

*Article*

## UNVEILING INSIGHTS: UNDERSTANDING PUBLIC KNOWLEDGE, PREFERENCES, AND PERCEPTIONS OF PLASTIC SURGERY IN INDONESIA

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### ABSTRACT

**Background:** Plastic surgery spans beyond aesthetics, yet public perception often limits it to cosmetic procedures. This study explores public knowledge, preferences, and perceptions of plastic surgery in Indonesia.

**Method:** A cross-sectional study was conducted between June–July 2024 using a structured, 20-item online questionnaire covering demographics, knowledge, preferences, and perceptions. Data from 488 participants were collected and analyzed using SPSS (version 29, IBM Corp., Armonk, NY, USA).

**Results :** A total of 488 participants were recruited; most recognized aesthetic surgery (92%), burns (85%), facial fractures (89%), and clefts (87%) as part of plastic surgery but were less aware of its role in penile reconstruction (55%) and finger amputation (38%). Most respondents rejected misconceptions about plastic surgery and expressed a high regard for appearance (89%), and 57.4% of all respondents had an aesthetic consultation. Despite this, trust in Indonesian plastic surgeons achieving global standards remained limited, with only 66% expressing trust.

**Conclusion:** Although the Indonesian public generally aware of the basic roles of plastic surgery, significant knowledge gaps exist for specialized procedures. Despite valuing appearance, hesitation to seek services and the lack of trust in local surgeons highlight the need for public education and trust-building initiatives. The Indonesian public showed good understanding of plastic surgery, with gaps in knowledge of its more specialized procedures, and a lack of trust in local plastic surgeons.

**Keywords:** Public, Knowledge, Perception, Plastic Surgery, Indonesia

**Latar Belakang:** Bedah plastik tidak hanya mencakup aspek estetik, namun persepsi masyarakat seringkali membatasinya pada tindakan kosmetik. Penelitian ini bertujuan mengeksplorasi pengetahuan, preferensi, dan persepsi masyarakat Indonesia terhadap bedah plastik.

**Metode:** Penelitian potong lintang dilakukan pada bulan Juni–Juli 2024 menggunakan kuesioner daring terstruktur sebanyak 20 item yang mencakup data demografi, pengetahuan, preferensi, dan persepsi. Data dari 488 partisipan dikumpulkan dan dianalisis menggunakan perangkat lunak SPSS versi 29 (IBM Corp., Armonk, NY, USA).

**Hasil:** Sebanyak 488 partisipan direkrut. Sebagian besar mengenali bedah estetik (92%), penanganan luka bakar (85%), fraktur wajah (89%), dan celah bibir-langit (87%) sebagai bagian dari bedah plastik. Namun, tingkat kesadaran lebih rendah terhadap peran bedah plastik pada rekonstruksi penis (55%) dan amputasi jari (38%). Mayoritas responden menolak miskonsepsi tentang bedah plastik serta menunjukkan penghargaan tinggi terhadap penampilan (89%). Sebanyak 57,4% responden pernah menjalani konsultasi estetik. Meskipun demikian, kepercayaan terhadap kemampuan ahli bedah plastik Indonesia untuk memenuhi standar global masih terbatas, dengan hanya 66% responden yang menyatakan percaya.

**Kesimpulan:** Masyarakat Indonesia umumnya memiliki pemahaman yang baik mengenai peran dasar bedah plastik, namun masih terdapat kesenjangan pengetahuan pada prosedur rekonstruktif yang lebih spesifik. Walaupun masyarakat menilai tinggi aspek penampilan, keraguan untuk mencari layanan serta keterbatasan kepercayaan terhadap ahli bedah plastik lokal menekankan perlunya edukasi publik dan upaya pembangunan kepercayaan.

**Kata Kunci:** Masyarakat, Pengetahuan, Persepsi, Bedah Plastik, Indonesia

### Conflicts of Interest Statement:

The author(s) listed in this manuscript declare the absence of any conflict of interest on the subject matter or materials discussed.

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## INTRODUCTION

Plastic surgery is a multifaceted field often mistakenly seen as solely cosmetic.<sup>1</sup> While cosmetic surgeries such as rhinoplasty and facelifts are widely recognized, plastic surgery also critical reconstructive interventions aimed at restoring both function and appearance following trauma, congenital anomalies, disease, or disfigurement. According to the World Health Organization, burns alone are responsible for approximately 180,000 deaths annually.<sup>2</sup> Furthermore, the prevalence of cleft lip and palate was 0.3 and 0.33 per 1000 live births, respectively.<sup>3</sup> In a tertiary hospital in Indonesia reported that burns constituted the most common cause of plastic surgery admission (17.4%), followed by microtia (11.7%), and orofacial clefts (11.5%).<sup>4</sup>

Despite the clinical importance of reconstructive procedures, public understanding remains limited.<sup>5</sup> Evidence of shifting preferences is reflected in procedural trends reported by the American Board of Plastic Surgery, which compared data from 2014-2018 with that from 1999-2003. The analysis revealed increases in breast reconstruction, breast implant removal, and maxillofacial surgery, while procedures for congenital anomalies, burn injuries, and hand anomalies reconstruction markedly declined.<sup>6</sup> These findings likely reflect the public's growing preference for cosmetic over reconstructive plastic surgery.

In Indonesia, public perception of plastic surgery presents a significant challenge, particularly within a population dispersed across more than 17,000 islands. With only about 250 certified plastic surgeons, predominantly based in urban centers, rural communities face substantial barriers to accessing specialized care. Public awareness of plastic surgery services is crucial to ensure access to appropriate care, which still faces substantial challenges. Moreover, knowledge gaps are evident not only among the general population but also among some general practitioners, particularly regarding the breadth of procedures encompassed by plastic surgery.<sup>7</sup> These limitations contribute to delays in appropriate referrals and treatment, ultimately restricting patients' opportunities to achieve improved functional outcomes and quality of life.

This study explores public knowledge, preferences, and perceptions of plastic surgery in Indonesia, aiming to identify gaps in awareness, challenge prevailing stereotypes, and highlighting barriers that hinder an accurate understanding of plastic surgery and its diverse scope.

## METHOD

This cross-sectional study was conducted between June and July 2024. Participants were recruited through convenience sampling using online distribution channels, including social media platforms and digital survey invitations. Eligibility criteria include adults aged 18 years or older residing across the country.

Data was collected using a structured questionnaire designed to capture demographic characteristics, knowledge of plastic surgery, preferences for plastic surgery services, and perceptions of the role of plastic surgeons. The questionnaire, adapted from previously validated instruments and refined for the Indonesian context, consisted of 20 questions divided into three main sections: (1) general knowledge of plastic surgery procedures and services, (2) behavior towards aesthetic procedures, and (3) perception towards plastic surgery. Responses were captured using Likert-scale questions.

Validity and reliability testing of the questionnaire was performed prior to deployment. The final instrument was administered via an online survey platform, which was then distributed across the country. Respondents were required to provide informed consent before participation, and all responses were anonymized to ensure confidentiality in accordance with ethical research standards. Any respondent who did not answer a question or required biodata was excluded from the study. Descriptive statistical analysis was conducted using the Statistical Package for the Social Sciences (SPSS) version 29.

## RESULTS

A total of 488 respondents from 26 out of 38 provinces in Indonesia completed the survey. The sample was predominantly female (62.4%), with the most common age group being 26-35 years (62.0%) (Table 1). Most participants were

employed in the formal sector (59.7%) and had attained at least a bachelor's degree (90.8%). The majority resided in urban areas (66.4%), with Jakarta contributing the largest proportion of

respondents (26.0%). The geographical distribution of participants across Indonesia's major island is presented in Table 1.

**Table 1** Respondent frequency distribution data

Category	Frequency (%) (n = 499)
Sex	
Male	184 (37.6)
Female	305 (62.4)
Age (years)	
15-25	82 (16.8)
26-35	303 (62.0)
36-45	68 (13.9)
46-55	20 (4.1)
56-65	14 (2.9)
>65	2 (0.4)
Job	
Undergraduate Student	12 (2.5)
University Student	102 (20.9)
Formal workers	292 (59.7)
Informal workers	55 (11.2)
Retired	6 (1.2)
Housewife	22 (4.5)
Last education	
Doctorate	8 (1.6)
Master and professional	196 (40.1)
Bachelor	240 (49.1)
Senior high school	40 (8.2)
Junior high school	4 (0.8)
Elementary school	1 (0.2)
Region	
Urban	324 (66.4)
Suburban/rural	164 (33.6)

Ten questions assessed knowledge on Plastic Surgery. The mean score of all participants was 58.7±16.4%, with median of 60% (range: 7-100%). A detailed distribution of responses is presented in Figure 2. There was no significant correlation between knowledge scores and respondents' domicile. However, a higher percentage of urban residents knew that reconstruction surgery is covered by National Health Insurance compared to rural residents (59.0% vs. 44.5%, p=0.007). There was a significant association between age

and knowledge scores, with the highest scores in ages 36-45 years old, and lowest scores in 56-65 years old (p=0.042). No correlation was found between scores and island or province of origin. Education level was strongly associated with knowledge scores (p < 0.001). Among respondents with a doctorate, master's, or professional degree, 50.7% scored above the median. In contrast, only 38.0% of bachelor's degree holders and 11.0% of undergraduate respondents achieved above-median scores.

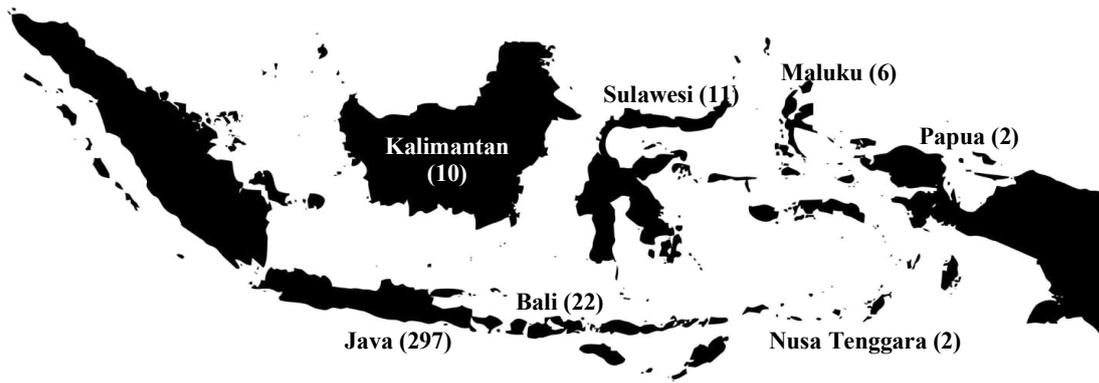


Figure 1. Distribution of respondents based on the major islands of Indonesia.

The majority of respondents (77.5%) rejected the misconception that plastic surgery involves the use of "plastic" materials, and 83.8% disagreed with the belief that plastic surgery is limited to cosmetic procedures. Most respondents recognized that plastic surgeons treat facial fractures (88.9%), cleft lips (87.0%), and burns

(85.0%). However, a considerable amount were unaware that plastic surgeons address finger amputations (62%) or penile amputations (44.9%). Furthermore, 45.9% of respondents did not know that reconstructive surgeries are covered by the National Health Insurance (Figure 2).

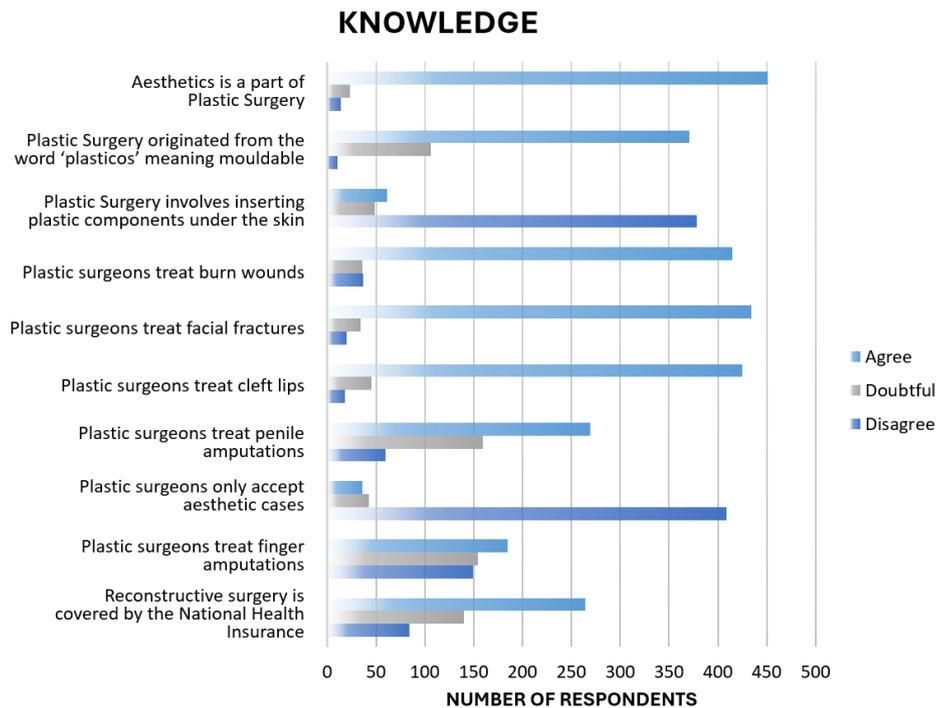


Figure 2. Public Knowledge and Attitude of Plastic Surgery

Regarding attitudes and behavior towards plastic surgery, 57.4% of respondents had consulted a dermatologist or aesthetician for aesthetic concerns, and 62.1% had undergone

non-invasive aesthetic procedures, such as botulinum toxin injections, dermal fillers of lip, or laser treatments. In contrast, only 15.8% had ever consulted a plastic surgeon, and just 2.9% had

undergone a plastic surgery procedure (Figure 3). A strong societal emphasis on physical appearance was acknowledged by 89.5% of respondents, especially those residing in urban areas (68.0%,  $p=0.29$ ). Moreover, half of the respondents (50.0%) expressed interest in

consulting a plastic surgeon in the future, while 33.2% identified a specific body part they wished to address and 33.8% indicated willingness to undergo plastic surgery in Indonesia. Among the procedures, rhinoplasty was the most frequently desired, cited by 60.6% of respondents (Figure 4).

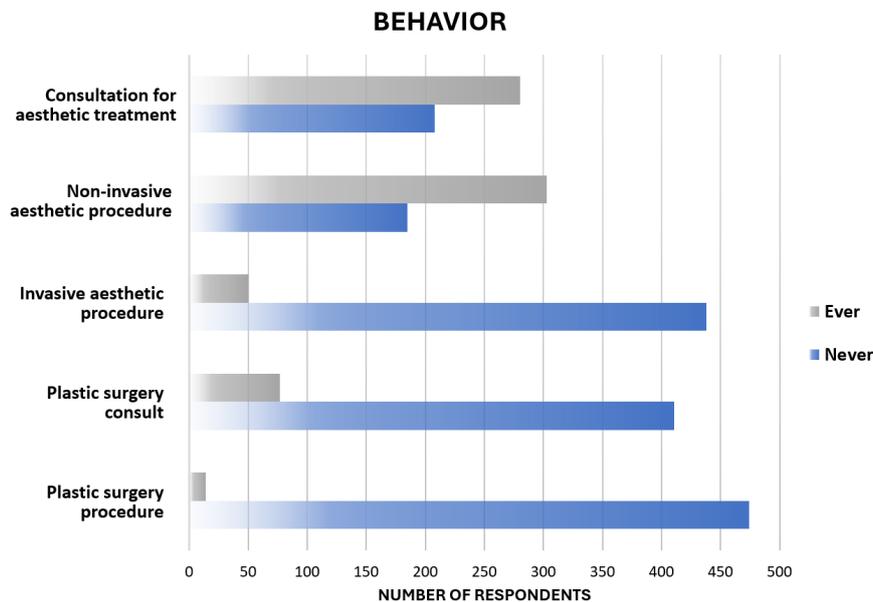


Figure 3. Patients' behavior towards aesthetic procedures

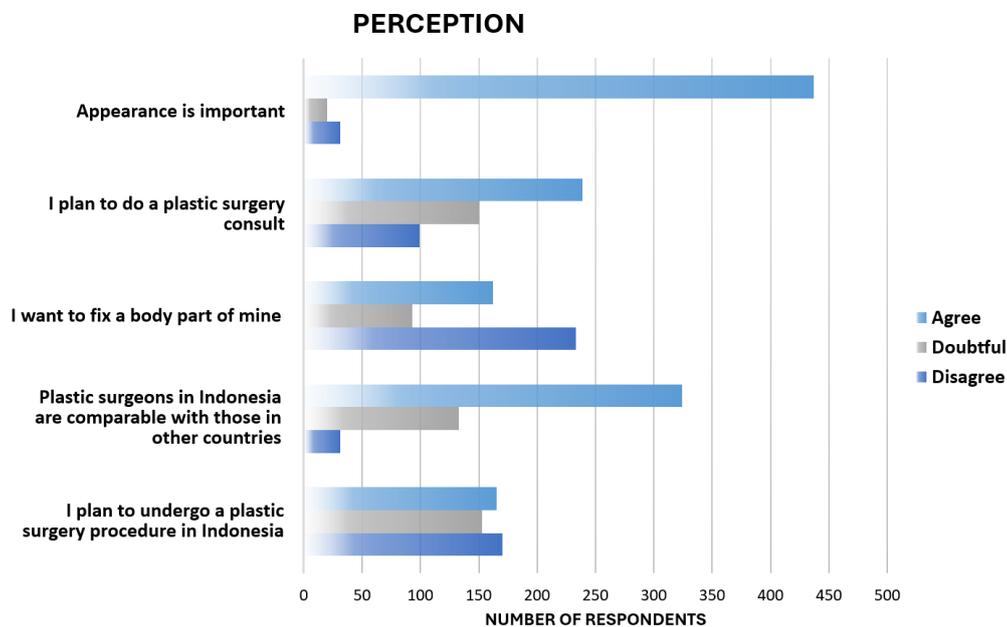


Figure 4. Patient's Perception Towards Plastic Surgery

Despite the high interest in cosmetic procedures, only 65.8% of respondents expressed confidence trust in Indonesian plastic surgeons'

ability to meet global standards, while 2.7% expressed distrust, and 27.3% were uncertain. Level of Trust varied significantly across

demographics. Respondents aged 26-45 demonstrated the highest trust, whereas those aged 15-25 and over 65 reported the lowest ( $p=0.001$ ). Educational background also played a role, with the highest trust observed among those holding master's or professional degrees and the lowest among undergraduates ( $p<0.001$ ). Furthermore, respondents with higher scores on knowledge-based questions demonstrated greater trust compared to those with lower scores ( $p<0.001$ ). Regional differences were also observed, with Papua and Bali showing the highest trust levels, and respondents from Maluku and Nusa Tenggara displayed the lowest ( $p=0.033$ ).

## DISCUSSION

The mean knowledge score of respondents was 58.7%, reflecting a moderate understanding of plastic surgery. Most participants recognized plastic surgery's role in managing burn injuries, cleft lips, and facial fractures. Higher knowledge scores were correlated with higher educational level and middle-aged adults. However, many were still unaware of plastic surgeons' role in reconstructive cases such as penile and finger amputations. A similar study in Turkey on 600 public members found that the public associated plastic surgery mostly with burns (44.5%), breast surgery (59.8%), liposuction, abdominoplasty, and facelifts (57.2%), whereas awareness of its role in hand and nerve injuries was lowest (12.8%).<sup>8</sup>

Similarly, a study conducted in the United Kingdom revealed that while the public was well-informed about reconstructive surgery for trauma and cancer, as well as cosmetic surgeries, awareness of plastic surgery's role in burns, melanoma, and hand surgery was notably limited.<sup>5</sup> In Indonesia, the knowledge gap is also evident among healthcare providers. Aditya et al. reported that among 83 general practitioners in Kupang City, only 2.4%, 6%, and 10.8% were aware of the role of plastic surgeons in managing hand trauma, craniomaxillofacial, and reconstructive cases, respectively.<sup>7</sup>

The higher level of knowledge of the National Health Insurance (NHI) observed in urban areas in our study can be attributed to better access to healthcare facilities, medical professionals, and greater exposure to public health campaigns and social media in urban areas. In a study of 2084 Indonesian women, only

48.4% were registered in the NHI, with urban residency emerging a significant predictor of enrollment. Other predictors of enrollment included higher educational attainment, employment, marital status, the presence of illness or chronic disease, and of low economic status.<sup>9</sup>

Social media has become an important source of information about aesthetic procedures, strongly shaping public perceptions and decisions. A review by Amandita and Saraswati highlighted that cosmetic procedures are often associated with luxury, status, and superficiality, leading to misconceptions that plastic surgery is exclusively for vanity. At the same time, reconstructive plastic surgery remains underappreciated and misunderstood. Many Indonesians are unaware of its life-enhancing applications, such as restoring functionality and appearance after accidents or congenital abnormalities.<sup>10</sup>

Religious and cultural contexts further influence the public perception of plastic surgery. In Indonesia, where Islam is the majority religion, these factors play a significant role in shaping attitudes toward surgical interventions. A study involving 192 participants found that higher greater engagement in Islamic worship practices was associated with lower acceptance of aesthetic surgery, reflecting ongoing religious and cultural resistance.<sup>11</sup> This presents challenges for plastic surgeons in Indonesia.

While 83.4% of respondents rejected the idea that plastic surgery is solely cosmetic, the high value placed on physical appearance (89.3%) suggests that aesthetic concerns remain a primary motivator. This aligns with global trends, where rhinoplasty was ranked as the top five most popular plastic surgery procedure, following liposuction, breast augmentation, eyelid surgery, and abdominoplasty.<sup>12</sup> Moreover, a study on 97 respondents proved that greater awareness of physical appearance significantly increased the a likelihood for of recommending a plastic surgery clinic.<sup>13</sup>

In this study, urban respondents were more likely to acknowledge appearance (68.0%), which may stem from the cultural and professional demands in the urban areas. This correlates with the higher amount of cosmetic or plastic surgery clinics in urban areas of Indonesia.<sup>9</sup> Furthermore, the significant proportion of respondents seeking dermatological or non-invasive aesthetic

treatments (62.1%) versus those consulting plastic surgeons (15.8%) and those who had undergone an invasive procedure (2.6%), highlights a strong preference for minimally invasive procedures. Non-invasive treatments are often perceived as less intimidating and more socially acceptable compared to surgical interventions, which are sometimes stigmatized as an expression of vanity or excessive alteration.<sup>14</sup>

The relatively high level of trust (65.8%) in Indonesian plastic surgeons meeting global standards reflects growing trust in the local medical field. However, the uncertainty (27.3%) and distrust (2.7%) suggest persisting doubts, which may be linked to unequal distribution of expertise and variability in healthcare quality across regions. Higher level of trust among younger and middle-aged adults (26–45) may result from greater exposure to modern healthcare and international advancements via digital media. In contrast, older age groups may be influenced by traditional beliefs or outdated perceptions of healthcare quality in Indonesia. Similarly, higher level of trust among individuals with higher educational levels were likely due to their ability to evaluate medical qualifications and compare them with global standards.

To build on this foundation of public trust, professional organizations and practitioners should prioritize transparent communication regarding qualifications, clinical experience, and the comprehensive nature of their services. Efforts should focus on promoting reconstructive plastic surgery's role,<sup>1</sup> particularly in rural areas and among older populations. General practitioners should also be informed regarding plastic surgery subspecialties, especially in their medical education period.<sup>7</sup> Plastic surgeons should also contribute to dispel myths and provide accurate, balanced information about aesthetic and reconstructive procedures, and collaborate with educational institutions to integrate plastic surgery topics into health curricula from an early age.

### Strength and Limitations

Despite its nationwide scope providing a comprehensive overview of public perceptions, this study was reliant on online self-reported data which may introduce bias and potentially excluding individuals with limited internet access.

## CONCLUSION

The Indonesian public demonstrates foundational knowledge of plastic surgery, particularly in reconstructive procedures for burns, facial fractures, and cleft lip. However, gaps persist regarding amputation reconstruction, and hesitancy toward utilizing plastic surgery services remains. Skepticism about local surgeons' expertise underscores the need for improved trust and education within the field.

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