Degree of Trustworthiness of the Healthy Consultation & Information via the Internet

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ABSTRACT

Is the healthy information over the Internet trustworthy or untrustworthy information? Is the quality of the online healthy information reliable quality or not? This paper presented the results of a survey conducted in the Pharmacy Department of the Alkafeel university college in Iraq. The survey was conducted at the beginning of summer 2017. It describes the points of views of a sample of students, their lecturers and workers at the Pharmacy Department. It is about the degree of the trustworthiness of the healthy information on the Internet. Whether, it is healthy consultation about a particular disease or healthy information about a particular drug. The results showed there is a relative awareness among the general public and they have almost an ability to distinguish the correct healthy information from the fault one found in the healthy websites, which signs are spread widely nowadays on the Internet network. However, they still consider the Internet as a means of only assistance and not entirely reliable in diagnosing the diseases. In addition, it has only the appropriate doses and the number of times of a particular drug, according to the participants in the survey. The “Trustworthiness” of such information depended on the affiliation of the manufacturing company if it is commercial or not or seeking after only the profits.

Keywords: Internet, healthy information, healthy consultation, drug, healthy websites, trustworthy information, healthy treatment, electronic healthy consultation, electronic healthy information

1. INTRODUCTION

Since the release of the Internet and until this moment, the healthy consultation or access to the healthy information through the Internet had become one of the most important uses of the Internet. This phenomenon increases with the time because of the increase in the number of the healthy websites. The Internet has become one of the most important sources of the healthy consultation about a particular disease, or to see the possible healthy treatment for any disease. That's because of the ease of using it and accessing the healthy information like other types of information. For people who are wishing to get this information quickly and avoid the trouble of going to a doctor or pharmacist. In addition to that, it is easy to access the Internet for people who publish or post so kind of information. Since 61% of the American people are looking for online healthy information according to a study in 2009. The percentage of adults in the United States who did not attempt to access the healthy information over the Internet dropped from 76% to 27% in 1998 to 2010. And the proportion of people who sometimes try or often obtain this information over the Internet has increased from 42% to 73%. The uses of the Internet are many since in addition to the use of large amounts of different types of information, it is used as a way to communicate between people.
Here lies the risk of the rapid spread of information among people, despite it is wrong or not. So the Internet is a mean that cannot control the information, here and there it is only the responsibility lays on the person himself or herself, to distinguish the correct information from the wrong one. There is almost ease in disseminating information over the Internet. In this case, it becomes easy to publish false information through the Internet or to tamper with information. Whether correct or manipulated in the way it is presented intentionally or unintentionally. So, the searcher of the healthy information is very likely to get wrong information.

In addition to sometimes, he or she mislead the information from the correct healthy consultation or explain the healthy information obtained in a wrong way, although this information is correct. This is all possible to happen, although the high-quality health information is on the rise. For example, in the United States, people who seek the online healthy information, they are strongly satisfied or satisfied with their findings with the healthy information, as their number has increased from 6% to 9% in the recent years. And they increased their awareness and ability to distinguish the correct information from the wrong one with the percentage from 5% to 8%.

2. METHODS

The study used the survey method on a sample of students and their lecturers as well as the workers in the Pharmacy Department in Iraq. This sample cannot represent all the points of views of the society in such complex subject, and there are many branches of this subject, where all people in any society need the healthy information in addition to the healthy consultation by specialists in the medical field. Whether it is electronic information obtained through many healthy websites deployed on the Internet. Or information spread by the traditional methods such as visiting the patient to the doctor or go to the pharmacy.

Despite taking into account the use of the Internet by the general public for ten years ago or more. The survey method was used on a sample of people in the Pharmacy Department because of the belief this sample is more related to this subject. So they have a relative awareness of the details of this subject, therefore concentrate on the questions deeply to be answered after examining these questions in the survey. The forms of this survey in this paper containing 15 questions, divided into several groups of each group containing several questions belonging to a particular category. Three questions about the personal information of the participant in the survey such as the age, sex and education degree of the participants.

Two questions about the source of the healthy culture and the two questions answer them yes or no. After the distribution of the forms were waiting for a short period until the completion of the solution of the questions is completed, then return the answered forms to the author of this paper. The sample included 176 participants, including no doctor, nor a pharmacist, to ensure impartiality and non-bias when answering the questions.

Because the doctor or pharmacists are people with experience in this subject and do not resort to such ways to obtain a medical information or pharmaceutical type of information or we call it "healthy information". In the survey, a question is about the feasibility of eating the drug depending on an electronic healthy consultation. Three questions about the type of questions (strongly agree, agree, neuter, disagree, strongly disagree or no answer). Another question is, about the frequent use of the participant to search for the healthy information over the Internet. Another one is about the reasons for searching for the healthy consultation over the Internet. Last question about the best websites used for this purpose.

The participants were aged between 19 to 65 years old and their educational degrees were from less than high school to the holder of the Ph.D. The language in the survey was written in Arabic and then translated it into English. All of that is after obtaining the results to ensure that all participants understand the questions clearly. Thus obtain a correct answer. The method of data analysis in this paper is a method of descriptive analysis based on the comparison with previous studies that relate to the same subject. The research method used a relative descriptive method based on the approximate percentages.

3. DISCUSSION OF RESULTS

Who are the participants in the survey, what are their ages, gender, and educational level, and is there a relationship between this and the degree of trust or reliance on the healthy information over the Internet?

73% of the participants are 19 to 21 years old, most of them are pharmacy bachelor students, and a small percentage of them are workers at the Pharmacy Department. 11% were aged 22 to 25; most of them...
are workers, while 6% of the participants were between the ages of 26 to 30. In addition to 5% of the participants are of the teaching staff and workers aged 31 to 35. 2% aged 36 to 40; mostly they are lecturers and workers. 2% of the age 41 to 50, mostly they are on the teaching staff. Finally, 2% of the participants aged 51 to 65, mostly they are lecturers. So, the largest proportion of the respondents is students who are the youngest and most frequently used the Internet browsers. A study in the United States found most searchers seeking the healthy information are aged 18 to 49 \cite{7}. The gender of participants in the survey is 40% males and 60% women. That means the majority of who are females. This confirms the results of the previous studies that say that women are most interested in searching for the healthy information over the Internet \cite{4,7}. The educational level of the participants ranged from less than high school 7% to the high school level at the percentage 6%. 82% of the participants are college students. There are also other qualification holders and their percentage is 0.5%.

**Is there a relationship between the educational level of the participant and the frequent use of the Internet to obtain the healthy consultation or information? What are the sources of the participants’ healthy culture? What is the most reliable source for them? Do the sources of the healthy culture depend on the traditional method of visiting the doctor or pharmacist or on the words of friends and reading books or the Internet?**

The most trustworthy information depends on the words of the doctor with percentage 28% of the participants. While the proportion that relies upon and trusts the words of a pharmacist is 44% and it is the largest proportion of respondents to this question. Related the words of friends, a small percentage trust the words of friends and consider it as a source of the healthy culture, which they are 7%. Related the books, the proportion of participants who trust the words of books and acquire the culture of medicine books, is accounting for 13%. Finally, the percentage of participants who acquire the healthy culture from the Internet is 31 %, which is an increasable percentage. The majority of participants still prefer the more traditional methods and trust them to gain the healthy culture such as the doctor, pharmacist, and books. But still, it is a large percentage also trusts the words of the healthy Internet websites and considers it as a good source of the healthy culture, or perhaps healthy consultation.

**Did the participants take the drug without consulting a doctor?**

A large percentage of the respondents, 81%, had previously taken the medicine without consulting a doctor, and only 19% had not. 27% of the participants believed the medication was an ineffective medicine and could not be taken. The benefit to them, however, they take for the necessity or the urgent need for speedy recovery. 7% of the participants think it is useful and can always be taken up, but 61% think it is useful, but prefer not to repeat it for possible manipulation of information. Finally, 5% preferred not to show their opinions. 23% of the participants have already taken the medicine with an electronic healthy consultation just for experimentation and for curiosity. But most of them preferred not to go into such experiments.

**Who is in charge of the quality of the healthy information?**

In a study related this topic, the participants suggested the quality of the healthy information under the control of specific organizations, whether these organizations are national or international. 71% think it is best these organizations be nationally and 72% think it is better to be international \cite{5}.

**Is the electronic healthy information useful for the patient?**

6% of respondents strongly agree the electronic healthy information is useful information for the patient, and 34% agree that. While 51% preferred not to answer and 9% disagreed, while only 1% strongly disagreed. However, 22% of respondents often search for health information, 12% are always searching for it while 44% are only occasionally searching for it. 11% are searching for such information, and only 6% do not seek or care about information. Whether, the healthy information on the Internet is false or reliable. 3% of respondents strongly agree on healthy information via the Internet is wrong. While 9% agree and 5% prefer not to answer, while 35% disagree and 8% strongly disagree.
4. HEALTH INFORMATION QUALITY

Of the respondents, 11% of the respondents seek the healthy information via the Internet to prevent the diseases, 28% of whom seek it only when they become ill, while 15% of them in the midst of a rampant epidemic. The largest proportion of participants, who searching for the healthy information only for general knowledge and culture of health is with percentage 51%. 5% of them searching for this information for certain other purposes, The quality of this information is a matter of several dimensions and several factors involved in this issue, including the validity of information, complete the picture of this information, how the information is presented, the location of this information from the overall content of the subject, and the comparability of this information with other information about the same subject. Plus the availability of access to such information, the people found in a previous study that it is difficult to judge the quality of the health information on the Internet(8). There is a fact that everyone can access every kind of information on the Internet, including the healthy information published by experts, which is difficult to understand for general people(9). There is a fact that says many pages on the Internet have a specific commercial affiliation and include health or economic risks. The problem is, it is difficult to establish a law against them(8). The Internet is more attractive to get information than other traditional media because of its ability to manipulate information. The traditional media or approaches to get the healthy information or consultation are generally more reliable or trustworthy. That is because of their traditional methods of presenting personal information about publishers of this information. And this information is not available on the Internet. The traditional information dissemination, community has a clear identity of informants and this is not happening on the Internet. The biggest problem is the public does not have any warning from the authors or publishers that post or share information on the Internet. Restrictions on the personal pages and the power of this type of information are important to keep the healthy information from manipulating to their importance in controlling people's lives. Where there should be restrictions on the dissemination of the personal experiences of people about their diseases or drugs used. Because these personal experiences have greatly influenced the people understands of the healthy information and the inter-connectedness of ideas about them. This information should be presented in different ways, each of them according to the group to which it belongs, since the provision of information to experts is not the same as the general public. There are ways can contribute to and help improve the quality of the healthy information on the Internet, such as the development of codes for publishers to verify the identity of their publishers, to be sure about his or her medical and pharmaceutical background. As well as the government has to control these issues, to consequently limit the ability to publish such information which related seriously to the people’s lives(10).
Is the difference in the drugs' names or labels, the main cause of the confusion of the healthy information on the Internet?

6% of respondents strongly agree the difference in the drug's labels, is the real cause of the confused or suspected information about drugs on the Internet. 31% of the respondents preferred neutrality in answering this question, 26% strongly disagrees with this interpretation, and 3% disagree with that, while only 1% preferred not to answer.

Are there any benefits or positives to be achieved when using the Internet to obtain the healthy information?

26% of respondents believe the most important and positive thing in using the Internet is to obtain the medical or pharmaceutical information is saving time. And 74% of them believe the use of the Internet is only to increase the healthy culture. According to the previous studies, there are other benefits of this phenomenon (5). For example, the Internet facilitates the social communication between people who have the same diseases, and suffer from the same disease. This provided great assistance for doctors in diagnosing the most accurate diseases of their patients. By talking with them, since their patients remind them during their conversation about the information they got from the Internet about their diseases. They tell their doctors about the other's personal experiences they heard about from other people, who have the same diseases. They met these experiments or encountered them on the healthy website or talked about in a forum (8), except for the rare diseases that occur in a few people and have little healthy information and treatment. The existing healthy information on the Internet makes people feel they suffer from many diseases (8). Although 79% trust the healthy information on Internet and 83% believe the healthy information can be reliable, 88% they trust it if the source of this information is known, 68% trust it when they know the motivated reasons to publish such kind of information. 66% trust the healthy information when they are checking the URL connected to the health website. 74% do not trust this information if the URL seems to be commercial. 55% trust it when they know the source of funding this information (5), because there is a possibility to manipulate this information from the commercial source. To serve the interests of the source of financing or to obtain profits. Although, obtaining or searching for the healthy information has helped many patients to be more powerful in their illness and allows stronger links between them and their doctors.

The dialogue between the patient and doctor encourages patients to fight their diseases, yet doctors are still less enthusiastic than their patients with the benefit of the healthy information on the Internet. Where they think this increases the chance of treating the patient by himself or herself based on this information (5).

The websites used in the search for the healthy information, what is the truth of its credibility?

20% of respondents believe the Arab healthy or medical websites are the best in this field. While 40% believe the foreign websites are the best in this field. 36% of them do not have specific websites they prefer. 3% have specific healthy websites that are frequently re-entered for the healthy information. One study says 70% trust .edu, 69% trust .gov, 65% trust .org, while .com, the survey respondents did not consider it to be very trustworthy at 52% percentage. The foreign websites are worthy of the confidence of the participants in the survey of a previous study since they are Frances, which is their spoken language is the French language. That is, they considered the websites are in their mother tongue are websites that are worthy of their trust in the healthy information (5).

There are many healthy pages on the Internet created for the social purposes, firstly rather than for medical purposes. Since always it contains links to publishers' personal pages for this information. The scary thing is that these people are trying to generalize their personal experiences, as each reader of these experiences, in turn, publishes them more. This topic is related more to the nature of the culture of the communities. Where the reader thinks and understands the information or personal experience, according to the way of society and its customs (8). Another problem in the personal pages on the Internet is the owner of any personal page does not always have the money or funding to finance his or her page or update his or her information so that the drug and medical information becomes outdated.

Is online drug information targeted for advertising to promote certain drugs for profit?

11% strongly agree with this, while 22% agree, while 47% prefer neutrality. 13% disagree that, while 1% disagree with this opinion, while only 6% prefer not to answer. Although, the advertising and promotion are not a measure of the quality of the information (5).

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5. CONCLUSIONS

- The sample of this study is still critical and not satisfied with the quality of the published healthy information on the Internet. Because there is a huge amount of the healthy information, affiliated with different companies with different purposes. Maybe with commercial purposes without caring about the people’s lives, if its products have risks to their health or not. Which causes confusion for the seeker of this type of information, if it is risky or healthy products?.
- There is a need to create awareness among users of the Internet to use, reliable methods of searching for the Healthy Information. These methods help to search for the healthy information under the supervision of a medical specialist. And under the auspices of non-profit organizations.
- There is an urgent need to educate the general public on the right methods to search for the healthy information. Despite spreading awareness about the most reliable healthy information websites, publish reliable information about medicine and do not reap a profit from it. It should be there is guidance for the patient about using the Internet to obtain the healthy information safely. Or to obtain the electronic healthy consultation\(^6\).
- Students of the medical specialties and their trainers must take a course or add it to their curriculum about the right trustworthy methods to search for the healthy information. Such kind course deals with the correct search methods for the Healthy Information. And introduce another course for the general public on the same subject and make it available to all on the Internet, to be an opportunity for all to learn the right methods to search for this kind of information. By accessing, the reliable, healthy websites publish accurate medical information.
- Patients and their doctors need an easy ways or means to communicate with each other to save time for the healthy consultation. By this way, the burden of the daily workload on doctors is reduced and the reliable health information is provided. Although the healthy information is written and published by some people only. There are many people who have a hobby of manipulating information on the Internet, to spread chaos, misunderstandings, and misinformation to service organizations. Or businesses by looking for profits only without regard to the health of people and the degree of impact of the healthy information on their health\(^1\).
- There are many valid health information spread over the Internet, but with this, most people cannot pick the right information or understand the information correctly\(^1\).
- The healthy websites should give people the name of the person who responsible for this issue to be more trustworthy. So, in this case, the searcher for the healthy information or patient, could recognize if the website intended to give people information or just want to sell them a medical product, that has the attractive colored label.
- The medical websites should follow-up the medical developments to be trustworthy websites. And the information posted on such websites must base on the results of medical researchers. What is more and more important the websites have to give people the source of its information, to show them if the information here is certified by specialists in the medical field. Consequently, the medical information appearing on such websites has to be objective and written in a professional and simplified manner. So, the information seems logical and believable\(^12\).

6. RECOMMENDATIONS

Establish of the electronic health websites belonging to companies that manufacture medicines, to be accredited and credible websites, through strict restriction on the dissemination of this information through, by doctors and pharmacists only. Make medical/health websites, follow-up the medical developments, controlled and certified by specialists in the medical field. As a result control the healthy information posted on such websites with a clear source, to follow and base on the results of medical researchers, and written in a professional and simplified manner.

7. FURTHER STUDIES

- The impact of the electronic health or medical consultation at the time of work of doctors and pharmacists. Does it reduce or increase the workload?
- The risk of using the patient’s electronic file/database technologies to leak the personal information of patients or use it for other purposes.

Comparison between the pros and cons of the electronic health information/consultation with the traditional one such as a visit to a doctor or ask a pharmacist.

REFERENCES


APPENDIX

Survey related Degree of trustworthiness of medical consultation & drug information via the Internet Please choose your option, by putting a tick mark on the letter at the beginning of the your option!

1. Your age is:
   a. 19-21
   b. 22-25
   c. 26-30
   d. 31-35
   e. 36-40
   f. 41-50
   g. 51-65

2. Your gender is:
   a. Male
   b. Female

3. Your educational degree is:
   a. Under high school
   b. High school
   c. College
   d. Master degree
   e. PhD
   f. Another

4. What is your source of Healthy Culture?
   a. The doctor
   b. The pharmacist
   c. The speech of friends
   d. The reading books
   e. The Internet

5. Have you ever taken a medicine without any healthy consultation?
   a. Yes
   b. No
6. What is your opinion related eating the medicine by the electronic healthy consultation?
   a. Useless and not to eat it
   b. Useless but eat it
   c. Useful and always eat it
   d. Useful but I avoid repeating eat it
   e. No answer

7. Have you ever had an Online or electronic healthy consultation with a doctor, just to experiment?
   a. Yes
   b. No

8. The healthy information via the Internet is wrong information…
   a. Strongly agree
   b. Agree
   c. Neuter
   d. Disagree
   e. Strongly disagree
   f. No answer

9. The online healthy information is useful information for the patient in specific cases…
   a. Strongly agree
   b. Agree
   c. Neuter
   d. Disagree
   e. Strongly disagree
   f. No answer

10. The difference in drug labels for the same drug is the main cause of suspicion and error in the healthy information via Internet…
    a. Strongly agree
    b. Agree
    c. Neuter
    d. Disagree
    e. Strongly disagree
    f. No answer

11. How long time spends you for searching for the healthy information via Internet?
    a. Often
    b. Always
    c. Sometimes
    d. Scarcely
    e. Never

12. Which one of the following advantages have you achieved when using the Internet for getting the healthy information via the Internet?
    a. Saving time
    b. Increasing of your healthy culture

13. What are the reasons that make you read and search for the healthy information via Internet?
    a. To prevent disease
    b. When you get a disease
    c. When spreading of a specific epidemic
    d. To get knowledge and general culture only
    e. Another reason (Please mention it)

14. If you are using the Internet for getting the healthy information, which kind of website you used to go to?
    a. Arabic websites
    b. International websites
    c. Nonspecific websites
    d. Specific websites (Please mention it)

15. The healthy information is information targeting advertising and promotion…
    a. Strongly agree
    b. Agree
    c. Neuter
    d. Disagree
    e. Strongly disagree
    f. No answer