Received: 1 August 2018 | Revised: 14 August 2018 | Accepted: 15 August 2018

DOI: 10.1002/hpm.2659

Check for updates

WILEY

RESEARCH ARTICLE

Patient satisfaction with primary healthcare services in Lebanon

Randa Hemadeh | Rawan Hammoud | Ola Kdouh | Tarek Jaber | Lea Ammar

Primary Healthcare Department, Ministry of Public Health, Beirut, Lebanon

Correspondence
Rawan Hammoud, Ministry of Public Health, Department of Primary Healthcare, Beirut, Lebanon.
Email: rawan.hammoud@gmail.com

Summary

Background: Reorienting the model of care towards preventive services is integral to successfully move towards a people-centered healthcare system. Patient satisfaction is an essential component of people-centered care and an important quality of care indicator. In its efforts to strengthen primary healthcare, the Ministry of Public Health in Lebanon assessed patient satisfaction with services offered at primary healthcare centers (PHCCs) and explored the relationship between patient satisfaction and patient characteristics and accreditation.

Methodology: The study followed a cross-sectional design. A survey was administered through phone calls with 1313 patients receiving services as part of a benefits package provided by 59 PHCCs. The survey collected data on patients' sociodemographic characteristics, perceptions, and satisfaction.

Results: Overall, 96.66% of surveyed patients reported being either satisfied (60.23%) or very satisfied (36.43%) with the services provided at the PHCCs. Patients' perceptions of patient-provider communication, healthcare provider competency, and health education quality constituted strong predictors for satisfaction. However, facilities' accreditation status was not associated with satisfaction with PHC services.

Conclusion: Patient satisfaction with primary healthcare services in Lebanon was remarkably high. Findings highlighted the need for quality improvement particularly

 © 2018 John Wiley & Sons, Ltd.

in health education and the alignment of accreditation standards with patient needs and expectations.

KEYWORDS

accreditation, patient satisfaction, people-centered care, primary healthcare, quality improvement

1 | BACKGROUND

Integrated, people-centered healthcare systems carry great potential to improve population health outcomes, access to care, and reduce overall health expenditures.[1] These systems involve the fostering of patient-provider relationships while empowering patients, families, and communities and respecting their needs, expectations, values, and preferences.[1] The shift towards a people-centered healthcare system promises to improve quality of care and patient satisfaction with healthcare services.[1]

Patient satisfaction has long been recognized as an essential component of people-centered care and an important indicator for quality of care.[2-6] Previous studies have demonstrated its positive relationship to compliance, continuity of care, and positive health outcomes.[7-9] Several factors can affect patient satisfaction with healthcare services, most notably, patient sociodemographic characteristics, patient-provider communication,[10,11] waiting time, infrastructure characteristics,[12,13] and potentially, accreditation.[14]

Accreditation is widely employed as a means to objectively and comprehensively evaluate healthcare organizations' infrastructure, systems, and processes, ultimately leading to an improvement in quality of care.[15] Indeed, it was suggested that the accreditation of primary healthcare centers (PHCCs) is associated with an increase in quality improvement staff, quality assurance projects, and advances in access to care, patient safety, and quality of care.[16] As such, the relationship between patient satisfaction and accreditation seems intuitive. However, evidence on the association between patient satisfaction and accreditation remains inconclusive, as studies failed to detect a robust association between them.[17]

2 | LEBANESE CONTEXT

In Lebanon, strides towards people-centered healthcare have been made despite the ongoing political instability and turmoil, the most recent of which has been the Syrian refugee crisis. The Ministry of Public Health (MoPH) embarked on several reforms, one of which has been the strengthening and expansion of primary healthcare (PHC) through the establishment of the National Primary Healthcare Network in partnership with municipalities and nongovernmental organizations (NGOs).[18]

This network includes 220 PHCCs and serves more than one million people including both vulnerable Lebanese and Syrian refugees. Through its provision of affordable and effective basic healthcare services, including pediatric, gynecological, diagnostic, dental, pharmaceutical, and general medical services, it aims to improve access to healthcare for all those residing within the country. The MoPH aims to regulate and maintain the quality of PHC services as it provides the PHCCs with in-kind support, namely, chronic and nonchronic medication, vaccines, in addition to capacity building and technical support.[18] It further developed and integrated specific programs targeting noncommunicable diseases including mental health within the PHCCs in order to address community needs.[19,20] Additionally, in 2016, in partnership with the World Bank, the MoPH developed and subsidized a benefits package for 150 000 vulnerable citizens provided through 75 PHCCs across all Lebanese governorates, moving further towards universal health coverage (UHC).[21] Finally, drawing from its experience with hospital accreditation and the

assessment of patient satisfaction with hospital services,[17,22] the MoPH initiated a national PHC accreditation program in 2009, leading to the accreditation of 52 PHCCs as of June 2018. However, empirical evidence on the effects of this program on patient satisfaction is still not well documented.

Even though numerous studies have been conducted on patient satisfaction with PHC services globally and regionally, none targeting Lebanese PHCCs were previously conducted or published. As such, and in its efforts to strengthen and develop PHC and advance people-centered care, the MoPH assessed patient satisfaction with services offered at the PHCCs within its national PHC network. This study further aimed to explore the relationship between patient satisfaction and accreditation and assess the association between satisfaction and patients' sociodemographic characteristics and perceptions.

3 | METHODOLOGY

3.1 | Design

This study followed a quantitative, cross-sectional design and aimed at assessing patient satisfaction with specific healthcare services provided by PHCCs and identifying the factors that affect overall patient satisfaction.

3.2 | Study population

Patients included in this study were (1) Lebanese, (2) enrolled in a benefits package provided by PHCCs, and (3) users of package-specific services.

3.3 | Data collection and sampling

As part of the MoPH's routine monitoring activities, patient satisfaction is assessed on a quarterly basis for 300 randomly selected patients enrolled in a targeted benefits program. Patients will be sampled from the 59 PHCCs that were providing services as part of the aforementioned benefits program at the time of the study. Patients selected in each user satisfaction round were those not previously sampled, having received services in the preceding quarter. Probability proportional to size sampling was employed in order to ensure that at least one patient is selected from each Lebanese governorate and each PHCC.

Our study sample was comprised of patients surveyed from five rounds of user satisfaction conducted between January 2017 and February 2018. A structured questionnaire was administered to the sampled patients via phone by trained data validation officers, who were provided with basic information on the selected patients, including their name, age, and phone number by the Health Information System (HIS) unit. The survey was directly administered on an application on the HIS. Only the data validation officers administering the survey had access to the application and the data through user name and role restrictions. The average time required to administer the survey was 5 minutes. Patients who could not be reached after three phone calls were replaced by the HIS unit. For patients younger than 13 years old, their guardians were interviewed instead. The response rate was 72%, which translated into a final study sample of 1313 patients.

4 | MEASURES

4.1 | Patient satisfaction survey tool

The patient satisfaction survey tool was developed based on a validated questionnaire: The General Practice Assessment Questionnaire (GPAQ), which inquires about patients' perceptions of their experience with general practice.

This questionnaire was contextualized and translated into spoken Arabic. During the fourth quarter of 2016, the survey was piloted on 300 patients to evaluate its language, and content, in addition to the patients' understanding of the questions, and the survey's convenience for data collection and analysis, and was accordingly modified. The survey tool was subdivided into 24 items assessing multiple domains, including healthcare provider competency, patient-provider communication, health education quality, waiting time, and overall patient satisfaction.

4.2 | Variable definitions

4.2.1 | Patient-provider communication

Communication was assessed for both nurses and physicians, through patients' perception of communication time and the adequacy of the explanation provided to them by their healthcare providers.

4.2.2 | Healthcare provider competency

Competency was assessed for nurses and physicians through patients' perception of their healthcare providers' skills.

4.2.3 | Health education quality

As part of the benefits package, patients are entitled to receive health education on healthy behaviors(exercise, breastfeeding, etc) lifestyle risk factors, and self-management of noncommunicable diseases by their healthcare providers. Patients' perception of the adequacy of their received health education was reported.

4.2.4 | Knowledge of services

Patients enrolled in the benefits program are entitled to receive initial consultation visits, in addition to two yearly visits free of charge. Their knowledge of these aforementioned benefits was evaluated through the survey tool.

4.2.5 | Perceived waiting time

The overall waiting time at the PHCCs is composed of the time spent waiting for (1) administrative registration and (2) consultation with the physician. Self-reported waiting time at both instances was evaluated.

4.3 | Statistical analysis

Overall patient satisfaction constituted our study outcome variable. Explanatory variables included patient and PHCCs' characteristics, in addition to patient perceptions. Descriptive statistics, namely, frequencies and percentages, were computed for our categorical variables. Overall patient satisfaction was coded as “very satisfied,” “satisfied,” and “not satisfied” and reported using bar plots. Multinomial logistic regression was conducted with “satisfied” as the reference category, in order to assess the correlation between overall patient satisfaction and the study explanatory variables. Statistical significance was set at $P < 0.05$. Statistical analyses were conducted on RStudio.

4.4 | Limitations

The study sample was comprised of patients enrolled in a benefits program. As such the reported satisfaction levels mainly related to project-specific services. Additionally, the patient satisfaction surveys were conducted via phone within 3 months of the patient's last visit to the PHCC potentially leading to recall bias. The levels of satisfaction could have also been inflated due to response bias, with the beneficiaries inclined to provide positive feedback, particularly as a result of the MoPH's initiative in calling for feedback regarding their visits to the PHCCs.

Finally, there were not many patients attending accredited centers at the time of the study, due to the limited number of accredited centers (only 17 PHCCs accredited at the time of the study). This potentially attenuated the relationship between satisfaction and accreditation, rendering it more difficult to detect statistical significance.

4.5 | Ethical consideration

Required administrative authorization to use the collected data for research was obtained from the concerned parties at the Lebanese MoPH. Data included in this study was collected as part of the MoPH's routine monitoring activities. The analysis was conducted on de-identified data, extracted from the HIS, and stored on password locked computers. Patients' oral consent was necessary before administering the survey. Patients were informed about the MoPH's initiative and the objective of the questionnaire. The data validation officers highlighted the patients' involvement in the study as completely voluntary and indicated that they may refrain from answering any question or withdraw from the survey completely at any time.

5 | RESULTS

5.1 | Patient characteristics

The mean age of patients was 32.75 years with an average family size of 5.38 members. Among our study respondents, 740 (56.36%) were females and 573 (43.64%) were males (Table 1). The greatest proportion of patients older than 18 years were married (53.10%), followed by single (43.11%), and divorced or widowed patients (3.79%). The

TABLE 1 Patient characteristics

Variable	N	Valid Percentage (%)
Gender		
Male	573	44.64
Female	740	56.36
Marital status (18+)		
Single	341	43.11
Married	420	53.10
Widowed/divorced	30	3.79
Governorate		
Beirut	33	2.51
Mount Lebanon	332	25.29
North	504	38.39
Akkar	193	14.70
Baalbek-Hermel	14	1.07
Bekaa	45	3.43
South	155	11.81
Nabatieh	37	2.82
Settlement type		
Urban	719	54.76
Rural	594	45.24
Accreditation status		
Yes	194	14.78
No	1119	85.22

greatest proportion of patients in our sample accessed PHCCs in the North (38.39%) and Mount Lebanon (25.29%). More than half the study respondents (54.76%) received their healthcare services from PHCCs in urban areas, and only 14.78% received their services from accredited PHCCs.

5.2 | Overall satisfaction

Overall, 96.66% of surveyed patients reported being either satisfied (60.23%) or very satisfied (36.43%) with the services provided at the PHCCs (Figure 1).

5.3 | Patient's perceptions

The mean reported waiting time for administrative registration and that between registration and physician consultation were 12.11 and 28.01 minutes, respectively. Table 2 illustrates study respondents' perceptions of patient-provider communication, healthcare provider competency, and health education quality. The lowest score was recorded for health education quality, which was perceived as not sufficient by 28.10% of respondents. The proportion of patients who regarded their physician and nurse as not competent was 5.46% and 1.77%, respectively. Furthermore, 1.69% of surveyed patients perceived nurse communication time as not sufficient. Finally, the majority of surveyed patients were aware of their entitlement to initial consultation visits (88.88%) and two yearly visits (76.95%) free of charge.

5.4 | Potential predictors of patient satisfaction

5.4.1 | Sociodemographic characteristics

Patient sex was correlated with satisfaction with PHC services. In fact, the odds of being very satisfied (versus satisfied) among male patients were 0.768 times that among female patients (Table 3). Additionally, married patients had higher odds of being very satisfied as compared with single patients (odds ratio [OR] = 1.385; $P = 0.041$). Furthermore, as family size increased by 1, the odds of being very satisfied decreased multiplicatively by 0.911 ($P = 0.001$).

5.4.2 | Accreditation status

PHCC accreditation status did not appear to affect satisfaction as there was no significant association between attending an accredited healthcare facility and overall patient satisfaction with the received PHC services.

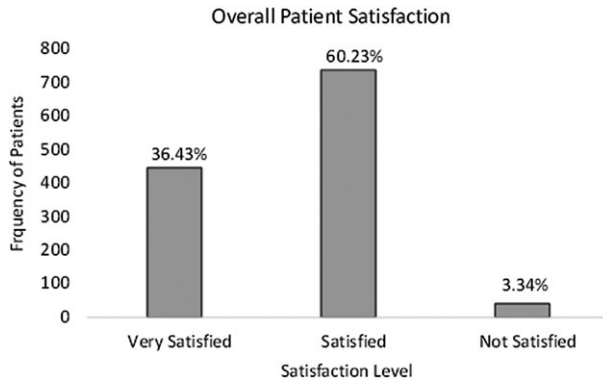

FIGURE 1 Overall patient satisfaction with primary healthcare services

TABLE 2 Patient perceptions of patient-provider communication, healthcare provider competency, and health education quality and their knowledge of entitlements

Variable	N	Valid Percentage (%)
Nurse communication time		
Sufficient	1222	98.31
Not sufficient	21	1.69
Nurse explanation		
Sufficient	1181	95.17
Not sufficient	60	4.83
Physician communication time		
Sufficient	1137	95.47
Not sufficient	54	4.53
Physician explanation		
Sufficient	1140	95.48
Not sufficient	54	4.52
Nurse competency		
Competent	1222	98.23
Not competent	22	1.77
Physician competency		
Competent	1126	94.54
Not competent	65	5.46
Health education quality		
Sufficient	873	71.91
Not sufficient	341	28.09
Knowledge of consultations		
Yes	1111	88.88
No	139	11.12
Knowledge of visits		
Yes	958	76.95
No	287	23.05

5.4.3 | Patient-provider communication

Surveyed patients who perceived nurse communication time as not sufficient had higher odds of being not satisfied (versus satisfied) (OR = 24.896; $P = 0.001$) and lower odds of being very satisfied (OR = 0.161; $P = 0.083$) (Table 4). Consistently, respondents who perceived physician communication time as not sufficient had higher odds of being not satisfied (OR = 10.291; $P = 0.001$) and lower odds of being very satisfied (OR = 0.222; $P = 0.002$). Similarly, the patients' perceived adequacy of the nurse or doctor's explanation of their health condition was significantly associated with satisfaction, as respondents who reported insufficient explanation had higher odds of being not satisfied ($P = 0.001$). These patients also demonstrated lower odds of being very satisfied. The aforementioned correlation was significant with associated P values of 0.004 and 0.002 for nurse and physician explanation, respectively.

5.4.4 | Healthcare provider competency

Perceived physician and nurse competencies were both associated with patient satisfaction with PHC services (Table 4). In fact, respondents who perceived their physician or nurse as not competent had higher odds of being not satisfied ($P = 0.001$).

TABLE 3 Association between patient satisfaction and sociodemographic factors, and accreditation status

Variable	OR [CI] (Not Satisfied/Satisfied)	*P* value	OR [CI] (Very Satisfied/Satisfied)	*P* value
Age	1.001 [0.987-1.015]	0.868	1.002 [0.996-1.007]	0.546
Family size	0.951 [0.830-1.090]	0.472	0.911 [0.866-0.959]	0.001
Governorate				
Beirut (ref)	...		...	...
Mount Lebanon	0.745 [0.155-3.587]	0.714	2.004 [0.849-4.729]	0.113
North	0.514 [0.109-2.400]	0.397	1.389 [0.595-3.241]	0.447
Akkar	0.658 [0.132-3.279]	0.609	0.841 [0.345-2.052]	0.704
Baalbek-Hermel	2.376 [0.171-3.302]	0.519	1.188 [0.179-7.847]	0.858
Bekaa	...	...	1.103 [0.384-3.172]	0.855
South	0.105 [0.009-1.212]	0.071	1.541 [0.634-3.747]	0.340
Nabatieh	...	...	2.244 [0.778-6.474]	0.135
Settlement type				
Rural (ref)	...	...	...	...
Urban	1.346 [0.716-2.529]	0.355	0.915 [0.722-1.158]	0.460
Gender				
Female (ref)	...	...	...	...
Male	0.602 [0.311-1.166]	0.132	0.768 [0.605-0.974]	0.030
Marital status				
Single (ref)	...	...	...	...
Married	0.559 [0.236-1.320]	0.185	1.385 [1.013-1.893]	0.041
Divorced/widowed	1.065 [0.129-8.748]	0.952	1.883 [0.842-4.213]	0.123
Accreditation status				
No (ref)	...	...	...	...
Yes	1.243 [0.537-2.877]	0.611	1.046 [0.749-1.459]	0.791

Abbreviations: CI, confidence interval; OR, odds ratio.

5.4.5 | Health education quality

Finally, perceived health education quality was a strong predictor of patient satisfaction. In fact, patients who perceived the provided health education as inadequate had higher odds of being not satisfied (OR = 4.898; *P* = 0.001) and lower odds of being very satisfied (OR = 0.490; *P* = 0.001) as compared with those who perceived the provided health education quality as adequate (Table 4).

5.4.6 | Knowledge of services

Thorough knowledge of entitlements as part of the benefits program was strongly associated with patient satisfaction. In fact, respondents who did not know that they were entitled for two free visits per year had higher odds (OR = 6.125; *P* = 0.001) of being not satisfied and lower odds (OR = 0.687; *P* = 0.013) of being very satisfied. Consistent results were found concerning the patients' knowledge of their entitlement to free consultations.

5.4.7 | Perceived waiting time

As perceived waiting time for administrative registration and that between registration and consultation increased, respondents were more likely to be not satisfied and less likely to be very satisfied with PHC services. The latter

TABLE 4 Association between patient satisfaction and patient perceptions, knowledge of benefits, and waiting time

Variable	OR [CI] (Not Satisfied/Satisfied)	*P* value	OR [CI] (Very Satisfied/Satisfied)	*P* value
Perceived waiting time at registration	1.007 [0.991-1.022]	0.388	0.983 [0.971-0.995]	0.006
Perceived waiting time between registration and consultation	1.004 [0.995-1.013]	0.361	0.993 [0.988-0.999]	0.022
Nurse communication time				
Sufficient (ref)	…	…	…	…
Not sufficient	24.896 [9.610-64.495]	0.001	0.161 [0.021-1.269]	0.083
Nurse explanation				
Sufficient (ref)	…	…	…	…
Not sufficient	20.752 [10.091-42.675]	0.001	0.247 [0.095-0.640]	0.004
Physician communication time				
Sufficient (ref)	…	…	…	…
Not sufficient	10.291 [4.834-21.912]	0.001	0.222 [0.086-0.572]	0.002
Physician explanation				
Sufficient (ref)	…	…	…	…
Not sufficient	10.323 [4.848-21.977]	0.001	0.223 [0.086-0.573]	0.002
Perceived nurse competency				
Sufficient (ref = 1)	…	…	…	…
Not sufficient	38.840 [14.709-102.559]	0.001	0.204 [0.025-1.634]	0.134
Perceived physician competency				
Sufficient (ref)	…	…	…	…
Not sufficient	12.877 [6.211-26.700]	0.001	0.188 [0.074-0.481]	0.001
Perceived health education quality				
Sufficient (ref)	…	…	…	…
Not sufficient	4.898 [2.437-9.844]	0.001	0.490 [0.367-0.655]	0.001
Knowledge of consultations				
Yes (ref)	…	…	…	…
No	5.487 [2.852-10.556]	0.001	0.417 [0.264-0.660]	0.001
Knowledge of free visits				
Yes (ref)	…	…	…	…
No	6.125 [3.143-11.939]	0.001	0.687 [0.511-0.925]	0.013

Abbreviations: CI, confidence interval; OR, odds ratio.

correlation was significant with associated *P* values of 0.006 and 0.022 for waiting time at registration and that between registration and consultation, respectively.

6 | DISCUSSION

The study found patients' overall level of satisfaction with PHC services to be remarkably high (96.6%). Indeed, more than 90% of surveyed patients perceived their healthcare providers as competent and were satisfied with the time allocated to them by both the nurse and physician, in addition to the explanation their providers offered them. Similar studies conducted in the Middle East reported varying levels of satisfaction. In fact, patient satisfaction with PHC in Saudi Arabia was lower and reached 81.7% and 72.5% in Majmaah and Riyadh, respectively.[23,24] In contrast, Kuwait and Egypt reported high levels of patient satisfaction that reached 99.6% and 98%, respectively.[13,25]

Our results reflect that patients receiving services at the national PHC network are satisfied with the quality of care and overall experience at the PHCCs. This high level of satisfaction is even more meaningful in light of the Syrian refugee crisis, as some reports had indicated crowding out of Lebanese and increased tensions between the host and refugee populations who were accessing the same points of care. Accordingly, results indicate that the MoPH's efforts to strengthen PHC in Lebanon have paid off in terms of patient satisfaction. The MoPH initiated disease-specific programs that targeted community needs and empowered PHCCs by providing them with resources and developing the staff's technical and communication skills through workshops, capacity building, and the provision of written guidelines and standard operating procedures.[26] In addition, the MoPH initiated the EPHRP program (a benefits program for vulnerable Lebanese affected by the refugee crisis) in collaboration with the World Bank in order to mitigate crowding out, reduce tensions, and enhance access to care. However, 28.10% of surveyed patients perceived health education at the PHCCs as not sufficient, informing future MoPH capacity building activities. Furthermore, almost a quarter of patients were unaware of their right to two free visits per year at the PHCCs under the benefits program, highlighting a need to further improve communication efforts with regards to patient rights and entitlements.

The study analysis uncovered sociodemographic factors associated with patient satisfaction, namely, marital status and gender. Additionally, patient-provider communication, waiting time, perceived provider competency, perceived health education quality, and knowledge of entitlements under the benefits program constituted strong predictors for patient satisfaction with PHC services. However, our study failed to detect a relationship between accreditation status and satisfaction. These results are consistent with those observed in other countries. In fact, Al-Eisa et al found an association between patient gender and satisfaction and reported greater satisfaction with PHC services in Kuwait among male patients as compared with female patients.[25] Waiting time was found to be significantly associated with patient satisfaction in both Egypt and Saudi Arabia.[13,24] Additionally, in Saudi Arabia, greater satisfaction was attributed to PHCC healthcare providers' competency and technical skills.[23] Patient-provider communication was previously established as a strong indicator for satisfaction with PHC services,[10,11,27,28] highlighting the essential role of physicians and healthcare providers in enhancing patients' experience and satisfaction with PHC.[29] Indeed, interpersonal aspects of care, including friendliness, understanding, honesty, and shared-decision making, are integral for addressing patients' needs and expectations and improving patient satisfaction.[30] These findings suggest the need to effectively develop and improve healthcare providers' communication skills, through workshops and continuous training.

Even though the relationship between patient satisfaction and accreditation in PHCCs was not extensively studied, various studies reported on the aforementioned relationship in hospital settings. In Lebanon, Haj-Ali et al, uncovered an association between patient satisfaction and sociodemographic factors and similarly to our results, failed to find an association between satisfaction and hospital accreditation classification.[17] These findings were also consistent with the literature on patient satisfaction, as previously conducted international studies failed to uncover a relationship between satisfaction with hospital services and accreditation,[31-34] suggesting that accreditation schemes may not be an accurate predictor of satisfaction with services, as they tend to focus on structural, technical, and procedural features of healthcare facilities.[17,31] In Lebanon, the standards for PHC accreditation were more focused on structures and processes rather than patient outcomes. Accordingly, the impact of accreditation, although essential in delivering quality services, remained intangible from the patient perspective.

7 | CONCLUSION

Despite the ongoing political instability, and the Syrian refugee crisis, patient satisfaction with PHC services in Lebanon was remarkably high. Sociodemographic characteristics, namely, gender and marital status, were associated with patient satisfaction levels. Patients' perceptions of patient-provider communication, healthcare provider competency, and health education quality, in addition to their knowledge of project-specific services constituted strong predictors for satisfaction. Results also highlighted the need for quality improvement particularly in health

education. Finally, PHCC accreditation status was not significantly associated with patient satisfaction, implying the need to further align accreditation standards with patient needs and expectations.

This study is, to our knowledge, the first to assess patient satisfaction in PHC in Lebanon. The study triggered questions that could inform future work. In fact, further research could explore patients' experiences and their satisfaction more thoroughly through a qualitative or mixed-method study design, as to gain a deeper understanding of the factors that could affect their satisfaction with PHC services. In line with such a study, the patient satisfaction tool could be refined to include sections on continuity of care and accessibility. Finally, PHCC accreditation's effects on satisfaction should be further explored, in order to ultimately improve patient experience at the PHCCs.

This study presented findings that are useful to policy makers, and all other stakeholders for strengthening the existing PHC model and accreditation program. Our findings are relevant in the context of Lebanon, the region and low middle income countries (LMICS) as policy makers, and other stakeholders can learn from this experience when designing PHC systems and programs. Findings are also relevant at the global level as international organizations can take this study into account when developing PHC programs in similar contexts.

ACKNOWLEDGMENT

The authors acknowledge the data validation officers, Zahraa Kassem and Khattar Abdel Khalek, who conducted the patient satisfaction surveys.

The authors declare having no conflicts of interest. Authors R.H., R.H., O.K., T.J., and L.A. have affiliations to the Ministry of Public Health in Lebanon.

AUTHOR CONTRIBUTIONS

R.H., R.H., and O.K. conceptualized the study objectives and hypothesis. R.H., O.K., and T.J. developed the analysis plan, and T.J. conducted the statistical analysis. T.J. and L.A. conducted the literature review. R.H., R.H., O.K., T.J., and L.A. interpreted the data and drafted the study manuscript. All authors approved this version of the manuscript.

FUNDING INFORMATION

The World Bank funded the Emergency Primary Healthcare Restoration Project (EPHRP) under which the patient satisfaction surveys were conducted.

ORCID

Rawan Hammoud http://orcid.org/0000-0002-8523-7757

REFERENCES

1. World Health Organization (WHO). Framework on integrated, people-centred health services. Report by the Secretariat. 2016. Retrieved from www.who.int/servicedeliverysafety/areas/people-centred-care/en/
2. Donabedian A. The quality of care: how can it be assessed? *JAMA*. 1988;260(12):1743-1748.
3. Labarere J, Francois P, Auquier P, Robert C, Fourny M. Development of a French inpatient satisfaction questionnaire. *Int J Qual Health Care : journal of the International Society for Quality in Health Care*. 2001;13(2):99-108.
4. Ogaji D. What does quality mean to the patient? An exploration of the expectations of patients for primary health care in Nigeria. *TNHJ*. 2017;16(4):230.
5. Wei J, Wang X, Yang H, Yang T. Development of an in-patient satisfaction questionnaire for the Chinese population. *PLoS One*. 2015;10(12):e0144785.
6. Louw JM, Marcus TS, Hugo JFM. Patient- or person-centred practice in medicine?—a review of concepts. *Afr J Prim Health Care Fam Med*. 2017;9(1):e1-e7.
7. Fatima T, Malik SA, Shabbir A. Hospital healthcare service quality, patient satisfaction and loyalty: an investigation in context of private healthcare systems. *Int J Qual Reliab Manag*. 2018;35(6):1195-1214.

8. Saultz JW, Albedaiwi W. Interpersonal continuity of care and patient satisfaction: a critical review. *Ann Fam Med*. 2004;2(5):445-451.
9. Kennedy GD, Tevis SE, Kent KC. Is there a relationship between patient satisfaction and favorable outcomes? *Ann Surg*. 2014;260(4):592-600.
10. Protasio APL, Gomes LB, Machado LDS, Valença AMG. Factors associated with user satisfaction regarding treatment offered in Brazilian primary health care. *Cad Saude Publica*. 2017;33:e00184715.
11. Paddison CAM, Abel GA, Roland MO, Elliott MN, Lyratzopoulos G, Campbell JL. Drivers of overall satisfaction with primary care: evidence from the English general practice patient survey. *Health Expect*. 2015;18(5):1081-1092.
12. Bleustein C, Rothschild DB, Valen A, Valatis E, Schweitzer L, Jones R. Wait times, patient satisfaction scores, and the perception of care. *Am J Manag Care*. 2014;20:393.
13. Gadallah M, Zaki B, Rady M, Anwer W, Sallam I. Patient satisfaction with primary health care services in two districts in lower and upper Egypt. *East Mediterr Health J = La Revue de Sante de la Mediterranee Orientale = al-Majallah al-Sihhiyah Li-Sharq al-Mutawassit*. 2003;9:422.
14. Al Tehewy M, Salem B, Habil I, El Okda S. Evaluation of accreditation program in non-governmental organizations' health units in Egypt: short-term outcomes. *International J Qual Health Care*. 2009;21(3):183-189.
15. World Health Organization, Regional Office for the Eastern Mediterranean. Quality improvement in primary health care: a practical guide. 2004. http://www.who.int/iris/handle/10665/119694
16. O'Beirne M, Zwicker K, Sterling PD, Lait J, Lee Robertson H, Oelke ND. The status of accreditation in primary care. *Qual Prim Care*. 2013;21:23.
17. Haj-Ali W, Bou Karroum L, Natafgi N, Kassak K. Exploring the relationship between accreditation and patient satisfaction—the case of selected Lebanese hospitals. *Int J Health Policy Manag*. 2014;3(6):341-346.
18. Ammar W. Health beyond politics. Beirut: World Health Organization, Eastern Mediterranean Regional Office; 2009.
19. Ministry of Public Health (MoPH) Mental Health and substance use—prevention, promotion, and treatment—situation analysis and strategy for Lebanon 2015–2020 Version 1.1. 2015.
20. Ministry of Public Health (MoPH). Integration of non-communicable disease services within primary health care. Retrieved from https://www.moph.gov.lb/en/Pages/6/776/non-communicable-disease-program-primary-health-care
21. Ministry of Public Health (MoPH). Emergency primary health care restoration project towards universal health coverage in collaboration with World Bank. Retrieved from https://www.moph.gov.lb/en/Pages/6/779/universal-health-coverage-project-lebanon
22. Ammo MA, Abu-Shaheen AK, Kobrosly S, Al-Tannir MA. Determinants of patient satisfaction at tertiary care centers in Lebanon. *OJN*. 2014;4(13):939-946.
23. Mohamed EY, Sami W, Alotaibi A. Patients' satisfaction with primary health care centers' services, Majmaah, Kingdom of Saudi of Saudi Arabia. *Int J Health Sci*. 2015;9(2):159-165.
24. AlNemer KA, Al-Homood IA, AlNemer AA, Alshaikh OM, Alsaidan MA, Alzahrani AT. A multicenter study of factors affecting Patient's satisfaction visiting primary health care clinics in Riyadh, Saudi Arabia. *Fam Med Med Sci Res*. 2015;4(169):1-4.
25. 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.
26. Ministry of Public Health (MoPH). PHC programs and projects. Retrieved from https://www.moph.gov.lb/en/view/969/phc-programs-and-projects
27. Majeed Alhashem A, Alquraini H, Chowdhury RI. Factors influencing patient satisfaction in primary healthcare clinics in Kuwait. *Int J Health Care Qual Assur*. 2011;24(3):249-262.
28. Al-Doghaither AH, Abdelrhman BM, Wahid Saeed AA. Patients' satisfaction with physicians' services in primary healthcare centres in Kuwait City, Kuwait. *J R Soc Promot Health*. 2000;120(3):170-174.
29. Saeed AA, Mohammed BA, Magzoub ME, Al-Doghaither AH. Satisfaction and correlates of patients' satisfaction with physicians' services in primary health care centers. *Saudi Med J*. 2001;22:262.
30. Wensing M, Jung HP, Mainz J, Olesen F, Grol R. A systematic review of the literature on patient priorities for general practice care. Part 1: description of the research domain. *Soc Sci Med*. 1998;47(10):1573-1588.
31. Heuer AJ. Hospital accreditation and patient satisfaction: testing the relationship. *J Healthc Qual*. 2004;26(1):46-51.
32. Hayati IN, Azimatun N, Rozita H, Ezat WS, Rizal AM. In-patient's satisfaction in the medical and surgical wards—a comparison between accreditted and non accreditated hospital in the state of Selangor. *Jurnal Kesihatan Masyarakat*. 2010;16(1):60-68.

33. Sack C, Lütkes P, Günther W, Erbel R, Jöckel K, Holtmann GJ. Challenging the holy grail of hospital accreditation: a cross sectional study of inpatient satisfaction in the field of cardiology. *BMC Health Serv Res*. 2010;10(1):120-120.

34. Sack C, Scherag A, Lütkes P, Günther W, Jöckel K, Holtmann G. Is there an association between hospital accreditation and patient satisfaction with hospital care? A survey of 37,000 patients treated by 73 hospitals. *Int J Qual Health Care: journal of the International Society for Qual Health Care*. 2011;23(3):278-283.

How to cite this article: Hemadeh R, Hammoud R, Kdouh O, Jaber T, Ammar L. Patient satisfaction with primary healthcare services in Lebanon. *Int J Health Plann Mgmt*. 2018;1–13. https://doi.org/10.1002/hpm.2659