

# Quality of Health Information on the Internet

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## Abstract

The article reviews the quality of information on the Internet in general and health information in particular, where the accumulation and steady increase of information available on the Internet, without concern for its quality or importance, and regardless of the target audience, in addition to the lack of evidence of its credibility such as the availability of the name of the editor and references, and the availability of the name of an academic or research body responsible for that information. Add to this the lack of bibliographic data that can help infer the novelty of the information, and verify the element of trust in it. The problem is exacerbated with regard to the health information available on the Internet, due to its danger resulting from the presence of false health information that may cause danger to human health if relied upon. Through this article, the researcher proposes criteria that can help users search for information to measure the degree of quality, trust, and credibility of information in general and health information available on the Internet in particular.

## Keywords:

*Health information, Information quality, Internet*

## 1. Introduction

The Internet has become one of the most important means of communication and dissemination of information, and the main result is that it has become an indispensable tool for both information providers who can use Internet sites as a mouthpiece, and Internet users who can use this revolution of information through a single click of the mouse.

Providers of health information range from dedicated experts to charlatans looking for quick profit and success, and everyone can have a site that provides health information through it, but can users trust this information? (Vijaykumar, 2005)

We have become suffering from the phenomenon of information inflation, and the large number of websites on the Internet without paying attention to the quality of these websites and the quality of information and services they provide, Which puts the beneficiaries of the Internet in front of a real problem related to the issue of distinguishing between the various information presented and the selection process based mainly on the quality factor, and this is due

to a number of reasons, which we summarize as follows: (Abd El Hamid, 2005)

- The Internet is a network of networks that contain billions of pages and millions of websites in different fields, with the absence of any guarantee for the information contained in the various pages and websites.
  - Freedom of publication and the lack of scientific controls for the dissemination of information (committees of readers and arbitration)
  - Some sites of unknown origin and identity.
  - The instability of information sources on the Internet is of a dynamic nature, which makes it difficult to find these sources or to re-guide to them in the future.
  - The ability of the contents of these sources to change and alteration or deletion and addition.
- Therefore, the quality of information requires a number of measures, the most important of which are: (Abd El Hamid, 2005)
- Determine the criteria for evaluating the quality of information.
  - The contribution of information brokers in selecting good and appropriate sites according to the fields and the needs of the beneficiaries.
  - Developing information purification technology.
  - Attention to the specifications of electronic documents.
  - Attention to the legal aspects of intellectual property and the security and confidentiality of personal information.

## Health information on the Internet

Health information is concerned with communicating news, ideas, advice and health instructions. (Hasan, 2018) Gerges divides medical and health websites into several types, depending on the ownership of these websites, the type of information they provide, and the nature of the beneficiary (patient, student, specialist), as follows: (Gerges, 2005)

1. Government websites: Websites issued by ministries of health, hospitals, and governmental health institutions, and they are supervised by government employees to provide their services via the Internet, as well as provide health information and news, and provide information about conferences and seminars held in the health field.

2. Specialized medical sites: They are specialized sites for one type of medical subject or more, and are directed to a specific segment of patients or those interested in obtaining information in this field.
3. General medical reality: It presents many medical and health topics in various fields, and is usually directed to a large segment of patients, and most of its topics are presented in a simplified manner.
4. Educational medical websites, divided into two types:
  - Specialized educational websites: Provide general and specialized medical and health information about diseases and treatment, in addition to offering programs to study them on the Internet. These websites are mainly directed to students in the medical field for an educational purpose.
  - Universities or colleges websites: provide an overview of the studies in these universities and colleges and about the study programs, their employees, and the activities they carry out, in addition to providing some medical information and reviewing some of the students' activities and their research and some of the professors' research at the university or college, with the possibility of Bulletin or magazine in the medical field issued by the owners of the site.
5. Websites of medical libraries: They usually contain articles and specialized medical books, in addition to having links with other websites. Some of these libraries offer some general and specialized medical journals. Any question can be directed to these libraries with the aim of obtaining library services in the medical field. There are also libraries Public provides general office services on the Internet in addition to containing a service in the medical field.
6. Medical journal sites: They provide the latest general and specialized news and articles in the medical field, in addition to the presence of general journals that contain medical news and articles. Not all medical journals can be considered equal in scientific value.
7. Non-Governmental Organizations Websites: Websites for non-governmental health organizations interested in the health field and providing news about the organization and its activities in addition to medical information.
8. News sites: It includes the latest medical news and discoveries in this field. These sites usually contain archives that include old medical news and articles.
9. Medical Personal Websites: Websites for people working in the medical field. These sites provide information about the owner of the site, his scientific and medical production, and some scientific and

medical information, in addition to medical articles written by the owner of the site or published on his site by other writers. The medical topic can be part of from a general site whose owner wanted to include all areas of life.

10. Websites of medical companies: They provide an advertising service for their products, and they may provide and display some medical information about the product, the disease it treats, or the purpose of using this product. They may be websites for pharmacies and medical laboratories that provide services and general medical information.

In addition to those sites identified by Gerges, health forum sites can also be added, which are used by many to exchange opinions and experiences in health aspects and seek advice from forum participants, in addition to various social networking sites.

Tyson points out that dissatisfaction with traditional doctors is one of the reasons that drive clients to use non-traditional options to take care of their health, and that there are two related trends: (Tyson, 2000)

- The first trend: the Internet as the customer's source of health information. The reason most people go online to search for health information is the belief that the relationship between patient and doctor today lacks attention to detail and personal involvement unlike in the past. People go online because they need more than what they get during a health consultation at a doctor's office. Patients may also become impatient, as the doctor's office is not a model of efficiency in terms of long waiting hours, and in the end, when the patient sees the doctor for 3 or 4 minutes, he has overlooked many questions that he wanted to ask the doctor about.
- The second trend: clients shift to self-care. On October 12, 1999, life mater supported selfcare (a provider of health care services) launched the first interactive system for treating patients based on the Internet, for individuals with chronic conditions (such as diabetes). This free service makes patients enter signs and symptoms into the database and obtain Feedback about their health condition, which includes health information, health diaries, and an emergency medical record. These data are made according to the patient's needs. (Life masters' debuts first internet, 1999)

#### **The benefits and problems of searching for health information on the Internet**

The Internet is one of the easiest and fastest sources of information that allows access to general information and health information, especially at anytime and anywhere (Gerges, 2005), in addition to several other benefits that we summarize as follows:

1. The possibility of obtaining the latest medical research in the field of treatment or diseases.
2. Confidentiality in obtaining health information, as the search does not require mentioning the name or identifying the user's identity.
3. Benefit from the experiences of others, as some patients publish information about their disease and how to treat it in order for other patients and doctors to benefit from it, in addition to benefiting health institutions from the experiences of other health institutions that are published on the Internet.
4. Facilitating patients' access to the services offered by the ministries of health and health institutions in the world via the Internet.
5. Some health websites are distinguished by including text and various means (images, videos, ... etc.), as well as adding internal and external links that enable easy navigation between the multiple pages of a single source.
6. The possibility of using e-mail to schedule medical examinations with doctors and exchange health advice between the patient and the doctor. E-mail plays a major role in transmitting health information. It can also be used for clinical purposes such as inquiring about the side effects of treatment or using it to assess the patient's condition and whether a direct meeting with the doctor is necessary or not. Communication between the doctor and the patient via e-mail can also reach further. From what we can imagine, it can be used to transfer the results of pathology tests and x-ray results between the laboratory and the doctor's office. (Cullen, 2006)

the most important feature that distinguishes the is the availability of the "interactive" feature, which is available through the health consulting service provided by some health websites, which helps patients to interact and communicate with the doctor and obtain health information that helps determine their disease or advice to quickly go to A specialist doctor for proper detection and diagnosis.

On the other hand, the Internet is not operated or managed by any central organization. The network is nothing but a group of millions of personal devices connected to each other all over the world. There is no particular person responsible, and this is the case of course applies to health sites on the Internet, which suffer a lot Including the problem of misleading sites

The forms that misleading health websites can take are: Some sites give correct medical advice, but in reality, they are trying to sell one of their products, so they adapt the information to the product in an attempt to increase confidence in the product and thus increase its sales. Some

websites advertise a product that treats a problem for which medicine has not yet found a cure, and it is a product that is not scientifically proven. Some websites promote new news and discoveries that have not yet been scientifically proven. In some of these sites, documented health information is mixed with other inaccurate information that has not been proven correct.

Among the most common problems related to language, readability, ability to understand, excessive use of medical terminology without sufficient clarification, as well as the ability of health information users to retrieve and evaluate information contained in websites, where there is a lot of repetitive information. and inaccurate or incomplete, in addition, the lack of good site design can affect how the user interacts with the content and the inability to navigate through the site.

### Quality of health information on the internet

The World Health Organization defines health information as: the completeness of the physical, mental, psychological and social condition and not merely the absence or disappearance of disease. (WHO)

Health information is information about maintaining well-being, preventing and treating disease, and making other decisions related to health and health care.

Health awareness is the ability to read, understand and implement health information and the level of ability of individuals to collect, process and understand basic health information and services necessary to make appropriate health decisions. (DHHS, 2010)

Jabbar also defined the term health awareness as being the familiarity of individuals with all important health and medical information, as well as their sense of self-responsibility towards their own health and the health of others in society. (Jabbar, 2021)

Information quality is a term used to evaluate the quality of information content, and some use the term data quality as a synonym for information quality, Also Information quality is a measure of the value that information provides to the user. (en.wikipedia.org)

The concept of quality also includes a set of criteria that determine the compatibility of the product or service with the need of the beneficiary. Therefore, the information does not rise to the level of quality and has no use value unless it matches the need of the beneficiary.

It can be said that the "quality of information" is the conformity with the standards that specialists determine according to the needs of the beneficiary community and according to the subject area of that information, and quality standards are the components of the concept of information quality.

Hafez defined quality standards as "a tool that measures the extent to which something has been achieved or not in an understandable and measurable way to reach an acceptable and high-quality model". (Hafez, 2006)

Quality standards are a measuring tool through which information can be judged, the extent of its conformity and the quality condition in pursuit of the desired goal and meeting the needs of users.

The quality of electronic health information requires a number of measures:

1. Determine the criteria for evaluating the quality of information by specialized organizations.
2. Attention to the legal aspects of intellectual property, privacy and information security, and activate laws that limit harmful or false information.
3. Evaluating the information by a third party other than the provider of the information and the beneficiary thereof.
4. Educating and training users to find and define health information of high quality.
5. Supporting health information producers to produce reliable quality health websites by providing them with the necessary guidelines and rules.

Kiley divides quality tools that help control the quality of information into three groups: (Kiley, 1999)

- Tools that give approval labels to health sites that meet specified quality standards.
- Tools that give site users a tool to assess the quality of information and sites.
- Tools issued by libraries.
- Tools identified by the researchers.
- Tools that use Internet technology to filter health information.

The researcher proposes a list of health information quality standards on the Internet, which included 25 standards, centered on five main criteria, which are intellectual responsibility, content, modernity, links, and usability.

#### 1. Intellectual responsibility:

- Determine the sponsor (publisher) governmental, commercial, academic, institutional, personal.
- Availability of sufficient identifying information about the sponsoring agency.
- Availability of contact information for the sponsor by e-mail, regular mail, telephone or fax
- Clearly mention the name of the source responsible for the published health information.
- Availability of identifying information about the author (his qualifications, experience, certificates, membership in one of the well-known health associations or organizations).
- Availability of means of contacting the author by e-mail, regular mail, or by telephone or fax.

#### 2. Content:

- Clarity of purpose of published health information.
- The accuracy of published health information.
- Depth and adequacy of objective coverage of health information.
- Objectivity and impartiality in presenting health information.
- Appropriate health content for the general Arab audience.
- Availability of a list of sources cited in writing health information.
- The information is free from grammatical and spelling errors.
- Health information arbitration (specialized arbitration committee).
- Clear distinction visually or by text between advertising and substantive content.
- There is no effect of the advertising material on the published health information.

#### 3. The current:

- Clarity of health information publication date.
- Clarity of the date the health information was last updated.

#### 4. Links:

- Availability of internal links that refer the beneficiary from health information to another linked to it on the same site.
- Availability of external links that refer the beneficiary from health information to another linked to another site.
- Most of the available links are internal, not external.
- Links are already available (effective and working).

#### 5. Usability:

- Organized information tabulation (headings and subheadings).
- Availability of means to clarify information such as graphics, pictures and shapes.
- Availability of a search tool for information.

In addition, the following elements must be provided:

1. Internet sites, especially health sites, must ensure the application of quality standards in the selection and selection of published information, and work on the availability of a specialized committee to judge such

information before publishing it, while ensuring that it is constantly updated.

2. Health information websites must clearly and explicitly assure users that the information published in them does not replace a doctor's visit, but rather is a loss to increase knowledge and speed up health decision-making.
3. Establishing websites for health information quality standards in different languages, to serve as guidance sites for users to help them choose and select quality-assured health information.
4. Doctors should realize the important role that the Internet can play in communicating health information between the doctor and the patient, especially with regard to chronic diseases and follow-up through e-mail, which will benefit both parties and reduce crowding and waiting for long hours inside the doctor's office.
5. Activating the role of libraries affiliated with health institutions, and their cooperation with ministries of health to disseminate health information and health awareness.

Sciences.

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