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## RESEARCH ARTICLE

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### Brand Image Effect on Selecting Place of Dentures Fabrication at Integrated Specialist Clinic of RSGM FKG UNAIR

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#### ABSTRACT

Integrated Specialist Clinic of Oral and Dental Hospital, Faculty of Dentistry, Airlangga University (RSGM FKG UNAIR) provides oral and dental health care service ranging from basic medical level up to sub-specialistic covering 8 dental health fields. Based on data from 2012 to 2015, the highest number of patients is permanent tooth extraction patients. The large number of permanent tooth extraction patients is not followed by a large number of patients who return to install denture. The percentage of patient who returns to install the denture is only 24.67% of all permanent tooth extraction patients. The purpose of this study was to determine the effect of brand image factors on the selection of denture making site. The type of this research was analytic observational by using cross sectional approach. The research data was taken during September and October 2017 at place and time mutually agreed between researcher and respondent. The population of this research was permanent tooth extraction patients in Integrated Specialist Clinic RSGM FKG UNAIR in 2016. The sample size was 60 patients. Brand image based on the composite value of types of brand association of Integrated Specialist Clinic of RSGM FKG UNAIR has an effect on the selection of denture making site.

**Keywords:** Brand image, denture, Integrated specialist clinic, Permanent tooth extraction

#### INTRODUCTION

Each individual ideally maintains a permanent tooth for life, however the tooth can be loose or needs to be removed for various reasons<sup>(1)</sup>. The loss of one or more teeth may impact disruption of the balance of the teeth. Further treatments that are not immediately committed on loss of teeth will impact excessive eruption, migration and tooth rotation. Loss of teeth makes an effect on psychological effects, alveolar bone resorb, impact on esthetics, phonetics, mastication and also affect discomfort for some people<sup>(2)</sup>. The case of loss teeth caused by tooth extraction should be held by committing further treatment namely Prosthodontics treatment.

Integrated Specialist Clinic RSGM FKG UNAIR is one type of clinic owned by Oral and Dental Hospital of Dental Medicine Faculty of Airlangga University which provides dental and oral health services starting from basic medical level up to sub specialist which include Radiology, Oral and Maxillofacial Surgery, Periodontics, Prosthodontics, Oral Disease Science, Dentistry, Orthodontics and Dental Conservation. Based on the achievement of RSGM FKG UNAIR service, especially in 2012 to 2015 there is a significant gap between the field of Oral and Maxillofacial Surgery with Prosthodontics. Only 24.67% patients with permanent tooth extractions come back to make dentures.

The availability of many denture-making sites makes each place compete to be an option for society. Some denture-making sites promote their names or brands in order that the place is recognized by the public. Not infrequently patients get information from others who have done dental care somewhere. If the information is positive it will produce a positive brand image in the mind of the patient and vice versa but if the obtained is negative information, it will produce a negative brand image as well.

A strong and positive brand image facilitates companies to attract new customers and retain existing ones. Product is easily imitated by other companies but the brand image is not. Brand image should put in customers' minds to create a strong brand image and can be accepted positively<sup>(3)</sup>. When a brand has a strong and positive image, the brand will always be remembered and the possibility to be chosen by customers is extremely high<sup>(4)</sup>.

**METHODS**

The type of this research was analytic observational by using cross sectional approach. This research was conducted on September and October, 2017. The study was conducted in agreed time by the respondents and researchers. The population in this study was patient who had performed permanent tooth extraction at the Integrated Specialist Clinic of RSGM FKG UNAIR in 2016 for 70 patients. By using Slovin formula, the minimum sample required in this study was 60 respondents. Sampling in this research was done by simple random sampling method. Researcher contacted the patient to inform the identity and purpose of researcher, then asked patient's willingness to be respondent in this research. Categorical data was presented in the form of frequency and percentage<sup>(5)</sup>, while numerical data was presented as a mean<sup>(6)</sup>, then analyzed further using logistic regression test.

**RESULTS**

The minimum sample required in this study was 60 respondents from 70 respondents existed. During 2 months of research, the researchers finally took only 40 respondents. This was caused by some obstacles experienced by the researcher at the time of data retrieval such as respondents openly declare not willing to be interviewed, respondent's phone number cannot be contacted, respondent do not give response when contacted, and name and address are listed in medical record data it was not appropriate.

**Demography and Socio-economic Data**

Demographic and socio-economic features consist of age, sex, education, occupation and income.

Table 1. Distribution of respondents' age of permanent tooth extraction

No.	Ages	Category	Frequency	Percentage
1.	20 to 40 years old	Adult	8	20
2.	41 to 65 years old	Old	25	62.5
3.	More 65 years old	Elderly	7	17.5
Total			40	100.0

Based on table 1, it can be obtained information that 62.5% respondents were in the age range between 41 to 65 years.

Table 2. Distribution of gender's respondent persistent tooth extraction

No.	Gender	Frequency	Percentage
1.	Male	17	42.5
2.	Female	23	57.5
Total		40	100.0

Based on table 2, it can be seen that the number of male and female respondents were almost equal.

Table 3. Distribution of respondent education level of persistent tooth extraction

No.	Education Level	Frequency	Percentage
1.	Basic Education (Elementary and Junior High School Level)	1	2.5
2.	Mid Education (Senior High School Level)	5	12.5
3.	Advanced Education (Diploma and Bachelor Level)	34	85
Total		40	100.0

Based on table 3, it can be seen that most respondents (85%) were respondents that have higher education level.

Table 4. Distribution of respondents' occupation of persistent tooth extraction

No	Occupation	Frequency	Percentage
1.	House Wife	4	10
2.	Retired	6	15
3.	Civil Servant	15	37.5
4.	Enterpriser	15	37.5
Total		40	100.0

Based on table 4, it can be obtained information that 37.5% respondents work as Civil Servants and 37.5% work as enterprisers.

Table 5. Distribution of respondents' income of persistent tooth extraction

No.	Income	Category	Frequency	Percentage
1.	< 1.500.000	Low	6	15
2.	1.500.000-2.500.000	Moderate	2	5
3.	> 2.500.000-3.500.000	High	7	17.5
4.	>3.500.000	Very High	25	62.5
Total			40	100.0

Based on table 5 above, it can be seen that 62.5% respondents have a very high income.

### Brand Image of RSGM FKG UNAIR Integrated Specialist Clinic

Brand image consist of types of brand association, favorability of brand association, strength of brand association and uniqueness of brand association.

Table 6. Composite value of types of brand association Integrated Specialist Clinic of RSGM FKG UNAIR

Types of brand association	Frequency	Percentage
Good (>117.514)	5	10
Fair (95.086-117.514)	31	77.5
Poor (<95.086)	4	12.5
Total	40	100.0
Mean	106.30	
Standard Deviation	11.214	

The image of the brand image of the Integrated Specialist Clinic of RSGM FKG UNAIR based on types of brand association shows that most of the respondents (77.5%) gave an enough rating (95,086-117,514) to the brand association of Integrated Specialist Clinic of RSGM FKG UNAIR.

Table 7. Mean Value of *Types of Brand Association* Integrated Specialist Clinic RSGM FKG UNAIR

No.	Types of Brand Association Components	Mean
1.	Product-related attributes	
	a. Medical Human Resources	2.98
	b. Medical Facilities	3.09
	c. Medical Services	2.74
2.	Non-product related	
	a. Non-Medical Human Resources	2.98
	b. Non-Medical Facilities	2.92
	c. Non-Medical Services	2.82
3.	Benefit	
	a. Functional Benefit	2.54
	b. Experiential Benefit	2,91
	c. Symbolic Benefit	2.90
4.	Attitudes	2.70
Mean total		2.86

The components of brand association types are less if the mean value is below 2.86 and good if the mean is more than 2.86. Medical services, non-medical services, functional benefits and attitudes are poor and need to be improved. To determine the influence of brand association types on the election of denture-making site is done logistic regression test with the following results.

Table 8. Cross tabulation between composite value of brand association types and dentures making site

Types of brand association	Dentures Making Sites		Total
	Outside Integrated Specialist Clinic	Integrated Specialist Clinic	
Poor	2 (100%)	0 (0%)	2 (100%)
Fair	11 (57.9%)	8 (42.1%)	19 (100%)
Good	0 (0%)	2 (100%)	2 (100%)
Total	13 (56.5%)	10 (43.5%)	23 (100%)

Respondents who have good perception on brand association of Integrated Specialist Clinic of RSGM FKG UNAIR want to make denture in Integrated Specialist Clinic of RSGM FKG UNAIR and respondents who have a bad perception will make dentures outside of Integrated Specialist Clinic of RSGM FKG UNAIR.

Table 8. Results of logistic regression test

No.	Sub-variable	Significance Level	Annotation
Types of brand associations		0.044	Influenced
1.	Product related attributes		
a.	Medical Human Resources	0.003	Influenced
b.	Medical Facilities	0.022	Influenced
c.	Services	0.241	Uninfluenced
2.	Non-product related attributes		
a.	Non-Medical Human Resources	0.166	Uninfluenced
b.	Non-Medical Facilities	0.227	Uninfluenced
c.	Non-Medical Services	0.003	Influenced
3.	Benefits		
a.	Functional benefits	0.021	Influenced
b.	Experiential benefits	0.140	Uninfluenced
c.	Symbolic benefits	0.050	Influenced
4.	Attitudes	0.000	Influenced

Based on the logistic regression analysis test between the components of types of brand association and the selection of denture-making sites, some components impact on the selection of denture-making sites namely medical personnel, medical facilities, non-medical services, functional benefits, symbolic benefits and attitudes.

## DISCUSSION

Brand image is a consumer perception of a brand based on experience and knowledge<sup>(7)</sup>. Knowledge of a brand can be obtained from the promotion or marketing of a brand and the social influence derived from word of mouth (word of mouth)<sup>(8)</sup>. Research conducted Ahmad et al (2016) outlines that the brand image has a significant influence on dentist visit<sup>(7)</sup>.

Integrated Specialist Clinic of RSGM FKG UNAIR has an "enough" brand image which means that according to respondents' perception of Integrated Specialist Clinic RSGM FKG UNAIR still normal which is not too good but also not too bad. There are several brand associations that are considered good by the respondents but there are some other brand associations that is considered less and needs to be improved.

Medical Human Resources and medical facilities Integrated Specialist Clinic of RSGM FKG UNAIR are the superior of Integrated Specialist Clinic of RSGM FKG UNAIR (mean >2.86). It can be stated that medical human resources and facilities become the favorability of brand association of Integrated Specialist Clinic of RSGM FKG UNAIR. Professional medical human resources supported by sophisticated equipment are very important as an effort to create RSGM FKG of Airlangga University as a reference and excellence center.

Non-medical services consist of ease in registration procedures, ease of payment both in cash and non-cash and the cost of dental care. The registration procedure based on the respondent's perception is good (mean >2.86). The mode of payment and the amount of financing based on respondents' perception is poor (mean <2.86). These indicate a constraint on payment felt by the respondents. Some respondents remark that they had difficulty in making non-cash payments because the non-cash payment machine did not function properly at that time. Besides the cost of dental treatment is relative expensive. According to Rad et al (2009) the cost of dental care is one reason to not come or postpone a visit to dentist<sup>(9)</sup>.

Functional benefit consists of clarity of information regarding the effect of permanent tooth extraction, the benefits and importance of denture after permanent tooth extraction and reduced complaints after receiving dental treatment at the Integrated Specialist Clinic of RSGM FKG UNAIR. Almost all respondents expressed fewer complaints after dental treatment (mean > 2.86). This shows that the ability and professionalism of specialist dentists in diagnosing and performing dental care is unquestionable.

Clarity of information regarding on the effect of permanent tooth extraction, benefits and the importance of denture set after tooth extraction still felt less by respondents (mean <2.86). This shows that a lack of information obtained by respondents from dental specialists about the effects, the benefits and importance of denture set after permanent tooth extraction. Dental services can provide dental hygiene, posters and others that can effectively improve patient knowledge<sup>(9)</sup>.

Symbolic benefits consist of quality dental care services and the best dental sites ever visited. Integrated Specialist Clinic of RSGM FKG UNAIR according to respondents' perception, it provides a good quality of dental

services (mean >2.86) but it is not already to be the best dental site according to perception of respondents (mean <2.81). Therefore it is necessary to improve the quality of service related to non-medical services.

Attitude consists of service satisfaction, first choice to be visited when needing dental treatment later on and will recommend Integrated Specialist Clinic of RSGM FKG UNAIR to others. According to respondents, satisfaction of service is good (mean > 2,86). Patient satisfaction is a very important factor in influencing dental care and dental relations<sup>(9)</sup>. Indiraswari (2012) describes the contribution of consumer satisfaction to a number of crucial aspects, such as the created customer loyalty, increased corporate reputation, reduced price elasticity and future transaction costs, and increased efficiency and employee productivity<sup>(10)</sup>.

Integrated Specialist Clinic of RSGM FKG UNAIR has not become the first choice for respondents when need a dental treatment in the future (mean <2.86). Respondents will visit the Integrated Specialist Clinic of RSGM FKG UNAIR when requiring dental treatment that needs a very important and requires special handling. Respondents will not always recommend the Integrated Specialist Clinic of RSGM FKG UNAIR to others when they need dental treatment. Based on the above statement it can be concluded that there is no loyalty of patients to the Integrated Specialist Clinic of RSGM FKG UNAIR. Some studies remarks that brand image indirectly affect consumer loyalty, but can affect consumer loyalty through consumer satisfaction<sup>(11)</sup>.

### CONCLUSION

Brand image based on the composite value of brand association types at Integrated Specialist Clinic of RSGM FKG UNAIR has an effect on the selection of denture-making site. The components of medical human resources, medical facilities, non-medical services, functional benefits, symbolic benefits and attitudes are significantly influenced on selection of denture-making sites.

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