

Factors Affecting Patient Compliance to Physician Advice among Lebanese Internet Users

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ABSTRACT

Introduction: Patient compliance to physicians' advice is pivotal for successful management of disease and in improving health care outcome.

Aim: To identify the factors that affect medical compliance to physicians' advice among Lebanese internet users.

Materials and Methods: This descriptive cross-sectional study was conducted by interviewing randomly-selected adults Lebanese internet users who visited a physician at least once in the past three months. A pre-tested, pre-structured questionnaire was applied comprising of six parts: (1) personal information; (2) patient's compliance; (3) perceived information asymmetry; (4) patient-physician concordance; (5) internet health information quality; and (6) physician quality. Descriptive statistics were computed as means/standard deviations (\pm SD) for continuous variables and as frequencies for categorical variables. The independent sample t-test or ANOVA was used to compare means of scales between groups and Pearson's correlation was used to determine the degree of correlation between continuous variables.

Results: The mean age of the participants was 28.54 ± 12 and the majority had secondary school education (53%), unmarried (64.5%), had a non-medical educational background (64.6%). Results showed that the level of education, patient-physician concordance and communication, and physicians' empathy and competence were significantly associated with patient compliance with medical advice. Primary educated Lebanese patients exhibited the highest compliance score (29.80 ± 3.53). Interestingly, perceived information asymmetry and internet health information quality had no significant impact on patients' compliance.

Conclusion: This study demonstrated that patients' compliance is affected by the level of education, patient-physician concordance, physician's competence and empathy, and communication between the patients and the physicians themselves. Henceforth, it is recommended that physicians should focus on improving their communication and professional skills rather than worrying about patients acquiring health information through the internet.

Keywords: Empathy, Health information, Questionnaire

INTRODUCTION

Patient compliance to physicians' advice is considered crucial for achieving optimal health outcomes, for better management of the disease and it can also serve as an indicator of treatment success. In the Oxford dictionary, compliance is defined as "the practice of obeying rules or requests made by people in authority" (Oxford Advanced Learner's Dictionary of Current English) [1]. In healthcare, 'the process of complying with medical advice or a certain therapy regimen is to achieve conformity to fulfil the official treatment strategies suggested by the health care provider [2]. The World Health Organization (WHO) stated that therapeutic compliance does not only include patients' compliance with medications, but also compliance with diet, exercise, and lifestyle changes [3].

The rate of compliance varies depending on the treatment regimen and timeline. A 70 to 80% of patients are compliant with short-term therapies, 40 to 50% with long-term therapies, and 20 to 30% with lifestyle changes [4]. In consequence, medical non-compliance is associated with multiple devastating health outcomes, low survival rates [4-6] and high preventable morbidity and mortality rates [6]. Furthermore, non-compliance to medical advice and therapy has been associated with an overabundance of emergency visits, contributing to 19% of all hospitalisations, added to the higher treatment costs estimated at more than USD 100 billion per year [7-9].

Many factors influence patients' compliance including socio-demographics, lifestyle, health awareness, and the severity of the

disease [10]. Other contributing factors are the duration of drug treatment, drug class, and drug cost [11]. Recently, the patient-physician relationship has been identified as an additional factor, which now-a-days is highly affected by the patient recurrence to the internet for seeking internet-based medical information [12-15]. It is reported that about 8 million American adults search online for health-related information every day [16]. Of those, 64% search about diseases and medical problems, 27% seek information regarding treatments and medications. Thus, patient-physician relationship could be influenced by internet health information.

In the realm of the increased incidence of chronic illness in Lebanon, estimated at 34% of the general population aged between 14 to 59 years [17], studying compliance becomes extremely important. A local study demonstrated that the level of perceived health, memory, anxiety/depression, and drug knowledge affect medication adherence in Lebanese patients with chronic diseases [18]. Moreover, two other studies outlined the prevalence of adherence in Lebanese outpatients suffering from hypertension [19] and diabetes [20], and how this affected their quality of life. However, these studies focused on patients' compliance with medication; thus additional factors affecting physician-patient relationship, such as concordance, competency and empathy of physicians, and the internet health information were not studied. This study aimed to identify the impact of these on medical compliance to physicians' advice among Lebanese internet users.

MATERIALS AND METHODS

This cross-sectional study was conducted from June 2018 to July 2019 across Lebanon's governorates. The Lebanese population is estimated at 4.5 million citizens based on the most recent statistics published by the Lebanese government [21].

A sample size of a minimum of 384 was calculated, with a confidence level of 95% and a margin of error of 5%. Participants were selected through convenience sampling from outpatient clinics, primary health care centres and public places, and a total number of 480 participants were included. To be included in the study, participants had to be 18 years of age or older, should have visited a physician at least once in the past three months, and need to have searched the internet for medical information. Patients with psychiatric diseases and mentally not capable to respond to the questionnaire were not eligible for the study. Participants that omitted more than 20% of the questions or one question in the scales sections were excluded.

Questionnaire [Table/Fig-1-4]

In this study, self-administrated questionnaire used was based on a previous study [22]. It was translated into Arabic by back to back method. The developed survey was reliable and validated. Data were collected by medical student and members of the research team, particularly in public places. The questionnaire consisted of six main parts.

The **first part** covered socio-demographical concerns such as age, gender, residency, educational level, occupation, marital status, number of children, and living abroad [Table/Fig-1]. The **second part** included questions measuring patient's compliance, defined as the extent to which the patient's behaviour matches the recommendations of the doctor. The **third part** measured perceived information asymmetry and refers to patient's perception about physician quantity and quality of medical health information. The **forth part** was related to patient-physician concordance, defined as the accordance between the patient and the physician on the medical issue and treatment regimen. The **fifth part** included questions about relevance, understandability, adequacy, and usefulness, all of which valued the internet health information quality. The **sixth part** was related to the competence and the empathy of the physician, as well as the patient-physician communication as perceived by the patient, therefore valuing the physician quality.

For the compliance, perceived information asymmetry, competence section, all questions were measured by using a 7 point Likert's scale from "strongly disagree" to "strongly agree". Each question was given a score from 1 (strongly disagree) to 7 (strongly agree). However, for the patient-physician concordance, internet health information quality, patient-physician concordance, empathy of the doctor and communication between patients and doctors, a 7 point scale was used ranged from "not at all" to "to a very large degree". Each question was given a score from 1 (not at all) to 7 (to a very large degree).

Both compliance and concordance tables consisted of five questions, each with a minimum total score of 5 and a maximum score of 35. Perceived information asymmetry table consisted of four questions and its score ranged between 4 and 28, and that of internet health information quality consisted of 15 questions and was scaled between 15 and 105. Finally, physician quality included three variables: competence and empathy of the doctor as well as the patient-physician communication, with each factor containing four questions and scaling between 4 and 28.

Ethical Consideration

All participants gave their written informed consent prior to participation in the study. Ethics approval was granted by the Institutional Review Board of Beirut Arab University (2017H-0049-M-R-0199) and the study followed the guidelines of the Declaration of Helsinki on the conduct of human research. All data collected were de-identified, gathered and checked by the principal investigator.

STATISTICAL ANALYSIS

IBM SPSS Statistics for Windows, version 23.0 (Armonk, NY, USA) was used. Descriptive statistics were computed as means/standard deviations (\pm SD) for continuous variables and as frequencies for categorical variables. In this study, compliance, perceived information asymmetry, patient-physician concordance, internet health information quality, competence and empathy of the doctor, as well as communication between patients and physicians were transformed from ordinal variables to scales by computing them. The independent sample t-test was used to compare means of scales between two groups. One-way ANOVA was used for the same purpose but between more than two groups. Pearson's correlation was used to determine the degree of correlation between continuous variables. A Pearson's coefficient between 0 and 0.2 was considered a very weak correlation, 0.2 to 0.4 as weak, 0.4 to 0.6 as moderate, 0.6 to 0.8 as strong and 0.8 to 1 as very strong. The $p < 0.05$ was considered to be statistically significant.

RESULTS

A total number of 480 participants were included. The socio-demographic characteristics of the participants are summarised in [Table/Fig-1]. The mean age of the participants was 28.54 ± 12 years. The majority were unmarried (64.5%), had secondary school education (53%), had a non-medical educational background (64.6%).

| | | Mean \pm SD |
|---|---------------|----------------|
| Age (N=452) | | 28.54 \pm 12 |
| | | Number (%) |
| Gender (N=470) | Male | 211 (44.9) |
| | Female | 259 (55.1) |
| Residency (N=479) | Beirut | 47 (9.8) |
| | Mount Lebanon | 44 (9.2) |
| | South Lebanon | 88 (18.4) |
| | North Lebanon | 208 (43.4) |
| | Begaa | 88 (18.4) |
| | Abroad | 4 (0.8) |
| Level of education (N=474) | Primary | 59 (12.4) |
| | Secondary | 251 (53.0) |
| | University | 164 (34.6) |
| Marital status (N=476) | Married | 169 (35.5) |
| | Unmarried | 307 (64.5) |
| Parenthood (N=455) | Yes | 154 (33.8) |
| | No | 301 (66.2) |
| Occupational field (N=426) | Medical | 151 (35.4) |
| | Non-Medical | 275 (64.6) |
| Lived Abroad (N=475) | Yes | 105 (22.1) |
| | No | 370 (77.9) |
| Medical specialty of visited physicians (N=466) | Internal | 222 (47.6) |
| | Surgery | 123 (26.4) |
| | Dermatology | 40 (8.6) |
| | ENT | 37 (7.9) |
| | Ophthalmology | 30 (6.4) |
| | Psychiatry | 8 (1.7) |
| | Pediatrics | 6 (1.3) |

[Table/Fig-1]: Characteristics of the studied population. N represents the total number of participants who answered these questions. SD represents standard deviation. Participants did not answered to all the questions. Any participants that omitted more than 20% of the questions (not in the compliance section) were excluded. The total number of each variable had to be more than the minimum required sample size which is 384 to be considered in this study

Mean scores of compliance, perceived information asymmetry, patient-physicians concordance, internet health information quality, competence of the doctor, empathy of the doctor, and communication between patients and physicians are shown in [Table/Fig-2].

| Scale | Compliance | Perceived information asymmetry | Patient-physician concordance | Internet health information quality | Competence of the doctor | Empathy of the doctor | Communication between patients and doctors |
|---------|------------|---------------------------------|-------------------------------|-------------------------------------|--------------------------|-----------------------|--|
| Minimum | 5 | 4 | 5 | 15 | 4 | 4 | 4 |
| Maximum | 35 | 28 | 35 | 105 | 28 | 28 | 28 |
| N | 480 | 480 | 479 | 469 | 480 | 480 | 480 |
| Mean±SD | 28.15±5 | 23.51±3.91 | 28.42±5.26 | 67.49±17.53 | 23.81±3.74 | 23.14±4.43 | 22.24±4.67 |

[Table/Fig-2]: Mean of scales. Minimum is the minimal mean (score) and Maximum is the maximal mean (score).

Compliance was significantly associated only with patients' level of education with primary educated participants scoring the highest mean (29.80±3.53 out of 35). The least significant differences in compliance were between primary educated people and each of Secondary educated and university people. The other demographic factors had no significant association with compliance. Perceived information asymmetry mean was significantly higher in participants with medical occupation (24.18±3.51 out of 28) but was not associated with the other factors. However, patient-physician concordance was significantly associated with participants' residency and occupation field; where participants living in Mount-Lebanon (29.55±4.68 out of 35) and working in a medical field (29.32±4.58 out of 35) demonstrated more concordance with their physicians [Table/Fig-3].

The internet health information quality was perceived significantly better when the participants had lived abroad (71.79±17.94 out of 105) and with very good internet information searching skills (70.30±17.01 out of 105) [Table/Fig-3].

Moreover, competence of the doctor was significantly perceived higher in participants living in Mount Lebanon (24.20±4.05 out of 28) [Table/Fig-3], empathy of the doctor was significantly perceived higher in primary educated (24.37±4.41 out of 28) participants and in married participants (23.75±4.8 out of 28). Moreover, communication between patients and doctors was significantly higher in primary educated participants (23.54±4.31 out of 28) [Table/Fig-3].

Compliance has a significant moderate positive correlation with concordance, and a significant weak positive correlation with doctor's competence, doctor's empathy and communication between patients and doctors. Perceived information asymmetry has a significant moderate positive correlation with patient-physician concordance, competence of the doctor, empathy of the doctor and communication between patients and doctors. However, Perceived information asymmetry has no significant correlation with internet health information quality or age [Table/Fig-4].

Regarding the patient-physician concordance, a significant moderate positive correlation was observed with doctors' empathy and with communication between patients and doctors. However,

| | | Compliance (N=480) | | Perceived information asymmetry (N=480) | | Patient-physician concordance (N=479) | | Internet health information quality (N=469) | | Competence of the doctor (N=480) | | Empathy of the doctor (N=480) | | Communication between patients and doctors (N=480) | |
|---|---------------------|--------------------|------|---|------|---------------------------------------|------|---|--------|----------------------------------|-------|-------------------------------|------|--|------|
| | | Mean | p | Mean | p | Mean | p | Mean | p | Mean | p | Mean | p | Mean | p |
| Gender | Male | 28.26±4.62 | 0.49 | 23.14±4.37 | 0.09 | 28.35±5.36 | 0.95 | 69.26±16.81 | 0.06 | 23.36±4.25 | 0.03 | 23.21±4.65 | 0.73 | 22.20±4.86 | 0.89 |
| | Female | 27.97±4.75 | | 23.76±3.50 | | 28.37±5.23 | | 66.26±18.07 | | 24.12±3.28 | | 23.07±4.30 | | 22.25±4.55 | |
| Residency | Beirut | 27.81±4.67 | 0.40 | 24.11±3.98 | 0.66 | 29.24±5.08 | 0.01 | 63.00±13.93 | 0.23 | 24.28±3.80 | 0.01 | 22.79±4.32 | 0.57 | 22.66±4.63 | 0.20 |
| | Mount lebanon | 28.43±5.13 | | 24.05±3.457 | | 29.55±4.68 | | 64.44±18.65 | | 24.20±4.05 | | 23.11±4.66 | | 23.43±3.83 | |
| | South lebanon | 28.08±4.27 | | 23.34±4.05 | | 27.47±4.91 | | 69.26±16.73 | | 22.68±4.08 | | 22.65±3.95 | | 21.73±4.33 | |
| | North lebanon | 28.57±4.52 | | 23.45±4.02 | | 28.90±5.35 | | 68.18±17.01 | | 24.18±3.48 | | 23.51±4.76 | | 22.34±4.94 | |
| | Beqaa | 27.45±5.10 | | 23.28±3.75 | | 27.26±5.26 | | 67.60±20.08 | | 23.50±3.68 | | 22.98±4.08 | | 21.63±4.67 | |
| Level of education | Primary education | 29.80±3.53 | 0.01 | 23.42±4.40 | 0.24 | 28.81±4.86 | 0.08 | 68.33±20.92 | 0.88 | 24.49±3.48 | 0.18 | 24.37±4.41 | 0.03 | 23.54±4.31 | 0.03 |
| | Secondary education | 27.90±4.77 | | 23.31±4.12 | | 27.91±5.50 | | 67.74±16.61 | | 23.57±3.95 | | 22.78±4.62 | | 21.89±4.78 | |
| | University | 28.05±4.6 | | 23.96±3.18 | | 29.05±5.06 | | 67.10±17.85 | | 23.99±3.47 | | 23.38±4.02 | | 22.51±4.38 | |
| Marital status | Married | 28.64±4.52 | 0.10 | 23.54±4.04 | 0.84 | 29.04±5.42 | 0.06 | 67.88±19.29 | 0.72 | 24.18±3.66 | 0.09 | 23.75±4.80 | 0.02 | 22.50±5.21 | 0.37 |
| | Non married | 27.93±4.69 | | 23.47±3.86 | | 28.07±5.18 | | 67.25±16.48 | | 23.58±3.79 | | 22.78±4.20 | | 22.08±4.37 | |
| Parenthood | Yes | 28.57±4.58 | 0.14 | 23.53±4.08 | 0.92 | 29.13±5.51 | 0.03 | 67.42±19.19 | 0.98 | 24.25±3.51 | 0.057 | 23.86±4.62 | 0.02 | 22.44±5.13 | 0.61 |
| | No | 27.90±4.74 | | 23.57±3.77 | | 28.02±5.01 | | 67.46±16.70 | | 23.55±3.92 | | 22.86±4.22 | | 22.20±4.32 | |
| Occupation field | Medicals | 28.41±4.28 | 0.59 | 24.18±3.51 | 0.01 | 29.32±4.58 | 0.01 | 68.20±17.36 | 0.28 | 24.07±3.61 | 0.35 | 23.40±3.89 | 0.43 | 22.72±4.47 | 0.15 |
| | Non medicals | 28.17±4.76 | | 23.19±4.11 | | 28.11±5.41 | | 68.14±7.94 | | 23.72±3.78 | | 23.07±4.60 | | 22.05±4.88 | |
| Lived abroad | Yes | 27.90±5.05 | 0.54 | 22.85±4.41 | 0.07 | 28.64±5.48 | 0.66 | 71.79±17.94 | 0.006 | 23.52±3.52 | 0.35 | 22.95±4.37 | 0.59 | 22.01±5.14 | 0.55 |
| | No | 28.24±4.56 | | 23.71±3.75 | | 28.08±5.11 | | 66.28±17.32 | | 23.89±3.81 | | 23.21±4.43 | | 22.34±4.52 | |
| Medical specialty | Internal | 28.08±4.60 | 0.66 | 23.50±3.57 | 0.79 | 28.37±5.20 | 0.28 | 68.46±17.65 | 0.51 | 23.59±3.66 | 0.53 | 23.08±4.20 | 0.96 | 22.19±4.37 | 0.40 |
| | Surgery | 28.55±4.37 | | 23.38±4.40 | | 28.65±5.44 | | 66.83±17.78 | | 24.13±3.95 | | 23.13±5.18 | | 22.29±5.66 | |
| | Dermatology | 28.70±4.66 | | 23.68±4.02 | | 28.18±5.30 | | 67.80±18.27 | | 23.85±3.96 | | 22.88±3.88 | | 21.10±4.61 | |
| | ENT | 27.22±5.82 | | 23.92±3.54 | | 30.22±5.39 | | 66.72±15.88 | | 23.78±3.61 | | 23.59±4.38 | | 22.81±3.91 | |
| | Ophthalmology | 28.33±4.09 | | 24.63±2.77 | | 29.60±4.21 | | 64.93±17.31 | | 24.57±2.64 | | 23.43±3.37 | | 23.60±2.34 | |
| | Psychiatry | 29.38±2.13 | | 23.75±2.91 | | 28.88±4.05 | | 74.43±7.36 | | 25.50±2.77 | | 24.25±3.65 | | 23.38±2.66 | |
| | Pediatrics | 26.83±6.11 | | 23.17±6.30 | | 29.33±3.26 | | 55.83±24.07 | | 22.67±3.77 | | 23.83±2.85 | | 22.83±3.71 | |
| Skills of searching information on the internet | Very good | 28.11±4.98 | 0.98 | 23.59±3.78 | 0.84 | 28.34±5.39 | 0.97 | 70.30±17.01 | <0.001 | 23.76±3.90 | 0.94 | 23.20±4.38 | 0.89 | 22.32±4.85 | 0.56 |
| | Good | 28.11±4.55 | | 23.37±4.11 | | 28.42±4.76 | | 66.32±17.53 | | 23.87±3.57 | | 23.01±4.32 | | 22.28±4.09 | |
| | Fair | 28.23±3.81 | | 23.56±3.86 | | 28.47±6.41 | | 59.11±17.06 | | 23.72±3.84 | | 23.18±5.10 | | 21.60±5.78 | |

[Table/Fig-3]: Factors affecting compliance, perceived information asymmetry, patient-physician concordance, internet health information quality, competence of the doctor, empathy of the doctor, communication between patients and doctors.

| | | Pearson coefficient (r) | p-value |
|--|--|-------------------------|---------|
| Compliance | Perceived information asymmetry | -0.009 | 0.85 |
| | Patient-physician concordance | 0.427 | <0.01 |
| | Internet health information quality | 0.024 | 0.6 |
| | Competence of the doctor | 0.298 | <0.01 |
| | Empathy of the doctor | 0.328 | <0.01 |
| | Communication between patients and doctors | 0.273 | <0.01 |
| | Age | 0.074 | 0.11 |
| Perceived information asymmetry | Patient-Physician concordance | 0.510 | <0.01 |
| | Internet health information quality | 0.017 | 0.7 |
| | Competence of the doctor | 0.473 | <0.01 |
| | Empathy of the doctor | 0.414 | <0.01 |
| | Communication between patients and doctors | 0.418 | <0.01 |
| | Age | -0.009 | 0.85 |
| Patient-physician concordance | Internet health information quality | 0.117 | 0.01 |
| | Competence of the doctor | 0.298 | <0.01 |
| | Empathy of the doctor | 0.517 | <0.01 |
| | Communication between patients and doctors | 0.541 | <0.01 |
| | Age | 0.096 | 0.04 |
| Internet health information quality | Competence of the doctor | 0.041 | 0.38 |
| | Empathy of the doctor | 0.054 | 0.24 |
| | Communication between patients and doctors | 0.093 | 0.04 |
| | Age | 0.008 | 0.86 |
| Competence of the doctor | Empathy of the doctor | 0.537 | <0.01 |
| | Communication between patients and doctors | 0.542 | <0.01 |
| | Age | 0.042 | 0.37 |
| Empathy of the doctor | Communication between patients and doctors | 0.698 | <0.01 |
| | Age | 0.087 | 0.06 |
| Communication between patients and doctors | Age | 0.024 | 0.6 |

[Table/Fig-4]: Correlation between compliance, perceived information asymmetry, patient-physician concordance, internet health information quality, competence of the doctor, empathy of the doctor, communication between patients and doctors and age.

the internet health information quality has a very weak positive correlation with communication between patients and doctors. The competence of the doctor has a significant moderate positive correlation with doctors' empathy and communication between patients and doctors.

To measure the percentage of patients' compliance with physicians' advice, score above mean was considered as an indicator of patients' compliance. Thus, 83.1% of Lebanese patients showed compliant with their physicians' advice. In this case, factors significantly affecting patients' compliance were similar to the previous showed results in [Table/Fig-3] with the exception of perceived information asymmetry which represents is this case a significant correlation with patients' compliance (data not shown).

DISCUSSION

With the advent of internet and its easy availability, it has become the first source of information for health care, rather than physician [22]. This study shows that educational level, patient-physician concordance, competence of the doctor, and doctors' empathy and communication between patients and doctors have a significant effect on patients' compliance. Interestingly, perceived information asymmetry and internet health quality had no effects on patients' compliance.

Moreover, the study showed that 81.3% of participants are compliant with the physicians' advice, a percentage similar to what was previously published in another study conducted in Lebanon [19].

Regarding demographics, age had no significant effect on compliance, which can be related to relatively young age of the population (56.5% aged between 18 and 25 years). This might be attributed to the fact that elderly people are more concerned about their health than younger individuals on one hand, and they are usually assisted by medical health workers and family members on the other hand.

In the present study, residency, marital status, gender occupation, living abroad, and expertise in internet search were not associated with patients' compliance, inconsistency with many other populations [23-27]. Yet, a study found an association between married participants and compliance with physicians' advice due to support from the partner [27]. As for the gender of participants, it may not be used as a good indicator for patients' compliance, in accord with other studies [25,26].

The level of education is significantly associated with patients' compliance. More specifically, primary educated people are the most compliant among others with the highest means recorded in doctors' competency and empathy besides communication between the patient and the physician. This could be explained by the fact that participants with lower educational levels may have more trust in physician advice as they have no other source of information as educated individuals who could seek internet and other resources for medical advice. However, other studies stated that higher educational status is associated with better compliance due to better knowledge regarding diseases and therapies [28,29].

Patients' compliance had a moderate positive correlation with patient-physician concordance on one hand and a weak positive correlation with competence of the doctor, empathy of the doctor and communication between patient and doctors on the other hand. However, there was no correlation between the internet health information and perceived information asymmetry.

Prior studies backed up the association between patient-physician concordance and compliance [19,28-30]. Aside from having a correlation with concordance, compliance was also shown to improve with better communication [10]. A study of patients in Korea proved that patient-physician partnership, which reflects concordance, had a strong association with compliance, and this was attributed to the patients' wish for an egalitarian relationship with their doctor [12]. Interestingly, communication between patients and doctors, in turn, is strongly correlated with empathy of the doctors and to a lesser extent with competence of the doctor, patient-physician concordance, and perceived information asymmetry.

Limitation(s)

The cross-sectional study nature made it difficult to know which factor caused the other. The data collection might lead to recall bias since it was based on self-reported surveys. Moreover, the frequency of participants visits to physicians was not assessed.

CONCLUSION(S)

This study showed that primary educated Lebanese patients were the most compliant as a result of enhanced concordance, communication, and doctors' empathy and competence. The patients were mainly concerned with physician quality and not the retrieved medical information from internet.

This study should lead physicians to focus on improving their professional qualities rather than worrying about patients acquiring health information through the internet. The importance of this study lies in being the first study in Lebanon tackling the new factors affecting compliance regarding physician-patient relationship.

Further studies are needed to quantify the impact of the patients' compliance toward their health outcome.

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AUTHOR DECLARATION:

- Financial or Other Competing Interests: None
- Was Ethics Committee Approval obtained for this study? Yes
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. NA

PLAGIARISM CHECKING METHODS: [Jain H et al.]

- Plagiarism X-checker: Feb 04, 2020
- Manual Googling: Apr 15, 2020
- iThenticate Software: May 22, 2020 (8%)

ETYMOLOGY: Author Origin

Date of Submission: **Feb 01, 2020**
Date of Peer Review: **Mar 23, 2020**
Date of Acceptance: **Apr 21, 2020**
Date of Publishing: **Jun 01, 2020**