

Original Article

Patients' Satisfaction with the National Primary Health Care Net in Greece

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Abstract

Background: A National Primary Health Care Net, named PEDY, is for the first time established in Greece in order to connect all public primary healthcare units. The basic indicator for the level of quality of the healthcare services provided is patient satisfaction.

Objective: To investigate the level of patients' satisfaction with the services provided by PEDY and the determinants of this satisfaction.

Methodology: A cross-sectional study was conducted from June to August 2015. The study population consisted of 181 patients, aged ≥ 18 years, who had used the services provided by a provincial PEDY healthcare unit during the last 12 months, and the response rate was 90.5%. Data were collected by means of an anonymous questionnaire that was completed voluntarily by study participants.

Results: The level of overall satisfaction was relatively low (48.6%). Increased age, waiting time satisfaction, medical satisfaction score and intention of recommendation of the services provided to others were related with increased overall satisfaction. The most important findings were reduced frequency of use, users' preference to private doctors, short duration of medical visit and a lack of medical specialties. Inadequate interconnection among primary or secondary healthcare level was also noted as well as high rates of preference concerning medical referral to specialists and hospitals by family doctors.

Conclusion: The findings suggest that users' overall satisfaction is low. A new primary healthcare model is proposed based on the principles of quasi-market in order to adequately interconnect healthcare units at both primary and secondary level.

Key words: satisfaction, determinants, healthcare unit, healthcare net, Primary Health Care

Introduction

Twenty years after the establishment of the National Health System (NHS) in Greece and despite the reforms attempted, equal and universal coverage of medical needs and high quality health services are not yet succeeded (Mossialos et al, 2005). There is strong bureaucracy, increased patients' informal payments and undefined role between different healthcare services as well as professional categories (Geitona & Kyriopoulos, 2000). Health expenditure is not consistent with commensurate improvement of life expectancy indicators, which brings inefficiency at the healthcare system and uncertainty for the future. In Greece during the economic crisis unmet

healthcare needs increased after the enforcement of austerity measures due to patients' financial difficulties (Zavras et al, 2016).

The Greek healthcare system is based on a public-private mixture in terms of organization and financing (Pappa & Niakas, 2006). The recent reform of the National Organization for Providing Health Services (EOPYY) merged the four biggest insurance funds into one. Yet Primary Health Care was highly fragmented since EOPYY distinguished a dual role of providing and buying health services and clearly demonstrated the coexistence of two public Primary Health Care subsystems, thus resulting in the continuation of pre-existing pathogenic system gaps or overlaps.

Furthermore, the necessity of establishing urban health units that are in lack in Greece becomes imperative in order to achieve effective cost control. There are barriers to primary health care access due to limited income (Pappa et al., 2013) and, as a consequence, patients turn to the overdeveloped private healthcare sector or to Secondary Health Care services (Godager et al., 2015). Crucial problems are also identified, on the one hand, at a non-24-hour operation of the primary healthcare units (NSPS, 2011), and on the other, at the management of chronic diseases, especially for patients whose residence is away from their treatment spot (Athanasakis et al., 2012).

The reform of PEDY was attempted in order to interconnect the public healthcare units of EOPYY and the rural healthcare units that were previously subject to reference hospitals (NHS). The estimation of users' satisfaction provides constant feedback, helps to find defaults and contributes to quality amelioration since patients are good discriminators of the received care (Glickman et al., 2010; Kotsagiorgi & Gkeka, 2010; Alieu, 2006). In the Greek healthcare field, surveying patient satisfaction with the first primary healthcare net may contribute to a rational development of a functional framework so as to restrain patients at a primary care level and to reduce hospital care expenditure (Tsirintani et al., 2010).

Purpose of the study

The purpose of this study was to investigate patients' satisfaction with the services provided by PEDY Net and the determinants of this satisfaction.

Methods

Participants and study design

A cross-sectional study took place between June and August 2015. A convenience sample was used and the study sample consisted of patients who visited Regional Department of EOPYY in the province of Kilikis. The whole prefecture includes two general hospitals, one of which is established in the city of Kilikis, and 21 rural healthcare centers but none urban.

The response rate was 90.5% (=181/200) and the participants were interviewed face to face. Inclusion criteria was age ≥ 18 years old, knowledge of Greek language (having the mental capacity to understand and to respond to

questions) and use of the provided services of PEDY net during the previous year.

Measuring tool

A structured and validated questionnaire was used (Aletras et al., 2007), appropriately adjusted to the needs of the study while two additional sections were developed after an extensive review of literature on the concept of patients' satisfaction with the use of health services. The questionnaire included 51 questions about the demographic characteristics of the studied patients, the overall level satisfaction with the services provided, the level satisfaction with both waiting times and medical staff and the perception about the responsiveness of PEDY net on a patient-centered basis.

The demographic characteristics included gender, age, nationality, place of permanent residence, marital status, educational level, professional status, insurance fund and income per month. A pilot study was conducted, using a convenience sample of 30 patients, who responded at the questionnaire at two different periods in order to check reliability of the measuring tool used (Kimberlin & Winterstein, 2008).

The correlation coefficient was >0.7 which indicates excellent reliability of the questionnaire. For each section of the questionnaire Cronbach's alpha coefficient was >0.7 , indicating acceptable internal consistency (Galani, 2013).

Data analysis

The categorical variables are presented as absolute (n) and relative (%) frequencies, while the quantitative variables are presented as mean and standard deviation. To check for associations between quantitative variables with normal distribution, and dichotomous variables, the student's t-test was used. To examine for associations between quantitative variables and categorical variables, with more than two variables, the analysis of variance (ANOVA) was used. When testing for associations between two quantitative variables with normal distribution the Pearson's correlation coefficient was applied. Finally, to measure association between quantitative and ordinal variables, Spearman's correlation coefficient was applied.

A multivariate linear regression method with backward stepwise linear model was applied to eliminate possible confounding. In that case, we present the coefficients beta (b), the 95%

confidence interval and the p-values. Statistical significance level was set to 0.05. Data analysis was performed with the IBM SPSS 21.0 (Statistical Package for the Social Sciences).

The dependent variables were overall satisfaction score, medical satisfaction score and both appointment and examination waiting times satisfaction score. In all cases, increased score indicates increased satisfaction.

Ethical Considerations

The study was approved by the 4th Regional Health Administrative Department. The confidentiality of the data used have been maintained according to the Hellenic Authority for Data Protection.

Results

Study population

The study population consisted of 181 participants, with a mean age 47.5 years old (18.2), 56.4% females and 66.3% married. The majority (49.2%) reported High School graduated while a significant low rate of uninsured up to 3.3% was represented at the study population. An extended description of the socio-demographic characteristics of the sample is provided in Table 1.

Participants' perceptions

Table 2 defines the participants' most recent visit at the PEDY healthcare unit, the frequency of use during the last 12 months and the reason of visit. About half of the study sample (45.9%) visited the healthcare unit once within the last 12 months, while 18.8% over 3 times, a percentage that actually represents the systematic users. The most common reasons for medical visit were acute health problem/non-chronic disease (47.5%), drug prescription (31.5%) and checkup control (25.4%).

Table 3 displays users' perception concerning the medical treatment. 51.3% reported that the doctor dedicated enough time for their examination while 79.6% declared that the doctor treated them with respect (79.6%) and was willing to hear what they had to say about their health situation (69.6%). Patients' perceptions of a patient-oriented Primary Health Care Net are presented in Table 4. 13.3% of the study sample agreed that the connection among Primary Health Care Net is adequate, while the majority (81.8%) prefers to visit first a family doctor, who may direct them to specialists, if necessary. It is considered that the connection of Primary Health Care Net with the

Secondary Health Care Net is not easy (43.1%) while a preference to a family doctor is expressed in order to direct them to hospital care, if necessary (79.5%). The most important problems of the provided services were highlighted as below: shortage of medical specialties (55.8%), low quality medical services (28.7%), lack of organization (26%) and poor staff attitude (25.4%). Patients' first choice for medical treatment are private doctors (38.7%) and the most important reasons that motivate users to their first choice are high quality of services provided (47%), greater confidence in certain doctors (41.4%), restricted financial factors (36.5%) and ease of accessibility (33.7%). 75.1% out of all participants stated that the options they have concerning the medical care they need are limited due to financial factors.

Waiting times satisfaction score

Concerning users' perception about the waiting times for an appointment and a medical visit, 36.5% declared that they had arranged an appointment in <3 days while 69% waited <15 min for a medical visit. Relatively low percentage of the respondents found it difficult to have a convenient appointment (23.2%). It was stated that the waiting time was long for either arranging an appointment (25.4%) or before being examined at the waiting room (18.2%). The average satisfaction score with the appointment and the medical visit waiting times was 10.2 (± 2.7), greater than the mean value 9, in which 3 represented the lowest and 15 the highest satisfaction. Table 5 presents the bivariate relationships between the demographic characteristics and the waiting times satisfaction score. The married had higher waiting times satisfaction score compared to single/divorced/widowed ($p=0.003$).

Medical satisfaction score

The mean medical satisfaction score was 20.5 (± 4.5), greater than the mid-point value 18, in which 6 represented the lowest and 30 the highest satisfaction. Table 6 presents the bivariate associations between the demographic characteristics and the medical satisfaction score. Multivariate linear regression revealed that medical satisfaction score was positively related to age while negatively related to educational level (Table 7). It turned out that as age increased medical satisfaction score increased ($p=0.006$) while as educational level got higher medical satisfaction score decreased ($p=0.045$).

Table 1. Descriptive characteristics of the study population (N=181)

Characteristics	N (%)
<i>Gender</i>	
Male	79 (43.6)
Female	102 (56.4)
<i>Age</i>	47.5 (13.8) ^a
<i>Nationality</i>	
Greek	174 (96.1)
Other	7 (4)
<i>Place of residence</i>	
City of Kilikis	127 (70.2)
Rural area of Kilikis	54 (29.8)
<i>Marital Status</i>	
Single	41 (22.7)
Married	120 (66.3)
Divorced	10 (5.5)
Widowed	10 (5.5)
<i>Educational level</i>	
Not completed primary education	8 (4.4)
Primary school graduate	23 (12.7)
High school graduate	89 (49.2)
Technological/higher educational institute graduate	46 (25.4)
MSc/PhD	15 (8.3)
<i>Professional status</i>	
Private employee	43 (23.8)
Government employee	50 (27.6)
Self-employed	11 (6.1)
Retired	40 (22.1)
Unemployed	35 (19.3)
Other	2 (1.2)
<i>Insurance fund</i>	
Social Insurance Institution for private employees	93 (51.4)
Healthcare Organization for government employees	47 (26.0)
Healthcare Organization for self-employed	11 (6.1)
Agricultural Insurance Organization	16 (8.8)
Uninsured	6 (3.3)
<i>Income per month</i>	698.8 (454.5) ^a

^a mean (standard deviation)

Table 2. Period of recent medical visit, frequency of use and reason for medical visit

Variables	N (%)
<i>Period of recent medical visit</i>	
During the previous month	50 (27.6)
2-3 months ago	47 (26.0)
4-6 months ago	31 (17.1)
> 6 months ago	53 (29.3)
<i>Frequency of use during the last 12 months</i>	
Once	83 (45.9)
2-3 times	64 (35.4)
4-10 times	29 (16.0)
> 10 times	5 (2.8)
<i>Reason of medical visit</i>	
Acute health problem/non-chronic disease	86 (47.5)
Chronic disease	40 (22.1)
Drug prescription	57 (31.5)
Checkup control	46 (25.4)
Medical referral to laboratory testing	37 (20.4)

Table 3. Users' perception concerning the medical treatment

Question	Totally agree	Agree	Neither agree nor disagree	Disagree	Totally disagree
The doctor dedicated enough time for your examination.	14 (7.7)	79 (43.6)	37 (20.4)	43 (23.8)	8 (4.4)
The doctor was willing to hear what you had to say about your health.	20 (11.0)	106 (58.6)	32 (17.7)	18 (9.9)	5 (2.8)
You have confidence in the diagnosis and medical treatment instructions given by your doctor.	21 (11.6)	87 (48.1)	44 (24.3)	26 (14.4)	3 (1.7)
The doctor treated you with respect.	34 (18.8)	110 (60.8)	25 (13.8)	11 (6.1)	1 (0.6)
The doctor informed you about the benefits and risks of medical prescription or laboratory test.	19 (10.5)	63 (34.8)	51 (28.2)	36 (19.9)	12 (6.6)
The doctor encouraged you to express your opinion and to participate in decision making about a potential subsequent prescription or treatment.	12 (6.6)	43 (23.8)	58 (32.0)	53 (29.3)	15 (8.3)

Values are expressed as absolute frequencies (n).

Table 4. Participants' perceptions of a patient-oriented Primary Health Care Net

Question	Totally agree	Agree	Neither agree nor disagree	Disagree	Totally disagree
The connection among the Primary Health Care Net is adequate.	0 (0.0)	24 (13.3)	54 (29.8)	66 (36.5)	37 (20.4)
You prefer visiting first a family doctor so as to be guided to specialists, if necessary.	64 (35.4)	84 (46.4)	12 (6.6)	17 (9.4)	4 (2.2)
The connection between Primary Health Care Net and Secondary Health Care Net is simple.	1 (0.6)	23 (12.7)	79 (43.6)	54 (29.8)	24 (13.3)
You prefer visiting first a family doctor so as to be guided to hospital care, if necessary.	50 (27.6)	94 (51.9)	19 (10.5)	15 (8.3)	3 (1.7)
You also visit a private doctor so as to have a second opinion.	47 (26.0)	89 (49.2)	16 (8.8)	22 (12.2)	7 (3.9)
There is a full range of medical specialties at PEDY health unit.	0 (0.0)	21 (11.6)	49 (27.1)	70 (38.7)	41 (22.7)

Values are expressed as absolute frequencies (n).

Table 5. Bivariate associations between the participants' demographic characteristics and the waiting times satisfaction score

Characteristics	Mean waiting times satisfaction score (standard deviation)	P-value
Sex		0.9 ^a
Male	10.2 (3.0)	
Female	10.2 (2.4)	
Age	0.07 ^b	0.3 ^b
Place of residence		0.5 ^a
City of Kilikis	10.1 (2.7)	
Rural area of Kilikis	10.5 (2.8)	
Marital Status		0.003^a
Single/divorced/widowed	9.4 (2.9)	
Married	10.7 (2.5)	
Level of education	0.05 ^γ	0.5 ^c
Insurance fund		0.5 ^d
Social Insurance Institution for private employees	10.3 (2.9)	
Healthcare Organization for government employees	10.1 (2.7)	
Uninsured	9.0 (3.2)	
Income per month (€)	0.1 ^c	0.2 ^c
Number of visits during the previous 12 months	0.0 ^c	0.9 ^c

^a student's t-test ^b Pearson correlation coefficient ^c Spearman correlation coefficient

^d Analysis of variance

Table 6. Bivariate associations between the participants' demographic characteristics and the medical satisfaction score

Characteristics	Mean medical satisfaction score (standard deviation)	P-value
Sex		0.2 ^a
Male	21.0 (4.5)	
Female	20.1 (4.4)	
Age	0.21 ^b	0.006^b
Place of residence		0.02^a
City of Kilis	20.0 (4.1)	
Rural area of Kilis	21.6 (5.1)	
Marital Status		0.5 ^a
Single/divorced/widowed	20.1 (4.4)	
Married	20.7 (4.5)	
Level of education	-0.18 ^c	0.02^c
Insurance fund		0.5 ^d
Social Insurance Institution for private employees	20.1 (4.4)	
Healthcare Organization for government employees	20.8 (4.7)	
Uninsured	21.5 (4.8)	
Income per month (€)	0.04 ^c	0.6 ^c
Number of visits during the previous 12 months	0.15 ^c	0.05^c

^a student's t-test ^b Pearson correlation coefficient ^c Spearman correlation coefficient

^d Analysis of variance

Table 7. Multivariate linear regression with the medical satisfaction score as dependent variable

	Coefficient b	95% confidence level for b	P-value
Age	0.07	0.02 to 0.11	0.006
Educational level	-0.72	-1.42 to 0.02	0.045

Table 8. Bivariate correlations among demographic and general characteristics and overall satisfaction score

Characteristics	Mean overall satisfaction score (standard deviation)	P-value
Sex		0.02^a
Male	6.5 (2.2)	
Female	5.8 (1.9)	
Age	0.34 ^b	<0.001^b
Place of residence		0.004^b
City of Kilkis	5.8 (1.8)	
Rural area of Kilkis	6.8 (2.4)	
Marital Status		0.02^a
Single/divorced/widowed	5.6 (1.9)	
Married	6.4 (2.1)	
Level of education	-0.22 ^c	0.003^c
Insurance fund		0.9 ^d
Social Insurance Institution for private employees	5.9 (2.1)	
Healthcare Organization for government employees	6.0 (2.0)	
Uninsured	5.8 (1.2)	
Income per month (€)	0.08 ^c	0.3 ^c
Number of visits during the previous 12 months	0.11 ^c	0.14^c
Waiting times satisfaction score	0.35 ^b	<0.001^b
Medical satisfaction score	0.63 ^b	<0.001^b
Updated medical record	-0.17 ^c	0.02^c
Full range of medical specialties	-0.18 ^c	0.02^c
Visiting hours of the health unit	-0.27 ^c	<0.001^c
Future preference to PEDY health unit	-0.62 ^c	<0.001^c
Recommendation to others	-0.70 ^c	<0.001^c

^a student's t-test ^b Pearson correlation coefficient ^c Spearman correlation coefficient ^d Analysis of variance

Table 9. Multivariate linear regression with overall satisfaction score as dependent variable

	Coefficient b	95% confidence level for b	P-value
Age	0.02	0.01 to 0.03	0.007
Waiting times satisfaction score (appointment and medical visit)	0.15	0.08 to 0.22	<0.001
Medical satisfaction score	0.14	0.08 to 0.19	<0.001
Recommendation to others	-0.95	-1.21 to -0.69	<0.001

Overall satisfaction score

The average score of overall patient satisfaction score was 6.1 (± 2.1), greater than the mid-point value 5, in which 0 represented the lowest and 10 the highest satisfaction. The findings of the bivariate analysis among the demographic characteristics and the average overall satisfaction score are presented in Table 8. Multivariate linear regression revealed that overall satisfaction score was positively correlated to age, waiting times satisfaction score (appointment and examination), medical satisfaction score and intention of recommendation to others (Table 9). It was found that older people had higher overall satisfaction score than younger ($p=0.007$), those who had higher waiting times score had higher overall satisfaction score ($p<0.001$), those who had higher medical satisfaction score had higher overall satisfaction score ($p<0.001$) and those who intended to recommend PEDY health unit to others had higher overall satisfaction score ($p<0.001$).

Discussion

The present study aimed to shed light on the user satisfaction with the services provided by the first National Primary Health Care Net in Greece and to reveal any existing pathologies and gaps. About 48.6% of the respondents declared satisfaction with the services provided, although this rate is significantly low compared to the results of other studies (Pini et al., 2014; Constantinou & Mitropoulos, 2012; Tountas et al., 2003). Furthermore, up to 28.7% of the participants reported low quality healthcare services, a finding that indicates a plain margin for improvement actions (Kalogeropoulou, 2011). Similarly, the lack of organization has a crucial impact on users' opinion about the overall picture of the primary healthcare services (Pierrakos et al., 2013), especially to those having a high educational level (Kabadai & Niakas, 2004). Focusing on users' dissatisfaction, instead of satisfaction, helps in finding any health system malfunctions (Bankauskaite & Saarelma, 2003).

We found that increased age was related to increased satisfaction score with the physicians of PEDY net, a finding that is confirmed by various studies (Pappa, 2013; Anagnostopoulou et al., 2012; Levesque et al. 2012; Marshall, 2011; Margolis et al. 2003; Bodur et al. 2002; Rahmqvist, 2001; Hall & Dornan 1990). In

addition, lower educational level was also related to increased satisfaction score with the doctors, since low and middle educated usually have less knowledge concerning the range of health services and therefore express fewer expectations in relation to those highly educated (Anagnostopoulou et al., 2012; Pierrakos & Yfantopoulos, 2007; Al-Eisa et al., 2005; Kabadai & Niakas, 2004; Saeed et al., 2001; Judge & Solomon, 1993). The key role of the physicians in users' perception is influenced by social values and stereotypes that place doctors into privileged status and patients under their dependence (Veniou & Tentolouris, 2013), thus resulting feelings of guilt to criticism (Carr-Hill, 1992).

Our results revealed that the majority of the medical visits were concluded within 10 min, a finding consistent with previous studies in Greece and Cyprus (Gabriel et al., 2012; Pini et al., 2011). In the case of public hospitals, the large number of incoming patients is associated to the limited time that doctors are obliged to dedicate per patient. In the case of the provincial PEDY healthcare unit of our study the short-term visit may be partly justified by the large proportion of those who just needed medical prescription (31.5%), it is contradicted though by the low number of medical appointments per day. Doctors usually try to allocate evenly their time available, in contrast with the patients that seek to maximize their medical visit time (West et al., 2005; Siponen & Välimäki 2003).

The time that patients had to wait at the waiting room, compared to that of other studies that exceeded one hour (McCarthy et al., 2000), was quite satisfactory, taking also into account that the longer the waiting lists are the higher delays are caused in early diagnosis that have a doubtful impact on patient's health. The married had higher satisfaction score with the waiting times for arranging an appointment as well as for being examined, a finding that is confirmed by several studies in Greece (Kadda et al., 2010) and Cyprus (Gabriel et al., 2012). Although patient satisfaction with the system accessibility is high, there is often noted a preference to inferior solutions for routine care, such as emergency wards. (Goth et al., 2014)

A remarkable low rate of uninsured (3.3%) that visited the PEDY health unit implies insufficient information and inefficient operation of the Primary Health Care Net since this portion of

citizens face unequal access to standard services (Tountas et al., 2011). The connection between the employed and the benefits of health insurance is a strongly determining factor of accessibility ease in the Greek health system since the rate of unemployed that reports accessibility barriers has almost been doubled in the four-year period between 2008 and 2012 (Economou et al., 2014). There is great evidence that low income is a restrictive factor to health accessibility, causing the risk of not receiving the needed care (Lahana et al., 2011; Burström, 2002; Chen & Hou, 2002).

Incomplete interconnection both among primary healthcare units and secondary ones impede the establishment of an integrated healthcare system. A significant high rate of the users (75.2%) declared intention to also visit a private doctor, a finding that is consistent with other studies (Pappa et al., 2006) and shows a significant increase of out-of-pocket payments.

Limitations

Limitations of our study concern first the fact that the sample was drawn from only one prefecture of Greece, which is not representative of all prefectures. The systematic recall bias is quite likely, especially when there has been a long time since the medical visit took place. Furthermore, it may not have been given much attention by the respondents to the completion of the questionnaire due to time pressure.

Conclusions

Appropriate strategic planning and health policies are required in order to restructure the Primary Health Care Net and to implement its evaluation model. Conducting satisfaction studies is a useful tool for effective reallocation of available resources and sustainable financing of Primary Health Care.

In this light, it is proposed a new quasi-market model which on the one hand provides low cost of services, through competition rules, and on the other ensures equality and solidarity, through the users' free choice of (Grand, 2011). Competition among public and private healthcare providers would result to achieving a great combination of higher quality services provided and lower cost.

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