ORIGINAL ARTICLE

CME

How Patients Use the Internet for Cardiovascular Prevention

Cómo usan los pacientes Internet para la prevención cardiovascular

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ABSTRACT

Background: The use of the Internet and social networks by patients seeking health-related information has grown in recent years. The application of these tools in the context of cardiovascular prevention in Argentina is unknown.
Objectives: The aim of this study was to analyze the use of the Internet and social networks in patients evaluated in the context of cardiovascular prevention, determine the characteristics of subjects using them, analyze the reliability and usefulness perceived by patients and describe the potential behavioral impact.
Methods: Patients over 18 years of age, consecutively attending 10 cardiology centers focusing on cardiovascular prevention of the City of Buenos Aires and suburban areas, were surveyed. In 97% of cases the surveys were completed by the patients. Participants' demographic and clinical data were collected, excluding subjects with inability to read and interpret a questionnaire.
Results: A total of 1,135 patients (age 49±17 years) were included in the study. Among them 68%, 65% and 52% used the Internet, email or social networks, respectively, and 58.2% searched health-related information. The most searched-for topics were food (48%), physical activity (35%), medication (32%), hypertension (26%) and obesity (25%). Information was considered reliable or very reliable in 54.6% of cases, and interest was perceived in using these tools to contact the physician or other patients. In 57.8% of cases, patients felt that the network could influence their behavior. Characteristics such as less than 50 years of age, attending private healthcare centers or higher education were independently associated with a greater possibility of seeking health information.
Conclusions: In this population, the Internet was significantly used to explore about health information. Younger subjects, with higher education and those attending private healthcare centers were more likely to seek health-related information. The interest generated by these tools could be used for patient care.

Key words: Internet - Social Networking - Cardiovascular Diseases / Prevention and Control

RESUMEN

Introducción: El uso de Internet y las redes sociales por parte de los pacientes en busca de información relacionada con la salud ha crecido en los últimos años. Desconocemos la utilización de estas herramientas en el contexto de la prevención cardiovascular en la Argentina.
Objetivos: Analizar la utilización de Internet y las redes sociales en pacientes evaluados en el contexto de prevención cardiovascular, determinar las características de los sujetos que las utilizan, analizar la fiabilidad y utilidad percibida por los pacientes y describir el potencial impacto conductual.
Material y métodos: Se encuestaron pacientes mayores de 18 años atendidos, en forma consecutiva, en 10 consultorios de cardiología con orientación en la prevención cardiovascular de la Ciudad de Buenos Aires y el Conurbano Bonaerense. De las encuestas entregadas, el 97% fueron completadas. Se recolectaron las características demográficas y clínicas de los participantes, excluyendo los sujetos con incapacidad para leer e interpretar un cuestionario.
Resultados: Se incluyeron 1.135 pacientes (edad 49 ± 17 años). El 68%, 65% y 52% utilizaban Internet, correo electrónico o las redes sociales, respectivamente. El 58,2% buscó información relacionada con la salud. Los temas sobre prevención cardiovascular buscados con más frecuencia fueron alimentación (48%), actividad física (35%), medicación (32%), hipertensión (26%) y obesidad (25%). El 54,6% consideró que la información era confiable o muy confiable. Se observó interés en utilizar dichas herramientas para contactarse con el médico u otros pacientes. El 57,8% consideró que la red podría influir en su conducta. Tener menos de 50 años, atenderse en centros privados o tener más educación se asoció independientemente con una probabilidad mayor de buscar información sobre la salud.
Conclusiones: En esta población, el uso de Internet en busca de información relacionada con la salud fue considerable. Los sujetos más jóvenes, más educados o atendidos en centros privados mostraron mayor probabilidad de buscar contenidos sobre la salud. El interés generado por estas herramientas permitiría utilizarlas en la atención de nuestros pacientes.

Palabras clave: Internet - Red social - Enfermedad cardiovascular / Prevención y control

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INTRODUCTION

Since the late sixties, when the first connections between computers were established in some universities in the United States, the decentralized and interconnected set of network communication, better known as the Internet, has not ceased to grow, undoubtedly changing the habits of the modern world. For example, it is estimated that about 3 thousand million people worldwide and 230 million individuals in South America were Internet users in 2014.(1) In Argentina, an estimated 32 million people have used the Internet, placing us in the fifth positions in the whole American Continent, after the United States, Brazil, Mexico and Canada.(1)

Easy access, permanent information availability, anonymity to consult numerous topics and the huge number of pages devoted to health issues have positioned the Internet as a tool frequently used by our patients to seek medical information. (2-4) Furthermore, as with the general use of the Internet, search for information specifically related to health has also grown in recent years. For example, it has been observed that only 16% of Internet users searched for health-related information in the year 2000, increasing to 55% in the year 2006.(5) It is estimated that on an ordinary day, 70 million United States citizens use the Internet and 7 million look for health-related information.(6) Some authors suggest that certain clinical characteristics (female gender, chronic diseases) or some characteristics of Internet use (frequency of use, computerized health system) are associated with a greater need to look for health-related information. (7) The desire for greater understanding and peace of mind, the search for a second opinion and the barriers to access to information through traditional sources were some motivations associated with seeking medical information through the web. (8)

Finally, the increasing use of social networks is clear, with computer resources focused on finding people to interact online. In Argentina, it is estimated that 20 million people used the social network Facebook in 2014. (1)

A study previously published in our country evaluated, in the context of ambulatory cardiology, patients' preferences concerning information about their disease, including some questions about the use of the Internet. (9) Our work extends the current available information related to the web use in the field of health, by incorporating data on social networks and focusing on cardiovascular prevention.

The aims of this study were 1) To analyze the use of the Internet and social networks in patients assessed in the context of cardiovascular disease prevention; 2) To determine the characteristics of the subjects that use such tools more frequently; 3) To analyze the reliability and usefulness of the network perceived by patients as a source of medical consultation; 4) To describe the possible impact of information on our patients' behavior.

METHODS

Patients over 18 years of age from 10 cardiology centers of the City of Buenos Aires and suburban areas focusing on cardiovascular prevention were consecutively surveyed between January 10 and March 31, 2015. In 97% of cases the surveys were completed by the patients. Demographic and clinical characteristics of the patients were collected, excluding subjects with inability to read and interpret a questionnaire.

With the aim of collecting data related to the use of the Internet, a self-reported and anonymous survey was conducted focusing on risk factors for developing cardiovascular disease. It consists of a first part filled by the physician and a second part completed by the patient (19 items). All physicians previously received precise instructions from the coordinator of the study on how to complete the surveys. The questionnaire used is seen in the Annex.

Statistical analysis

Continuous variables were expressed as mean ± standard deviation, and categorical variables were expressed as percentages. The chi-square test was used to analyze categorical data. The correlation between educational attainment and the use of the Internet for health-related information was analyzed using Spearman's rank correlation test.

A multivariate analysis to examine the association between the use of the Internet and issues related to health and population characteristics (age>50 years, gender, risk factors, education, primary/secondary prevention or health-care center) was performed. The association was expressed as odds ratio (OR) with its respective confidence interval. A p value <0.05 was considered as statistically significant. STATA 11.1 software was used for statistical analysis.

Ethical considerations

The study contemplated a signed informed consent, and was performed following medical research recommendations outlined by the Guidelines for Good Clinical Practice and ethical regulations in force.

RESULTS

The study included 1,135 patients; mean age was 49±17 years and 50% were male. The characteristics of the population surveyed are shown in Table 1.

In 79% of cases patients had a computer and 68% used the Internet, 65% e-mail and 52%, social networks. The possibility of having a computer or using the web and its resources was associated with educational attainment. (Table 2) The Internet was an extremely unreliable, fairly reliable, reliable or very reliable source of health information for 9.1%, 37.6%, 48.6% and 4.7% of patients, respectively.

In 58.2% of cases subjects had looked for health-related information in the Internet at least once, varying according to educational attainment (Figure 1). A positive correlation was found between this Internet search and the level of education (Spearman's rho 0.45, $p<0.001$).

The issues most frequently searched concerning cardiovascular prevention are shown in Figure 2. Patients felt that the information obtained was extremely unreliable, fairly reliable, reliable or very reliable in 15.7%, 29.7%, 51.3% and 3.3% of cases, respectively.

In 45,5% of cases health-related information searched before coming to the doctor´s office was considered not useful, fairly useful, useful or very useful in 28.1%, 37.5%, 30.2% and 4.2% of cases, respectively.

Half of the patients who used the Internet searched for information concerning the issue explained by their doctor after consultation. These subjects considered the information obtained extremely unreliable, fairly reliable, reliable or very reliable in 22.3%, 29.1%, 43.6%, 5% of cases, respectively.

In 79.3% of cases, patients said they would like to have a website guaranteed by their doctor to obtain reliable health information. Similarly, 71% and 45% of patients would be interested in communicating with their doctor via e-mail or social networks, respectively.

In 48.7% of cases, patients would be interested in communicating with other people with the same health problem through social networks. Subjects believe that access to health-related information in the Internet could make them modify a conduct in their daily lives in 57.8% of cases, while 28.9% had already done so. Finally, the group that had changed a conduct influenced by the web information, considered the change extremely unreliable, fairly reliable, reliable or very reliable in 12.5%, 23.9%, 56.8 % and 6.8% of cases, respectively.

Women looked for health-related information in the Internet more frequently than men (61.7% vs. 54.9%, p=0.02). Likewise, women also considered a good idea having a site guaranteed by their doctor to obtain health-related information (82.1% vs. 76.4%, p=0.02) or to contact the physician (50.4% vs. 39.2%, p <0.001). Similarly, women were more often interested to contact people with the same health problem through social networks (53.7% vs. 43.7%, p=0.001).

Patients under 50 years used the Internet to obtain health-related information more frequently than

Table 1. Population characteristics (n = 1,135).

Continuous variables	Mean (SD)
Age, years	49 (17)
Categorical variables	**%**
Male gender	49.6
Primary prevention	66.8
Private center (hospital or clinic)	83..8
Hypertensive	42.7
Dyslipidemic	34.6
Diabetic	15.5
Smoker	18.0
Former smoker	26.0
Sedentary	42.7
Overweight	36.8
Obesity	26.8
Educational attainment	
None	1.8
Primary	25.5
Secundary	32.3
Tertiary-University	40.4

Table 2. Internet, e-mail and social network use according to educational attainment.

Variable	Educational attainment None (n=21) %	Primary (n=289) %	Secondary (n=367) %	Tertiary-University (n=458) %	p
Has a computer	25	47	87	97	<0.001
Internet use	25	29	74	92	<0.001
E-mail use	20	23	69	91	<0.001
Social network use	10	22	58	67	<0.001

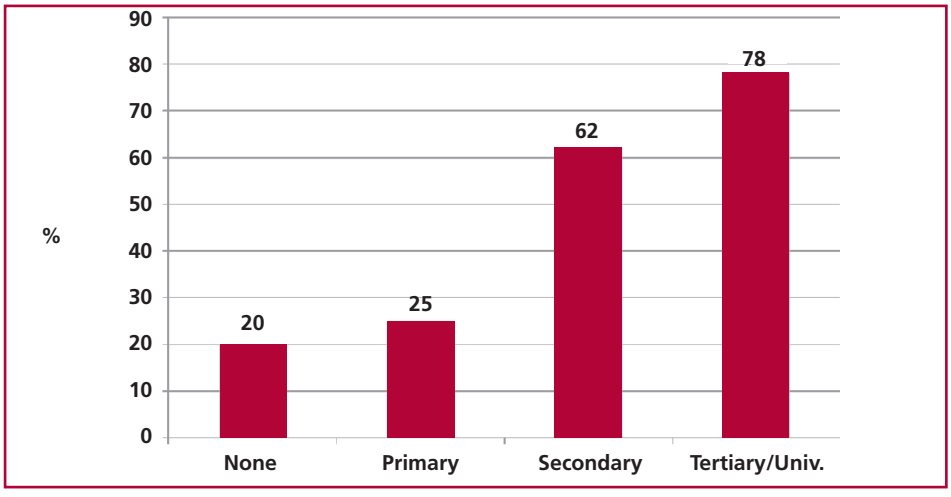


Fig. 1. Proportion of patients who have used the Internet at least once to seek health-related information according to educational attainment. Univ: University.

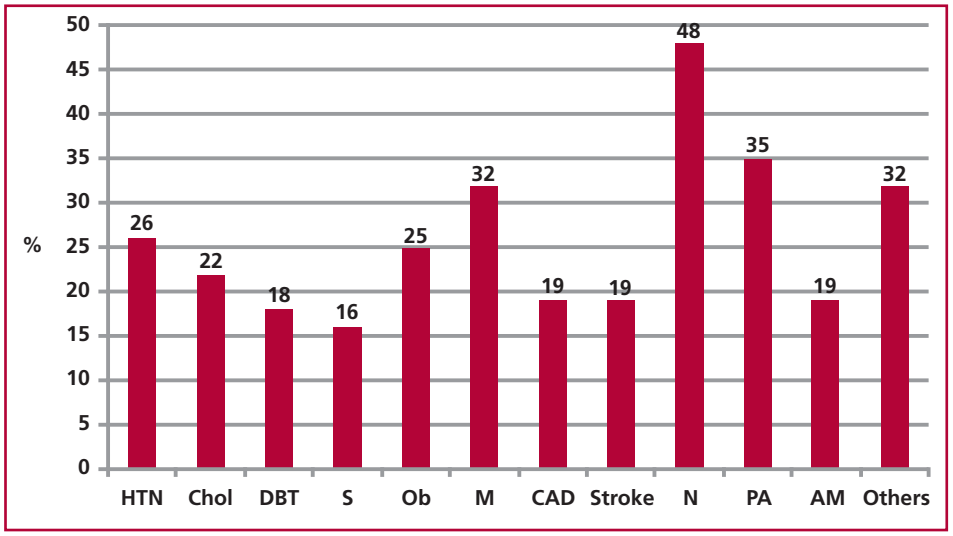


Fig. 1. Frequency of topics related to cardiovascular prevention searched by patients at least once in the Internet
HTN: Hypertension; Chol: Cholesterol; DBT: Diabetes; S: Smoking; Ob: Obesity; M: Medication; CAD: Coronary artery disease; N: Nutrition; PA: Physical activity; AM: Alternative medicine.

Table 3. Internet use to find health-related information. Multivariate analysis.

Variable	OR*	95% CI	p
Age>50 years	0.49	0.35-0.70	<0.005
Private Medicine	2.01	1.29-3.10	0.002
Educational attainment			
Primary	1.18**	0.37-3.83	0.77
Secundary	3.44**	1.07-11.15	0.03
Tertiary/University	7.76**	2.39-25.19	0.001

OR: Odds ratio; 95% CI: 95% confidence interval.
* Adjusted for sex, cardiovascular risk factors and primary/secondary prevention.
** Compared to no education

patients over 50 years (72.4% vs. 44%, p <0.001). Similarly, young patients also used the network for health-related matters before medical consultation (53.7% vs. 33.9%, p <0.001) and showed more interest in having a website with contents backed by their physician (84, 1% vs. 74.2%, p <0.001) and to contact him via e-mail (73.8% vs. 68.1%, p=0.03) or social networks (48.9% vs. 40.7%, p=0.006). In the same way, patients under 50 years showed increased interest in interacting through social networks with other patients (55.2% vs. 41.8%, p <0.001) and more frequently considered that the information collected in the web could change their daily life behavior (62.1% vs. 53.4%, p=0.01)

Patients surveyed in a center belonging to the public sector used the network less frequently for information on health than subjects in private centers (26.1% vs. 64.6%, p <0.001).

In the multivariate analysis, the variables that were independently associated with greater probability of seeking health-related information on the network were age under 50 years, attention in a private center and higher educational attainment (secondary or tertiary/university) (Table 3).

DISCUSSION

The almost imperceptible intervention of new technologies (and forms of communication associated with them) in daily life is undeniable. Health issues are no exception, and the Internet is a rich source of medical information.

Overall, 58% of patients have used the network to find health-related information in our study. This finding is similar to those registered by other studies in other groups of patients. For example, a survey evaluating 500 cancer patients showed that 80% of respondents had access to the Internet, while 63% of them reported searching data on cancer. (10) Another study analyzing 1,289 family medicine patients found that 65% had access to the Internet and 74% of them used the web to obtain health information. (11) As in our work, content of prescribed medications, nutrition and exercise were among the most sought topics. Internet use among cardiac patients has been previously reported in a Canadian study. (12) In that research study, 70% of patients used the network for health-related information. In our country, a survey evaluating the preferences on disease information in outpatients showed that 37.5% of subjects were "always" or "usually" seeking information about their condition in the Internet. (9) It is important to note that the survey was conducted in 2008, when Internet use was probably lower.

In our study, as in previous reports, the use of the network for health knowledge was more common in young people and in individuals with higher level of education. Such is the case of several works that evaluated patients with cancer (10, 13), peripheral vascular disease (14) or hematological diseases (15). Likewise, the survey developed by Borracci et al. in our country showed the same findings. (9) Our results

also indicated that subjects treated in private centers had an independent association with the possibility of using the web in search of medical contents. This association was not related to patient educational attainment, suggesting that the organization, technology or certain structural differences between public and private sectors, as well as different socio-economic characteristics of respondents could influence the interest shown by subjects in computing resources. Finally, in agreement with other studies (7, 9), our findings showed that women looked for health information in the web more frequently, although the association lost statistical significance in the multivariate analysis.

In our research, 45.5% of patients looked for health-related information before coming to the office, and almost a third of them considered that it was useful or very useful. A previous report evaluating nearly 500 women showed that 27% of them looked for information related to their health problem before the gynecological consultation. (16) Another study that assessed patients attending a rheumatology clinic, found that among subjects who used the web looking for contents related to health, 83% perceived the information as useful. (17)

Our study found that 50% of patients who used the Internet looked for information related to that explained by their doctor after consultation. Of these, about half considered this data as extremely unreliable or fairly reliable. Similarly, Richter et al. reported that confidence in the Internet by patients was relatively low.(14) Likewise, in the previously mentioned Argentine work, 54.3% of the surveyed population considered that the information found in the network had little, very little or no importance.(9)

Our data show that 79.3% of people considered they would like to have a website guaranteed by their doctor where they could obtain reliable information. Other previously reported studies revealed that patients had the same interest in a list of reliable websites about their disease (15), considering that the information was more accurate if the site was approved by a government agency or a professional organization. (11) Our work also reflects the interest of patients in interacting with the physician through different web tools. Similarly, in the previously mentioned study of Richter et al., a significant proportion of subjects were interested in interactive applications such as health education programs, assessment of self-reported questionnaires and chat forums with their family doctor.

Our findings show that about 60% of the evaluated subjects believed that health-related information collected in the Internet could make them change their everyday behavior. In that sense, physicians could have a remarkable opportunity to use the web and its various applications in order to optimize cardiovascular prevention goals. For example, Mc llhenny et al. showed that in a population of diabetics, individualized education that included practical instructions on the use of a website, improved knowledge of the disease and self-monitoring of blood sugar levels. (18) Moreover, preliminary reports suggest that web-based interactive interventions had a positive effect on tobacco cessation. (19-20) Likewise, Vernooij et al. reported that a program for Internet use improved cholesterol levels and the proportion of subjects achieving lipid targets. (21) Similarly, computer applications for network use appear to have positive effects on users with chronic diseases, improving behavioral and clinical outcomes. (22) Finally, the use of certain web-based interventions showed positive changes in different health behaviors, including increased exercise time, increased knowledge of the nutritional situation and increased maintenance of weight loss attained. (23) However, the use of the network as an intervention tool transcends other cardiologic settings beyond cardiovascular prevention. For example, a pilot study assessed the feasibility of a program based on mobile technologies to help patients with heart failure. (24) In addition, an ongoing investigation will assess whether cognitive therapy transmitted through the web can reduce symptoms of depression and anxiety in patients with recent acute myocardial infarction. (25)

Considering the huge potential of the Internet, our work shows that the majority of our patients would be willing to use these new forms of communication applied to health care.

Limitations

Our study evaluated a population from cardiology clinics focused on cardiovascular prevention in the metropolitan area, with a majority of private centers. The generalization of our results to other group of patients should be investigated.

CONCLUSION

In this population of patients treated for cardiovascular prevention, the use of the Internet to obtain health-related information was considerable. Younger subjects, those with better education and patients attending private centers were more likely to use the network searching for health-related contents. The interest shown for these new web tools by a significant proportion of patients generates a fertile ground for its use in medical interventions. However, it should be tested previously in studies specifically designed for this purpose in our population.

Conflicts of interest

None declared

(See author´s conflicts of interest forms in the web / Supplementary Material)

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REFERENCES

1. Internet World Stats. URL http://www.internetworldstats.com/stats2.htm

2. McMullan M. Patients using the Internet to obtain health information: how this affects the patient-health professional relationship. Patient Educ Couns 2006;63:24-8. http://doi.org/bbzbps

3. Alarcón O, Baudet JS, Sánchez Del Río A, Dorta MC, De La Torre M, Socas MR, et al. Internet use to obtain health information among patients attending a digestive diseases office. Gastroenterol Hepatol 2006;29:286-90. http://doi.org/cj3br2

4. Ohlow MA, Brunelli M, Lauer B. Internet use in patients with cardiovascular diseases: Bad Berka Cross-Sectional Study (BABSY). Int J Clin Pract 2013;67:990-5. http://doi.org/4xh

5. Trotter MI, Morgan DW. Patients' use of Internet for health related matters: a study of Internet usage in 2000 and 2006. Health Informatics J 2008;14:175-81. http://doi.org/dtnrbk

6. Fox S, Jones S. Pew Internet & American Life Project, 2009. The social life of health information.URL:http://www.pewinternet.org/files/old-media//Files/Reports/2009/PIP_Health_2009.pdf

7. Vanagas G, Klimaviciüté-Gudauskiene R. Factors affecting electronic health information needs in primary care patients. Telemed J E Health 2012;18:724-8. http://doi.org/4xk

8. Powell J, Inglis N, Ronnie J, Large S. The characteristics and motivations of online health information seekers: cross-sectional survey and qualitative interview study. J Med Internet Res 2011;13:e20. http://doi.org/frfss6

9. Borracci RA, Manente D, Giorgi MA, Calderón G, Ciancio A, Doval HC. Preferencia de los pacientes sobre la información de su enfermedad. Medicina (B Aires) 2012;72:393-8.

10. Castleton K, Fong T, Wang-Gillam A, Waqar MA, Jeffe DB, Kehlenbrink L, et al. A survey of Internet utilization among patients with cancer. Support Care Cancer 2011;19:1183-90. http://doi.org/bf4wdj

11. Schwartz KL, Roe T, Northrup J, Meza J, Seifeldin R, Neale AV. Family medicine patients' use of the Internet for health information: a MetroNet study. J Am Board Fam Med 2006;19:39-45. http://doi.org/fd3g2w

12. Lear SA, Araki Y, Maric B, Kaan A, Horvat D; British Columbia Alliance on Telehealth Policy and Research. Prevalence and characteristics of home Internet access in patients with cardiovascular disease from diverse geographical locations. Can J Cardiol 2009;25:589-93. http://doi.org/bq7n6v

13. Valero-Aguilera B, Bermúdez-Tamayo C, García-Gutiérrez JF, Jiménez-Pernett J, Cózar-Olmo JM, Guerrero-Tejada R, et al. Information needs and Internet use in urological and breast cancer patients. Support Care Cancer 2014;22:545-52. http://doi.org/4xn

14. Richter JG, Schneider M, Klein-Weigel P. Computer and internet use in vascular outpatients-ready for interactive applications? Vasa 2009;38:338-45. http://doi.org/bnx47b

15. Laurent MR, Cremers S, Verhoef G, Dierickx D. Internet use for health information among haematology outpatients: a cross-sectional survey. Inform Health Soc Care 2012;37:62-73. http://doi.org/cwpc3t

16. Neelapala P, Duvvi SK, Kumar G, Kumar BN. Do gynaecology outpatients use the Internet to seek health information? A questionnaire survey. J Eval Clin Pract 2008;14:300-4. http://doi.org/fmnwpm

17. Gordon MM, Capell HA, Madhok R. The use of the Internet as a resource for health information among patients attending a rheumatology clinic. Rheumatology (Oxford) 2002;41:1402-5.http://doi.org/bxbtjh

18. McIlhenny CV, Guzic BL, Knee DR, Wendekier CM, Demuth BR, Roberts JB. Using technology to deliver healthcare education to rural patients. Rural Remote Health 2011;11:1798.

19. Shahab L, McEwen A. Online support for smoking cessation: a systematic review of the literature. Addiction 2009;104:1792-804. http://doi.org/d5w5mb

20. Civljak M, Stead LF, Hartmann-Boyce J, Sheikh A, Car J. Internet-based interventions for smoking cessation. Cochrane Database Syst Rev 2013;7:CD007078. http://doi.org/4xp

21. Vernooij JW, Kaasjager HA, van der Graaf Y, Wierdsma J, Grandjean HM, Hovens MM, et al. Internet based vascular risk factor management for patients with clinically manifest vascular disease: randomised controlled trial. BMJ 2012;344:e3750. http://doi.org/4xq

22. Murray E, Burns J, See TS, Lai R, Nazareth I. Interactive Health Communication Applications for people with chronic disease. Cochrane Database Syst Rev 2005;(4):CD004274. http://doi.org/bxv9q4

23. Wantland DJ, Portillo CJ, Holzemer WL, Slaughter R, McGhee EM. The effectiveness of Web-based vs. non-Web-based interventions: a meta-analysis of behavioral change outcomes. J Med Internet Res 2004;6(4):e40. http://doi.org/ddjwmk

24. Zan S, Agboola S, Moore SA, Parks KA, Kvedar JC, Jethwani K. Patients engagement with mobile web-based telemonitoring system for heart failure self-management: a pilot study. JMIR Mhealth Uhealth 2015;3:e33. http://doi.org/4xr

25. Norlund F, Olsson EM, Burell G, Wallin E, Held C. Treatment of depression and anxiety with internet-based cognitive behavior therapy in patients with a recent myocardial infarction (U-CARE Heart): study protocol for a randomized controlled trial. Trials 2015;16:154. http://doi.org/4xs

ANNEX

A- Data to be completed by the physician
(Mark with a cross)

Age …… Gender: Male …… Female ……
Prevention: Primary …… Secondary ……
Public hospital …… Private Hospital/Clinic/Offfice/or ……
Hypertension …… Diabetes …… Dyslipidemia …… Current Tob. use …… Former Tob. use ……
Sedentarism …… Weight: …… Height: ……
Anti-hypertensive medication …… Hypolipidemic medication …… Aspirin ……
Hypoglycemic medication …… Anti-ischemic medication ……
Coronary artery disease …… Stroke…… Peripheral.vascular disease ……

B- Questions to be answered by the patient
Circle the answer you consider appropriate to the following questions

Level of education:
None …… Primary …… Secondary …… Tertiary/University ……

1)	Do you have a computer?	YES - NO
2)	Do you often use the Internet?	YES - NO
3)	Do you use electronic mail (e-mail)?	YES - NO
4)	Do you use social networks often (Facebook-Twitter)?	YES - NO
5)	Do you think the Internet is a reliable source of medical information? Extremely unreliable Fairly reliable Reliable Very reliable	
6)	Have you looked for medical information in the Internet at least once? If the answer is NO, go to question 13.	YES - NO
7)	Did you seek at least once information on these topicsin the Internet? (You can mark more than one option). a.Hypertension b. Cholesterol c. Diabetes d.Smoking e. Obesity f. Medication g.Coronary artery disease h.Stroke i.Nutrition j.Physical activity k Alternative Medicine l.Another reason	
8)	What value would you assign to information found in the Internet on topics selected in the previous question? a. Extremely unreliable b.Fairly reliable c.Reliable d.Very reliable	
9)	Have you ever looked for information in the Internet about your symptoms before going to the doctor?	YES - NO
10)	What is the degree of usefulness assigned to the information in the Internet before going to the doctor? a. Not useful b. Fairly useful c. Useful d. Very useful	
11)	Have you ever looked for health information explained by your doctor in the Internet after consultation?	YES - NO
12)	After the explanation from your doctor and the Internet search, what is the value assigned to the information found? a. Extremely unreliable b.Fairly reliable c.Reliable d.Very reliable	
13)	Would you like to have a website supported by your doctor where you may have reliable health information?	YES - NO
14)	¿ Are you interested in communicating with your doctor via e-mail?	YES - NO
15)	Are you interested in communicating with your doctor through social networks?	YES - NO
16)	Are you interested in communicating with other people with the same health problem through social networks?	YES - NO
17)	Do you believe that access to health-related information through the Internet could change behaviors of your daily life??	YES - NO
18)	Have you changed any conduct of your daily life by reading health-related information through the Internet??	YES - NO
19)	If you modified any conduct of your daily life after reading health-related information through the Internet, what degree of confidence do you assign to the change made a. Extremely unreliable b.Fairly reliable c.Reliable d.Very reliable	