Published online: 2020-01-15

Original Article

Perception of plastic surgery in the society

Pawan Agarwal

Plastic Surgery Unit, Department of Surgery, N.S.C.B. Government Medical College, Jabalpur - 482003, India.

Address for correspondence: Dr. Pawan Agarwal, 292/293, Napier Town, Jabalpur - 482001, MP, India.
E-mail: drpawanagarwal@yahoo.com

ABSTRACT

The perception of plastic surgery in society is limited and underestimates the versatility of the specialty. A survey was conducted in order to assess knowledge and to provide some initial evidence for education about the scope of plastic surgery amongst the public, medical and nursing students and general practitioners. A questionnaire was devised and four population groups of respondents were surveyed at random in one district. The results reveal that the majority of the public needs more information about the benefits that our specialty can offer them. Plastic surgeons are mainly associated with burns and cosmetic surgery and they are not necessarily identified as primary surgeons for procedures fundamental to our specialty. If patients are to receive the best treatment available, it is essential that we educate the public about our clinical interests and activities.

KEY WORDS

Perception, plastic surgery, image, society.

INTRODUCTION

Plastic surgery today is a nearly unrecognizable discipline when compared to its origin as a subspecialty 80 years ago. The development of techniques, technologies and innovations permits countless reconstructive options, limited only by the imagination of the surgeon. Plastic surgery is overlapped by many other specialties unlike other surgical disciplines, which have more clearly defined areas and restrict themselves to certain anatomical boundaries. Because of the breadth of plastic surgery and the diversity of the procedures that plastic surgeons perform, much information needs to be spread in society. The marketing of cosmetic surgery and related services has resulted in substantial funding being allocated to individual institutions and increased awareness about this aspect of the specialty but little has been done to educate the public to the fact that specially trained persons are available to carry out reconstructive surgery.

Plastic surgeons can be described as modern day general surgeons and plastic surgery as the last bastion of general surgery.[1] This versatility promotes innovation but also creates confusion in the minds of the general public. The marketing of cosmetic surgery and related services to the patients is becoming a major objective of many hospitals. Recently, we have seen the development of many small centers catering to the various subspecialties of plastic surgery. As a result, the public is becoming aware of the role of plastic surgery and its related subspecialties but there is no information in the Indian scientific literature specially

addressing just how well (or poorly) informed the public is regarding the field of plastic surgery. Therefore, this study was conducted to obtain information about the public awareness and perception of the discipline of plastic surgery in India.

MATERIALS AND METHODS

Seven hundred and eighteen individuals of various ages, education levels, social background and of either sex participated in this study. We surveyed four population groups of respondents, general practitioners located within the district, medical students and nurses in the Jabalpur Medical College and the general public in the same district. Medical students and nurses were selected from the same medical college but represented varying levels of training. A simple and concise questionnaire was devised and distributed, randomly, to persons representing each group. We asked the participants to name five conditions they felt were most often treated by plastic surgeons and from where they got this information. They were given seven choices: from television, magazines, GPs (general practitioners), work place, friends, personal experience, or other categories. All the respondents were asked to identify their age, sex and educational level. 200 surveys were sent to each group. All questionnaires were analyzed and chi-square analysis was performed for each question to compare the pattern of responses among the categories of respondents.

RESULTS

Seven hundred and eighteen individuals completed the survey (overall response rate 89.7%). Group 1 consisted of 172 general practitioners; The second group consisted of 181 medical students, the third included 165 nurses, and 200 members of the public comprised the fourth group of respondents (Table 1). Each person was asked from where they gained their knowledge of plastic surgery and Table 2 shows the results. The top 5 answers from each group are shown in Table 3. The answers to the question 'Name five conditions most often treated by plastic surgeons' were grouped into 27 categories of operations or conditions as seen in Table 4. All five choices have been added together. Table 5 shows the top 7 conditions treated in this unit.

General practitioners' perception: General practitioners seem to be better informed about our specialty. The majority of them gained their knowledge from personal experience as well as from work (Table 2). They associate plastic surgeons very strongly with burns, congenital and cosmetic procedures (Table 3). 36.3% also relate plastic surgeons with trauma. However, they are unaware of some of the specialized procedures performed by plastic surgeons like microvascular, hand and maxillo-craniofacial operations. 46.3% of GPs gave 4 correct responses while 34.4% gave all 5 correct responses. Their mean response rate was 4.11.

Medical students' perception: Medical students learned about plastic surgery from all sources but television and magazines were the main source (Table 2). Therefore,

Table 1: Participating groups

Group	*Number*	*Response rate %*
General Practitioners	172	86
Medical students	181	90.5
Nurses	165	82.5
Public	200	100

Table 2: Source of information

Group	*TV %*	*Magazine %*	*GP %*	*At work %*	*Friends %*	*Personal %*	*Others %*
GPs	13.5	11.5	3.5	42.0	14.5	47.5	1.0
Medical students	87.0	84.0	15.0	48.0	41.0	27.0	22.0
Nurses	47.3	33.6	1.2	27.2	5.4	18.2	4.8
Public	57.0	56.0	2.0	10.0	41.0	15.0	4.0

Table 3: Top 5 answers from each group

Group	*Answer 1 (%)*	*Answer 2 (%)*	*Answer 3 (%)*	*Answer 4 (%)*	*Answer 5 (%)*
GPs	Burn (75.1)	Congenital (72.7)	Cosmetic (63.6)	Trauma (36.3)	Skin graft (33.9)
Medical students	Burn (56.3)	Cosmetic (54.6)	Congenital (46.4)	Trauma (26.5)	Skin problems/ birthmarks (9.39)
Nurses	Burn (68.4)	Cosmetic (38.7)	Trauma (27.8)	Congenital (24.2)	Reconstruction (7.8)
Public	Burn (60.0)	Cosmetic (59.0)	Trauma (26.0)	Skin problems (17.5)	Congenital (10.5)

Table 4: Conditions treated

Operation	*GPs*	*Medical students*	*Nurses*	*Public*
Benign skin & birthmarks	19	17	4	26
Congenital birth defects	120	84	40	21
Breast reconstruction	8	2	3	0
Burns	124	102	113	120
Cancer	28	7	3	8
Cosmetic (Total)	105	99	64	118
Mammoplasty	10	15	7	14
Facial plastic surgery	12	9	7	8
Ears	8	5	4	2
Eyes/eyelids	3	2	3	2
Facelift/chin implants	2	5	0	3
Noses	21	14	9	25
Hair transplant	12	6	3	16
Scar revision	22	35	8	28
Liposuction	15	8	7	20
Hands	8	0	0	0
Hypospadias	16	2	0	0
Facial palsy	0	1	0	0
Flaps	15	2	0	2
Microsurgery	6	5	0	0
Reconstruction	30	9	13	3
Skin grafts	56	10	8	24
Skin problems	8	17	9	35
Tattoos	12	14	8	12
Trauma/accidents(Total)	60	48	46	52
Facial injuries	18	16	20	19
Maxillo-facial Fractures	23	14	9	0
Lacerations	19	18	17	16
Ulcers	22	12	12	16
Others	10	8	2	18
Don't know	0	0	0	24
Total	707	544	396	600

Table 5: Top 7 surgeries performed in the unit

Operations
Congenital
Burns
Trauma lower limb/ hands/maxillofacial
Reconstruction
Oral malignancy
Microvascular
Cosmetic

medical students did not differ much from the public with a lot of information coming from the media as well as from their clinical rotation (48% gained at work). As far as their perception is concerned, they are more like GPs, associating plastic surgeons strongly with burns, cosmetic, congenital and trauma procedures (Table 3). 24.9% medical students gave 3 responses and 19.3% gave 2 responses. Their mean correct response rate was 3.

Nurses' perception: Nurses got their information mainly from television or magazines although 27% of nurses gained it through work (Table 2). Nurses associate plastic surgeons strongly with burns while they are also aware of their reconstructive role and 7.8% of nurses mentioned reconstructive procedures (Table 3). Overall, nurses are not well educated about the role of plastic surgery. 41.5% nurses gave 2 responses and 34.8% gave 3 responses. Their mean correct response rate was 2.4.

Public perception: The response of members of the public demonstrated that they associate plastic surgeons predominantly with burns and esthetic procedures (Table 3). The public did not associate plastic surgeons with some of the fundamental work of their specialty like hand, cancer, microvascular and craniofacial surgery. Surgery for trauma and congenital defects like cleft lip/palate and hypospadias were not correlated as strongly as expected. 12% of the public could not think of any condition treated by plastic surgeons and left the whole sheet blank; 9% gave irrelevant answers and mentioned conditions that are not treated by plastic surgeons. The public received their knowledge of plastic surgery from the media with more than 50% of them gaining it from television or magazines. 41% acquired this knowledge from friends or relatives (Table 2). When the public's awareness of the specialty was tabulated as a function of their educational level, there appeared to be no significant difference between them. These findings may be due to the absence of any public awareness programs currently in effect, promoting our specialty. When responses were analyzed according to sex, significantly more number of female responders mentioned cosmetic surgery as compared with males. In response to the question: 'Name five conditions most often treated by plastic surgeons' 44.7% persons gave 3 correct responses and 28.9% gave 2 correct responses. Their mean response rate was 3.

DISCUSSION

In order to receive optimal treatment a patient must be referred to the correct specialty. This avoids inappropriate or unnecessary referrals, delay in treatment and facilitates the best possible treatment of complicated cases. Unfortunately, while the development of plastic surgery has resulted in a significant positive impact on healthcare, and the

functions and expertise of plastic surgeons are well defined, they are poorly known among society. In spite of their extensive surgical training and technical skills, plastic and reconstructive surgeons are more often recognized as performing only cosmetic surgery. This is mainly due to the media and entertainment industries, as screenplays featuring plastic surgery usually incorporate cosmetic surgery only, and other subspecialties like reconstructive, hand and microsurgery are not well represented[2] (Table 4). The media plays an important role in public education and has a significant impact on opinion regarding plastic surgery. Yet, at the same time they have portrayed an unfavorable image of plastic surgeons, casting them as a surgeons catering to an affluent class and profit-making business persons.[3]

This misperception is also due to the inherent diversity of our specialty, reluctance on our part to advertise or promote ourselves and absence of any law governing which physician can perform plastic surgery. This will have short as well as long-term consequences in the form of work flowing elsewhere, leading to exclusion of certain procedures from our specialty and failure to attract able students into our own specialty. Some authors also suggest that because plastic can mean something artificial and disposable this leads to confusion in the minds of people.[4,5] They have, therefore, proposed changing the name of the specialty. However, a change of name alone will not improve the situation since no name alone can ever be completely descriptive and there is a concern that another specialty of medicine might assume the name that we abandoned.[4-6]

It is obvious that the general practitioners and medical students included in this survey are, on the whole, well educated in the role of plastic surgery. This may come from the fact that our Plastic Surgery Unit is within the main teaching hospital and, therefore, medical students and other specialties know where to seek advice. The unit also regularly lectures medical students and holds annual camps in peripheral areas. However, members of the general public are not so well educated in plastic surgery. 12% of them could not think of any conditions treated by the unit and 9% people gave irrelevant answers (Table 4). Few members of the public associate plastic surgery with trauma and congenital anomalies like cleft lip/palate, despite the fact that such work forms the bulk of the specialty's workload (Table 5). Burns figure high in all the groups accounting for 56-75% of the answers as ours is a regional burns unit. Burns patients are referred here very often, but cancer and reconstruction are not even in the top 4 answers from any of the groups despite these being among the common conditions treated by a plastic surgeon (Table 3). Except for some of the general practitioners, nobody from the remaining three groups thought of plastic surgeons as hand surgeons, but 26-36% people related plastic surgeons to trauma surgeons. Plastic surgeons were strongly associated with cosmetic surgery by medical students, nurses and the public, who rated it as the second most common procedure performed by them. GPs very strongly related repair of congenital defects to plastic surgeons while the public was least aware of the fact that this condition is mainly treated by the specialty.

Thousands of hours are spent in plastic surgery training; none of the time is dedicated to community relations and public information. We have learned how to provide a service, but not how to sell the product. The patient's perception of us has very little to do with our credentials, board certification and technical skills.[7] We are judged by the same rules by which all others in the field of public service are gauged everyday. Previous studies from other countries have shown the public to be poorly informed about plastic surgery.[8-12] We conducted this study to provide much needed Indian data. This survey suggests that the perception of plastic surgery in our society too is limited and underestimates the versatility of the specialty. Plastic surgeons are not necessarily identified as primary surgeons for the procedures fundamental to their specialty. Therefore, we recommend inclusion of plastic surgery in the undergraduate curriculum, improved liaison with general practitioners and other specialties and the institution of public awareness programs.[13] It has been demonstrated that the exposure of undergraduates to plastic surgery during their formative years in medical college significantly improves their knowledge of the specialty.[14] It is also crucial to educate primary care physicians and various

specialists on the essence of plastic and reconstructive surgery. Public awareness programs should be instituted through the print media and on television and should be done judiciously and with dignity. Good quality websites with reliable content may be beneficial. Members of the public need to be educated in order that they do not have unrealistic expectations of plastic surgery.

One limitation of our study is that the groups may not be representative since they were obtained from a single geographical area and this may lead to underestimation of the true degree of misperception in Indian society.

CONCLUSION

Despite the rapid progress that has occurred in the field of plastic surgery in the last 20 years, a large portion of the population is still unaware of the specialty. Therefore, they may not be taking advantage of the optimal care that is already available. If patients are to receive the best treatment available, it is essential to institute programs to educate healthcare consumers and providers about plastic surgery and its different subspecialties, and their role within the healthcare system. There is a scarcity of empirical evidence about the public perception of Plastic surgery; this pilot study attempts to fill this gap.

REFERENCES

1. Kim DC, Kim S, Mitra A. Perceptions and misconceptions of the plastic and reconstructive surgeon. Ann Plast Surg 1997;38: 426-30.
2. Calle S, Evans J. Plastic surgery in the cinema, 1917-1993. Plast Reconstr Surg 1994;93:422-33.
3. Vanderford M, Smith D, Olive T. The image of plastic surgeons in news media coverage of the silicone breast implants controversy. Plast Reconstr Surg 1995;96:521-38.
4. Laskin DM, Ellis JA Jr, Best AM. Public recognition of specialty designations. J Oral Maxillofac Surg 2002;60:1182-5.
5. Rohrich RJ. American society of plastic surgeons: What's in name change? Plast Reconstr Surg 2000;105:1059-60.
6. Zook E. Why we should simplify our name. Plast Reconstr Surg 1994;94:359-60. (Editorial)
7. Goldwyn RM. What people think of plastic surgery? Plast Reconstr Surg 1987;80:294-5. (Editorial)
8. Ameerally P, Fordyce AM, Martin IC. So you think they know what we do? The public and professional perception of oral and maxillofacial surgery. Br J Oral Maxillofac Surg 1994;32:142-5.
9. Hunter MJ, Rubeiz T, Rose L. Recognition of the scope of oral and maxillofacial surgery by the public and health care professionals. J Oral Maxillofac Surg 1996;54:1227-32;discussion 1233.
10. McArdle PJ, Whitnall M. The referral practice of general medical practitioners to the surgical specialties: implications for the future. Br J Oral Maxillofac Surg 1996;34:394-9. Comment - Br J Oral Maxillofac Surg 1998;36:75-6.
11. Dunkin CS, Pleat JM, Jones SA, Goodacre TE. Perception and reality-a study of public and professional perceptions of plastic surgery. Br J Plast Surg 2003;56:437-43.
12. Park AJ, Scerri GV, Benamore R, McDiarmid JG, Lamberty BG. What do plastic surgeons do? J R Coll Surg Edinb 1998;43:189-93.
13. Rowsell AR. The place of plastic surgery in the undergraduate surgical curriculum. Br J Plast Surg 1986;39:241-3.
14. Vallino LD, Brown AS. Assessing third year medical student's knowledge of exposure to cleft palate before and after plastic surgery rotation. Ann Plast Surg 1996;36:380-7.