The Impact of Social Computing on Health Information Seeking Behaviour

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Abstract— **Health consumers are increasingly relying on the Internet for their health education. The prevalence of Smartphones has made this even easier as people have access to social media where they can interact with others around the world. Health Information Seeking Behavior (HISB) can be described as means in which individuals obtain health information relating to their personal health activities that promote healthy living, risks to their health and illnesses. HISB varies in extent and scope - that is, what is being searched for and the source used to gather the information. The Internet, through the use of search engines, has been widely used as means to search for health information. People search for different types of health-related issues such as treatments for certain conditions, symptoms, general information on a particular health issue and so forth. Sometimes people search this information for family members or other people, besides themselves. It has become important for individuals to take ownership of their health and not solely depend on getting information relating to their health from their healthcare practitioners. Social media platforms provide a harbor where people from different places in the world can share and educate one another on health-related topics. As social media increasingly becomes one of the sources where people share and search for health information, it is important to understand the scope of the information being sought and the motivations to why people share the information in a public platform. For this research paper, an extensive literature review will be conducted in order to gather background information on Health Information Seeking Behavior, focusing on the use of social media as a source of the search.**

Keywords-health;health information seeking behaviour;social computing;

I. INTRODUCTION

By nature, human beings are societal and therefore need relationships with others in order to survive [1]. This can be noticed in how much people need to have a place or group to relate to. Social computing is a method of Information Technology (IT) that is used to provide cybernetic teams across a variety of organizations or communities which enhances collaboration, collection and sharing of information [2]–[4]. It creates a platform where different stakeholders can make virtual connections in order to communicate and share information more effectively through the use of cybercommunities rather than being confined to the physical world.

The Internet started out as being a "read-only" service which had little user interaction, which was known known as Web 1.0 [5], [6]. With time and advancements in technology, things have changed and now people can read and contribute to content on the Internet – allowing interaction and collaboration [5]. This is known as Web 2.0 and social computing forms part of it. Some of the crucial characteristics of social computing include the following [3], [6]–[8]:

- Connectivity: This focuses on how people relate among one another in a group.

- Collaboration: The way people interact in the cyber world by sharing resources, knowledge and experiences. Collaboration can be both positive (facilitation) and negative (competitive).

- Community: This is a grouping of people that share functional similarities or are of spatial closeness.

Mxoli, Mostert-Phipps and Gerber (2016) have identified various social computing applications. The following are examples of such applications [1], [4], [6]–[8], [10]–[12]:

- Blogs: Web diaries that enable non-experts to easily manage and share content in a network of users that is usually presented in a variety of themes. Blogger is an example of a blog service provider.

- Social games: This approach presents online games that humans play to solve complex problems but humans are playing for fun e.g. The Sims.

- Social networks: There are platforms that bring people together either as friends or communities sharing common interests e.g. Facebook.

- Social media: Tools that are based on the Internet that are used for sharing of information via videos or podcasts e.g. YouTube.

- Social knowledge sharing: A variety of news submitted by individuals on the Internet to form a shared pool of knowledge e.g. Wikipedia.

It has been found that many people are gradually making use of social computing to access health information or to track their health conditions and care (Heckley and Hoffmann, 2010;

Sarasohn-Kahn, 2008). The combination of social computing applications and health introduced the concept of Health 2.0 (Sarasohn-Kahn, 2008). This can be defined as an interconnection of Web 2.0 applications that empower the user to take ownership of their healthcare [5], [15], [16]. It is about assisting patients in making rational and informed healthcare decisions by making health information readily available to them. With social computing technology on the rise, patients are looking for innovative ways to interact and share healthcare experiences [15]. Social computing creates a platform where patients, doctors, caregivers and other healthcare providers can connect and actively interact in caring for a patient.

II. METHODS

For this research paper, an extensive literature review was conducted in order to gather background information on the concept on Health Information Seeking Behavior (HISB), focusing on what triggers the search, what the different information sources are, the type of information sought and how much time is spent seeking the information.

The following section discusses HISB in depth.

III. HEALTH INFORMATION SEEKING BEHAVIOUR

The method of providing and seeking medical services has evolved throughout the years. WHO (n.d.) defines eHealth as "the use of information and communication technologies (ICT) for health." Health Information Seeking Behavior (HISB) is one of the ways individuals use the Internet to gain health knowledge. A number of sources have tried to define the concept of HISB with no single concrete meaning. Various sources in Lambert and Loiselle (2007) have highlighted that HISB is a concept of finding information which is triggered by an event, with the purpose of gaining knowledge, coping with the situation and displaying a behavior change.

A. Health consumers

Not everyone has access to the Internet and not everyone who has access knows what to look for when it comes to HISB. Studies have been conducted to investigate on the characteristics of those individuals who take part in HISB. Most prevalent characteristics are age, gender, race, level of education and income status. Studies highlighted in [19] show that, the youth, females, people with higher levels of education or people that are more health literate, Caucasians, and those with a higher income are more likely to search for health information online

B. The search process

When people go on the Internet to search for health information, there are a number of reasons or influencers for the search. The search process in HISB involves a trigger, the number and types of information sources consulted, the type of information sought, and the amount of time spent conducting the search [18], [19].

1) The trigger
HISB is usually triggered by an event, as highlighted in the definition above. Individuals search for health information

based on circumstances they find themselves in so as to focus on the situation and become more engaged and aware of the threat as a coping mechanism [20]. A perceived health status is a trigger of a health information search [21]. When individuals consider that their health status is poor, they tend to seek for health information in order to cope with the stress. A study conducted in Europe on the use of e-Health services by the citizens indicates that individuals who have been recently diagnosed with a disability or long-term disease and people who frequently visit the general practitioner have a higher use of the internet for seeking health information [22]. Another trigger for a health search is when people realize that their knowledge of health information is not at a level that they feel it should be at [21].

2) Sources
People can use different sources of information for HISB such as friends, family members, the physician or the Internet [19]. In a study conducted by De Choudhury, Morris, and White (2014), respondents mentioned that they choose the Internet over other sources of health information for a number of reasons. Some stated the convenience of the Internet in terms of availability, ease of use and speed of the Internet. Some respondents highlighted the variety of information as a motivation of using the Internet, while others also highlighted the sense of privacy, more detailed information compared to what they get from the healthcare provider, lack of availability of medical from a healthcare provider e.g. after working hours, and some mentioned the monetary value of using the Internet instead of consulting a doctor.

3) Type of information
The content or type of information sought is also a factor in conducting a health search [19]. An individual will search for different types of information regarding their health depending on number of factors [23], [24]. When an individual has just been diagnosed with a disease or disorder, they search the Internet for more information on the diagnosis and also prepare for the next doctor's appointment. They search for the medication they have been prescribed and also look for ways they can better manage their lifestyle in terms of weight and nutrition. Some also search the Internet to identify new medical findings on the diagnosis and some just need social support.

4) Time
The amount of time spent on the Internet is influenced by how much trust the individual has on the information and also if they have a poor communication with their doctors, individuals may spend more time conducting a search in order to have more sources [21].

HISB assists individuals in finding health-related information in order to [21], [23], [25], [26]:

- Cope better with a health-threatening situation: this entails the type of information that is searched for, how much of it is obtained, the source it is obtained from, and when it is typically needed by the individual. This helps the individual to cope better with a situation when they have more information about it.

- Participate and get involved in medical decision-making: as the healthcare becomes more available to

the patients, they want to be involved in decision-making. Patients want to gain more understanding on their health, they want their views to be considered and they want to be involved in the final decision-making. By being involved, they help find possible solutions, compare and evaluate numerous options, gain more insight on alternatives to reduce confusion and uncertainty, and decide on the appropriateness of a particular option.

- Adopt a behavior change and a preventative behavior: HISB can influence a decision for an individual to lead a healthier lifestyle. Gaining more information on a certain health condition may influence how much information one has when making decisions, judgements and adopting attitudes on health behavior. This also plays a role in how many alternative course of actions one knows, and the pros and cons of each. Information on resources one may use to carry out those behaviors is also made available.

IV.   CONCLUSION

The Internet has become a reliable and widely used source of health information. Consumers of health information engage in Health Information Seeking Behavior by using the benefits of Social Computing in order to be more involved in their health life. HISB is a process which involves a trigger, a number of sources, type of information and time. Consumers get involved in HISB in order to cope better with a health condition, to participate and be more involved in decision-making, and to adopt a healthy behavior change.

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