

Determinants of Patients' Satisfaction and Influence of Advertisements on Dental Treatment Seekers

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Abstract

This cross-sectional study was conducted to assess the effects of social media advertisements on patients' decisions to seek dental care and to determine the level of patient's satisfaction following the treatment experience. The sample included 305 patients with 85.6% of them being females. Nearly half of the participants (49.2%) were exposed to advertisements through social media, followed by "family and friends" with 44.6%, "other sources" (4.9%), "newspapers and magazines" (0.7%) and TV (0.7%). Quality was reported to be the main factor (27.2%) for following the advertisement, followed by reputation (26.2%), price (18.7%), convenience (18.0%), and customer service (9.8%). Nearly half of the participants (46.6%) reported "patients' testimonies" as the main theme of the advertisement followed by "patients before and after photos" (37.4%), and 79.3% of the participants thought that adding these photos can increase trust in the clinic. The mean satisfaction score was 7.94 ± 2.62 , with no significant difference among social media advertisement receivers and those viewing it through other sources (P -value = 0.823), with 7.86 ± 2.77 and 8.02 ± 2.48 , respectively. Regarding factors affecting satisfaction score, price was associated a reduction in satisfaction score ($b = -0.38$; P -value = 0.027), while convenience was associated with an increase in satisfaction score ($b = 0.44$; P -value = 0.010). For advertisements themes, patients' testimonies ($b = 0.48$; P -value = 0.009) and patients' before/after photos ($b = 0.72$; P -value < 0.001) were both associated with an increase in satisfaction score. In conclusion, social media advertisements and trusted persons' recommendations are major determinants of choosing a specific clinic. Although the components of the advertisements may affect the patients' satisfaction quality of the provided care is a significant predictor for satisfaction score. Large-scale studies are needed to develop concrete evidence and to identify more ways of increasing patients' satisfaction.

Keywords: Satisfaction; Dental Advertisement; Patients

Introduction

Advertising is an essential element of our society. The concept of advertising has been evolving for centuries and went through a long journey until it attained its present form today [1]. The American Marketing Association (AMA) recommends the definition, "Advertising is any paid form of nonpersonal presentation and promotion of ideas, goods, and services by an identified sponsor" [1]. Advertising in dentistry is defined as "Any information and/or material related to the promotion of dental services of a dental practice or individual involved in the delivery of care. Dental advertising includes flyers, websites, social media postings, blogs, advertorials, newsletters, business cards, stationery, logos, signage, announcements, or other information related to the dentist/dental practice, regardless of the form of distribution" [2].

According to recent reports, there was a sharp increase in adults using social media from 7% to 65% between the years 2005 to 2015. Globally, there are 4.14 billion active social media populations and 2.7 billion are monthly active Facebook users [3]. Hospitals, private

practices, and other health care facilities have been utilizing different social media platforms to target patients and develop an interactive relationship by promoting their services and directed patient education [4,5]. That is why social media has become a trending source for patients seeking health-related information, which would have a positive effect on patient engagement [4,5]. About 70% of hospitals were reported to be using social media for education, recognizing their staff, reminders of seasonal vaccine shots, showing results of prominent research studies, and advertising any titles/prizes awarded to them [5,6]. On the other hand, if the advertisement is misleading and lacking honesty, it will affect the patients' health [7].

Patient satisfaction in seeking dental treatment has become an important factor in evaluating the feedback of patients' experience after visiting the dental office [8]. Patient satisfaction analysis through identifying key drivers and enhancing service quality of dental care; is useful for understanding the weaknesses that are associated with dental care services [9].

Aim of the Study

In this study, we aim to assess the effects of social media advertisements on patients' decisions to seek dental care and to determine the level of patient's satisfaction after the treatment experience in Riyadh city, Saudi Arabia.

Materials and Methods

Study design

A cross-sectional study was carried out using a self-administered structured online survey tool, through the Survey Monkey platform.

Study population

The online questionnaire was distributed to all Riyadh city's residents. The inclusion criteria were all residents who agreed to participate in the study and aged more than 18 years. There were no restrictions on the reason for the clinic visit, gender, nationality, occupation, residence, or socioeconomic level of the participants. The exclusion criteria were all residents less than 18 years and those who refused sharing in the study.

Sampling technique

All participants fulfilling the inclusion criteria were invited to participate. Snowball sampling was used to select the study participants.

Data collection

The data collection method was an online bilingual survey questionnaire (SurveyMonkey platform) distributed through social media (like WhatsApp and Twitter). On the first screen, a Plain Language Information Statement (PLIS) and Consent Form were presented. Only the participants who provided consent and agree to participate in the study could move to the next screen containing the screening questionnaire to confirm the age of > 18 years.

Study instrument

A predesigned questionnaire was used and included items collecting data about participants' sociodemographic characteristics, advertisement details, visit details, and participants' satisfaction.

A score was given to the satisfaction of the participants following their clinic visit. The awareness and knowledge questions are shown in table 4. Yes/No questions were given a score of (1) for the positive answer and (0) for the negative ones. Satisfaction in the reception area was given a score (4) for all of the above, Score (3) for full introduction, score (2) for doctor's brief, score (1) for only directing the participant, and score (0) for anything else. For the question about advising the doctor/center to the relatives, all of them were scored (3), the same doctor was scored (2), the same center was scored (1), and none was scored 0. Based on that, the highest possible score for participants 'satisfaction was 12.

Statistical analysis

All data were analyzed using R software version 4.0.2 [10] using the packages (Rcmdr) [11] and (glm2) [12]. Categorical variables were represented as frequencies, and percentages with Chi2 test (or Fisher's exact test, as appropriate) was used for testing the advertisement platform differences. For continuous variables, the representation was as means and standard deviations, using skewness and Kurtosis tests to evaluate the normal distribution of the variables. Based on normality status, independent-samples t-test or Mann-Whitney U test to compare social media advertisements to other platforms. Moreover, we used a linear regression model to identify factors associated with patients' satisfaction scores. A P-value of ≤0.05 was considered statistically significant in all analyses.

Ethical consideration

Data were collected anonymously and no identifying information was attached for this online survey. Therefore, it will not be possible to withdraw from participation, once the completed questionnaire is submitted online. However, the study participants will have the freedom to withdraw anytime during the filling up of the questionnaire online.

Results

A total of 305 valid responses were included in the final analysis, with 85.6% of them being females. The age group 31-50 years was the most common age group (43.6%), followed by > 50 years (40.7%) and 18 - 30 years (15.7%), respectively. Most of the participants had university degrees (65.6%), followed by high school (17.7%), and higher education (13.4%). There were no significant differences among the participants who were exposed to the advertisements through social media compared to other platforms, in terms of sociodemographic characteristics (Table 1).

Variable N		Total		How did you find the advertisement?				P-value
		Social media		Others				
		%	n	%	n	%		
Gender	Female	261	85.6	133	88.7	128	82.6	0.130
	Male	44	14.4	17	11.3	27	17.4	
Age	18 - 30	48	15.7	19	12.7	29	18.7	0.350
	31 - 50	133	43.6	68	45.3	65	41.9	
	> 50	124	40.7	63	42.0	61	39.4	
Highest Degree	University	200	65.6	104	69.3	96	61.9	0.226
	Higher education	41	13.4	19	12.7	22	14.2	
	High school	54	17.7	25	16.7	29	18.7	
	Other	10	3.3	2	1.3	8	5.2	

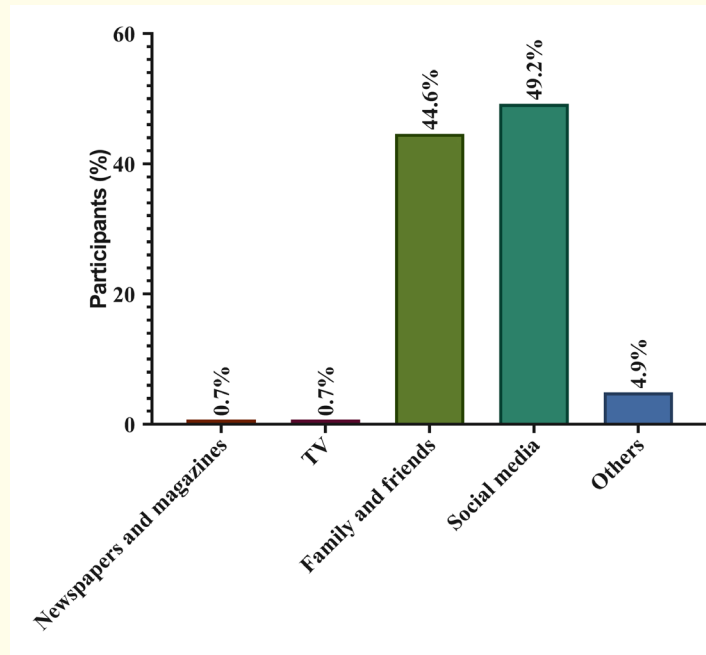
Table 1: Summary of participants' sociodemographic characteristics.

Nearly half of the participants (49.2%) were exposed to advertisements through social media, followed by “family and friends” with 44.6%, “other sources” (4.9%), “newspapers and magazines” (0.7%), and TV (0.7%) (Figure 1). Regarding the advertisements' content, about two-thirds of the participants reported that either the patient (29.2%) or the dentist (27.9%) were featured. Quality was reported to be the main factor (27.2%) for following the advertisement, followed by reputation (26.2%), price (18.7%), convenience (18.0%), and customer service (9.8%). Nearly half of the participants (46.6%) reported “patients' testimonies” as the main theme of the advertisement followed by “patients before and after photos” (37.4%), and 79.3% of the participants thought that adding these photos can increase trust in the clinic. Advertisements in social media were significantly different from other platforms in terms of personnel featured on the advertisement (P-value < 0.001), the main theme (P-value = 0.005) and including photos as a factor for increasing trust (P-value = 0.005) (Table 2).

Variable N		Total		How did you find the advertisement?				P-value
		Social media		Others				
		%	n	%	n	%		
Who was featured in the advertisement?	Physician / Dentist	85	27.9	58	38.7	27	17.4	< 0.001*
	Patient	89	29.2	31	20.7	58	37.4	
	Other	116	38.0	52	34.7	64	41.3	
	Clinic admin	15	4.9	9	6.0	6	3.9	
If you follow the advertisement, What was the main factor?	Quality	83	27.2	37	24.7	46	29.7	0.308
	Price	57	18.7	34	22.7	23	14.8	
	Convenience	55	18.0	30	20.0	25	16.1	
	Customer service	30	9.8	13	8.7	17	11.0	
	Reputation	80	26.2	36	24.0	44	28.4	
What was the main theme of the advertisement	Patients' testimonies	142	46.6	55	36.7	87	56.1	0.005*
	Price	36	11.8	19	12.7	17	11.0	
	Patient before and after photos	114	37.4	67	44.7	47	30.3	
	Clinic photo	13	4.3	9	6.0	4	2.6	
Do you think that including before and after photos will increase your trust in the clinic?	No	63	20.7	21	14.0	42	27.1	0.005*
	Yes	242	79.3	129	86.0	113	72.9	

Table 2: Responses of participants on commercial advertisement content.

*Statistically significant.



Feedback on the dentist’s appointment was variable as reported by the participants. Only 38.7% of the participants reported that their dentist explained his specialty and degree, while 86.6% reported being given a follow-up appointment, and 76.4% reported seeing the dentist’s license clearly presented in the clinic (Table 3). Most of the participants were satisfied with the clinic’s main facilities (68.5%), the waiting area and length of stay (80.3%), the clinic’s cleanliness (90.2%), the doctor’s explanation of available treatment options (86.2%), and the accordance of the treatment provided with the advertised one (79.3%). In the reception area, 22.3% of the participants were given a full introduction, 15.1% were only directed to the waiting area and clinic, 6.2% were given a brief about the dentist, and 6.9% were given all of the aforementioned information. Finally, 39% of the participants were going to recommend the same doctor and center to their relations, while 32.1% will recommend the doctor only and 11.1% will just recommend the same center (Table 4).

Variable		Total		How did you find the advertisement?				P-value
				Social media		Other		
		%	n	%	n	%		
Did the doctor explain to you his specialty and degree?	No	187	61.3	83	55.3	104	67.1	0.035*
	Yes	118	38.7	67	44.7	51	32.9	
Was the doctor’s license present clearly in the clinic?	No	72	23.6	34	22.7	38	24.5	0.704
	Yes	233	76.4	116	77.3	117	75.5	
Were you given a follow-up appointment?	No	41	13.4	20	13.3	21	13.5	0.956
	Yes	264	86.6	130	86.7	134	86.5	

Table 3: Responses of participants on their dentist appointment.

*Statistically significant.

Variable N		Total		How did you find the advertisement?				P-value
		Social media		Other				
		%	n	%	n	%		
Were the clinic's main facilities easily accessible (entrance visibility - parking availability - disability access)?	No	96	31.5	44	29.3	52	33.5	0.428
	Yes	209	68.5	106	70.7	103	66.5	
How was your satisfaction in the reception area, choose the most appropriate?	I was given a full introduction.	68	22.3	33	22.0	35	22.6	0.533
	I was given a brief about my doctor.	19	6.2	11	7.3	8	5.2	
	I was only directed to the waiting area and clinic	46	15.1	26	17.3	20	12.9	
	All of the above.	21	6.9	12	8.0	9	5.8	
	Other	151	49.5	68	45.3	83	53.5	
Are you satisfied with the waiting area and length of stay?	No	60	19.7	31	20.7	29	18.7	0.667
	Yes	245	80.3	119	79.3	126	81.3	
Are you satisfied with the cleanliness of the clinic?	No	30	9.8	21	14.0	9	5.8	0.016*
	Yes	275	90.2	129	86.0	146	94.2	
Did the doctor explain the treatment plan for you and the option available?	No	42	13.8	20	13.3	22	14.2	0.827
	Yes	263	86.2	130	86.7	133	85.8	
Was the treatment provided to you according to what was advertised?	No	63	20.7	35	23.3	28	18.1	0.256
	Yes	242	79.3	115	76.7	127	81.9	
Would you advise your relations to use?	Yes, same doctor.	98	32.1	44	29.3	54	34.8	0.615
	Yes, same center.	34	11.1	18	12.0	16	10.3	
	Yes, all of them.	119	39.0	58	38.7	61	39.4	
	No -none of them.	54	17.7	30	20.0	24	15.5	
Total Satisfaction score: Mean ± SD		7.94±2.62		7.86±2.77		8.02±2.48		0.823

Table 4: Participants' satisfaction.
*Statistically significant; SD: Standard Deviation

The mean satisfaction score was 7.94 ± 2.62 , with no significant difference among social media advertisement receivers and those viewing it through other sources (P-value = 0.823), with 7.86 ± 2.77 and 8.02 ± 2.48 , respectively. This was also evident in the regression analysis done where social media ads did not stand out as a significant predictor for satisfaction score ($b = -0.06$; P-value = 0.582).

Regarding factors affecting satisfaction score, compared to reputation, one-unit increase in price was associated with 0.38-unit reduction in satisfaction score (b = -0.38; P-value = 0.027), while one-unit increase in convenience was associated with 0.44-unit increase in satisfaction score (b = 0.44; P-value = 0.010). For advertisements themes, compared to price, one-unit increase in patients' testimonies and patients' before/after photos were associated with 0.48-unit (b = 0.48; P-value = 0.009) and 0.72-unit (b = 0.72; P-value < 0.001) increase in satisfaction score, respectively (Table 5).

Predictor	Estimate	SE	t	P-value	Standardized Estimate	95% Confidence Interval	
						Lower	Upper
How did you find the advertisement?							
Other platforms	Reference						
Social media	-0.17	0.3	-0.55	0.582	-0.06	-0.29	0.16
Who was featured in the advertisement?							
Others	Reference						
Physician/Dentist	0.63	0.37	1.68	0.094	0.24	-0.04	0.52
Patient	-0.03	0.37	-0.09	0.932	-0.01	-0.29	0.26
Clinic admin	-0.12	0.72	-0.16	0.870	-0.04	-0.58	0.49
If you follow the advertisement, What was the main factor?							
Reputation	Reference						
Quality	0.1	0.4	0.25	0.800	0.04	-0.26	0.34
Price	-0.99	0.44	-2.23	0.027*	-0.38	-0.71	-0.04
Convenience	1.16	0.45	2.58	0.010*	0.44	0.1	0.78
Customer service	0.3	0.55	0.56	0.579	0.12	-0.29	0.53
What was the main theme of the advertisement							
Price	Reference						
Patients testimonies	1.26	0.48	2.63	0.009*	0.48	0.12	0.84
Patient before and after photos	1.88	0.49	3.83	< 0.001*	0.72	0.35	1.09
Clinic photo	1	0.83	1.21	0.228	0.38	-0.24	1.01
Do you think that including before and after photos will increase your trust in the clinic?							
No	Reference						
Yes	1.71	0.36	4.78	< 0.001*	0.65	0.38	0.92

Table 5: Effect of advertisement platform and components on the total satisfaction score.
SE: Standard Error; *Statistically significant.

Discussion

The results of this study have provided insight into the effects of advertisements on patients' decision to seek dental care and the level of patients' satisfaction after the treatment experience. Most of the patients' found the ad through social media and family and friends. Most of the patients were satisfied with access to main clinic facilities and were easily accessible, waiting for area and length of stay, clean-

ness of the clinic, follow up appointment, and treatment provided according to what was advertised. Moreover, we found no significant differences in satisfaction scores following the advertisements delivered through social media, compared to other delivery methods. Reputation, price, convenience, patients' testimonies, and patient before/after photos were all significant predictors for satisfaction score.

Advertising transmits news of innovative technology and can stimulate demands and markets for new and existing services. Several previous studies have found only a few people trust advertising compared with the majority who believe in recommendations and referrals [13]. In contrast, the current study found that most patients prefer social media as an advertisement attracting/visiting patients to dental clinics. Furthermore, most of the participants reported that including before and after photos will increase their trust in the clinic.

In the current study, nearly half of the patients were attracted to the clinic through social media, which is consistent with the previous studies. A study reported that most participants from rural and urban areas came to know about the dental clinic through advertisements [14]. Most dental professionals said that social media is the most critical advertisement for attracting patients. Furthermore, publication in social media makes more patients visit dental clinics [15]. The main ways of acquiring dental patients are patient referrals, staff referrals, and visibility through community involvement offers by advertising and insurance sources [16,17]. In a large-scale cross-sectional survey, more than half of the dentists had accounted for their dental clinics, about one-third of the patients searched for social media accounts for their dentists, and 44% of the patients were glad to establish a communication line with their dentists through social media [18]. Most of the dentists in this survey (83%) found social media advertisements are more efficient than other traditional delivery methods [18]. In a recent Saudi study, about half of the participating patients reported the necessity of having a social media account for dental clinics and found this as an effective measure in obtaining more patients [19]. The same study showed that service quality and clinic facilities were the most important factors for deciding which dental clinic to choose, which is consistent with our findings [19].

Dental patients' satisfaction plays a major role in the possibility of choosing a specific dentist, revisiting the same dentist, and compliance with the doctors' recommendations during [20-24]. Accordingly, satisfaction is a crucial component for successful dental care which will improve treatment outcomes [25-27]. In the current studies, patient satisfaction was affected by the components of the advertisements, clinic's facilities as well as how good the advertisements are matched to the actual dental care aspects. A large study of 390 hospitals found that recommendation rates and total satisfaction were higher among hospitals with active Facebook accounts with an appropriate engagement [6]. Moreover, higher hospitals' social media ratings were found to be associated with higher patients' satisfaction scores [28]. In the same context, many studies showed that patients' satisfaction was higher in health care settings with better facilities' environment and maintenance, which is consistent with our results [29-31].

To our knowledge, the current study is the first of its kind in Saudi Arabia; however, it has some limitations. For instance, the cross-sectional study design makes it impossible to conclude causal inferences between the tested factors and the satisfaction scores. Additionally, we examined patients within Riyadh city only, and hence, generalizing the findings of the current study should be done with caution. Large-scale studies are needed with the appropriate study design to establish concrete evidence in the discussed context.

Conclusion

Social media advertisements and trusted persons' recommendations are major determinants of choosing a specific clinic. Although the components of the advertisements may affect the patients' satisfaction, the clinic's reputation, service price, convenience, and quality of the provided care were all significant predictors for satisfaction score. Large-scale studies are needed to develop concrete evidence and to identify more ways of increasing patients' satisfaction.

Conflicts of Interest

No conflict of interest to declare.

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Bibliography

1. Singh A. "A study of the impact of social advertisements" (2014).
2. FDI World Dental Federation. Advertising in Dentistry (2017).
3. Clement J. "Statista - Global social networks ranked by number of users" (2020).
4. Househ M., *et al.* "Empowering patients through social media: the benefits and challenges". *Health Informatics Journal* 20.1 (2014): 50-58.
5. Richter JP, *et al.* "Social media: how hospitals use it, and opportunities for future use". *Journal of Healthcare Management* 59.6 (2014): 447-460.
6. Richter JP and Kazley AS. "Social media: How hospital facebook activity may influence patient satisfaction". *Health Mark Q* 37.1 (2020): 1-9.
7. Alalawi A., *et al.* "The Effect Of Social Media On The Choice Of Dental Patients: A Cross-Sectional Study In The City Of Jeddah, Saudi Arabia". *Patient Preference and Adherence* 13 (2019): 1685.
8. Kumah E. "Patient experience and satisfaction with a healthcare system: connecting the dots". *International Journal of Healthcare Management* 12 (2017): 1-7.
9. Chang W-J and Chang Y-H. "Patient satisfaction analysis: Identifying key drivers and enhancing service quality of dental care". *Journal of Dental Sciences* 8.3 (2013): 239-247.
10. Team RC. "R: A Language and Environment for Statistical Computing. Vienna, Austria: R Foundation for Statistical Computing (2017).
11. Fox J., *et al.* "Rcmdr: R Commander". 2.6-2 ed (2020).
12. Package IM, Donoghoe MW. glm2: Fitting Generalized Linear Models 1.2.1 ed (2018).
13. Verkamp J. "Social media as a way to connect with patients". *MGMA Connex* 10.6 (2010): 46-49.
14. Choudhary S., *et al.* "Assessment of Patient Satisfaction toward Dental Care Services of Patients visiting Dental Schools in Udaipur, Rajasthan, India (2020).
15. Ajwa N and Al Osaif S. "The Impact of Using Social Media Networks on Dental Treatment Marketing in Saudi Arabia: The Practitioners and Patient's Perspectives (2018).
16. Thielst CB. "Social media: ubiquitous community and patient engagement". *Frontiers of Health Services Management* 28.2 (2011): 3-14.
17. Chiasson MA., *et al.* "HIV prevention and care in the digital age". *Journal of Acquired Immune Deficiency Syndromes* 55.2 (1999/2010): S94-S97.
18. Parmar N., *et al.* "Connecting With Your Dentist on Facebook: Patients' and Dentists' Attitudes Towards Social Media Usage in Dentistry". *Journal of Medical Internet Research* 20.6 (2018): e10109.

19. Alalawi A., *et al.* "The Effect Of Social Media On The Choice Of Dental Patients: A Cross-Sectional Study In The City Of Jeddah, Saudi Arabia". *Patient Preference and Adherence* 13 (2019): 1685-1692.
20. Ball R. "Practical marketing for dentistry. 3. Relationship marketing and patient/customer satisfaction". *British Dental Journal* 180.12 (1996): 467-472.
21. Gürdal P., *et al.* "Factors of patient satisfaction/dissatisfaction in a dental faculty outpatient clinic in Turkey". *Community Dentistry and Oral Epidemiology* 28.6 (2000): 461-469.
22. Holt VP and McHugh K. "Factors influencing patient loyalty to dentist and dental practice". *British Dental Journal* 183.10 (1997): 365-370.
23. Thomson WM., *et al.* "Patient mobility in Australian dentistry". *Community Dent Health* 13.2 (1996): 99-104.
24. Williams SJ and Calnan M. "Convergence and divergence: assessing criteria of consumer satisfaction across general practice, dental and hospital care settings". *Social Science and Medicine* 33.6 (1991): 707-716.
25. Anderson R., *et al.* "The effectiveness of out-of-hours dental services: II. patient satisfaction". *British Dental Journal* 198.3 (2005): 151-156.
26. Newsome PR and Wright GH. "A review of patient satisfaction: 2. Dental patient satisfaction: an appraisal of recent literature". *British Dental Journal* 186.4 (1999): 166-170.
27. Safran DG., *et al.* "Linking primary care performance to outcomes of care". *The Journal of Family Practice* 47.3 (1998): 213-220.
28. Campbell L and Li Y. "Are Facebook user ratings associated with hospital cost, quality and patient satisfaction? A cross-sectional analysis of hospitals in New York State". *BMJ Quality and Safety* 27.2 (2018): 119-129.
29. Adhikary G., *et al.* "Factors influencing patients' satisfaction at different levels of health facilities in Bangladesh: Results from patient exit interviews". *PloS one* 13.5 (2018): e0196643.
30. Obi IE., *et al.* "Patient satisfaction with services at a tertiary hospital in south-east Nigeria". *Malawi Medical Journal: the Journal of Medical Association of Malawi* 30.4 (2018): 270-275.
31. Biondi EA., *et al.* "Association between resource utilization and patient satisfaction at a tertiary care medical center". *Journal of Hospital Medicine* 11.11 (2016): 785-791.

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