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Information Seeking Behaviour of Municipal Medical Center Visitors in Greece

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Abstract.

Context In the years of scarce economic resources the Municipal Health Centres (MHC) are becoming increasingly important for primary healthcare provision. The MHCs are close to the communities they serve, often cooperate with nongovernmental organizations and provide primary healthcare services often to vulnerable citizens originating from lower socio-economic backgrounds, unemployed people, immigrants, etc.

Objective The paper deals with the information needs and information seeking preferences of MHC visitors. Our aim is to capture visitors' information profile in order to propose healthcare information policies in order to improve equity, inclusiveness and fairness to vulnerable citizens.

Methods A survey was conducted through a specially designed questionnaire distributed to visitors of the five major MHCs in Athens, Greece. Descriptive and inferential statistics as well as exploratory factor analysis has been carried out through SPSS (version 22).

Results The information needs of visitors are related to prevention, diagnosis and prognosis. Healthcare professionals and the Internet are considered to be the main sources of information, while the individuals consider physician's complicated language as the main information barrier.

Conclusions Development of appropriate information services and advisory material for municipal health centres' visitors based on their information seeking preferences may aid the healthcare system as a whole.

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Keywords: *Information needs, information resources, information barriers, municipal healthcare centres, survey, Greece*.

1. Introduction

Over the last few years Municipal Health Centres (MHCs) in Greece provide primary health care services to a number of individuals of different socioeconomic backgrounds. Especially the MHCs situated in Athens are closely related to the communities, provide primary healthcare services to individuals from all socio-economic backgrounds, especially from lower strata, and often cooperate with Nongovernmental Organizations (NGOs) in order to face the humanitarian crisis intensifying due to the deepening of the economic crisis. MHCs have provided valuable healthcare services to all those not having access to qualified support, as for example people of all origins without health insurance, children missing out essential vaccinations, immigrants facing unacceptable everyday healthcare realities and many others. The primary healthcare services provision to the urban communities is supportive to healthcare system equity and inclusiveness; while at the same time increasing efficiency by constraining the burden of inappropriate hospital visits [1] [2].

Especially during the period of tough economic crisis and the subsequent humanitarian crisis, the healthcare services delivered by MHCs contribute to health equity and social health protection of vulnerable citizens. Immigrants for example represent a category of MHC visitors that receive qualified services for as long as they stay in the country [3] [4]. In this context health information goes beyond the medical issues and becomes a vehicle of citizens' inclusion, compassion and socially relevant cohesion action, as a response to a constantly changing hardened socioeconomic reality. Information through the appropriate channels and form may empower visitors, allow active participation in the medical decision-making and improves their ability to prevent and self manage health issues [5] [6] [7] [8].

MHCs can be the main healthcare information pillar for vulnerable citizens as they are their first port of call. However, physicians and other healthcare professionals need not only to treat their patients but also handle the information space in a way that promotes a friendly, supportive and non-judgmental consultation style, developing empathy and trust, managing uncertainty and summarizing and documenting the clinical decisions. Modeling information sharing and exchange for situations such as the above is going beyond symptoms, diagnosis and therapy information to information rich interactions between patient and physician. This involves understanding of visitors' information needs, preferred information resources, as well as appreciation of peoples' socioeconomic, ethical and religion background.

The information age and especially the Internet can indeed provide a unique opportunity for people-centered healthcare information provision based on their

special characteristics and backgrounds [9] [10] [11] [12] [13]. This work studies the information seeking behavior of visitors of the city of Athens' municipal health centers in Greece, i.e. their information needs, the information resources and the information obstacles.

2. Methods

A survey for capturing the information seeking behavior of MHCs visitors took place through a specially designed questionnaire: The questionnaire was informed by Wilson's theoretical information seeking macro-model which focuses on information needs and the context, i.e. the situation in which information needs arise and the barriers which may influence information seeking behavior [14][15][16]. According to Wilson's model, information seeking is viewed as an effort to satisfy information needs through the utilization of different information resource(s) (e.g. Internet, printed material, professionals). At the same time some factors can act as barriers to information seeking. Table 1 presents a literature review for informing the questionnaire dimensions based on Wilson's information seeking model.

Table 1: A selected literature review for informing the questionnaire dimensions based on Wilson's information seeking model.

Questionnaire Dimensions	Definition/ Explanation	Indicative study items
Information needs	Measures the frequency of specific issues and topics that drive MHC visitors to information seeking.	Information on general issues, health prevention (vaccines, diagnostic tests), nutrition/diet, alternative medicine, search for hospitals or physicians, search for possible diagnosis (using symptoms), available medical treatments, information regarding diagnosis, information regarding medication, disease prognosis, support/aid groups and other families with similar health problem.
Information resources	Measures the importance to specific information resources given by MHCs' visitors when seeking health information.	Physicians, nurses, family members, Colleagues/friends, mass media, books, brochures, health-oriented campaigns, speeches etc., Internet/search engines (i.e. Google) and medical websites.
Obstacles when seeking information	Measures the importance given to obstacles by MHCs' visitors when seeking information.	Time constraints, not enough frequent visits to physician for consultation, physician's complicated/scientific language, lack of organized information sources (i.e. libraries), difficulty in understanding health information in a foreign language and large amount of health information.

The survey questionnaire was first pilot tested by a group of experts and then was distributed to 256 visitors of City of Athens' five main MHCs which are situated in four different areas of the city. From the 256 visitors approached the 196 completed and returned the questionnaire, i.e. a response rate of 77%.
A 5-point Likert scale was used to rate visitors' frequency of information needs (11-items); importance of information resources utilization when it comes to healthcare issues (8-items), and the importance of obstacles encountered when seeking information (4-items). The 23-item questionnaire scale exhibited very good internal consistency with overall Cronbach alpha of 0.82; while the reliability of each subscale was 0.83 for "information needs"; 0.77 for "information resources"; and 0.73 for the information obstacles which is "respectable" or "very good" according to usual reliability guidelines [17].

The statistical analysis took place include descriptive nonparametric statistics in order to summarize the data, nonparametric tests (Mann-Whitney U test and Kruskal-Wallis one way analysis of variance by ranks) for differences in information seeking preferences among the different visitor groups, and exploratory factor analysis and principal components analysis (PCS) with varimax rotation was carried out. Statistical analysis was performed using the SPSS for Windows (version 22) statistical software (SPSS Inc., Chicago, IL).

Table 2: Municipal health centers visitors' demographic characteristics

Gender		***Citizenship***	
Female	104 (61.9%)	Greek	148 (88.0%)
Male	64 (38.1%)	E.U. member country	10 (6.0%)
Age		Non E.U. country	10 (6.0%)
18-24	21 (12.5%)	***Occupation***	
25-35	46 (27.4%)	Public sector	50 (29.9%)
36-45	42 (25.0%)	Private sector	59 (35.4%)
≥ 46	59 (35.1%)	Unemployed	29 (17.4%)
Education		Pensioner	20 (11.9%)
Compulsory	34 (20.4%)	Student	9 (5.4%)
High school	41 (24.6%)		
Technical	47 (28.1%)		
Higher	45 (26.9%)		

3. Results

Demographic characteristics of respondents

Table 2 summarizes the responders' characteristics. Although the The survey participants are mostly women (61.9%), above the age of 45 (35.1%), with Greek citizenship (88.0%), having technical (28.1%) or higher (26.9%) education and working in the private sector (35.4%).

Table 3: Municipal health centers' visitors' information needs.

Information needs	Frequency of information needs			Median value
	Low (1 & 2)	Medium (3)	High (4 & 5)	
General health issues *(Valid N=155)*	24.5%	32.3 %	43.2%	3.00
Prevention (vaccines, etc.) *(Valid N=154)*	31.8%	16.2%	52.0%	4.00
Nutrition/Diet *(Valid N=155)*	36.8%	21.9%	41.3%	3.00
Hospitals /physicians *(Valid N=153)*	30.7%	30.1%	39.2%	3.00
Potential diagnosis (symptoms)*(Valid N=151)*	27.1%	27.2%	45.7%	3.00
Treatments *(Valid N=152)*	32.9%	28.9%	38.2%	3.00
Current diagnosis *(Valid N=152)*	20.4%	25.7%	53.9%	4.00
Medication *(Valid N=150)*	31.3%	23.3%	45.4%	3.00
Prognosis *(Valid N=149)*	18.1%	26.8%	55.1%	4.00
Support/aid groups *(Valid N=149)*	63.8%	18.1%	18.1%	2.00
Others with similar problems *(ValidN=146)*	65.8%	19.2%	15.0%	2.00

4. Descriptive nonparametric statistics

Table 3 presents the frequency of municipal health centers visitors' information needs: "prevention (vaccines, etc)" (median value=4.00), "current diagnosis" (median value=4.00) and "prognosis" (median value=4.00) are most frequently utilized by the visitors. On the other hand, information about "support/aid groups" (median value=2.00) and "others with similar health problems" (median value=2.00) are utilized less frequently. Statistical significance differences have been identified between men and women through U-test for information about "nutrition/diet" (U=2276.500, p=0.026). In particular, women (mean rank 84.29) seek more often information for "nutrition/diet" than men (mean rank 68.31), while significant differences have been identified for "others with similar problems" among the "citizenship" subgroups (H(2)=12.820, p=0.002) with mean ranks 72.25 for Greek citizens, 125.50 for EU citizens and 87.89 non EU country citizens. Kruskal-Wallis test identified significant differences among occupation subgroups for information seeking about "prevention (vaccines, etc.)" (H(7)=14.296, p=0.046), "nutrition/diet" (H(7)=15.927,

p=0.026), "current diagnosis" (H(7)=18.836, p=0.009), "medication" (H(7)=14.661, p=0.041) and "prognosis" (H(7)=14.544, p=0.042).

Table 4: Municipal health centers' visitors' information resources.

Information resources	Significance of information resources utilization on medical decisions			
	Low (1 & 2)	**Medium (3)**	**High (4 & 5)**	**Median value**
Family members/friends *(Valid N=137)*	38.7%	28.5%	32.8%	3.00
Healthcare Professionals /experts *(Valid N=139)*	27.4%	34.5%	38.1%	3.00
Mass media *(Valid N=140)*	55.7%	23.6%	20.7%	2.00
Books *(Valid N= 138)*	45.7%	28.3%	26.0%	3.00
Brochures *(Valid N=140)*	51.4%	27.1%	21.5%	2.00
Health-oriented campaigns, speeches etc. *(Valid N=139)*	63.3%	12.2%	24.5%	2.00
Internet/Search engines (i.e. Google) *(Valid N= 139)*	36.7%	26.6%	36.7%	3.00
Medical websites *(Valid N=137)*	40.1%	25.5%	34.4%	3.00

Table 4 presents the survey results for the most significant information resources for MHCs visitors: "Healthcare Professionals /experts" (median value=3.00), "family members/friends" (median value=3.00), and "Internet/search engines (i.e. Google)" (median value=3.00) are considered to be the most important information resources; while "mass media" (median value=2.00), "health-oriented campaigns, speeches etc" (median value=2.00) and "brochures" (median value=2.00) were less significant on medical decisions. Kruskal-Wallis test identified significant differences among occupation subgroups for utilizing "Internet / search engines" (H(7)=16. 98, p=0.018) and "Medical websites" (H(7)=15.26, p=0.03).

Table 5: Municipal health centers' visitors' obstacles to information seeking.

Obstacles when seeking information	Significance of obstacles			
	Low (1 & 2)	**Medium (3)**	**High (4 & 5)**	**Median value**
Physician's complicated/scientific language *(Valid N=150)*	65.3%	22.0%	12.7%	2.00
Lack of organized information sources (i.e. libraries) *(Valid N=152)*	66.5%	13.8%	19.7%	2.00

Difficulty in understanding health information in a foreign language *(Valid N=151)*	60.9%	9.9%	29.2%	2.00
Large amount of health information *(Valid N=152)*	47.4%	19.7%	32.9%	3.00

In Table 5 the perceived importance of obstacles MHCs visitors encounter when seeking information is presented. It seems that the "large amount of health information" (median value=3.00) is the prevalent information barrier. The Kruskal-Wallis test identified subgroup differences for "physician's complicated/scientific language" among the age groups (H(3)=9.350, p=0.025; mean ranks 56.79 for 18-24 age group, 89.79 for 25-35 age group, 75.81 for 36-45 age group and 70.75 for >45 age group), as well as for the "lack of organized information sources" among occupation's groups (H(7)=17.337, p=0.015). The education level subgroups resulted in significant differences for the "difficulty in understanding health information in a foreign language" (H(5)=16.073, p=0.007).

Table 6: PCA results for the information needs dimension

Information Needs (IN)	**Factors**		
	Medical IN	**Wellbeing IN**	**Support IN**
Hospitals/physicians	.520		
Potential diagnosis (symptoms)	.740		
Treatment(s)	.828		
Current diagnosis	.789		
Medication	.576		
Prognosis	.638		
General health issues		.794	
Prevention (vaccines, etc.)		.825	
Nutrition/Diet		.724	
Support/aid groups			.783
Others with similar health problems			.888

5. Grouping of information needs, sources and obstacles

Information needs

Municipal health centers' visitors sought for information in relation to a number of health related information needs. A principal component factor (PCA) analysis with Varimax rotation was conducted in order to identify orthogonally aligned factors. The PCS with Eigen value greater than 1 grouped these information needs into a three-factor solution explaining 62.74% of the total variability. The PCA is presented in Table 6, with the three factors tentatively named "medical information needs", "wellbeing information needs" and "support information needs". Measurement scales produced for these were

found to be "very good" for "Medical IN" (0.82) and "good" for "Wellbeing IN" (alpha is 0.73) and for "Support IN" (alpha is 0.70).

Table 7: PCA results for the information sources dimension

Information Resources (IR)	**Factors**		
	Conventional IR	**Online IR**	**Interpersonal IR**
Brochures	.831		
Books	.796		
Health-oriented campaigns, speeches etc.	.700		
Mass media	.548		
Medical websites		.910	
Internet/Search engines		.900	
Family members/ friends			.874
Healthcare Professionals /Experts			.755

Information Resources

PCA with varimax rotation and Eigen value greater than 1 suggested a two factor solution for the information resources dimension. The Scree plot analysis indicated a two or possible three factor solution in the light of Stevens's (Stevens, 1999) suggestion that constructs with Eigen value close to 1 before the first point of levering should be retained. Therefore, the three-factor solution explaining 70.92% of the total variability has been selected (Table 7): The first factor includes "conventional IR", the second "online IR"; while the third includes "interpersonal IR". The third factor describes professional sources such as physicians and nurses. Once again, all items loaded well on the three factors, and exhibited "adequate" to "good" and "very good" internal validity (alphas are 0.77 for conventional IR, 0.61 for interpersonal and 0.82 for online information resources).

Table 8: PCA results for the information barriers dimension

Obstacles when seeking information	**Factors**
	Environmental
Physician's complicated/scientific language	.704
Lack of organized information sources	.608
Difficulty in understanding health information in a foreign language	.795
Large amount of health information	.852

Information barriers

We employed a PCA with Varimax rotation to elicit the factors that capture the information barriers. Our analysis produce an one factor solution with all individual items loaded well (Table 8). As it has been mentioned the internal consistency of this scale is "good" with an alpha coefficient 0.73.

Table 9. Descriptive statistics, reliabilities and correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender	1.62	0.49												
2. Age	2.83	1.05	-.012											
3. Education	3.67	1.31	.115	-.110										
4. Citizenship	1.18	0.52	.010	-.053	-.098									
5. Occupation	2.98	2.07	.092	-.140	**-.176***	**.285****								
6. Medical IN (6 items)	3.262	1.424	**-.172***	.084	.050	-.023	**-.232****	**(.82)**						
7. Wellbeing IN (3 items)	3.147	1.410	**.278****	.095	-.057	.029	-.044	.000	**(.73)**					
8. Support IN (2 items)	2.333	1.760	.093	.050	-.108	.039	-.113	.000	.000	**(.69)**				
9. Conventional IR(4 items)	2.522	1.461	.113	-.138	.090	.119	-.018	.069	**.294***	**.280****	**(.77)**			
10. Online IR	2.982	1.811	-.063	**-.118**	-.138	-.013	-.015	.013	.004	**.204**	.000	**(.82**		

(2 items)		2		**76***	**6***	8	7	9	7	*	0	)		
11. Interpersonal IR (2 items)	3.063	1.326	.048	.149	**-.210***	-.112	.058	.035	.017	-.030	.000	.000	**(.61)**	
12. Obstacles (4 items)	2.428	1.911	-.001	.118	**-.179***	.071	.048	**.202***	.012	.110	.064	**-.174***	.066	**(.73)**

Reliability coefficients appear in parenthesis, *p≤ .05, **p ≤ .01

Associations

Means, standard deviations, reliabilities and correlations for demographic characteristics and all factors identified for information seeking (information needs, information resources and information obstacles) are presented in Table 9. Correlations are estimated using Pearson's rank parametric correlation coefficient and a number of interesting associations have been identified:

(r= 0.164, p=.048).

6. Discussion

Synopsis of Survey Results

Our study showed that municipal health clinics' patients mainly seek information relating to disease and they highly utilize search engines, e.g. Google. The satisfaction of patients' "clinical", such as treatment, and "well-being" information needs, such as prevention, by primary care units influences positively the degree of those patients' satisfaction for health care services of those units [18]. When patients utilize Internet for their information, they often cooperate better with their doctor [19]. Moreover, the information resources which are most frequently utilized by the patients include Internet and physicians [19][20].The discrimination between online and offline health information seekers depends on their demographic characteristics, such as age, education and income [21]. It seems that younger patients are more often informed about health issues via the Internet and the better patient's occupation is related to more patient information seeking for health topics as well as more confidence to physician by patients [22]. In this study, patients reported the large amount of health information and the inadequate frequency of visits to physician as barriers when seeking information.

In terms of respondents' information needs, men searched clinical information more frequent compared to women, on the other hand women searched more

often well-being information. In addition, participants that were occupied as civil servants searched statistically significantly more frequent "clinical" information compared to those that were students. It has been identified that "diagnosis" as information need was not so important for respondents that were younger than 25 years old compared to other age groups of patients. Furthermore, patients with EU member country citizenship searched statistically significantly more often information for "support groups" compared to those with Hellenic and EU non-member country citizenship.

On the other hand, the impact of "nurses" and "health-oriented campaigns/speeches" was greater on patients that were born in EU member country compared to those that were born in Hellas. Also, the impact of "social" resources was statistically significantly greater on widowers compared to single patients and the impact of "digital and conventional" resources was statistically significantly greater on civil servants compared to pensioners. In terms of the information obstacles' impact, the importance of "inadequate frequency of visits to physicians" as information barrier was greater for the participants with Hellenic citizenship compared to other citizenship groups, while the information barrier "time constraints" had statistically significantly greater importance for single patients compared to those that were widowers. Finally, the impact of the information obstacle relating to "difficulty in understanding health information in a foreign language" was greater on patients that were graduates of compulsory education in comparison with other education's groups.

Theoretical implications

The municipal medical centers occupy a rather unique position in the primary healthcare system and being close to their communities is critical. Studying the information seeking preferences of their visitors as well as the impact of information seeking preferences on their health status is a critical issue in this domain. Wilson's macro-model of information seeking behaviour has been briefly discussed and adopted for studying the information seeking behaviour of municipal health centers' visitors. On the theoretical contribution, the study was oriented towards the development of a methodological perspective enlightening patients' offline and online information source preferences for the satisfaction of their particular information needs. Moreover, this work exposed the pivotal role of environmental and personal obstacles that patients face when they seek health information. Depending on the level of desired detail, the same methodology of studying the information seeking behaviour (information needs, information sources and barriers when seeking information) of municipal medical centers' visitors may inform specific scenarios for information when, for example, a particular patients' category, such as immigrants, seeks health information. Through the information seeking perspective the information needs constitute a noteworthy factor and hence they should be included at the core of formulation of appropriate medical information systems and services.

Methodological implications

Through this analysis we have also been able to relate the patients' information seeking preferences to their demographic characteristics, especially nationality. Patients from all socio-economic strata, especially from lower ones, visit primary care units seeking information relating to primary health care. A particular category of them is represented by immigrants. Therefore, the study of municipal health centers' visitors' different information needs, information sources used and the information barriers encountered may shed light on how different information seeking preferences may have a positive impact on patients' health status. In addition, this study offers a framework for future research where the impact of patients' digital and information literacy and its role on patients' health information seeking on the basis of specific health related information needs and on a range of formal and informal online information sources could be explored in more detail offering a closer contextual understanding on this relationship.

Limitations – further research

The study sample consists of the visitors of municipal health centres and therefore the survey results can only be generalized by caution. Future research may incorporate surveys with municipal health centers' visitors from other regions of Greece for a more widespread examination of the primary health care users' information behavior.

7. Conclusions –further research

Patients need to continually improve their knowledge about health issues, because the educated patients may participate actively in their treatment and ameliorate their compliance with it. As such, it is necessary to understand patients' information behaviors in order to develop specialized information services i.e. portal and mobile phone's applications, specially designed for municipal health centers' visitors, such as immigrants, that satisfy their needs. During today's immigrant crisis, the development of appropriate information actions for that vulnerable social group could be vital for removing information barriers between patients of different nationalities as opposed to artificial barriers at the borders between the countries.

References

Vedovetto A, Soriani N, Merlo E & Gregori D, (2014) The burden of inappropriate emergency department pediatric visits: Why Italy needs an urgent reform. Health Services Research 49.4:1290-1305.

Ingram J, Cabral C, Hay AD, Lucas PJ & Horwood J (2013) Parents' information needs, self-efficacy and influences on consulting for childhood respiratory tract infections: a qualitative study. BMC Fam Pract14.1: 106.

Gimeno-Feliu LA, Calderón-Larranaga A, Diaz E, Poblador-Plou B, Macipe-Costa R, & Prados-Torres A, (2015) The healthy migrant effect in primary care. Gac Sanit 29.1: 15-20.

Murphy J, (2013) Editorial: Patient information comes of age. Health Info Libr J (doi: 10.1111/hir.12027).

Neuberger J (2000) The educated patient: new challenges for the medical profession. J Intern Med 247: 6-10.

Lambert SD & Loiselle CG (2007) Health information–seeking behavior. Qual Health Res 17: 1006-19.

Calvillo J, Roman I, Roa LM (2013) How technology is empowering patients? A literature review. Health Expect (doi: 10.1111/hex.12089).

Wright B (2013), Rural-urban differences in consumer governance at community health centers. J Rural Health 29:125–31.

Andrews JE, Pearce KA, Ireson C, Love MM, (2005) Information-seeking behaviors of practitioners in a primary care practice-based research network (PBRN), J Med Libr Assoc 93: 206-12.

Attfield SJ, Adams A, Blandford A, (2006) Patient information needs: pre- and post-consultation. Health Informatics J 12:165–77.

Cooley DL, Mancuso AM, Beck Weiss L, Coren JS, (2011) Health-related internet use among patients of osteopathic physicians, J Am Osteopath Assoc 111: 473-82.

Bylund CL, Gueguen JA, Sabee CM, Imes RS, Yuelin L, et al. (2007) Provider–patient dialogue about internet health information: An exploration of strategies to improve the provider–patient relationship, Patient Educ Couns 66:346-52.

Cotten SR, Sipi S, Gupta SS (2004) Characteristics of online and offline health information seekers and factors that discriminate between them. Soc Sci Med 59.9: 1795-806.

Wilson TD (1999), Models in information behaviour research. Journal of Documentation 55.3: 249-70.

Wilson TD (2000), Human information behavior, Informing Science 3:49-55.

Wilson TD (2006), Revisiting user studies and information needs, Journal of Documentation 62.6: 680-84.

Nunnally JC, Bernstein IH (1994) Psychometric Theory, (3rd ed.), New York: McGraw-Hill.

Carlos A., Moimaz SAS, Garbin CAS (2014), Evaluation of the degree of satisfaction of dental service users of family health units. Brazilian Research in Pediatric Dentistry and Integrated Clinic 14.4: 313-24.

Baldwin AS, Cvengros JA, Christensen AJ, Ishani A, Kaboli PJ (2008) Preferences for a patient-centered role orientation: Association with patient-information-seeking behavior and clinical markers of health, Ann. Behav. Med. 35: 80–86.

Morey O (2007) Health information ties: preliminary findings on the health information seeking behaviour of an African-American community. Information Research 12, paper 297, (http://InformationR.net/ir/12-2/paper297.html).

Hesse BW, Nelson DE, Kreps GL, Croyle RT, Arora NK, et al. (2005) Trust and sources of health information. The Impact of the Internet and its implications for health care providers: Findings from the First Health Information National Trends Survey. Arch Intern Med. 165: 2618-624. (doi:10.1001/archinte.165.22.2618).

Cutilli CC (2010) Seeking health information. What sources do your patients use? Orthop Nurs 29: 214-19.