

Tinnitus patients and the internet: impact on physician–patient relationship

Mustafa M.W.^a, Badawy B.S.^b

^aDepartment of Audiology and Vestibular Medicine and ^bDepartment of Otorhinolaryngology, Faculty of Medicine, Sohag University, Sohag, Egypt

Correspondence to Mohamed Wael Mohamed, MD, Department of Audiology and Vestibular Medicine, Faculty of Medicine, Sohag University, Sohag 82524, Egypt
Tel: +20 100 231 8275; fax: +20 965 346 584; e-mail: mustafa.mwm.aud@gmail.com

Received 16 July 2013

Accepted 06 April 2014

The Egyptian Journal of Otolaryngology
2014, 30:351–356

Introduction and rationale

The internet has become a trustable and increasingly available source for medical information. When patients explore the internet, their attitude toward their selected physician and his medical decisions becomes distorted and biased by the medical information they get from the web. This study was designed to address the effect of medical data available on the web on tinnitus patients and their expectations for treatment.

Design

A total of 106 patients who had tinnitus, for variable periods and due to different causes, participated in the current study. At the end of the counseling session, half of the patients (53) were randomly selected and were advised to try Google search engine, using these keywords in Arabic language (tinnitus treatment fx1 fx2 fx3). The other half of the patients were not advised to use the internet. Each patient who came back after 2 weeks answered a questionnaire in Arabic that was designed to outline the patients' choice among available treatment options.

Conclusion

Use of the internet among Egyptian tinnitus patients is a complimentary rather than a basic source of medical information. Its impact on the physician–patient relationship could be both positive and negative. However, it did not hamper the physicians' credibility and/or reliability.

Keywords:

tinnitus, information, internet

Egypt J Otolaryngol 30:351–356

© 2014 The Egyptian Oto - Rhino - Laryngological Society
1012-5574

Introduction

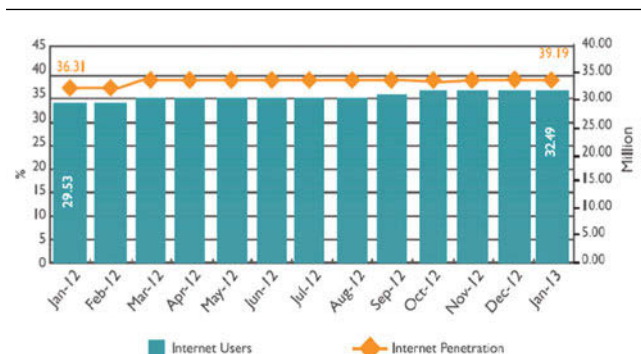
The internet has become a trustable and increasingly available source for medical information. Internet use by patients as a source of information on health and disease is expanding rapidly, with obvious effects on the doctor–patient relationship. Many of these effects remain undocumented or are poorly understood [1]. When patients explore the internet, their attitude toward their selected physician and his medical decisions becomes distorted and biased by the medical information they get from the web.

In Egypt, the internet use as a source of information is fast growing all over the country. Egypt's internet penetration rate grew from less than 1% in 2000 to 5% in 2004 and to 24% in 2009 [2]. More than 200 internet and data service providers operate in Egypt, making its asymmetric digital subscriber line (ADSL) services among the cheapest in Africa. The number of internet users in 2011 was 29 236 766 (35.62% of the total population of Egypt) (http://en.wikipedia.org/wiki/List_of_countries_by_number_of_Internet_users). Internet use in Egypt kept growing to reach 32 million users in January 2013, for a penetration rate of 39.2% (Fig. 1; http://www.mcit.gov.eg/Upcont/Documents/Publications_1162013000_EN ICT Indicators_in_Brief_May.pdf).

Tinnitus is defined as the perception of sound in the absence of a corresponding external acoustic stimulus. It is a common problem that markedly impairs the quality of life of about 1% of the general population. There are many ways to treat chronic tinnitus, and new treatments are now being developed. As tinnitus has many causes and can be associated with many different comorbid disturbances, multidisciplinary diagnostic evaluation and treatment are important [3].

For many tinnitus patients, long-term therapeutic success depends on the maintenance of a therapeutic relationship

Figure 1



Egyptian internet users' growth rate as indicated by the Egyptian Ministry of Communications and Information Technology.

with the treating physician, so that the physician and the patient can work together to give careful consideration to each newly proposed diagnostic test or treatment step [4].

Unfortunately, whenever a physician starts a counseling session with her/his patients, he faces a mind loaded with different ideas obtained from the web. Sometimes this information is helpful for both the physician and the patient to achieve better communication. At other situations, it is not. Therefore, this study was designed to address the effect of medical data available on the web on the relationship between tinnitus patients and their physician in charge.

Patients and methods

A total of 106 patients who had tinnitus, for any cause and regardless of tinnitus duration, participated in the current study.

Inclusion criteria

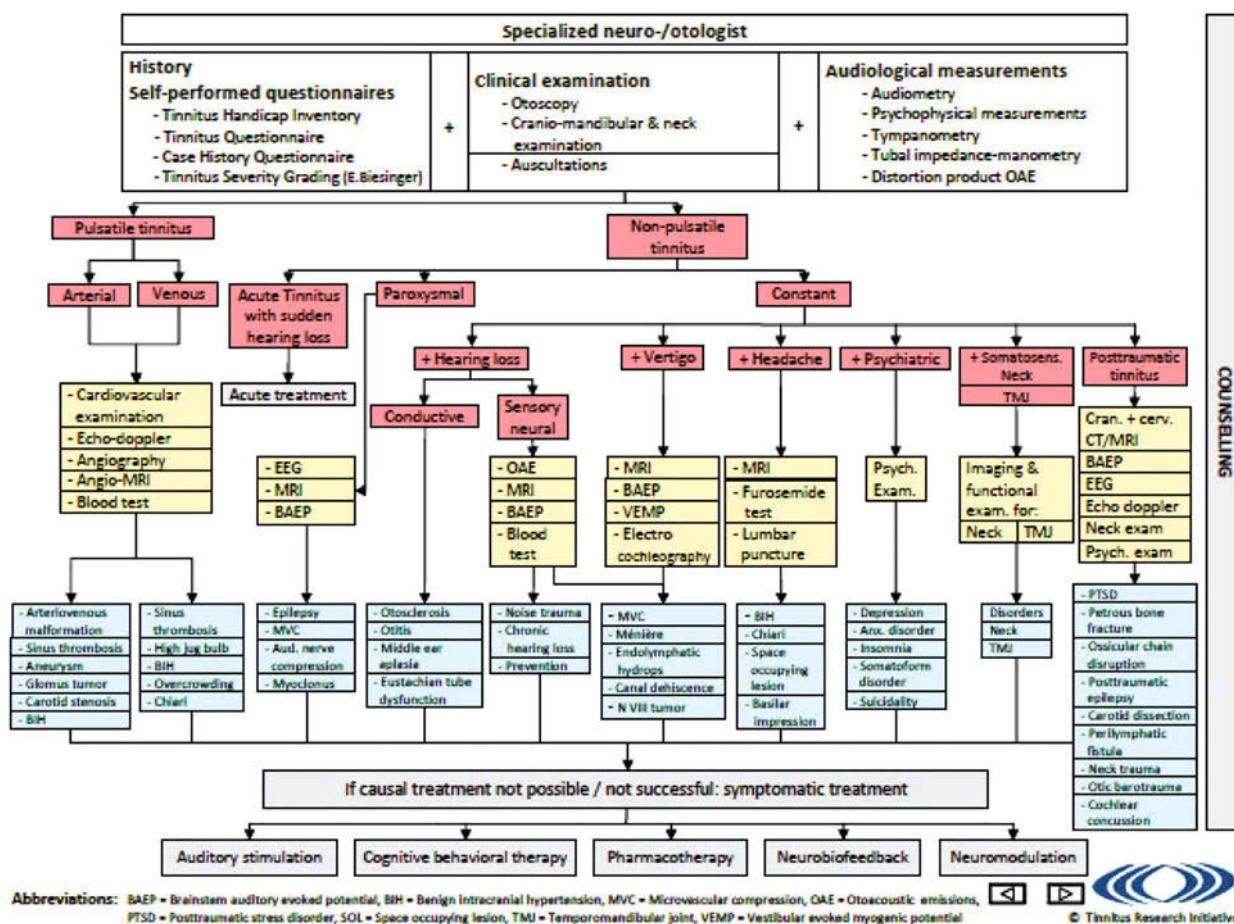
- (1) A level of education enough for them to be able to use the internet.

- (2) No detected abnormalities after full ENT evaluation.

All of them were referred from the ENT outpatient clinic to the audiology clinic at Sohag University Hospitals. At the audiology clinic, a diagnostic and management scheme was followed that was quoted from Tinnitus Research Initiative in 2011 (Appendix I) [5]. All patients filled in the Tinnitus Handicap Inventory (THI) in Arabic that was quoted from Dabbous *et al.* [6]. A treatment protocol was tailored for every patient according to the possible etiology and severity of tinnitus. The treatment protocol was explained for each patient and her/his queries were answered.

At the end of the counseling session, only half of the patients, that is 53 in number, were randomly selected (using randomized closed envelopes in each patient's folder) and were advised to try Google search engine, using these keywords in Arabic language (tinnitus treatment fx4 fx5 fx6). All patients were given an appointment after 2 weeks to start the treatment protocol. Each patient who came back after 2 weeks

Appendix I:



answered a questionnaire that was designed to outline the patients' choice among available treatment options. The questionnaire was written in Arabic. Patients who used the internet answered the two parts of the questionnaire. In contrast, those who did not use the internet answered only the first part of the questionnaire. It was translated into English language at Sohag University Center for English Language (Appendix II).

Statistical analysis was mostly descriptive.

Results

A total of 106 tinnitus patients participated in the current study. Half of them (53 patients) were intentionally instructed to use the internet (group I), whereas the other half was not (group II). There was no significant difference between the study groups with respect to age, sex, level of education, score of the THI, or own internet access ($P > 0.5$; Table 1). Forty-three patients of group I followed the instructions and searched the web about tinnitus, whereas 10 patients did not. In group II, 10 patients used the internet without receiving any instructions, whereas 43 did not (Fig. 2). Those 10 patients used keywords that were comparable with the default keywords given to the patients in group I, and thus got similar websites on Google. The patients in both groups who used the internet (53 patients = 43 instructed + 10 not instructed) were allowed to complete the questionnaire that was designed for the current study.

I preferred this method of demonstration to allow the reader to pick up the question examined and the answers of the study group opposite to it (notice that the group that did not use the internet also did not complete part II of the questionnaire). Some questions have only 'Yes' and 'No' answers, whereas others have four answers. This fact made a presentation of a regular table less likely.

Discussion

Over the past three decades, internet has changed from an information technology, only used by universities and governments, to a gigantic information communication network, which links millions of people worldwide. Although the population of internet users has grown exponentially, the number one reason why people use the internet has not changed, namely to seek information. According to Levy and Strombeck [7], the five most popular subjects online, ranked in order of popularity, are news, travel, weather,

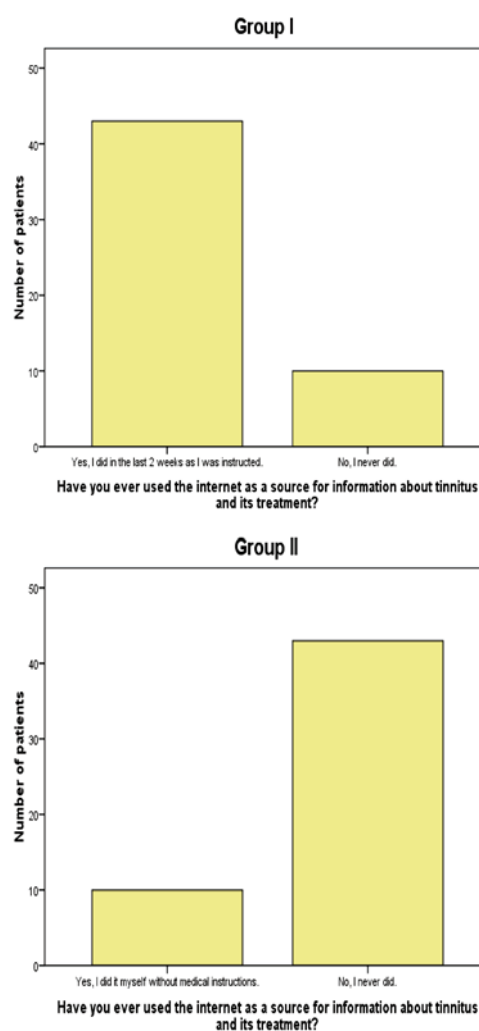
health, and medicine. Actually, many tinnitus patients attracted our attention toward the internet as a source of their medical information about tinnitus and its treatment.

Table 1 Demographics of both groups

Demographics	Group I	Group II
Gender		
Females	20	22
Males	33	31
Age	38.98 ± 11.84	36.91 ± 12.48
Educational level		
Basic level	2	5
Secondary level	12	10
University level	37	35
Postgraduate level	2	3
THI score	52.19 ± 10.27	50.49 ± 9.98
Own internet access		
Available	27	21
Not available	26	32

THI, Tinnitus Handicap Inventory.

Figure 2



Use of the internet in both groups before the first planned appointment.

Appendix II:

Questionnaire:

Name: _____ Age: _____

Date: ____/____/____

Part I

1) Do you have your own access to the Internet?

- Yes.
- No.

2) Have you ever used the internet as a source for information about tinnitus and its treatment?

- Yes, I did in the last 2 weeks as I was instructed.
- Yes, I did it myself without medical instructions.
- No, I never did.

If YES,

Part II:

3) Did you trust the internet as a sole source of medical information about tinnitus and its treatment?

- Yes.
- No.

4) Was the information you got from the internet readily accessible and easy to understand?

- Yes.
- No.

5) Did you trust your physician as a sole source of medical information about tinnitus and its treatment?

- Yes.
- No.

6) Was the information you got from your physician readily accessible and easy to understand?

- Yes.
- No.

7) Did you look for information on the treatment of tinnitus prescribed to you on the Internet?

- Yes.
- No.

8) Which type of information did you like to follow as regards tinnitus and its treatment?

- Information obtained from your physician.
- Information obtained from the internet.
- Information obtained from both.
- None is trustable.

9) Did the information you collected on the Internet impact the decisions you made upon the treatment given to you by your physician as regards tinnitus and its treatment?

- Yes.
- No.

10) Will you use the Internet in the future as a source for medical information about tinnitus and its treatment?

- Yes.
- No.

In the current study, patients were divided into two groups: group I that received the default instructions for internet use and group II that did not receive any instructions. Demographics of patients in both groups were comparable. There was no significant difference with respect to age and THI scores. All patients were allowed to answer the first two items in the questionnaire. Only those who used the internet in either group were included in the next step of the study.

Ten patients (18.9%) in group I did not use the internet. Moreover, 10 patients (18.9%) in group II used the internet searching for a treatment for tinnitus. In the former case, patients reported that they realized that the medical service that they received was satisfactory and enough. They did not believe that the internet could take the role of the physician. The latter group was further investigated (Table 2). Most of them did not trust the internet as a sole source of medical information; most of them looked up the treatment that was prescribed to them; most of them trusted their physicians; and finally 90% of them will use the internet again. Although they preferred interacting with their physician, they liked to use the internet to get more information about the items that the physician's time was not enough to explain. The demographics of both groups were compared and similarity dominated except for age (Table 3). The latter group was much younger.

Noteworthy, own access to the internet was available to about 45% of the patients. However, this did not mean that internet was not available everywhere in the vicinity (internet cafes, relatives, and friends). Own access reflected ease rather than possession. As all patients had an acceptable level of education, internet use was a matter of either self-intent or a requirement before the launch of the treatment protocol. In their sample of 93 patients, Budtz and Witt [8] in 2002 found that 39% had internet access and half of those patients had used the internet for health-related searches.

The majority did not trust the internet as a sole source of medical information (Fig. 3; Table 2 – items 3 and 4). This could be attributed to their inability to understand this medical information, unknown sources of this information, or lack of interaction between the patient and the website. In contrast, most patients trusted their physician as a sole source of information and reported better understanding of the supplied data (Table 2 – items 5 and 6). Interaction between a qualified physician and patient was an eminent advantage. Some patients reported that some websites talked about the use of garlic oil or onion juice as eardrops to treat tinnitus. Others described some religious acts as a remedy. All

of these facts decreased the internet credibility as a source of medical information.

Table 2 Questionnaire part II (items: 3 to 10)

(3) Did you trust the internet as a sole source of medical information about tinnitus and its treatment?		
() Yes	11 (20.8%)	<u>3 (30%)</u>
() No	42 (79.2%)	<u>7 (70%)</u>
(4) Was the information you got from the internet readily accessible and easy to understand?		
() Yes	7 (13.2%)	<u>2 (20%)</u>
() No	46 (86.8%)	<u>8 (80%)</u>
(5) Did you trust your physician as a sole source of medical information about tinnitus and its treatment?		
() Yes	48 (90.6%)	<u>10 (100%)</u>
() No	5 (9.4%)	<u>0</u>
(6) Was the information you got from your physician readily accessible and easy to understand?		
() Yes	50 (94.3%)	<u>10 (100%)</u>
() No	3 (5.7%)	<u>0</u>
(7) Did you look for information on the treatment of tinnitus prescribed to you on the internet?		
() Yes	35 (60%)	<u>8 (80%)</u>
() No	18 (40%)	<u>2 (20%)</u>
(8) Which type of information did you like to follow with respect to tinnitus and its treatment?		
() Information obtained from your physician	32 (60.4%)	<u>5 (50%)</u>
() Information obtained from the internet	7 (13.2%)	<u>3 (30%)</u>
() Information obtained from both	13 (24.5%)	<u>2 (20%)</u>
() None is trustable	1 (1.9%)	<u>0</u>
(9) Did the information you collected on the internet impact the decisions you made upon the treatment given to you by your physician with respect to tinnitus and its treatment?		
() Yes	28 (52.8%)	<u>4 (40%)</u>
() No	25 (47.2%)	<u>6 (60%)</u>
(10) Will you use the internet in the future as a source for medical information about tinnitus and its treatment?		
() Yes	45 (84.9%)	<u>9 (90%)</u>
() No	8 (15.1%)	<u>1 (10%)</u>

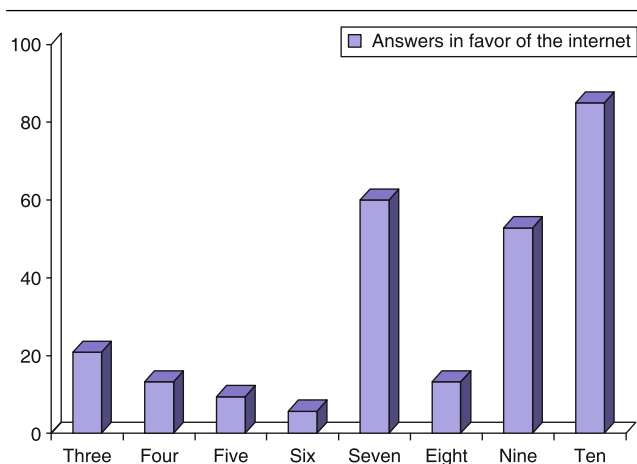
Whole group that used the internet (53 patients) are represented in bold. The 10 patients who were included from group II are underlined.

Table 3 Demographics of the patients who were excluded from group I and those who were included from group II

Demographics	Excluded from group I	Included from group II
Gender		
Females	4	3
Males	6	7
Age	44.6 ± 12.32	34.3 ± 12.46
Educational level		
Basic level	0	0
Secondary level	1	2
University level	9	6
Postgraduate level	1	2
THI score	52.8 ± 8.65	52.4 ± 9.01
Own internet access		
Available	6	7
Not available	4	3

THI, tinnitus handicap inventory.

Figure 3



Demonstration of the percentages of answers that are in favor of the internet or both physician and internet.

Astonishingly, most patients probed the prescribed treatment protocol on the internet (Fig. 3; Table 2 – item 7). Most of the drugs used to treat tinnitus treat other diseases as well, such as epilepsy and depression. This did not affect the credibility of the physician in charge (Table 3 – item 8). The impact of the internet on the patients' decisions could be assumed to be both positive and negative (Fig. 3; Table 2 – item 9). This was because they did not affect the physician–patient mutual interaction and patient's compliance to the planned treatment protocol. Most patients recorded their will to use the internet in the future (Fig. 3; Table 2 – item 10).

These results agree with the results of Craan and Oleske [9] who assumed that health-information seekers primarily use the internet for the following reasons:

- (1) to find out general or specific information about particular diseases or treatments,
- (2) to obtain information to help them select specialists,

- (3) to find new therapies or alternative therapies,
- (4) to understand the causes and prognosis of a given disease,
- (5) to look for adverse effects of a given drug,
- (6) to be aware of complications of a disease or treatment,
- (7) and to locate addresses of support groups.

Conclusion

Use of the internet among Egyptian tinnitus patients is a complimentary rather than a basic source of medical information. Its impact on the physician–patient relationship could be both positive and negative. However, it did not hamper the physicians' credibility and/or reliability.

Acknowledgements

Conflicts of interest

None declared.

References

- 1 Russ H, Giveon SM, Catarivas MG, Yaphe J. The effect of the internet on the patient–doctor relationship from the patient's perspective: a survey from primary care. *Isr Med Assoc J* 2011; 13:220–224.
- 2 'Estimated internet users 2000 to 2009', International Telecommunications Union (ITU), spreadsheet. Available on http://en.wikipedia.org/wiki/Internet_in_Egypt [Accessed on 2011 June 12].
- 3 Eggermont JJ, Roberts LE. The neuroscience of tinnitus. *Trends Neurosci* 2004; 27:676–682.
- 4 Kreuzer PM, Vielsmeier V, Langguth B. Chronic tinnitus: an interdisciplinary challenge. *Dtsch Arztebl Int* 2013; 110:278–284.
- 5 The 2011 meeting of the Tinnitus Research Initiative (TRI): Buffalo, USA on 19–21 August
- 6 Dabbous AO, El-Refaie HA, Farid AS, Ghannoum T. Directive counseling in tinnitus retraining therapy. *Med J Cairo Univ* 2005; 72Suppl II: 127–132.
- 7 Levy JA, Strombeck R. Health benefits and risks of the internet. *J Med Syst* 2002; 26:495–510.
- 8 Budtz S, Witt K. Consulting the internet before visit to general practice. Patients' use of the internet and other sources of health information. *Scand J Prim Health Care* 2002; 20:174–176.
- 9 Craan F, Oleske M. Medical information and the internet: do you know what you are getting? *J Med Syst* 2002; 26:511–518.