

Establishment of Saudi Arabia's Plastic Surgery Interest Club: First-year Outcomes and Future Directions

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Background: The purpose of this article is to share our first-year outcomes and the overall impact of the plastic surgery interest club (PSIC) since its establishment, and to discuss the future directions that any interested club may follow and benefit from.

Methods: This cross-sectional study utilized a self-developed questionnaire that experts in the field revised. The authors recruited active PSIC members during the year 2021–2022 to assess the overall impact of the club in their various interests of the field as well as to have an overview of their opinions of this newly done initiative in Saudi Arabia. The data collection spanned from October 2021 to September 2022.

Results: The authors analyzed the responses from 66 active members with a response rate of 78%. We found various significant positive impacts of the PSIC in the community of plastic surgery in Saudi Arabia. There was a significant difference in the interest in pursuing a career in plastic surgery before and after being a member of PSIC, with a P value of 0.0001. The members became noticeably more interested in pursuing an academic career and publishing field data after enrolling in PSIC research activities.

Conclusions: The authors provided an analysis of 1-year outcomes of the PSIC in Saudi Arabia; there were many positive impacts of such an initiative in enhancing the local community of plastic and reconstructive surgery. The authors strongly encourage the adaptation of such initiatives in various parts of the globe to develop the field of plastic surgery further. (*Plast Reconstr Surg Glob Open* 2023; 11:e4926; doi: 10.1097/GOX.0000000000004926; Published online 26 April 2023.)

INTRODUCTION

It is well known that plastic surgery focuses on restoring, reconstructing, and enhancing the appearance and

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function of body structures that are missing, defective, damaged, or misshaped. The term encompasses both reconstructive and cosmetic surgery.¹ There were 17.1 million cosmetic procedures performed in 2016 alone and 5.8 million reconstructive procedures; this represents an increase of 132% in cosmetic procedures since 2000, according to the American Society of Plastic Surgeons.² Among 500 Saudi women from the general population who responded to Almasri et al's questionnaire, 55.4% had undergone cosmetic procedures.³

Despite this rapid growth in the field, medical professionals, including medical students, seem to have limited perceptions and a poor understanding of this specialty.⁴ Similarly, a study of medical and surgical physicians revealed that 44.1% lacked a basic understanding of plastic surgery as a field and its scope of practice.⁵ According to previously published literature, early interaction of medical students with the field's mentors and the daily cases in the specialty may increase their awareness about the practice's scope and to the future of plastic surgery.^{4,6}

Disclosure statements are at the end of this article, following the correspondence information.

Developing a deeper understanding of plastic surgery as a specialty among medical students may contribute to more creative research ideas, which could extend the field's scientific limits.⁷ Researchers looked at the responses of students who chose surgery as their career field and found that those who chose surgery decided their specialty earlier than their peers, and they were much more influenced by their professors.^{8,9}

An analysis of 352 senior surgeons conducted by Ko et al revealed that interaction with a role model or mentor was the most important factor in choosing a specialty.¹⁰ In addition, introducing role models to medical students at an early stage of their education may contribute to their interest in surgical specialties. The study by Erzurum et al found that role models and academic and career opportunities were more likely to encourage students to pursue a surgical career; exposure to role models and educational opportunities in surgery from an early age may be most effective in influencing these students.¹¹

To educate medical students about plastic surgery, interact with them, and influence their interest in plastic surgery as a choice of career in their particular field, the Saudi Scientific Association of Plastic Surgery and Burns has established the first plastic surgery interest club (PSIC). The purpose of this article is to share our first-year outcomes and the overall impact of the PSIC since its establishment, as well as discuss the future directions that any interested club may follow and benefit from.

METHODS AND MATERIALS

Study Design and Setting

This study utilized a cross-sectional design to measure the variables related to the impact of the PSIC in (1) the desire of the joined members to pursue a career in the field, (2) the knowledge related to plastic surgery conditions gained from participating in the club, (3) the improvement of research skills and academic interest in the field, and (4) the improvement in misconception about the field. The authors developed a questionnaire based on previously conducted studies and was further analyzed by a biostatistician and an expert in the field to ensure that the questions meet the objectives set by the authors.¹²⁻¹⁴ This study was conducted during the period of October 2021 to September 2022.

The authors included only the active members of the club and ensured that all the members were continuously participating in the activities of the club to prevent any bias in the result. Furthermore, we provided the members with the questionnaire via social media applications (WhatsApp, Telegram, Twitter, and Instagram), utilizing Google Form software.

The authors excluded any responses from members who were not active in the club, incomplete responses from any member, and those who did not agree to participate.

Furthermore, the questionnaire subparts included (1) demographic data, (2) appraisal of PSIC impact on the plastic surgery field in Saudi Arabia, (3) appraisal of

Takeaways

Question: What was the impact of establishing the Saudi Arabian plastic surgery interest club (PSIC) in its first year?

Findings: We found various significant positive impacts of PSIC in the community of plastic surgery in Saudi Arabia. There was a significant difference in the interest in pursuing a career in plastic surgery before and after being a member of PSIC.

Meaning: The authors provided an analysis of 1-year outcomes of the PSIC in Saudi Arabia; there were many positive impacts in enhancing the local community of plastic surgery.

satisfaction of the residents from the conducted webinar, (4) appraisal of the satisfaction of the members from the PSIC research school, and (5) appraisal of PSIC presenters and their perspective in teaching the enrolled members. The questionnaire could be accessed through the link.

Statistical Analysis

Data were analyzed using Statistical Package for Social Studies (SPSS 22; IBM Corp., New York, N.Y.). Continuous variables were expressed as mean \pm standard deviation and Categorical variables were expressed as percentages. A *t* test calculation for two independent means was used to estimate the impact of PSIC on pursuing a career in PRS, with a *P* value of less than 0.05 considered statistically significant.

RESULTS

This study analyzed responses from 66 members enrolled in the PSIC to reach a consensus on the initiative's overall impact on the field. The maximum participating age was 40 years old; the minimum was 19 years old, and the average age was 39.04. In total, 42.4% of the interested club members were plastic and reconstructive surgery (PRS) residents or fellows, 39.3% were senior medical students, and plastic surgery attendings (consultants) were the least noticed (6.0%).

Furthermore, the authors observed that Twitter was the favorite social media application to follow the club's activities, with more than 95% of the members choosing it as their first choice. As for the members' regional diversity, most enrolled members lived in the western side of Saudi Arabia, whereas the least lived in the northern and southern regions.

Moreover, the authors assessed the members' interest in pursuing PRS as a career before they committed to the club and after they committed to the club. The authors noticed that the mean of interest before joining the interest club improved from an average of 1.76 to 4.02 (the scores are out of 5). Further details about the enrolled members' demographic characteristics and the PRS interest scores before and after joining the interest club are presented in [Table 1](#).

Table 1. Demographic Characteristics of PSIC Members (N = 66)

Variable	Category	Data (%)
Age	Maximum	40 years old
	Median	23 years old
	Minimum	19 years old
	Mean (\pm SD)	39.04 (\pm 10.06) years old
Medical education level	Junior medical student	8 (12.1%)
	Senior medical student	26 (39.3%)
	PRS resident/fellow	28 (42.4%)
	PRS attending	4 (6.0%)
Preferred platform to follow PSIC (allowed to choose more than one option)	Twitter	63 (95.4%)
	Instagram	8 (12.1%)
	Others (WhatsApp, Telegram, etc)	13 (19.6%)
Saudi Arabian region	Central	20 (30.3%)
	Eastern	13 (19.6%)
	Western	29 (43.9%)
	Southern	2 (3.0%)
	Northern	2 (3.0%)
Interest in PRS before joining PSIC (scoring out of 5)	Maximum	3
	Minimum	1
	Median	2
	Mean (\pm SD)	1.76 (\pm 0.81)
Interest in PRS after joining PSIC (scoring out of 5)	Maximum	5
	Minimum	3
	Median	4
	Mean (\pm SD)	4.02 (\pm 0.69)

PRS, plastic and reconstructive surgery.

Furthermore, the authors analyzed the members' opinions about various aspects of the club better to comprehend the club's impact on the enrolled members. It was noticed that more than 65% of the members agree that the establishment of the PSIC club made them more interested in pursuing a career in plastic surgery; similarly, more than 65% agree that they benefited from the webinars and the activities organized by the club, and that it made their way easier towards pursuing a career in plastic surgery. Further details about the members' opinions about the interest club are presented in [Table 2](#).

Moreover, the authors analyzed the residents' opinions about the webinars created for them in the interest club. It was noticed that more than 75% of the participating residents agree that this initiative was strongly needed towards a better community of plastic surgery in the local

settings, and more than 55% agree that the activities of the club motivated them to teach the students interested in plastic surgery about the field. Further details about the residents' opinions about the interest club are presented in [Table 3](#).

In addition, the authors analyzed the research school members' opinions about the research activities of the club. The authors found that more than 65% of the enrolled members agreed that they felt more motivated and enthusiastic about pursuing an academic career in plastic surgery after the research school, and more than 75% of the members agreed that they became more interested in conducting plastic surgery research after the research school. Further details about the members' opinions about the interest club's research school and activities are presented in [Table 4](#).

Table 2. The Opinions of the Members about the PSIC (N = 66)

Variables	Opinion		
	Agree	Neutral	Disagree
I believe that the establishment of the PSIC club made me more interested toward pursuing a career in plastic surgery	46 (69.6%)	11 (16.6%)	9 (13.6%)
PSIC motivated me toward spreading more knowledge and information about PRS	48 (72.2%)	10 (15.1%)	8 (12.1%)
I believe that PSIC club made a strong impact toward spreading awareness about the accuracy of plastic surgery practice and helped in diminishing the common misconception surrounding the field	48 (72.2%)	9 (13.6%)	9 (13.6%)
I personally benefited from the webinars and the activities organized by the club, and it made my way easier towards pursuing a career in plastic surgery	45 (68.1%)	13 (19.6%)	8 (12.1%)
I find the knowledge spread by the PSIC regarding plastic surgery related conditions made the public more aware	50 (75.7%)	10 (15.1%)	6 (9.0%)
I would be interested in joining clubs such as PSIC in the future	52 (78.7%)	5 (7.5%)	9 (13.6%)

PRS, plastic and reconstructive surgery.

Table 3. The Opinions of the Residents about the PSIC (N = 28)

Variables	Opinion		
	Agree	Neutral	Disagree
I found the webinars that were made for residents are valuable and was needed in the Saudi Arabian community of plastic surgery	20 (71.4%)	6 (21.4%)	2 (7.1%)
I believe that this initiative was strongly needed toward a better community of plastic surgery in the local settings	22 (78.5%)	4 (14.2%)	2 (7.1%)
The activities of the club motivated me to teach the students interested in plastic surgery about the field	16 (57.1%)	8 (28.5%)	4 (14.2%)
I refer the people interested in PRS to join PSIC and follow their activities	22 (78.5%)	4 (14.2%)	2 (7.1%)
Total PRS residents participating	28 (100%)		

PRS, plastic and reconstructive surgery.

Table 4. The Opinions of the Members about the PSIC Research School (N = 34)

Variables	Opinion		
	Agree	Neutral	Disagree
I find the research school strongly beneficial and built my foundation in scientific research	20 (58.8%)	11 (32.3%)	3 (8.8%)
I became more interested in conducting plastic surgery research after the research school	21 (78.5%)	8 (14.2%)	2 (7.1%)
I felt more motivated and enthusiastic about pursuing an academic career in plastic surgery after the research school	23 (67.6%)	6 (17.6%)	5 (14.7%)

PRS, plastic and reconstructive surgery.

Total PSIC research school members = 34 (100%).

Table 5. The Overall Impact of PSIC in the Interest of Pursuing a Career in PRS (N = 66)

Variable	Data				
	Max	Mean (±SD)	Min.	t	P
Interest in PRS before joining PSIC	3	1.76 (±0.81)	1	-7.29	0.00001*
Interest in PRS after joining PSIC	5	4.02 (±0.69)	3		

*The result is significant at $P < 0.05$.

PRS, plastic and reconstructive surgery.

The authors performed a *t* test to assess the overall impact of the interest club on the members' pursuit of a career in plastic surgery. Before joining the interest club, the mean interest score was 1.76, with a standard deviation of 0.81. It was significantly elevated to 4.02 with a standard deviation of 0.69 after joining the interest club and interacting with the field residents, fellows, and attendings. The *t* test analysis showed a significant impact with a *P* value of 0.00001. Further details about the statistical analysis and the interest level in pursuing a career in plastic surgery are presented in Table 5 and depicted in Figure 1.

DISCUSSION

This study analyzed the 1-year outcomes of establishing a PSIC in Saudi Arabia to reach a consensus about the impact of interest clubs in the field. The authors utilized a self-developed questionnaire that met the study's objectives, and invited 66 continuously active members during the year to ensure an accurate reflection of the initiative's outcomes in plastic and reconstructive surgery.

The authors found that most members found a significant impact of the club in their interest to pursue a career in the field, which was proven by statistical analysis

(*t* test.) Furthermore, the club's research activities during the year made the members more interested and strongly motivated to pursue an academic career in the field and publish research to extend the field's limit. This comes in response to a study by Al Qurashi et al, as they determined that more awareness about the field is warranted to motivate those interested in it to conduct research for the benefit of all.¹⁵

PSIC in Saudi Arabia

The establishment of this club came as a necessity to promote the specialty further and to correct the falsehoods surrounding the field. As reported by Mrad et al, 44.1% of the individuals in the kingdom lack a basic understanding of the field. This may lead to a shortage of the workforce, which ultimately will affect the patient care. The club leaders promoted the specialty through ongoing web-based campaigns on social media platforms (Twitter, Instagram, and Telegram.) The leaders regularly posted posters, infographics, and simplified information about plastic surgery-related conditions, such as cleft lip and palate. Moreover, according to our questionnaire, 72.2% of the members agreed that this type of activity made them deeply understand the depth of the field and made them more motivated to be aware of their surroundings

PSIC IMPACT

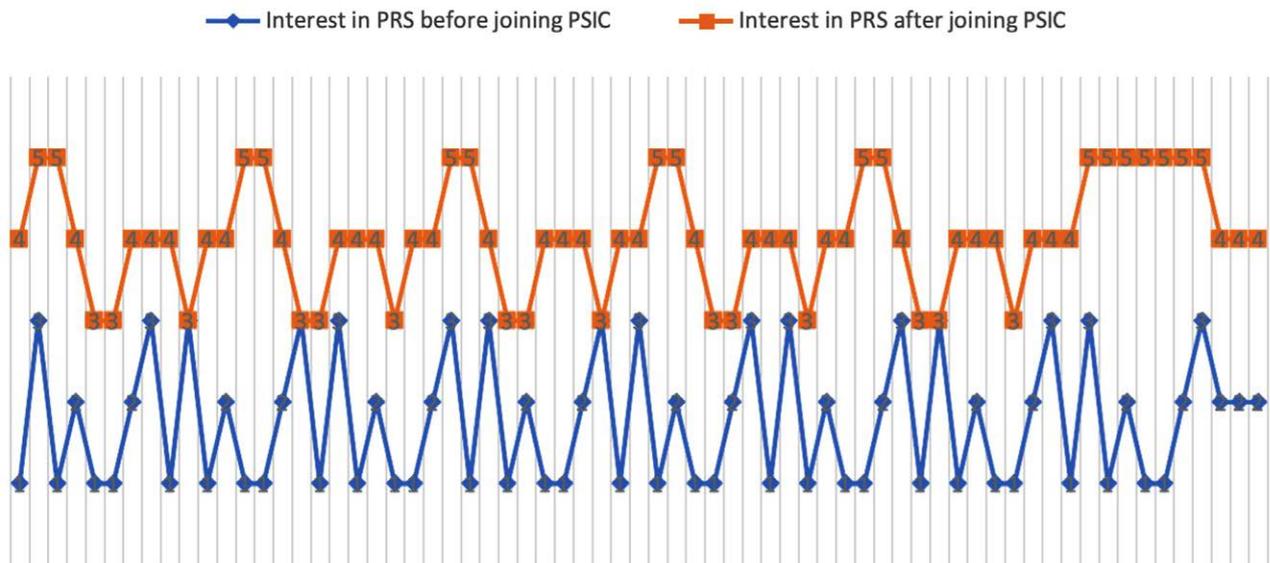


Fig. 1. The impact of PSIC on PRS interest.

of plastic surgery practice. The activities conducted in the interest club, as proven by Domínguez-Alvarado et al, could reinforce the skills and knowledge about the field and generate national and international knowledge cooperation, which in return, improve the local community of plastic surgery.¹²

Residents' Activities in PSIC

The club leaders made multiple webinars targeting the residents of the club. These webinars included a few topics such as the program directors' expectations of their performance, the residency training program in Saudi Arabia, the tasks of a resident in the local training program, and many more. The authors of this article asked the residents for their opinions about the webinars. We found that such webinars motivate them to continue their training with a proper mindset because they directly interact with different attendings and program directors through these webinars and communicate their concerns. Moreover, we found that such activities motivate the residents to teach interested medical students about the field. The PSIC became the primary source of referral by the residents when asked about the field of plastic surgery.

After 1-year of organizing activities for PRS residents, the authors strongly encourage such activities to be undertaken in different interest clubs around the globe, as we noticed a significant improvement in the resident's satisfaction. This specific initiative comes in response to a published study by Al Qurashi et al, noticing mild dissatisfaction among the training residents in the local program. Furthermore, their work suggested improving the mentorship core of the training program, and the activities conducted by the PSIC made mentorship easily accessible for PRS residents.¹⁶

PSIC Research School

The research committee of the PSIC conducted a research school in which various research activities were provided to the members, and valuable research projects were started to further increase the members' interest in plastic surgery research. The authors noticed that the majority of the enrolled members became more motivated and encouraged to strengthen their research skills and conduct projects in different areas of plastic surgery.

Interestingly, the members became more interested in pursuing an academic career in plastic surgery after being exposed to different research mentors and being taught the foundational skills of research. The authors strongly encourage this type of activity to be implemented in any interest club, even outside PRS, to encourage further specialists to be scholars in their fields, conduct proper research projects, and publish valuable data to extend the limits of the field they are specializing in.

Future Directions of PSIC

The club's leaders conducted this study to analyze the first-year outcome of this newly done initiative in the field of plastic surgery in Saudi Arabia; the authors noticed that the overall impact of the interest club is significant and has made the local community of plastic surgery more well-known to medical students and residents. The club leaders will use the data to plan and further improve the activities done in the club to enhance the local community of plastic surgery.

Furthermore, we noticed that a few enrolled members became inactive as time progressed; as we are still determining the actual reason for their inactivity, many published studies showed that a majority of students still need to decide what specialty they would like to specialize in.

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The interest clubs may provide these students with sufficient information to decide on their future specialties. Moreover, from our first year of experience, we noticed that the ratio of inactive members to active ones was 1:5.^{17–19}

The central cores of the PSIC will remain the same: (1) research committee that specializes in teaching the enrolled members the foundational knowledge about research, (2) scientific committee that specializes in increasing the awareness of the public about the various conditions related to plastic surgery practice and in conducting various webinars for the members, and (3) social-medial committee that specializes in spreading the activities conducted by the club. These committees are cornerstones for any club that aims to be established.

Based on their 1-year experience, the authors of this article encourage individuals from different countries to start the initiative in their local setting and help raise the efforts to promote the specialty in their country further.

This study may be limited by a few factors that must be addressed. First, the cross-sectional nature and the probability of bias surrounding the results provided in this article. The authors ensured that each member participating in this study has been continuously active in the club and was interacting with other members; nevertheless, the study design is an observational cross-sectional design, which comes with unavoidable limitations. Second, the authors could only reach some of the club members and had a response rate of 78%, despite the continuous reminders to fill out our questionnaire and participate with their opinions regarding the PSIC. Third, the data presented pertain to only a one-year period; however, the authors plan to provide updated data yearly to track the impact of interest clubs in plastic surgery. Fourth, the questionnaire was face-validated; a better, well-validated one is recommended for future research. Lastly, most of the enrolled members in the interest club had a preliminary interest in the specialty, which could skew the result. Nevertheless, this study could serve as a steppingstone in encouraging global plastic surgery communities to create similar interest clubs.

CONCLUSIONS

The impact of the PSIC in Saudi Arabia was noticed. More members had significantly more interest in pursuing a career in PRS following their commitment to the club's activities and after interacting with mentors, residents, and other members. On the other hand, residents and fellows benefitted from the webinars conducted regularly by the PSIC. They had a high satisfaction rate after being able to communicate with mentors and had easy access to attendings through the PSIC activities. This study presented the future directions of the PSIC in Saudi Arabia, and the authors strongly encourage individuals from different parts of the globe to take the torch and establish similar initiatives in their local setting, to further promote the specialty, and to ease the road for those who are interested in pursuing PRS as a career.

DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

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REFERENCES

- Li Q, Wang W, Zan T, et al. An updated definition of plastic surgery. *Ann Plast Surg.* 2022;89:593–594.
- Heidekrueger PI, Juran S, Patel A, et al. Plastic surgery statistics in the US: evidence and implications. *Aesthetic Plast Surg.* 2016;40:293–300.
- Ishtiaq M, Khanum H, Hussain I, et al. Ethnobotanical inventory and medicinal perspectives of herbal flora of Shivalik mountainous range of District Bhimber, Azad Jammu and Kashmir, Pakistan. *PLoS One.* 2022;17:e0265028.
- Mortada HH, Alqahtani YA, Seraj HZ, et al. Perception of plastic surgery and the role of media among medical students: cross-sectional study [published correction appears in *Interact J Med Res.* 2019 Jun 19;8(2):e14352]. *Interact J Med Res.* 2019;8:e12999.
- Mrad MA, Al Qurashi AA, Mortada H, et al. Do our colleagues accurately know what we do? *Plast Reconstr Surg Glob Open.* 2022;10:e4104.
- Barker JC, Rendon J, Janis JE. Medical student mentorship in plastic surgery: the mentee's perspective. *Plast Reconstr Surg.* 2016;137:1934–1942.
- Al Qurashi AA, Shah Mardan QNM, Mortada H, et al. Factors influencing the choice of plastic surgery as a specialty in Saudi Arabia. *Plast Reconstr Surg Glob Open.* 2021;9:e3731.
- Morton JH, Aufes AH, Bligh TJ, et al. An assessment of surgical training. *Am Coll Surg Bull.* 1980;66:20–26.
- Czinkota MR, Johnston WJ. Choosing a career and specialty: when do students decide? *Health Care Manage Rev.* 1983;8:43–52.
- Ko CY, Whang EE, Karamanoukian R, et al. What is the best method of surgical training? A report of America's leading senior surgeons. *Arch Surg.* 1998;133:900–905.

11. Nussbaum MS. What influences medical students' choice of surgical careers—a critical appraisal. *Surgery*. 2000;128:257–258.
12. Srinivasa S, Sapre NS. Nurturing of surgical careers by the Wellington Surgical Interest Club. *ANZ J Surg*. 2009;79:227–229.
13. Tribble C, Kern J, Smith M, et al. The establishment of a surgical interest society for medical students. *Am J Surg*. 2002;183:618–621.
14. Knottnerus A, Tugwell P. STROBE—a checklist to strengthen the reporting of observational studies in epidemiology. *J Clin Epidemiol*. 2008;61:323.
15. Al Qurashi AA, Mortada H, Alrobaiea S, et al. Satisfaction of Saudi board plastic surgery residents with the training program: a national survey. *Plast Reconstr Surg Glob Open*. 2022;10:e4071.
16. Domínguez-Alvarado G, Villar-Rincón K, Castillo-Miranda M, et al. A step-by-step guide to creating an academic surgery interest group: review article. *Ann Med Surg (Lond)*. 2021;69:102688.
17. Al-Fouzan R, Al-Ajlan S, Marwan Y, et al. Factors affecting future specialty choice among medical students in Kuwait. *Med Educ Online*. 2012;17:19587.
18. Mohamed EY. Specialty preferences and factors affecting the choices of postgraduate specialty among undergraduate medical students. *Pak J Med Sci*. 2022;38:1431–1435.
19. Khamees A, Awadi S, Al Sharie S, et al. Factors affecting medical student's decision in choosing a future career specialty: a cross-sectional study. *Ann Med Surg (Lond)*. 2022;74:103305.