

Patient satisfaction and health system responsiveness among attendants to family health centres and units affiliated with universal health insurance in Port Said Governorate

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A – Study Design, **B** – Data Collection, **C** – Statistical Analysis, **D** – Data Interpretation, **E** – Manuscript Preparation, **F** – Literature Search, **G** – Funds Collection

Summary Background. In 2018, Egypt underwent a health system reform programme, in which a universal health insurance system rolled out across the country beginning, with the Port-Said Governorate in July 2019.

Objectives. This study was conducted to assess patient satisfaction and health system responsiveness among attendants to family health centres and units affiliated with universal health insurance in the Port Said Governorate, Egypt.

Material and methods. A descriptive cross-sectional study was conducted that included 156 patients who were seeking health care in family health centres and units affiliated with universal health insurance in the Port Said Governorate. A multi-clustering sampling technique was used. Data was collected using an interviewer-administered questionnaire.

Results. Among the 156 patients who were enrolled in the current study, 54 were male (34.6%) and 102 were female (65.4%), with a mean age of 37.10 ± 15.22 years. Regarding domains of health system responsiveness, about 73% of the attendants perceived the overall health system responsiveness as good regarding the domains of basic amenities, communication and confidentiality. On the other hand, three domains were perceived as poor, including autonomy, prompt attention and dignity (37.8%, 34% and 30.8%, respectively).

Conclusions. It was found that more than two third of the attendants perceived the overall health system responsiveness as good.

Key words: patient satisfaction, universal health insurance, health care quality, access, and evaluation.

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Background

The Health Sector Reform Programme was introduced by the Egyptian government in 1997. The programme aspires to guarantee universal coverage to all citizens with a fundamental set of healthcare services and presents the family health model as the guiding premise for transformation [1]. The system depends on four different financial agents, including the government, the public sector, private businesses and individual and family out-of-pocket expenses [2].

Egypt underwent a health system reform initiative in 2018, ultimately resulting in the development of a brand-new system of “universal health insurance” which relies on primary care [3]. The new system’s healthcare services strive to achieve equity and quality for the entire population to get the medical treatments they require. It was expected to cover all of Egypt’s governorates by 2032. Through a test launch in July 2019, Port Said became the first governorate to adopt the new national health insurance scheme [4].

A common view of the purpose of medical care has been patient satisfaction with their treatment. It has also been regarded as one of the most important measures for evaluating the standards of primary health care (PHC) in general and in western countries in particular. Indicators of the quality of healthcare delivery include the satisfaction of PHC patients, which encourages adherence to medical recommendations and treatment, service use and improvement of the doctor–patient

relationship. Patient satisfaction is a subjective assessment of the quality of the health care provided in comparison to the client’s expectations. General satisfaction, technical quality, interpersonal elements, communication, financial aspects, time spent with doctor and ease of contact or availability are the seven health service components that make up the majority of its evaluations [5].

Patient responsiveness, population health and financial risk reduction are the three main objectives on which to evaluate the effectiveness of health systems, according to the World Health Organization (WHO). The ability of a health system to meet the population’s reasonable expectations on the non-medical and non-financial aspects of the care process is referred to as a health system’s responsiveness [6].

Responsiveness is used to gauge how well a health system operates in relation to the nontherapeutic facets of medical care. Despite not being a therapeutic component, responsiveness is favourably correlated with health outcomes. Eight factors make up responsiveness: dignity (respectful communication), autonomy (participation in decisions about one’s own health care), confidentiality (of information), prompt attention (waiting time), communication (clear explanations), social support, basic amenities (cleanliness) and options for healthcare providers [7].

Ensuring patient satisfaction with healthcare holds great significance. As family physicians, we serve as the initial point of contact within the healthcare system, responsible for delivering ongoing and all-encompassing healthcare services to individu-



als and families. Furthermore, patient satisfaction with health care is important, as high patient satisfaction will maintain a good doctor–patient relationship, which will be reflected in the health of the patient. The current study was conducted to assess the ability of universal health insurance to improve patient satisfaction and health system responsiveness among attendants to family health centres and units in the Port Said Governorate.

Objectives

This study aimed to assess patient satisfaction and health system responsiveness among attendants to family health centres and units affiliated with universal health insurance in the Port Said Governorate, Egypt.

Material and methods

Study design

An observational, descriptive, cross-sectional study was conducted to assess patient satisfaction and health system responsiveness among attendants to family health centres and units affiliated with universal health insurance in the Port Said Governorate, Egypt.

Study participants

The study was conducted on 156 adult patients and their caregivers who fulfilled inclusion criteria and who were attending family health centres and units affiliated with universal health insurance in the Port Said Governorate.

Setting

Recruitment took place at family health centres and units affiliated with universal health insurance in the Port Said Governorate. The study was conducted from June 2021 to December 2021.

The Port Said Governorate is one of the Canal Zone governorates of Egypt. It is located in the northeastern part of the country. The Port Said Governorate consists of seven main districts: Al-Zouhor, Al-Dawahy, Al-Manak, Al-Arab, Port-Fouad, Al-Ganoub and Al-Garb. The latter two districts are considered as rural. The estimated population of the Port Said Governorate is around 1,000,000 according to Egyptian demographic health statistics from 2019.

Inclusion criteria and exclusion criteria

All eligible adult patients and their caregivers (≥ 18 years) of both genders who accepted participation in the study were included in our sample. The exclusion criteria included patients who refused to participate in the study, and patients with emergency medical conditions or with any mental problems were excluded from our sample.

Sampling

Sample size: It was planned to take a sample sufficient to demonstrate a 55.9% proportion of patient satisfaction among patients attending primary healthcare units in Egypt [5]. To obtain a confidence interval (CI) of 95% and a 5% margin of error, a sample size of 156 participants was required.

Sample technique: A multi-clustering sampling technique was used to select family health centres and units affiliated with universal health insurance at a 2-stage level. At first, 4 out of 7 districts were randomly selected – 3 urban and 1 rural district. The urban districts were Al-Zouhor, Al-Dawahy and Port Fouad, while the rural district was Al-Ganoub. From each district, 2 PHC

units were then randomly chosen as follows (i.e. a total of 8 family canter and units were included)

1. From Al-Zouhor district, Othman Ibn Afan and Omar Ibn Akatab family health canter and units were selected.
2. From Al-Dawahy district, Othman Ibn Afan and Omar Ibn Akatab family health canter and units were selected.
3. From Port Fouad district, Al-Herfeen and Port-Fouad family health canter and units were selected.
4. From Al-Ganoub district, Bahr Al-bakar and El-Kab family health canter and units were selected.

Participants were interviewed throughout a period of two weeks in the morning and afternoon shifts using the outpatient exit interview method through a systematic random sampling technique in which every second patient was selected.

Study tools and questionnaires

Each participant was assessed by a semi-structured questionnaire consists of four parts.

Part 1: *Demographic data of the participants* including (gender, age, residence, marital status, educational level, occupation, family size, income).

Part 2: *Information related to the healthcare facility*, this includes information about the most recent visit to a health facility or provider, distance covered to PHC unit, frequency of visits in the last 12 months, main reason for visit, services provided in the last visit and affordability of healthcare in the last 12 months.

Part 3: *Arabic version of the WHO Health and Responsiveness Survey Questionnaire*, which is considered as a valid and reliable survey to measure health system responsiveness [8]. The questionnaire includes questions that measure all the dimensions of responsiveness relevant to outpatient care over the past 12 months, including all the seven domains of prompt attention, dignity, communication, autonomy, confidentiality, choice and basic amenities. Each domain comprised 3 to 4 items that were evaluated on a 5-point scale [7]. Finally, there were 3 responses only regarding each item:

- Questions with the response categories “very good”, “good”, “moderate”, “bad” and “very bad”; the percentage of people responding very bad, bad or moderate was defined as poor responsiveness.
- Questions using the response categories “no problem”, “mild problem”, “moderate problem”, “severe problem” and “extreme problem”; the last 3 categories were used to indicate poor responsiveness.
- Questions using the response categories “extremely low”, “low”, “moderate”, “high” and “extremely high”; the last 3 categories were used to indicate poor responsiveness.

Part 4: 18-item structured, interviewer-administered Patient Satisfaction Questionnaire (PSQ-18) [9]. The PSQ-18 was developed as a short form of the 50-item Patient Satisfaction Questionnaire III (PSQ-III). All PSQ-18 subscales had acceptable internal consistency reliability. Moreover, corresponding PSQ-18 and PSQ-III subscales were found to be strongly correlated with each other. The estimated length of the PSQ-18 is 3–4 minutes, which is 5–9 minutes less compared to PSQ-III [9].

Some PSQ-18 items are designed so that agreement reflects satisfaction with medical care, whereas other items are designed so that agreement reflects dissatisfaction with medical care. All items should be scored so that high scores reflect satisfaction with medical care. After item scoring, items within the same subscale should be averaged together to create the 7 subscale scores. Cutoffs for the total scores were categorised, according to previous literature, into < 60% of the total score = not satisfied, 60–80% of the total score as moderately satisfied and > 80% of the total score as highly satisfied [10].

A pilot study was done as a literature search did not indicate the availability of an Arabic version of the PSQ-18 or an Arabic version of the WHO Health and Responsiveness Survey Questionnaire. Thus, after translation in an accredited translation centre, a pilot study was carried out on 30 patients who were excluded from the study to assess the understandability, clearness, acceptability and meaning of the questionnaire items to the participants. After the pilot study, the internal consistency reliability was assessed using Cronbach's alpha coefficient for each domain. The coefficient ranges from 0 (lowest reliability) to 1 (highest reliability). Kappa statistic, which also ranges from 0 to 1, was used to measure the test-retest reliability.

Outcome variables

Patient satisfaction level and level of responsiveness to the patients were measured.

Statistical analysis

All analyses were performed using Statistical Package for Social Sciences (SPSS) for Windows version 22.0 (SPSS, Chicago, IL, USA). Descriptive characteristics were outlined as means, standard deviations (SD) for continuous variables and percentages for categorical variables. Fisher's exact test and the Chi-square test were used for statistical analysis of categorical variables as appropriate. Due to skewed distributions, analysis of continuous variables was performed by the non-parametric Mann-Whitney U-test. Logistic regression was performed to examine the effect of demographic and health characteristics on poor responsiveness and satisfaction. For all tests, a probability value of less than 0.05 was considered statistically significant.

Research ethics

All procedures performed in the study were in accordance with the ethical standards of the institutional research committee and with the 1964 Declaration of Helsinki and its later amendments. Administrative permission was provided by the centre's manager, who was informed of the aim of the study. The participants were assured that their refusal to participate or withdraw at any time did not affect the integrity of their care in the primary healthcare centre. The confidentiality of data was assured. Ethical approval for the study was obtained from the Ethics Committee of the Faculty of Medicine of SCU with the study code 4537#.

Results

A total of 156 adult patients were enrolled in the current study, about two third (65.4%) of the patients were female, and 61.5% were married with the mean age of 37.10 ± 15.22 years. Most (94%) were from urban areas (Table 1).

Variables	n (%)
Age, mean \pm SD	37.10 \pm 15.22
Gender, n (%)	
Male	54 (34.6)
Female	102 (65.4)
Residency, n (%)	
Urban	147 (94)
Rural	9 (6)
Marital status, n (%)	
Single	51(32.7)
Married	96 (61.5)
Widow	9 (5.8)

Variables	n (%)
Education, n (%)	
Read and write	3 (1.9)
Elementary education (Primary/Preparatory school)	3 (1.9)
Intermediate education	6 (3.8)
University education	144 (92.3)
Occupation	
Not employed/Housewife	30 (19.2)
Retired	12 (7.7)
Skilled manual worker	24 (15.4)
Semi-professional/Professional	90 (57.7)
Number of family member, n (%)	
< 5 members	84(53.8)
\geq 5 members	72 (46.2)
Perceived income	
Not/barely satisfactory	92 (59)
Satisfactory	64 (41)

Table 2 shows that about 44.2% of the participants had visited their nearby primary healthcare centre within the last month. Moreover, about two thirds (64.7%) of the participants lived within 5 km from their family health centre. About one third (32.7%) of the participants had visited their primary healthcare centre unit more than 3 times in the last 12 months.

Variables	n (%)
Last visit	
(1–29) days	69 (44.2)
(1–3) month	48 (30.8)
(6–12) months	39 (25)
Distance to FHCs	
< 5 km	99 (64.7)
5–10 km	36 (21.6)
> 10 km	21 (13.7)
Frequency of visits to FHCs in the last 12 months	
1–3 times	105 (67.3)
> 3 times	51 (32.7)
Services provided in the FHCs in the last visit	
Talking with healthcare provider about my health problem	72 (46.2)
Clinical assessment	66 (42.3)
Received laboratory tests	51 (32.7)
Received treatment	66 (42.3)

Figure 1 shows that general checkup or preventive care (57.7%) was the most frequent reason for visits followed by consultation concerning chronic health problems (26.9%), while checkup for an acute health problem was the least frequent reason (5.8%).

It was found that 73% of the attendants perceived the overall health system responsiveness as good. Moreover, the top three domains which were perceived as good were basic amenities, communication and confidentiality (77.6%,76.9%, 73.1%, respectively) (Figure 2).

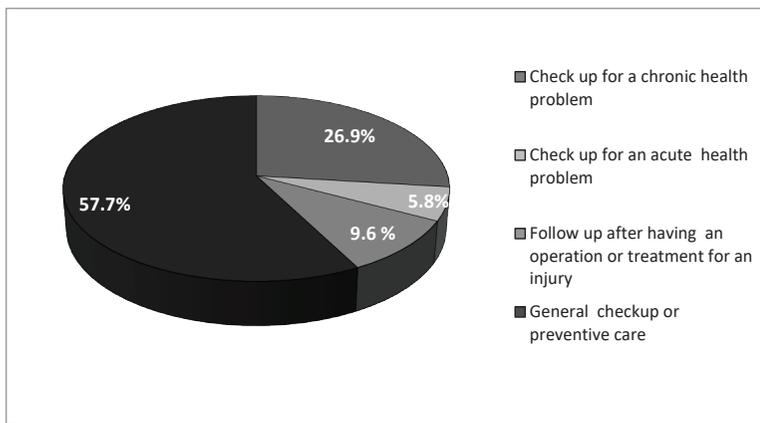


Figure 1. Reasons for visit to primary health center or units

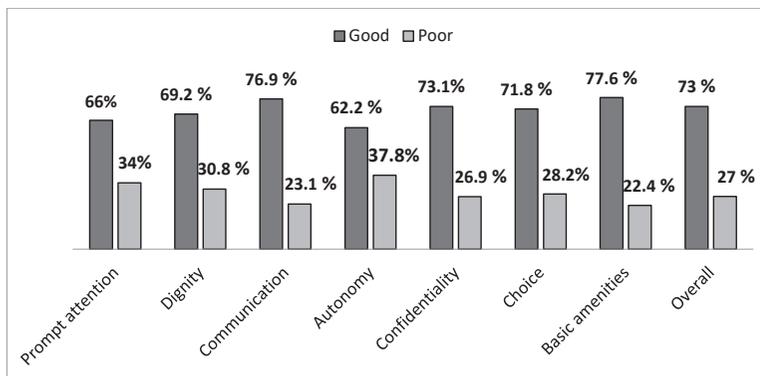


Figure 2. Goodness of health system responsiveness domains perceived by attendants

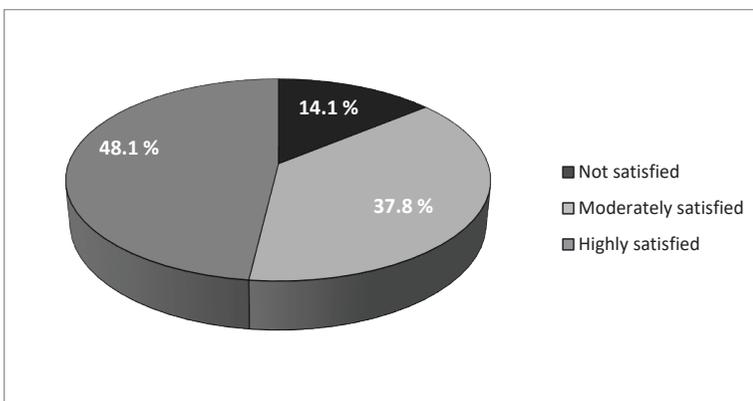


Figure 3. Level of satisfaction among the attendants

Table 3. Association between responsiveness and characteristics of the visits provided by family health centres and units				
Clinical characteristics	Responsiveness		Test value	p
	Poor (n = 42)	Good (n = 114)		
Last visit				
Within 30 days	24 (57.1)	45 (39.5)	7.535	0.025 ^{a,b}
Within 3 months	6 (14.3)	42 (36.8)		
Within 6–12 months	12 (28.6)	27 (23.7)		
Distance to FHCs				
< 5 km	24 (57.1)	75 (65.8)	3.139	0.223 ^b
5–10 km	9 (21.4)	27 (23.7)		
> 10 km	9 (21.4)	12 (10.5)		
Frequency of visits to FHCs in the last 12 months				
1–3 times	33 (78.6)	72 (63.2)	3.31	0.084 ^b
> 3 times	9 (21.4)	42 (36.8)		

Table 3. Association between responsiveness and characteristics of the visits provided by family health centres and units

Clinical characteristics	Responsiveness		Test value	p
	Poor (n = 42)	Good (n = 114)		
Reason for visit				
Chronic health problem	9 (21.4)	33 (28.9)	18.40	< 0.001* ^b
Acute health problem	6 (14.3)	3 (2.6)		
Follow up	9 (21.4)	6 (5.3)		
General checkup or preventive care	18 (42.9)	72 (63.2)		
Services provided in the FHCs in the last visit				
Talking with healthcare provider about my health problem	15 (35.7)	57 (50)	2.52	0.147 ^b
Clinical assessment	21 (50)	45 (39.5)	1.393	0.275 ^b
Received laboratory tests	9 (21.4)	42 (36.8)	3.314	0.084 ^b
Received treatment	15 (35.7)	51 (44.7)	1.024	0.363 ^b

^b – p-values are based on the chi-square test. Statistical significance at $p < 0.05$; ^c – p-values are based on Fisher's exact test; * statistical significance at $p < 0.05$.

Table 4. Association between satisfaction and characteristics of the visits provided by family health centres and units

Clinical characteristics	Satisfaction			Test value	p
	Not satisfied (n = 22)	Moderately satisfied (n = 59)	Highly satisfied (n = 75)		
Last visit					
within 30 days	14 (63.6)	23 (39)	32 (42.7)	7.140	0.129 ^b
within 3 months	2 (9.1)	19 (32.2)	27 (36)		
within 6–12 months	6 (27.3)	17 (28.8)	16 (21.3)		
Distance to FHC					
< 5 km	8 (36.4)	42 (71.2)	49 (65.3)	17.614	0.001* ^c
5–10 km	5 (22.7)	15 (25.4)	16 (21.3)		
> 10 km	9 (40.9)	2 (3.4)	10 (13.3)		
Frequency of visits to FHCs in the last 12 months					
1–3 times	16 (72.7)	37 (62.7)	52 (69.3)	1.000	0.617 ^c
> 3 times	6 (27.3)	22 (37.3)	23 (30.7)		
Reason for visit					
Chronic health problem	6 (27.3)	19 (32.2)	17 (22.7)	33.562	< 0.001* ^c
Acute health problem	6 (27.3)	0 (0)	3 (4)		
Follow up operation	3 (13.6)	11 (18.6)	1 (1.3)		
General checkup or preventive care	7 (31.8)	29 (49.2)	54 (72)		
Services provided					
Talking with healthcare provider about my health problem	5 (22.7)	27 (45.8)	40 (53.3)	6.417	0.04*
Clinical assessment	9 (40.9)	16 (27.1)	41 (54.7)	10.288	0.005*
Received laboratory tests	2 (9.1)	14 (23.7)	35 (46.7)	14.379	0.001* ^b
Received treatment	8 (36.4)	32 (54.2)	26 (34.7)	5.553	0.066 ^b

^b – p-values are based on the chi-square test. Statistical significance at $p < 0.05$; ^c – p-values are based on Fisher's exact test; * statistical significance at $p < 0.05$.

Figure 3 shows that about half of the attendants (48.1%) to family health centres and units were highly satisfied with the medical services provided.

Table 3 shows that poor responsiveness was significantly associated with near visits ($p = 0.025$) and patients for a follow up after an operation or injury ($p < 0.001$).

Table 4 shows that highly satisfied patients were significantly associated with a nearer distance to the centre ($p < 0.001$), general checkup or preventive care visits ($p < 0.001$), talking

more with their physicians and being assessed clinically or having laboratory investigations.

Figure 4 shows that good responsiveness was significantly associated with a high level of patient satisfaction ($p < 0.001$).

Table 5 demonstrates that patients with near visits (within 30 days) were 3.36 times more likely to have poor responsiveness compared to those with distant visits (within 6–12 months) ($p = 0.040$). Meanwhile, patients coming for a follow up after an operation or injury were 9.18 times more likely to have poor re-

sponsiveness compared to those coming for a general checkup or preventive care ($p = 0.003$). Moreover, patients who didn't receive laboratory test were 3.36 times more likely to have poor responsiveness compared to those who had laboratory investigations ($p = 0.030$).

Table 6 shows the logistic regression analysis that was conducted to determine predictors of high satisfaction. It was observed that satisfaction was positively associated with a low number of family members ($p = 0.010$). Meanwhile, patients living far from the health centre had a significantly lower satisfaction level ($p = 0.011$).

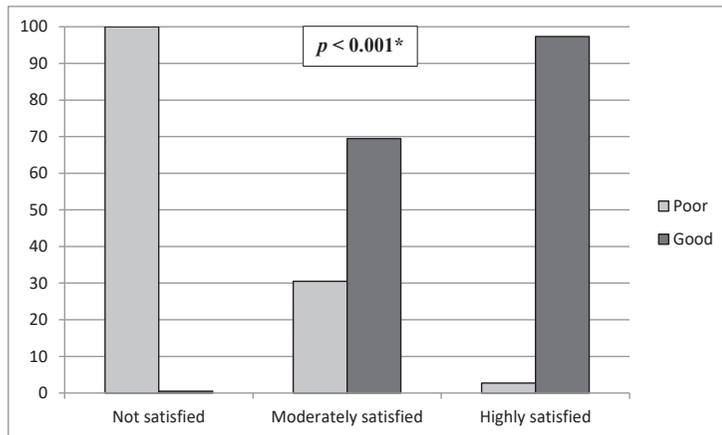


Figure 4. Association between responsiveness and patient satisfaction

Variables	B	S.E.	OR	95% CI		p
				Lower	Upper	
Constant	-3.495	1.532	0.030			0.023*
Age	-0.010	0.025	0.990	0.942	1.040	0.685
Gender (male)	1.050	0.577	2.858	0.923	8.851	0.069
Family number (> 5)	0.723	0.519	2.061	0.745	5.704	0.164
Last visit (6–12 months)	Reference					
Last visit (30 days)	1.212	0.590	3.360	1.057	10.683	0.040*
Last visit (3 months)	-0.504	0.711	0.604	0.150	2.431	0.478
Reason (checkup)	Reference					
Reason (chronic illness)	0.124	0.825	1.132	0.225	5.700	0.880
Reason (acute illness)	2.133	1.274	8.437	0.695	102.424	0.094
Reason (follow up after operation)	2.218	0.756	9.185	2.087	40.428	0.003*
Talking with provider (no)	0.731	0.485	2.076	0.802	5.377	0.132
Clinical assessment (no)	-0.144	0.466	0.866	0.348	2.158	0.757
Received laboratory tests (no)	1.214	0.559	3.367	1.126	10.061	0.030*
Received treatment (no)	1.223	0.687	3.396	0.883	13.056	0.075

$R^2 = 0.471$; ANOVA <math>< 0.001</math>; * statistical significance <math>< 0.05</math>.

Variables	B	S.E.	OR	95% CI		p
				Lower	Upper	
Constant	2.890	0.912	17.989			0.002*
Family number (< 5)	1.985	0.773	7.276	1.600	33.083	0.010*
Distance to FHCs (< 5 km)	Reference					
Distance to FHCs (5–10 km)	-0.102	0.776	0.903	0.197	4.131	0.895
Distance to FHCs (> 10 km)	-2.168	0.850	0.114	0.022	0.605	0.011*
Reason (follow up after operation)	Reference					
Reason (chronic illness)	0.557	1.179	1.746	0.173	17.596	0.636
Reason (acute illness)	-3.460	1.764	0.031	0.001	0.997	0.050
Reason (checkup)	1.164	1.101	3.203	0.371	27.690	0.290
Talking with provider (yes)	1.129	0.746	3.094	0.717	13.349	0.130
Clinical assessment (yes)	0.572	0.706	1.772	0.445	7.065	0.417
Received laboratory tests (yes)	1.367	0.868	3.923	0.716	21.495	0.115

$R^2 = 0.443$; ANOVA <math>< 0.001</math>; * statistical significance <math>< 0.05</math>.

Discussion

The current study was designed to assess patient satisfaction and health system responsiveness among attendants to family health centres and units affiliated with universal health insurance in the Port Said Governorate, Egypt.

In the current study, among 156 adult patients who were enrolled, 73% of the patients perceived the overall health system was good responsive to them. Moreover, the top the domains which were perceived as good were basic amenities, communication and confidentiality (77.6%, 76.9%, 73.1%, respectively).

Our finding are in line with a recent Ethiopian study which was conducted in 2017 which declared that 66.2% of health-care users considered the overall responsiveness as good [11]. Moreover, Negash et al. declared that the overall performance of health system responsiveness was 66.2% (95% CI: 61.4–70.7). Confidentiality and dignity were the highest responsive domains [12]. Furthermore, many studies were carried out in Bangladesh to assess the level of responsiveness of key providers of primary healthcare delivery in urban areas and reported that the responsiveness was 67% [7]. On the other hand, our results were higher compared to the results of another recent Ethiopian study conducted by Asefa et al. in 2020 which reported that the overall health system responsiveness was 55.3% [13]. This variation was related to the difference in mean age of the studied population, reason for visit and the difference in health-care availability and accessibility provided in each country. Another study was conducted in Egypt by Mosallam et al. in 2013 to compare the responsiveness of the Health Insurance Organization (HIO) with the private healthcare system and reported that the outpatient setting scored more favourably compared to the inpatient setting at the HIO, as 52.3% of respondents reported poor responsiveness in the outpatient setting compared to 76.3% in the inpatient setting [14]. This profound difference may reveal the noticeable effect of the new universal health insurance system on responsiveness and patient satisfaction.

Regarding the goodness of health system responsiveness domains, it was observed that basic amenities, confidentiality and communication were the best rated domains among the patients, while the top domains perceived as poor were autonomy and prompt attention. This observation was inconsistent with the results reported by Dadgar et al. in 2018, who found that dignity (83.46%) had the best performance (high score), and choice (69.23%) had the worst performance (low score) in outpatient services, while in inpatient services, the best performance score was confidentiality (81.7%), and the worst was autonomy (67.76%) [15]. This difference can be explained by the different study setting as this study depends on household survey.

In the current study, there was no significant association between responsiveness and any of the socio-demographic characteristics of the attendants, and poor responsiveness was significantly associated with patients with more than 5 family members.

Moreover, there was a significant positive correlation between health system responsiveness and patient satisfaction. Several studies reported similar observations in different countries [13, 16].

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Conflicts of interest: The authors declare no conflicts of interest.

References

1. Rashad A, Sharaf M. Who benefits from public healthcare subsidies in Egypt? *Soc Sci* 2015; 4(4): 1162–1176.
2. Gericke CA, Britain K, Elmahdawy M, et al. *Health System in Egypt*. In: Ginneken E, van, Busse R. (eds). *Health Care Systems and Policies, 2018. Health Services Research*. New York (NY): Springer; 2018: 1–19.
3. Devi S. Universal health coverage law approved in Egypt. *Lancet* 2018; 391(10117): 194.
4. Abduljalil Soliman SS, Hopayian K. Egypt: on the brink of universal family medicine. *Br J Gen Pract* 2019; 69: 82.
5. Abo Ali EA, Shehata WM. Outpatients' Satisfaction with Received Health Services at Saied Urban Health Center, Tanta, Egypt. *EFMJ* 2019; 3(2): 11.

Our results showed that responsiveness was negatively associated with patients coming for a follow up after an operation or injury and those who did not receive laboratory tests. These findings are not surprising, as in the new system, postoperative care was not considered as one of the scopes of primary health-care services.

In our study, we found that near half of the attendants (%) showed a high level of satisfaction with the medical service provided. In addition, about 37.8% of the patients were partially satisfied. This percentage was quite similar to other recent articles published in Saudi Arabia that ranged between 60% to 90% [17, 18]. Moreover, a recent study compared the satisfaction of pregnant females attending family health centres affiliated with the universal health insurance system and those working under the umbrella of traditional insurance in Egypt, and it was found that 69.1% of women were unsatisfied with the antenatal care services and available resources provided by traditional insurance. On the other hand, 79.1% of women receiving universal health insurance were satisfied with the services provided [19]. The consistency in results can be explained, as both studies were conducted in the same setting (Port Said, Egypt) under the umbrella of the universal health insurance system.

We found that patients who communicate more with their healthcare provider were significantly more satisfied. Our finding are in line with the results of a study which was conducted in 2016 in Australia that found that consultation satisfaction response rates in a surgical pre-admission clinic and sexual health clinic were 91% and 85%, respectively. Moreover, another study which was conducted in 2017 in Jeddah found that around 74% of patients were satisfied with the professional care and 58% with the depth of the relationship. This can be explained by the fact that communication was the best performing element according to satisfaction [17, 20].

Limitations of the study

Our research had certain drawbacks. First, the scope of our study was limited to family health centres and units of a single government in the primarily urban and highly educated neighbourhood of Port Said, which also had a well-established system and personnel who were knowledgeable about the new health-care system at the time we conducted our study. Second, there was a sampling bias, where the selected participants may not represent the real population under study, and this can affect the generalisation of the results.

Conclusions

It was found that more than two third of the attendants perceived the overall health system responsiveness as good. Moreover, the top three domains perceived as good were basic amenities, communication and confidentiality.

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6. Tille F, Röttger J, Gibis B, et al. Patients' perceptions of health system responsiveness in ambulatory care in Germany. *Patient Educ Couns* 2019; 102: 162–171.
7. Hamid SA, Begum A. Responsiveness of the urban primary health care delivery system in Bangladesh: a comparative analysis. *Int J Health Plann Mgmt* 2019; 34: 251262, doi: 10.1002/hpm.
8. Darby C, Valentine N, Murray C, et al. Strategy on measuring responsiveness. *GPE Discuss Pap Ser* 2003; 23(23): 1–23.
9. Marshall GN, Hays RD. The Patient Satisfaction Questionnaire Short Form (PSQ-18). *Rand* 1994. Available from URL: <https://www.rand.org/content/dam/rand/pubs/papers/2006/P7865.pdf>.
10. Ahmed S, Abdel-Wahid H, Mohamed R, et al. Patients' Satisfaction with Type 2 Diabetes Care and its Relation to their Glycaemic Control-Primary Health Care Setting, Port Said, Egypt. *Suez Canal Univ Med J* 2016; 19(2): 117–126.
11. Yakob B, Ncama BP. Measuring health system responsiveness at facility level in Ethiopia: Performance, correlates and implications. *BMC Health Serv Res* 2017; 17(1): 263.
12. Negash WD, Tsehay CT, Yazachew L, et al. Health system responsiveness and associated factors among outpatients in primary health care facilities in Ethiopia. *BMC Health Serv Res* 2022; 22(1): 249.
13. Asefa G, Atnafu A, Dellie E, et al. Health system responsiveness for hiv/aids treatment and care services in shewarobit, north shewa zone, Ethiopia. *Patient Prefer Adherence* 2021; 15: 581–588.
14. Mosallam RA, Aly MM, Moharram AM. Responsiveness of the health insurance and private systems in Alexandria, Egypt. *J Egypt Public Health Assoc* 2013; 88(1): 46–51.
15. Dadgar E, Rashidian A, Majdzadeh R, et al. Assessing Trend of Health System Responsiveness in Iran Using Household Survey (Before and After the Implementation of Health Transformation Plan). *Heal Scope* 2018; 7(S): e63866.
16. Wielen N, van der, Channon AA, Falkingham J. Does insurance enrolment increase healthcare utilisation among rural-dwelling older adults? Evidence from the national health insurance scheme in Ghana. *BMJ Global Health* 2018; 3: e000590.
17. Bawakid K, Rashid O, Mandoura N, et al. Patients' satisfaction regarding family physician's consultation in primary healthcare centers of Ministry of Health, Jeddah. *J Fam Med Prim Care* 2017; 6(4): 819.
18. Alsayali MM, Al-Sahafi A, Mandoura N, et al. Patients' satisfaction after primary health care centers' integration with Ministry of Health Hospitals, Jeddah. *J Epidemiol Glob Health* 2019; 9(2): 135–142.
19. Elsehrawy MG, El F, Hafeze E, et al. Effectiveness of Health Insurance Project; Women Satisfaction Regarding Quality of Ante-natal Services. *Pak J Med* 2022; 16(3): 649–654.
20. Hale A, Coombes I, Stokes J, et al. Patient satisfaction from two studies of collaborative doctor – Pharmacist prescribing in Australia. *Heal Expect* 2016; 19(1): 49–61

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