance to their decision, especially toward public health practice or physician-scientist, while also raising the Interpersonal skills, Improvement of resourcefulness, and cost-effectiveness of the student's perspective. However, maximum benefits could be earned if pre-, intra-, and post-elective training programs were applied to the students to have fixed guidelines of health electives for the upcoming challenges and minimize the negative points like health and safety risks (13).

With the growth of global health importance, many U.S. institutions and organizations emphasize programs to improve the outcome of health state among individuals in the United States and around the world (14).

Training medical students is the leading way to get different experiences in the medical field. The training programs should be under the supervision of institutions that guide the process of training (15).

Regarding career choices, only two students (4.5%) strongly agree, and 7 (15.9%) agree they are aware of future career choices (P-value of <0.05). Furthermore, another study demonstrates that Surgical program electives played a vital role in developing medical students' ethical and surgical skills in underdeveloped countries that may positively influence their practice in the future (16).

Most of the medical students who have taken international health electives in our college were satisfied with the overall experience of global health electives (P < 0.05), also many of our student participants, 33 (75%), recommended continuing (ISEP) program in our college. Furthermore, compared to the analysis of the elective curriculum in undergraduate medical education, the Croatia study, suggests that the majority of the students decided to take the most self-preferred elective for them 611 (73.3%) if they have the chance to do so (17).

Another study outlined that all the students (100%) out of (8) responses strongly agreed that the elective course increased their awareness of pharmacists' needs on

on medical outreach teams and would recommend this elective course to other students. It's an opportunity to gain specific skills, knowledge, and even confidence regarding the health care system (18).

Moreover, our students report they gained relevant research skills from their elective ( $P < 0.05$ ).

The value and the benefit of this study is to shed some light on how student's exposure to different challenges under various cultures could provide them with a different source of learning, which enabled them to apply problem solving strategies and ideas that they've adopted from outside their home country into their daily or future academic and non-academic life.

Furthermore, we do recommend other national medical colleges to consider initiating international health electives for their students.

### Study limitations

Students' experience was evaluated two years after their elective program was conducted, which may cause recall bias. Country of elective may have had a role toward students' perception as a whole and it should be put into consideration as well as the number of electives encountered for each individual.

### Acknowledgement:

We would thank all the participants who put their work into the study and all the faculty members, and Prof. Mona M. Soliman, MBBS, MSc, Ph.D., for permitting us to use their validated Questionnaire.

## References

- 1- Neel AF, AlAhmari LS, Alanazi RA, Sattar K, Ahmad T, Feeley E, Khalil MS, Soliman M. Medical students' perception of international health electives in the undergraduate medical curriculum at the College of medicine, King Saud university. *Advances in medical education and practice*. 2018;9:811.
- 2- Hastings A, Dowell J, Eliaszk MK. Medical student electives and learning outcomes for global health: A commentary on behalf of the UK Medical Schools Elective Council. *Medical teacher*. 2014 Apr 1;36(4):355-7.
- 3- Vora N, Chang M, Pandya H, Hasham A, Lazarus C. A student-initiated and student-facilitated international health elective for preclinical medical students. *Medical education online*. 2010 Jan 1;15(1):4896.
- 4- Miranda JJ, Yudkin JS, Willott C. Nuffield Trust Fellowship projects carried out by students from Tanzania and UK. *Travel Medicine and Infectious Disease*. 2005;3(3):133-41.
- 5- Bales AM, Oddo AR, Dennis DJ, Siska RC, VanderWal E, VanderWal H, Dlamini N, Markert RJ, McCarthy MC. Global health education for medical students: when learning objectives include research. *Journal of Surgical Education*. 2018 Jul 1;75(4):1022-7.
- 6- Carter C, Hunt BH, Mukonka PS, Viveash S, Notter J, Toner L. 'I'll never be the same': the impact of an international elective. *British Journal of Nursing*. 2019 Feb 14;28(3):186-92.
- 7- Schellhase EM, Miller ML, Ogallo W, Pastakia SD. An elective pharmaceutical care course to prepare students for an advanced pharmacy practice experience in Kenya. *American Journal of Pharmaceutical Education*. 2013 Apr 12;77(3).
- 8- Eckhert NL, Bennett NM, Grande D, Dandoy S. Teaching prevention through electives. *Academic Medicine*. 2000 Jul 1;75(7):S85-9.
- 9- Thomas ST, Thomas ET, McLean M. Working in global health: a planning and implementation framework for international electives. *Medical Teacher*. 2018 Oct 3;40(10):1055-9.
- 10- Imperato PJ, Bruno DM, Monica Sweeney M. Ensuring the health, safety and preparedness of US medical students participating in global health electives overseas. *Journal of community health*. 2016 Apr;41(2):442-50.
- 11- Wiskin C, Dowell J, Hale C. Beyond 'health and safety'—the challenges facing students asked to work outside of their comfort, qualification level or expertise on medical elective placement. *BMC medical ethics*. 2018 Dec;19(1):1-0.
- 12- Bozorgmehr K, Menzel-Severing J, Schubert K, Tinnemann P. Global Health Education: a cross-sectional study among German medical students to identify needs, deficits and potential benefits (Part 2 of 2: Knowledge gaps and potential benefits). *BMC Medical Education*. 2010 Dec;10(1):1-9.
- 13- Lu PM, Park EE, Rabin TL, Schwartz JI, Shearer LS, Siegler EL, Peck RN. Impact of global health electives on US medical residents: a systematic review. *Annals of Global Health*. 2018;84(4):692.
- 14- Bailey LC, Mager NA. Global health education in doctor of pharmacy programs. *American Journal of Pharmaceutical Education*. 2016 May 25;80(4).
- 15- Heck JE, Wedemeyer D. International health education in US medical schools: trends in curriculum focus, student interest, and funding sources. *Family Medicine*. 1995 Nov 1;27(10):636-40.
- 16- Moren A, Cook M, McClain M, Doberne J, Kiraly L, Perkins RS, Kwong K. A pilot curriculum in international surgery for medical students. *Journal of Surgical Education*. 2015 Jul 1;72(4):e9-14.
- 17- Koceic, A., Mestrovic, A., Vrdoljak, L., Vukojevic, K., Barac-Latas, V., Drenjancevic-Peric, I., Biocina-Lukenda, D., Sapunar, D. and Puljak, L., 2010. Analysis of the elective curriculum in undergraduate medical education in Croatia. *Medical Education*, 44(4), pp.387-395.
- 18- Perry E, Storer A, Caldwell D, Smith J. A medical outreach elective course. *American Journal of Pharmaceutical Education*. 2013 May 13;77(4).