Egyptian Journal of Community Medicine, 2023;41(2): 72-81

Egyptian Journal of Community Medicine

Assessment of Patients' Satisfaction among Attendants of Outpatient Clinics at Zagazig University Hospitals, Sharkia Governorate

Noha H. El-Awady, Mona M. Aboserea, Ahmed S. Elshazly, Mona H. Ibrahim

Community medicine, environmental and occupational medicine department, Faculty of Medicine, Zagazig University, Zagazig, Egypt

Submission Date:
2022-07-17

Revision Date:
2022-09-01

Acceptance Date:
2022-09-18

Key Words:
Patient satisfaction, Outpatient clinics, Quality in healthcare, Zagazig University, and SERVQUAL

A B S T R A C T

Background: Patients' satisfaction represents an important indicator for the quality of health care delivery, and it is a widely accepted factor which needs to be studied repeatedly for better functioning of health care systems specially in the era of patient centred healthcare provision. **Objective**: To assess the out-patients' satisfaction level and determine factors affecting it. **Method**: A cross sectional study was conducted on a total sample of 370 patients selected by systematic random sampling from Zagazig university hospital outpatient clinics. The collected data included socio-demographic characteristics and assessing patient satisfaction by using a modified form of SERVQUAL questionnaire. **Results**: The total mean satisfaction score about the studied outpatient clinics was 2.46±0.27 out of 3 (85.1%). It was found that being female, older age, non-working or manual worker, and very low social class participants were significantly more satisfied than their counter participants. Older age, higher educational level, lower social class, satisfaction about; hospital environment, treatment effect, nurses' and administrative staff performance, and adequacy of information given for patients are the main significant predictors affecting patient satisfaction. **Conclusion**: Generally, patient satisfaction was adequate. Patients were mostly satisfied about employee's performance. However, service procedure and environment and facilities gained the least patient satisfaction. The main predictors of patients' satisfaction were old age, high education, low social class, satisfaction about; hospital environment, treatment effect, nurses' and administrative staff performance and adequacy of information given.

INTRODUCTION

Quality of health care is an important part of an efficient system, continuous evaluation of patients' perceptions of received services is a must for raising the quality of health care. Patients' experiences are a useful basis for improving the quality of health services.[1]

Patients' satisfaction represents an important indicator for the quality of health care delivery, and this is a widely accepted factor which needs to be studied repeatedly for better functioning of the health care systems. The clients assess the level of satisfaction with the services delivered on their health status after receiving the medical service. Patient is the best judge for the quality of health care so the factors affecting patients' satisfaction must be taken in consideration for improving the medical services according to the patients' needs.[2]

Patients' satisfaction improves compliance of the patients and therefore improve health outcomes. It also helps medical staff to identify their defects. As a

Corresponding author: Mona H. Ibrahim, Department of Community, Environmental and Occupational medicine department, Faculty of Medicine, Zagazig University, Egypt, Email: monhamed@yahoo.com. ORCID: http://orcid.org/0000-0002-5651-6757

result, care providers tend to respect the patients' rights and involve them in treatment decisions. Patients' experience also provides feedback about services provided highlighting areas of strengths as well as deficiencies that need to be improved.[3] patient satisfaction varies worldwide from 39.4% in China to 99.6% in Kuwait.[4-8]

The outpatient department is the patients' first point of contact in the hospital, and the service quality provided by this department establishes the hospital image.[9] Moreover, outpatient healthcare services at the secondary and tertiary level can make an important contribution to early diagnoses and treatment, so a greater attention is needed within this realm.[10]

Determinants of patient satisfaction can be grouped into two broad categories: health care provider–related determinants and patient-related characteristics, there are nine determinants of health care services, which may have played a role in variations in patient satisfaction: technical care, interpersonal care, physical environment, accessibility, availability, affordability, organizational characteristics, continuity of care, and outcome of care. Meanwhile, there are 13 demographic and psychological characteristics (age, gender, education, socio-economic status, marital status, race, religion, geographic characteristics, visit regularity, length of stay, health status, personality, and expectations) of patients and overall satisfaction with health services.[11] Determining factors associated with patients' satisfaction is critical for healthcare providers in order to understand what is valued by patients, how the quality of care is perceived by the patients and to know where, when and how service changes and improvements could be made.[12] In addition, satisfied patients tend to keep appointments, intend to reuse the service and recommend it for others. So, the aim of this study was improvement of the quality of health care at Zagazig University Hospitals through assessing the out-patients' satisfaction level with medical care received at outpatient clinics of different departments at Zagazig University Hospitals and determining factors affecting it.

METHOD

A cross sectional study was carried during the period of January 2019 to December 2019 at the Outpatients clinics in Zagazig University Hospitals. The hospital includes 38 outpatient clinics, 20 of them are medical clinics, while 18 are surgical clinics. Dermatology and Internal medicine clinics were randomly selected representing medical clinics, and Orthopedic, general surgery and Ear Nose and Throat (ENT) clinics were randomly selected representing surgical clinics.

Patients attending Outpatient clinics at Zagazig University Hospitals seeking medical services. By assuming that the number of patients attending to outpatient clinics at Zagazig University Hospitals was 128556 in the last six months and the level of patient satisfaction in a similar study was 59.2% [13] with 95% confidence interval and power of study 80%, the estimated sample was 370 participants using Epi Info 7 program. The participants were selected by systematic sampling technique, every fifth patient from the attendants, and the first patient was selected by simple random sampling, 10 patients were selected per day on average.

The study included patients aged 18 years old or above attending out-patient clinics of Zagazig University Hospitals, any gender, all levels of education who living in urban or rural regions. Patients with mental health conditions and those who can't speak or listen (deaf-mute) and those refused participation were excluded.

Data were collected via face-to-face interviews using: (1) El-Gilany Socio-demographic questionnaire.[14] For the socioeconomic characteristics of the studied participants such as age, sex and residence; educational level, Occupation, Income and crowding index. (2) Modified form of SERVQUAL questionnaire for measuring health service quality including patient satisfaction. It included 45 questions: Seven items covering facilities and environment, eight items on service procedure as "ease of reservation & registration, waiting time and method of payment", eleven items on physician performance, six items on nursing staff performance, Five items on administrative staff. Further, five items addressed treatment effect, an item were included on general customer satisfaction. Lastly, two items examined the patient's revisit and recommend intent. [15] Moreover, six items were added to cover the information given for the patients, so the final questionnaire contained

51 questions. Supplement file

The questionnaire was translated into Arabic by an expert translator. The validity of the questionnaire was tested by pilot study. The reliability was evaluated

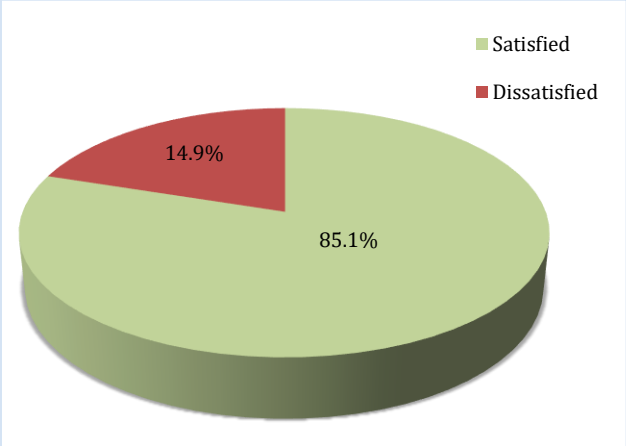

Figure (1): Total patient satisfaction score percentage about Zagazig University hospital out-patient clinics.

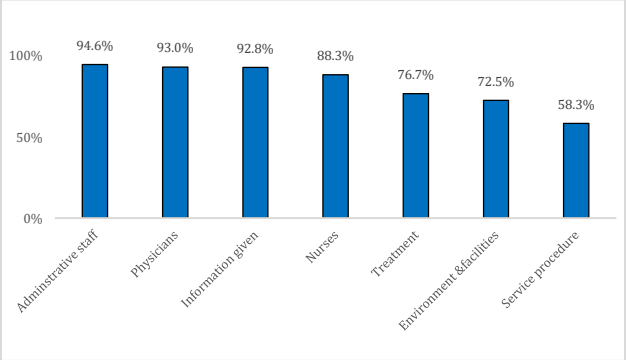

Figure (2): Total satisfaction score about the provided health services at the studied outpatient clinic

with Cronbach's alpha (α) coefficient where a value of ≥ 0.7 is generally considered to be reliable.[16] The Cronbach's alpha (α) coefficient for the used questionnaire was 0.926. The pilot study was conducted on 40 patients (10% of participants) to test the clarity and feasibility of the questionnaire and the results were excluded from the current results. It took about 10-15 minutes from each participant to finish the questionnaire.

Data management: Each item was rated on 5-point Likert scales where 1 "strongly dissatisfied", 2 "dissatisfied", 3 "neutral", 4 "satisfied" and 5 "strongly satisfied". Then the responses of very satisfied and satisfied were merged as "satisfied," responses neutral remain as it is and the responses of "very dissatisfied," "dissatisfied," were merged as "dissatisfied. Satisfaction was measured by the mean score of all responses for each question, each domain and for total satisfaction, then relative weight was calculated. The total satisfaction and total satisfaction about each domain calculations were made by summing the answers of the questions in each section and dividing the result by the number of questions in that domain. The score ranges from a scale of 0-3, with 0 corresponding to the worst satisfaction and 3 corresponding to the best satisfaction. The relative weight was calculated by dividing the mean score by the highest Likert score (3) and multiplied by constant 100. The total score was computed for each subject; the total score greater or equal to 75% was considered satisfied, while satisfaction score less than 75% was considered dissatisfied.[17]

Data were coded, entered and analyzed by SPSS (statistical package for social sciences) program version 23. Qualitative data were represented as frequencies and percentages. Quantitative data were represented as mean, standard deviation (SD). Student t test was used to compare between two groups, while ANOVA (F test) was used to compare multiple groups and LSD test was used to detect difference between groups. Pearson correlation was carried out for testing the correlation between the overall satisfaction and satisfaction about each quality domain. Binary logistic regression test to find out the most important variables affecting patient satisfaction. Hedges' g was used to measure effect size of patient satisfaction between medical and surgical out-patient clinics. The test results were considered significant when p-value ≤ 0.05, highly significant when p-value ≤ 0.01 and non-significant when p-value > 0.05. All p values are two-tailed.

RESULTS

The mean age of the studied participant was 33.29±11.64 years, more than half of the participants were females (56.2%), and the highest percent of them were highly educated (43.2%). More than half of the studied group were non-working (58.1%), and of low socio-economic status (51.1%). About two thirds

Table (1): Socio-demographic characters affecting total satisfaction among the studied outpatient clinics (N=370)

Variable	Overall satisfaction		Test of significance	LSD test	P value
	Mean	SD			
Age in years					
1. 18-40	81.01	9.3	ANOVA 8.28	0.0001* (1×2)	0.0001*
2. 41-60	85.12	7.5		0.03* (1×3)	
3. >60	86.7	5.4		0.589 (2×3)	
Sex					
Male	80.6	9.9	T test		0.004*
female	83.3	8.1	2.86		
Education					
1. Illiterate	84.4	6.9	ANOVA	0.0001* (1×2)	
2. Middle	78.6	11.17	11.27	0.062 (1×3)	0.0001*
3. High	82.4	8.4		0.001* (2×3)	
Occupation					
1. Nonworking	82.2	8.5	ANOVA 2.77	0.227 (1×2)	0.041*
2. Manual worker	81.5	9.0		0.006* (1×3)	
3. Trades/business	75.8	12.3		0.491 (1×4)	
4. Professional	81.6	10.3		0.029* (2×3)	
				0.993 (2×4)	
				0.056 (3×4)	
Social class					
1. Very low	85.4	5.6	ANOVA	0.021* (1×2)	0.041*
2. Low	81.8	9.9	3.22	0.014* (1×3)	
3. Middle and high	81.5	8.3		0.733 (2×3)	
Residence					
Rural	81.95	8.8	T test		0.701
Urban	82.3	9.3	0.38		
Marital status					
Single	81.53	9.1	T test		0.632
Married	82.2	9.02	0.47		

***ANOVA**: Analysis of Variance, **LSD:** least significant difference test, * statistically significant*

of them were rural residents (62.7%) and most of them were married (85.7%).

Figure 1 illustrates that 85.1% of the studied patients were generally satisfied about the services provided at the studied outpatient clinics. They were mostly satisfied about administrative personnel, physicians, information given for them and nurses (94.6%, 93%, 92.8% and 88.3%) respectively. However, treatment, service procedure, and environment and facilities and gained the least satisfaction level (76.7%, 72.5% and 58.3% respectively (Figure 2).

There was statistically significant association between overall satisfaction level and age, gender, education, occupation, and social class (P<0.05), in which being female, older age, non-working or manual worker, and very low social class participants were significantly more satisfied than their counter participants. In addition, illiterate and highly educated patients were more satisfied than those of middle education (Table 1).

Table 2: shows that there was high statistically significant correlation between overall satisfaction level and satisfaction about outpatient environment

Table (2): Different domains affecting patient's satisfaction at the studied outpatient clinics (N=370)

Total satisfaction about	Overall satisfaction	
	Pearson correlation (r)	P value
Environment	0.632	0.000*
Service procedure	0.580	0.000*
Treatment	0.487	0.000*
Doctors	0.833	0.000*
Nurses	0.685	0.000*
Administrative personnel	0.568	0.000*
Information given	0.740	0.000*

** statistically significant*

Table (3): Logistic regression for main predictors of patient satisfaction at the studied outpatient clinics

	B	P value	OR	95% CI	
				lower	Upper
Satisfaction about environment	-7.58	0.002*	0.001	0.000	0.066
Satisfaction about service procedure	-13.52	0.997	0.000	0.000	
Satisfaction about treatment	-2.98	0.042*	0.051	0.003	0.895
Satisfaction about doctors	-27.27	0.995	0.000	0.000	
Satisfaction about nurses	-5.03	0.003*	0.006	0.000	0.179
Satisfaction about administrative personnel	-7.762	0.001*	0.000	0.000	0.044
Satisfaction about information given	-12.99	0.002*	0.000	0.000	0.009
Age	2.485	0.027*	0.032	0.002	0.675
Education	5.091	0.027*	162.54	1.77	14922.5
Occupation	0.987	0.575	2.683	0.085	864.71
Sex	1.456	0.356	4.289	194	94.643
Social class	-3.42	0.027*	0.032	0.002	0.675

***OR**: odds ratio* ***CI:** confidence interval* ** statistically significant*

and facilities, service procedure, treatment, doctors, nurses, administrative personnel, and information given for patient ($p<0.05$).

old age, high education level, low social class, satisfaction about; hospital environment, treatment appropriateness and effectiveness, nurses' and administrative staff performance and adequacy of information given were found to be the main significant predictors affecting patient satisfaction. (Table 3).

Regarding the level of satisfaction and type of outpatient clinics, we found that the overall satisfaction, satisfaction about treatment and information given to the studied participants were significantly higher among surgical outpatient clinics than medical ones ($p<0.05$). However, there was no statistically significant difference between them regarding their satisfaction about environment, service procedures, doctors, nurses and administrative personnel. (Table 4)

Table 5 demonstrates that there was statistically significant association between overall satisfaction and patients' intention to reuse the service, intention to recommend it and number of visits. Patients who intend to reuse and recommend Zagazig university hospital outpatient clinics for others were significantly more satisfied than those who never intend to reuse and recommend it.

The most common causes of non-recommendation and non-use of Zagazig university hospital outpatient clinic was difficult service procedure 43%, non-efficient physicians 16.2%, long waiting time 12.6%, and lack of hospital facilities 10.4%

DISCUSSION

This cross-section study was conducted to assess the patient's satisfaction about the provided health

Table (4): Relation between patient satisfaction levels and type of outpatient clinics

Patient satisfaction level	Medical outpatient clinics N=137		Surgical outpatient clinics N=233		t test	P value	Hedges' g Effect size
	Mean	SD	Mean	SD			
Overall	80.8	10.03	82.8	8.3	2.08	**0.038***	**0.22**
About environment	71.41	12.2	72.9	11.4	1.19	0.235	0.13
About service procedure	57.3	12.3	58.9	9.3	1.445	0.149	0.15
About treatment	74.8	16.1	78.3	14.7	2.08	**0.03***	**0.23**
About doctors	91.7	12.6	93.9	10.9	1.761	0.079	0.19
About nurses	88.03	16.3	88.7	19.5	0.333	0.739	0.04
About administrative personnel	93.57	17.1	94.9	15.9	0.804	0.368	0.08
About information given	90.06	18.8	94.27	12.01	2.624	**0.009***	**0.28**

** Statistically significant*

Table (5): Relation between overall satisfaction and intention of patients to reuse and recommend the studied outpatient clinics

	Overall satisfaction		ANOVA test	LSD	P value
	Mean	SD			
Intend to reuse					
1. Never	71.33	11.5		0.063 (1×2)	**<0.0001***
2. Sometimes	76.17	11.6	32.048	0.47 (1×3)	
3. Probably	68.0	7.7		0.000*(1×4)	
4. Definitely	84.3	6.5		0.041*(2×3)	
				0.000*(2×4)	
				0.000*(3×4)	
Intend to recommend					
1. Never	70.5	13.5		0.000*(1×2)	
2. May be	79.9	8.7	67.6	0.000* (1×3)	**<0.0001***
3. Definitely	84.8	5.7		0.000*(2×3)	
Number of visits					
1. First visit	83.5	5.5		0.001*(1×2)	**0.004***
2. Second and third	77.8	10.2	5.6	0.28 (1×3)	
3. Fourth or more	82.2	9.5		0.004* (2×3)	

***ANOVA**: Analysis of Variance **LSD**: least significant difference test * statistically significant*

services in outpatient clinics of Zagazig university hospital. A total of 370 patients were recruited to the current study which showed that the majority of the studied patients (85.1%) were generally satisfied about Zagazig University Hospitals outpatient clinics. This may be attributed to the low social class of the studied patients and the low cost of the service, and it was documented that socio-economic level affects the satisfaction.[18] This was in accordance with other studies like, Al Emadi et al who had reported 75.2% overall satisfaction rate in Qatar.[19] and Geberu et al in Ethiopia found that he overall patient satisfaction about outpatient departments at public hospital was 88.3%.[20] and in Nigeria was 88.5%.[21] On the contrary, El sherbiny et al found that only 66.9% of studied participants were satisfied,[22] and Alzolibani at Al-Qassim, Saudi Arabia reported that only 66.1% of patients were satisfied.[23] Moreover, Awad Allah et al reported that only 56.1% of the studied participants were satisfied.[24] In addition, Anbori et al who carried out a similar study in Yemen private hospitals found that only 28.6% of patients were satisfied,[25] and Yusri et al in Indonesia found that the majority of the studied patients (84%) were unsatisfied.[26] This may be due to different socio-demographic characters, different study tools, and different setting (private hospitals) in which patients have high expectation regarding the provided services for high payment.

Employees represented in (physicians, nurses, and administrative staff) gained the highest satisfaction

level, while environment and facilities and service procedure gained the least level of patient satisfaction, this may be due to the overcrowded waiting areas, high flow of patients visiting Zagazig University Hospitals outpatient clinics and absence of some facilities as drinking water and cafeterias, and low employees to patients' ratio that leads to difficulty in registration process.

The above findings were in line with the results of Yu et al in China who reported that doctors and nurses gained the highest satisfaction level.[27] Also, Diab had concluded that nursing care gained the highest level of satisfaction.[28] Moreover, a study in South Africa carried out by Bamidele et al who reported that the doctors gain the highest quality rating while the waiting time gained the least satisfaction.[29]

The present work showed that there was high statistically significant association between age and total satisfaction level where older patients tend to be more satisfied. This could be explained by the older patients had more level of experience and were accustomed to low level of services while younger patients are more open to new technologies. This was in accordance other studies reported similar results in Greece,[30] China [27] and France.[6] However, Alzolibani in Saudi Arabia stated that patients aged below 40 were significantly more satisfied than older patients.[23]

By comparing the level of patient satisfaction in relation to their gender, it was found that female patients were statistically more satisfied than males. This could be explained by that in Egypt very few numbers of females are employed; most of them are housewives who are not open to the proper health source.

These results went hand in hand with Alzolibani who reported a high statistically significant difference in the levels of satisfaction among males and females where the higher satisfaction levels were associated with female gender.[23] However, it was in contrary to Diab who revealed that male patients were statistically more satisfied than females[28] and Yu et al who reported that outpatients who were male are more satisfied than females.[27]

Statistically significant association was reported between education level and overall satisfaction where illiterate and highly educated patients were more satisfied. This could be explained by that the illiterate patients accept any level of provided service, and that the highly educated know well that it is a free service, so they accept it as it is. The previous result was supported by other studies like Alzolibani[23] and Yu et al,[27] while it was in contrary to Diab results.[28]

The current study showed that patients with low socio-economic level were more satisfied than others. This could be explained by the low cost of the service. These results were supported by Alzolibani[23] and Yu et al.[27]

The present study showed that there was high statistically significant correlation between total satisfaction and satisfaction about outpatient clinics' environment, doctors, nurses, administrative personnel, treatment, and information given for patients ($p<0.01$). These presentations were supported by Mitropoulos et al who stated that communication with nurses and doctors, the physical environment and information given for patients have statistically significant correlation with total satisfaction;[30] also Yu et al stated the same results.[27]

Regarding the significant quality domains, they were included in the regression model in addition to age, sex, education, occupation, and social class. It was concluded that age, education, social class, outpatient environment, treatment, nurses, administrative personnel and information given for patients were the main significant predictors for patient satisfaction. That was in accordance with a study carried out in China by Sun et al which reported that better patient-doctor relationship; hospital environment, process management and health care experience were the main strongest predictors of overall patient satisfaction.[31]

This study showed that patients attending surgical clinics were significantly more satisfied than medical ones about treatment and information given for them. This could be explained by that the patients attending medical clinics frequently suffer from chronic diseases, and patients attending surgical clinics usually know their case and attend Zagazig university hospital outpatient clinics only to be admitted to receive their needed surgeries to minimize the needed cost. This was in accordance with a study carried out in an Indian hospital by Javadekar et al who found that patients attending surgical departments were significantly more satisfied.[32] However, it was in

contrary to a study conducted in Turkey by Kol et al who found that patients attending medical departments were significantly more satisfied than those attending surgical ones.[33]

Regarding the loyalty of patients to the place, it was found that patients who were satisfied were intending to re-use and recommend the hospital to others. This could be explained by that the satisfied patient usually have more confidence in the service, so they tend to reuse and recommend it.

This was in accordance with Yusri et al who carried out a study in Indonesia to find the role of patients' satisfaction on their loyalty; he reported that a large proportion of unsatisfied patients tended to be slightly disloyal.[26] This finding was supported by other studies like Mortazavi et al[34] and Oladele,[35] which showed that satisfied patients are more likely to be loyal towards the health care service.

Study strengths and limitations

Up to our knowledge this study is the first of its type that assess the level of patient satisfaction in many different outpatient clinics at Zagazig university hospital comparing both medical and surgical clinics. Patient satisfaction is one of the most important indicators for assessing and improving the quality of health services provision especially in total quality management. However, we did not assess employee satisfaction about the provided health care and work culture which play important role in patient's satisfaction. Another limitation is that the patients were interviewed in the hospital which may affect their actual satisfaction for fear of affect the service provided to them.in addition, we do not assess health care providers' opinions about the quality of the provided services the hospital. Therefore, we suggest assessing the perceived quality of services from employee point of view compare with of patients.

CONCLUSION

Overall patient satisfaction level was adequate. Patients were mostly satisfied about employees (doctors, nurses, and administrative personnel) performance at Zagazig university outpatient clinics. However, service procedure and environment and facilities gained the least patient satisfaction. The main predictors of patients' satisfaction were old age, high education, low social class, satisfaction about; hospital environment, treatment appropriateness and effectiveness, nurses' and administrative staff performance and adequacy of information given. Based on the current results, the following recommendations are suggested: need for improving of the facilities at outpatient clinics, improving the service procedure through increasing the number of administrative staff and minimize the waiting time, patients' participation in the treatment plan should be taken in consideration. Routinely and periodically applying patient satisfaction questionnaire and its results should be taken into consideration for improving the quality of the health services.

Ethics Approval

The study obtained all required approvals from the Institutional Review Board or research ethics committee of Faculty of Medicine, Zagazig university (No. 4242/ 2018). An official written administrative permission letter was obtained from Zagazig University Hospitals. The title and objectives of the study was explained to them to ensure their cooperation. Informed consent was taken from patients who participated in the study. The privacy and confidentiality of the participant patient were assured, and they had the freedom to withdraw from the study at any time without any effect on the provided health care to them.

Funding Source

The authors received no financial support related to this research

Conflict of Interest

All authors have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Authors' Contributions

El-Awady NH: conceptualization, proposal writing, data collection, and discussion. Ibrahim MH, data analysis, results writing, drafting and final reviewing. Abosrea MM, drafting and final reviewing and Saad AS, final reviewing. All authors reviewed and approved the final manuscript.

Acknowledgements

The authors are grateful to all the participants in this study, and to all the principals in Zagazig University Hospitals and outpatient clinics employee to facilitate conducting this study.

Availability of data and materials

Data used in this study available from the corresponding author upon reasonable request.

REFERENCES

1. Morrow E, Ross F, Grocott P. A model and measure for quality service user involvement in health research. Int J Consum Stud, 2010; 34: 532-539.
2. Merkouris A, Andreadou A, Athini E, Hatzimbalası M, Rovithis M, Papastavro E. Assessment of patient satisfaction in public hospitals in Cyprus: A descriptive study. Health Sci. J, 2013;7(1), 28–40.
3. Ahmad I, Nawaz A, Khan S. Predictors of patient' satisfaction. Gomal J Med Sci, 2011; 9 (2): 183-188.
4. Xiong C, Chen X, Zhao X and Liu C. Patient satisfaction and gender composition of physicians - a cross-sectional study of community health services in Hubei, China, BMC Health Services Research 2018; 18:217.
5. Yu W., Li M., Xue C., Wang J., Liu J. and Chen H. Determinants and influencing mechanism of outpatient satisfaction: a survey on tertiary hospitals in the People's Republic of China, Patient Preference and Adherence 2016;(10):601–612.
6. De Salins CA, Brenaut E, Misery L, Roguedas-Contios AM. Factors influencing patient satisfaction: assessment in outpatients in dermatology department. J Eur Acad Dermatol Venereol. 2016;30(10):1823-1828. doi: 10.1111/jdv.13652.
7. Mohamed W., Swat K., Wahab M., Alsulaimani A, Portugal AJ. Patient Satisfaction: A Comparison between Governmental and Private Outpatient Clinics in Taif, Saudi Arabia, Madridge J Case Rep Stud. 2017; 1(1): 1-6.
8. Al-Eisa IS, Al-Mutar MS, Radwan MM, Al-Terkit AM, Al-Eisa I. Patients' satisfaction with primary health care services at capital health region, Kuwait. Middle East J Fam Med. 2005;3(3):10–16.
9. Al Fraihi K, Latif S. Evaluation of outpatient service quality in Eastern Saudi Arabia, Saudi Med J, 2016; 37 (4): 420-428.
10. Soufi G, Belayachi J, Himmich S, Ahid S, Soufi M, Zekraoui A, et al. Patient satisfaction in an acute medicine department in Morocco, BMC Health Serv Res, 2010; 10:149.
11. Batbaatar E, Dorjdagva J, Luvsannyam A, Savino M, Amenta P. Determinants of patient satisfaction: a systematic review, Perspect Public Health, 2017; 137(2) 89-101.
12. De Jager J, Du Plooy A, Ayedi F. Delivering quality service to in and out-patients in a South Africa public hospital, African Journal of Business Management 2010; 4(2): 133-139.
13. Moemen MM. Patient satisfaction among attendance of outpatient clinics of different clinical departments at Alexandria Main University Hospital. Bulletin of Alexandria Faculty of Medicine. 2008;44(1):229-40.
14. El-Gilany A, El-Wehady A, El-Wasify M. Updating & validation of socioeconomic status scale for health research in Egypt. East Mediterr Health J, 2012; 18(9): 962-968.
15. Kim C, Shin J, Lee J. Quality of medical service, patient' satisfaction and loyalty with a focus on interpersonal-based medical service encounters and treatment effectiveness: across-sectional multicenter study of complementary and alternative medicine (CAM) hospitals. BMC Complement Altern Med, 2017; 17:174-186.
16. Griethuijsen RA, Eijck MW, Haste H, Brok PJ, Skinner NC, Mansour N, et al. Global patterns in students' views of science and interest in science. Res Sci Educ, 2014; 45(4), 581–603. doi:10.1007/s11165-014-9438-6.
17. Marama T, Bayu H, Merga M, Binu W. Patient Satisfaction and Associated Factors among Clients Admitted to Obstetrics and Gynecology Wards of Public Hospitals in Mekelle Town, Ethiopia: An Institution-Based Cross-Sectional Study, Obstet Gynecol Int, 2018; 1-9.
18. Arpey NC, Gaglioti AH, Rosenbaum ME. How socioeconomic status affects patient perceptions of health care: a qualitative study. J Prim Care Community Health. (2017) 8:169–75. doi: 10.1177/21501319176 97439
19. Al Emadi N, Falamarzi S, Al-Kuwari MG, Al-Ansari A. Patients' satisfaction with primary health care services in Qatar. Middle East J Fam Med, 2009;7(9):4-9.
20. Geberu DM, Biks GA, Gebremedhin T, Mekonnen TH. Factors of patient satisfaction in adult outpatient departments of private wing and regular services in public hospitals of Addis Ababa, Ethiopia: a comparative cross-sectional study. BMC Health Serv Res. 2019;19(1):869. doi: 10.1186/s12913-019-4685-x.
21. Ofili RA, Nwajei AI, Aigbokhaode AQ, Owolabi AO, Owolabi MO, et al. (2021) Patient Satisfaction among Adult Hypertensives Attending the Medical Outpatient Clinic of a Tertiary Healthcare Facility in South-South Nigeria. J Family Med Community Health 8(1): 1184
22. El-Sherbiny N, Labib NA, El Derwi D, Hanafy E. Patient's a health care provider satisfactions with out-patients clinics system in Fayoum university hospital. MOJ Public Health, 2015;3(2):251?256 DOI: 10.15406/mojph.2015.03.00059

23. Alzolibani A. Patient satisfaction and expectations of the quality of service of University affiliated dermatology clinics, J. Public Health Epidemiol, 2011; 3(2): 61-67 Available at: http://www.academicjournals.org/app/webroot/article/article1379416749_Alzolibani.pdf

24. Awad Allah MB, Eltwansy MS, El-Shafei DA. Patient Satisfaction at Dentist Clinic in Zagazig University Hospitals Egypt, World Journal of Public Health. Special Issue: Odontology and Familiar Medicine in Preventive Medicine, 2017; 2(4-1):1-6. doi: 10.11648/j.wjph.s.2017020401.11

25. Anbori A, Ghani S, Yadav H, Daher A, Su T. Patient satisfaction and loyalty to the private hospitals in Sana'a, Yemen, Int J Qual Health Care, 2010; 22(4): 310–315.

26. Yusri C, Hidayat M, Djuhaeni H. Role of Satisfaction with Health Care Services in Increasing Patient Loyalty: An Ambulatory Setting, Althea Med J, 2017;4(3):329–334.

27. Yu W, Li M, Xue C, Wang J, Liu J, Chen H. Determinants and influencing mechanism of outpatient satisfaction: a survey on tertiary hospitals in the People's Republic of China. Patient Preference and Adherence, 2016;(10):601–612. doi: 10.2147/PPA.S104453.

28. Diab H. Assessment of patients' satisfaction in Ain Shams University Hospitals. Egyptian Journal of Bronchology, 2015; 9(2):211-220.

29. Bamidele A, Hoque M, Van der Heever H. Patient satisfaction with the quality of care in a primary health care setting in Botswana, S Afr Fam Prac t, 2011; 53(2): 170-175.

30. Mitropoulos P, Vasileiou K, Mitropoulos I. Understanding quality and satisfaction in public hospital services: A nationwide inpatient survey in Greece, J Retail Consum Serv, 2018; 40: 270–275.

31. Sun J, Hu G, Ma J, Chen Y, Wu L, Liu Q, et al. Consumer satisfaction with tertiary healthcare in China: finding from the 2015 China National Patient Survey, Int J Qual Health Care, 2017; 29 (2): 213-221.

32. Javadekar S, Raje S, Javadekar S. Patient Satisfaction Scale: Development of a comprehensive tool or quality and efficacy of services provided. Pravara Med. Rev. 2017; 9(3):14-8.

33. Kol E, Arıkanb F, Ilaslanc E, Akıncıd M, Kocak M. A quality indicator for the evaluation of nursing care: determination of patient satisfaction and related factors at a university hospital in the Mediterranean Region in Turkey. Collegian, 2018; 25: 51–56.

34. Mortazavi S, Kazemi M, Shirazi A,Aziz- Abadi A. The Relationship between patient satisfaction and loyalty in the private hospital industry. Iran J Public Health, 2009;38(3):60–69.

35. Oladele P. Effect of customer satisfaction on customer loyalty among selected bank customers in Ado-Ekiti Metropolis, Niegeria. Interdiscip j contemp res, 2012; 3(11):228–236.

Cite this article as: Noha H El-Awady, et al. Assessment of Patients' Satisfaction among Attendants of Outpatient Clinics at Zagazig University Hospitals, Sharkia Governorate. *Egyptian Journal of Community Medicine*, 2023; 41(2): 72-81
DOI: 10.21608/ejcm.2022.150668.1229