

Information behaviour of cardiac patients

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ABSTRACT

Information behaviour focuses on how people find and use information for work or personal needs. This study reports on the interviews with 50 cardiac patients in a Kuwaiti hospital that revealed their information needs on risk factors, alternative treatment, diet and exercise. They felt more confident if they sought information themselves or through their family members. Cardiac patients feel that health information has changed the way they eat and exercise. Internet is currently not a frequent source of information for most cardiac patients in Kuwait. Those who use Internet, depend on search engines as the primary means for finding information. It is suggested that further research looks into sharing of information among cardiac patients through social media and popular social networking sites.

Keywords: Health information; Information needs; Information seeking; Cardiac patients; Kuwait.

INTRODUCTION

Information behaviour focuses on how people find and use information for work or personal needs. Wilson (2000) defined information behaviour as the totality of human behaviour in relation to sources and channels of information, including information seeking and information use. Choo, Detlor and Turnbull (2000) list three components of information behaviour including needs, seeking, and use. Fisher, Erdelez and McKechnie (2005) consider information behaviour a broader concept including activities to seek, manage, give, and use information in different contexts. Case (2007) is of the view that information need in a way is recognition of inadequate knowledge to satisfy a goal and information seeking is a conscious effort to acquire information in response to that knowledge gap. Lambert and Loisel (2007) point out that patients seek information related to their health problems from a variety of sources to gain knowledge about their sickness, diagnosis, treatment, and the ways to prevent recurrence of the disease. The means to access these sources may include health care providers, media sources, libraries and the Internet (Warner and Procaccino 2007). There has been a shift in the role of the patient from passive recipient to active consumer of health information. The health professional and patient collaborate in obtaining and analyzing the information and also guide patients to reliable health information websites. Segal (2012), a medical doctor, states that he is supposed to form a partnership with his patients. He further states that his patients are supposed to be the working partner and he is supposed to be the consulting partner.

Stewart et al. (2004) reported that although cardiovascular diseases are the leading cause of death, only a few studies have explored the effect of information on cardiac patients.

They further stated that most patients wanted more information about their health problems. Cardiac patients wanted information on diet, exercise, high cholesterol, and management of their health conditions. Patients complained that they did not receive sufficient information from health care providers on different treatment choices, family support in lifestyle changes, future courses of their condition, and role of doctors in cardiac treatment and rehabilitation. Recently, the Internet has become the primary source that offers enormous amount of health information, which has changed the way patients use such information and approach their health needs (Borzekowski et al. 2009).

The above cited studies examined why and how individuals with different diseases sought health care information and identified different types of sources to obtain needed information. Factors affecting information seeking behaviour of different groups have been discussed and use of Internet as a source to approach health information needs has also been described. However, there appears to be a lack of research-based studies addressing the information seeking behaviour of cardiac patients. As such, we conducted a study to investigate the information behaviour of cardiac patients which focused on their information needs, seeking and use.

LITERATURE REVIEW

Considerable literature has been produced on different aspects of information needs and information seeking behaviour in the area of health. Several papers have discussed the information seeking process in general. For example, Lambert and Loiselle (2007) examined the concept of health information seeking behaviour (HISB) by reviewing the scientific literature from 1982 to 2006 to determine and clarify the concept and its essential characteristics. HISB consists of a series of inter-related behaviours which vary along two main dimensions: extent (scope and depth of search) and method (information source used). Barsevick and Johnson (1990) have defined the HISB as an action undertaken to satisfy a situation or clarify an enquiry. HISB has also been defined as a key coping process to manage stressful and anxiety illness-related events (Longo et al. 2009; Mayer et al. 2007).

Some studies have focused on health information seeking behaviour of different groups. For example, Ankem (2007) tracked women from the beginning of their illnesses and analyzed their information-seeking behaviour and found that although they expressed a great need for almost all types of information, those with higher levels of education indicated a greater need to know the reasons that their doctors had for suggesting treatments. While friends, magazines, and television made several of the women aware of new procedures, the Internet was heavily utilized for learning about treatment options. Wathen and Harris (2006) reported that women's information behaviour differed according to which decisions they were making. There was a paucity of good information to help women who were deciding to stop hormone therapy treatment (HRT).

Several studies have looked at information seeking from the perspective of disease. For example, Mayer et al. (2007) examined the information seeking behaviour and preferences of cancer survivors and found that two-thirds of the survivors sought cancer information. Significant predictors of information seeking included age, gender, income, and having a regular health care provider (HCP). Although most survivors prefer receiving cancer information from their HCP, many turn to a variety of other sources, primarily the Internet. Credible and useful websites could be identified and recommended by the HCP as a means

to address some of the barriers identified by survivors. Longo et al. (2009) classified patients as active information seekers, passive information receivers, and users of information. It was reported that most patients were active information seekers; many were also passive receivers and HCPs remain the primary information source. Interpersonal communication was far more often cited than either the Internet or traditional print and broadcast media. HCPs currently remain key to health information. Eheman et al. (2009) states that the type and quantity of information needed varies between patients who actively seek information and those who tend to avoid information. Cancer patients who have adequate information benefit by increased involvement in decision making. Tortolero-Luna et al. (2010) stated that effective communication around cancer control requires understanding of information seeking practices.

Several studies focused on information sources used, particularly information available on the Internet. The number of consumers using the Internet for health information is growing constantly (Pletneya and Vargas 2011) as the Internet allows people to seek information about health issues for themselves as well as for other people. There are numerous sources of health information on the Internet such as medical web pages, newsletters and blogs. Cline and Haynes (2001) reported that the majority of patients seek Internet information for disease, treatment information, diagnosis and others for the treatment decision-making and to manage their own care. Helft et al. (2005) reported that most patients would use the Internet to obtain cancer information if they had Internet access. Younger age and more years of formal education were significantly associated with Internet use. Having less education and being female were associated with lower estimates of the accuracy of Internet information. Fewer years of formal education was associated with increased likelihood of reporting confusion after reading Internet information. The types of information sought on the Internet included treatment options, general information about cancer, nutrition and cancer, alternative therapies, ways to live with cancer, and news articles about research and treatment.

A few studies were found on information behaviour of cardiac patients. Timmins and Kaliszer (2003) investigated information needs of myocardial infarction patients. Astin, et al (2003) studies the information needs of patients treated with primary angioplasty for heart attack. Stewart et al. (2004) looked at gender differences in health information needs and decisional preferences in patients recovering from an acute Ischemic Coronary event. Decker et al. (2007) investigated acute myocardial infarction patients sought information over the course of treatment and recovery. Leathem et al. (2009) discussed the need to seek the opinions of coronary heart disease patients in designing a health education booklet for use in general practice consultations.

The literature review indicated that considerable research has been carried out in the field of health information seeking. Most studies focused on cancer patients. These studies have been carried out by health care professionals, communication scholars, and information professionals. Most studies were aimed at understanding patient's behaviour in obtaining and retrieving health information, determining types of information they prefer, and investigating how the health information sought is used. Only a few studies could be found that particularly focused on cardiac patients. This paper is expected to make a modest contribution in this area.

RESEARCH QUESTIONS

The following research questions drive this study:

- a) Do cardiac patients seek information other than those provided by health care providers?
- b) What are cardiac patients' main motivations for seeking additional information?
- c) What types of heart-related information do cardiac patients try to find?
- d) Who do cardiac patients rely on the most in finding information?
- e) Which sources of information are considered more useful by cardiac patients?
- f) How frequently is the Internet used to find information related to heart disease?
- g) What websites have been found more useful for seeking health information by cardiac patients?

METHOD

This study was conducted using structured interviews. An interview guide (similar to a questionnaire) was prepared to conduct the interviews. The first part of the guide contains questions related to cardiac disease and disease-related condition, the second part focuses on information seeking (motivations to seek information; sources used; and assessment of sources in terms of frequency of use and usefulness of information found) (Appendix). Some questions in this part of the guide focus on Internet and web-based sources of information, followed by questions about the use and impact of information. The last part contains questions about personal demographics. While 20 questions were listed in the schedule, sub-questions were asked for elaboration and clarifications when needed.

Participants for this study were recruited through a hospital in Kuwait, a specialized healthcare service centre for cardiac diseases in operation since 1959. Consent to conduct the study and assistance in data collection were given by/from the hospital administration. The second author visited the outpatient clinic 2-3 times every week to invite patients to participate in the study. The objectives of the study were explained and patients were informed that participation in this study was voluntary and information collected would be used only for research purposes. In total 75 patients were asked to participate. Fifteen apologized for certain reasons: they were under stress already, they did not want to talk about their disease, and in some cases there was hesitation in sharing the information. In total, 50 patients were interviewed. Data collection continued for more than three weeks.

On the average 5-7 patients were interviewed in a day. All interviews were spread over a four week period. Interviews took place in the hospital (a room was made available next to the nurse station) during the time when patients were waiting for their turn to see the doctor. On average, each interview took half an hour. The interview schedule was available to patients both in English and Arabic. The researcher went over the questions and recorded information on the schedule during the interview. Some patients provided information on additional aspects (which were not listed in the interview schedule). They also made comments on different aspects of the study which were recorded verbatim. These comments have been quoted in the discussion and these provide a good context and helped enrich the data.

RESULTS AND DISCUSSION

Participant Demographics

Personal particulars of the cardiac patients who participated in the information behaviour study were tabulated against main demographics of age, gender, education, employment, and nationality. These are presented in Table 1. Sixty per cent were male and only 40 % were female. The majority of the participants were above 50 years of age, 36% were older than 60. As expected, there were fewer younger patients. A majority of the participants were married and were working at the time of the study. Also, most were educated (either had college diploma or university degree) and more than 60 per cent expatriates.

Table 1: Personal Demographic Information (N=50)

Demographic	Parameters	No. of responses	Percentage
Age	Less than 50	13	26
	50 to 59	19	38
	60 or above	18	36
Gender	Female	20	40
	Male	30	60
Citizenship	Kuwaitis	19	38
	Expatriates	31	62
Marital status	Married	42	84
	Single, divorced	7	14
Education	Below high school	12	24
	High school and diploma	18	36
	University graduates	18	36
Employment status	Working	36	72
	Retired	14	28

Disease and Health Condition

Information on disease and disease-related conditions were important to put information seeking behaviour into a perspective and provide an appropriate context. We asked several questions about the condition of patients. Table 2 presents information on the disease and disease related condition of patients. Most cardiac patients in this study were suffering from Ischemic heart disease. More than 70% had hypertension. For more than 36% participants, it had been more than 10 years since their disease was diagnosed. A majority of patients already had surgery done, more than 50% had family history of heart disease and 94% were on medication.

Various studies have highlighted that personal demographics (e.g., age, education, race, and gender) as well as psychosocial variables such as personality traits, goals, beliefs, values, attitudes, emotions and moods, literacy, skills, and resources influence the information seeking behaviour of patients (Borgers et al. 1993; Loiselle 2001; Matthews et al. 2002 as cited in Lambert and Loiselle 2007). Hsieh and Brennan (2005) found that age and health contribute positively to information seeking among pregnant women. Other studies reported that women, younger and educated individuals are active information seekers (Borzekowski et al. 2009; Stewart et al. 2004). In our study, information about personal and disease related demographics were helpful to provide a context to the findings presented in the next section.

Table 2: Disease Related Information (N=50)

Disease/Condition	Parameters	No. of responses	Percentage
Types of Heart Disease	Ischemic heart disease	31	62
	Valvular heart disease	7	14
	Cardiomyopathy	4	8
	Others	8	16
Disease-related health conditions	Hypertension	36	72
	Hypercholesterolemia	27	54
	Diabetic problems	24	48
	Kidney problems	4	8
	No disease-related	4	8
Length of disease	Less than a year	16	32
	1-3 years	7	14
	4-6 years	6	12
	More than 10 years	18	36
Disease history	Family disease history	29	58
	Currently on medication	47	94
	Surgery done	36	72

Information Needs

Individuals seek health information when there is a need for such information and generally in the absence of any disease symptoms will not take action to avoid a disease (Karinanne and Lidwien 2005). Health seeking behaviour could also be a response to the feeling of stress, anxiety and threatening event such as cancer diagnosis (Mayer et al. 2007). Other reasons that motivate patients to find health information are inconsistent and poor communication and lack of adequate support from health providers (Borzekowski et al. 2009). When individuals receive poor information from their health care providers, they feel uncertain toward the health information and they want to reassure themselves of the correctness of such information (Hsieh and Brennan 2005). Therefore, they would try to find more information to fulfill their uncertainty and needs.

We observed in the interviews that those who had a history of heart disease in their families would search more for information about their disease as they already had a risk factor related to their disease. They became conscious and started seeking information to protect them from the hereditary problems. However, out of the 50 patients interviewed for this study, 17 did not seek information at the time of diagnosis. Another eight patients reported they did not seek information as doctors had already told what they needed to know. One participant stated that he already had enough information while another one stated that he did not have time to seek information.

During the interviews, we noted that a cultural factor also played a role in patient's decision for not seeking information about their disease. Some patients stated that their belief was that the disease was from God and they should accept whatever was destined for them. Some other patients stated that they were afraid to discover they had a disease. They did not want to know more so they would not be scared. Some displayed an attitude of denial of not admitting that they were sick. Some patients expressed that they would feel uncomfortable and anxious if they searched information about their health. They seemed to be convincing themselves that they were healthy and did not need to seek information. But probing in the interviews revealed that they were actually trying to find information from the sources we listed in the interview schedule.

One patient related a bad experience with the disease. He was with his mother when she underwent a heart surgery. She died immediately after the surgery. He is refusing now to seek information and know more about his disease after this experience. He believes that the disease is from God so no need to know more about the disease as this will make him more anxious and terrified. Some patients stated during the interviews that they did want to seek information through their doctors but there was a lack of communication between the patients and doctors in the clinic. Influence of cultural values has been reported in the professional literature. For example, Yi, Stvilia and Mon (2012) reported that cultural differences limited the use of health information among a Korean community in Florida. A majority of patients in this study reported that they sought information beyond what the doctors provided. The factors that motivated patients to seek information are presented in Table 3.

Table 3: Motivation for Seeking Information (N=50)

Motivation	No. of responses	Percentage
The healthcare professionals recommended specific sources of information.	1	2
Patients wanted to supplement the information given by the healthcare professionals.	12	24
Information provided by healthcare professionals was not clear.	9	18
Patients were not satisfied with the information given by healthcare professionals.	9	18
There was not enough time to ask the doctors more questions.	7	14
Patients wanted to find more information at their own.	42	84
Patients needed to make decision about the possible medical treatment.	12	24

As shown in Table 3, a majority of the patients who sought information were motivated by the fact that they wanted to find out about their disease and condition on their own. Since this is a life-threatening situation, it is understandable that patients want to make sure they do whatever is possible within their means. This appears to be in line with what has been reported in the literature. For example, Warner and Procaccino (2004) reported that more than one third of the respondents in their study reported either lack of information provided by the medical professionals or they were not satisfied with the information given to them.

As stated earlier, a majority of patients who were interviewed had family history of heart disease. They expressed that they were worried as their family members had died of heart disease. So they sought information to protect themselves. They said they wanted more information from their doctors but because of long wait in the outpatient clinic they decided to seek information from other sources. Some patients stated that they wanted to seek information for a healthy life and that they wanted to overcome tensions. One participant stated “Health is wealth”. Some patients were concerned about the possible mistakes of doctors in diagnosis and wanted to seek information to confirm the diagnosis (i.e. seeking information from doctors other than their own for second opinion).

Types of Information

Information needs are an important part of the information seeking process (Case, 2007; Choo, Detlor and Turnbull, 2000; Fisher 2005). It is important to know what type of information is sought by patients. We asked the cardiac patients about what type of

information they were looking for. As shown in Table 4, the frequently mentioned types of information needs by cardiac patients are cause or risk factors, medication, and food and diet. Other than the listed options, patients mentioned some interesting areas of information. One patient wanted to know whether patients with heart disease could get married. Another one wanted to know if people with family history of heart disease could get regular or routine examination to check the risk factor and discover the disease on time. Cancer patients who were studied by Tortolero-Luna et al. (2010), Eheman et al. (2009) and Leydon et al. (2000) also included these areas in their information needs.

Table 4: Types of Heart-related Information (N=50)

Information Type	No. of responses	Percentage
Cause or risk factors	40	80
Diagnosis and symptoms	30	60
Food choices and diet	34	68
Physical exercise	17	34
Medication	35	70
Alternative medicine(s)	12	24

We also asked the study participants about what were their main considerations in seeking information. Most cardiac patients (68%) reported that they wanted to find information after visiting a doctor. The patients would not bother to seek for health information before visiting the doctor. The other considerations highlighted included finding information instead of visiting a doctor and before visiting a doctor. This type of attitude has also been reported in other countries. For example, Wei-Chun, Li-An and Yueh (2012) reported that in Taiwan need for and attention to health information, health service information and prevention health care information were the most needed and important. Family, friends and television were the main channels for accessing health information. Fewer patients actively sought health information. They also highlighted that patients with higher educational background were also more aware of their health information needs and more attentive to information disseminated via mass media.

Sources of Information

We also asked cardiac patients about the sources of information they considered most trusted for seeking information. A majority (47; 94%) of cardiac patients preferred to look for information by themselves, and trusted their family and friends the most (23, 46%). This trend appeared more prevalent among patients who were from the medical field (nurses, pharmacists, and doctors) as they believed that they would do a good job in searching for health information.

It has been reported in the literature on health information seeking that most often, individuals seek health-related information from a combination of personal (e.g. self, friends, and family) and impersonal sources (e.g. books, journals, and Internet). Sometimes patients use multiple sources of information to gain as much information as possible and or to re-assure information received from another source (Lambert and Loisel 2007; Gray et al. 2004). During the interviews, patients repeatedly mentioned that doctors were their first and foremost reliable source for seeking health information, as they believed that doctors knew better than others. Some patients stated that they did want to ask people with the same disease because "Asking an experienced person is better than asking a doctor." Some patients complained that there was a lack of booklets and brochures related

to their health conditions in hospitals. One patient recommended having some videos showing cardiac surgeries and other heart procedures. He mentioned that such videos could be shown to patients while they were waiting for the doctor.

We asked the patients to indicate the frequency of use of different sources on a scale of 1 to 5 (1 indicating the lowest frequency and 5 the highest frequency). Table 5 shows the frequency of use of information sources reported by the cardiac patients we interviewed. These are listed in the table ranked by mean scores. As shown in Table 5, in addition to their dependence on doctors for information, the most frequently used sources are television and newspapers (mean score of 3.75 and 3.5 respectively). This might be linked to the easy access and availability of these sources. Cardiac patients reported that they also frequently contacted patients with the same disease/condition as indicated by a mean score of 3.39. A good number of cardiac patients reported the Internet as a frequently used information sources (mean score of 3.14), though it was not among the most frequently used information source. All other information sources have a mean score lower than 3 indicating a lower frequency of use. Another interesting observation is that even though the patients stated family and friends as the most trusted means of seeking information but in terms of frequency of use, this source is at number 7 on the list of 14 sources (with a mean score of 2.89).

Table 5: Sources of Information for Cardiac Patients (N=50)

Source	SD	Mean
	Doctors (patients' doctors)	0.83
Radio/TV	1.27	3.75
Newspapers	1.50	3.50
Patients with same condition	1.13	3.39
Internet/web sources	1.15	3.14
Other health care providers	1.47	2.94
Family/friends	1.52	2.89
Other doctors for second opinion	1.32	2.88
Magazines	1.50	2.77
Booklets/brochures	1.48	2.75
Medical and health books	1.60	2.57
Libraries & information centres	1.51	2.43
Co-workers	1.40	2.31
Seminars/programmes	1.36	2.13

We also asked cardiac patients about the usefulness of different information sources. A summary of their perceptions about the usefulness is given in Table 6. They were asked to rate the usefulness on a scale of 1 to 5 (1 being the least useful and five the most useful). Their perceived usefulness of information sources is listed in a ranked order according to the mean scores.

As expected, doctors were perceived to be the most useful source of information by cardiac patients. As shown in Table 6, booklets, newspapers, radio/television, and magazines were also considered very useful as these all yielded a mean score above 4. Other doctors (for second opinion) and patients with the same disease were also considered fairly useful as these also have mean score above 4. Interestingly, family friends who were considered the trustworthy sources were not perceived as very useful

information sources. Professional literature highlights that community as information source can be very helpful. For example, Harris, Vienot and Bella (2010) reported that ideas about person-to-person information exchange on the pattern of communities of practice may be helpful in supporting health information behaviour. The patterns of experience reported by their study respondents illustrated the power of access to timely support from trusted informants. This also helped deepening of knowledge at the community level when interpersonal connections are consciously formed and maintained.

Table 6: Usefulness of Information Sources for Cardiac-related Diseases (N=50)

Information Source	SD	Mean
	Patients' doctors	0.45
Radio and TV	0.91	4.46
Booklets and brochures	1.23	4.23
Internet and web sources	1.25	4.22
Magazines	1.31	4.22
Medical and health books	1.26	4.20
Newspapers	1.19	4.19
Doctors for second opinion	1.26	4.07
People with same condition	1.12	4.03
Family/friends	1.77	3.96
Other health care providers	1.37	3.86
Co-workers	1.50	3.55
Seminars/programmes	1.76	3.50
Libraries/Information centres	1.67	2.40

Information on the Internet

Participants (20, 40%) told us that they had never used the Internet for finding information on their disease and disease-related condition. Only 26% (13) were using Internet once a week and 26% (13) were using Internet once or twice a month or at least once in three months. Some patients depended on their relatives and friends to find information from the Internet while some reported using doctor's online systems. The following reasons were listed for the low use of Internet:

- No computer skills
- Lack of health literacy
- Language fluency
- No time to surf the Internet
- No trust on online health information
- Information in Arabic on websites is not updated
- Not interested in surfing the net
- Not educated to be able to find information on the Internet

For those patients who were using Internet, very few were using official and trusted medical websites. Table 7 shows the Internet resources that cardiac patients used. As indicated by the highest mean score, the cardiac patients who participated in our study depended mostly on commercial websites. Search engines were reported as the primary means for finding information on the Internet. Search engines such as Google, Yahoo, and Bing were used to access information on websites. In case of health information the accuracy, currency, and quality of information is important, as it is question of life and

death. There is a need to create awareness about the websites developed by health care providers for quality health information.

Table 7: Use of Health information on the Internet for Cardiac Patients (N=50)

Sources	SD	Mean
Commercial websites	0.20	1.96
Search engines	0.50	1.94
E-newspapers	0.28	1.92
Blogs	0.20	1.86
Discussion forums	0.24	1.84
Academic websites	0.24	1.47

Use of Information

We asked the cardiac patients about how exactly they used the information sought and what effect this information had on their decisions related to their disease and lifestyle. The majority (72%, 36) reported that the information they found helped sharing ideas with others. Sixty-six percent (33) reported that this information changed the way they eat, while more than 62% (31) reported that the information they found had an effect on their decisions to do exercise. The main uses of information reported by cardiac patients are listed in Table 8.

Table 8: Uses of information (N=50)

Areas of use	No. of responses	% of responses
To become aware about risk factors	36	72
Knew more about diagnosis and symptoms	33	66
Became informed about food choices and diet	31	62
Increase knowledge about physical exercise	21	42
Have more information on medication	12	24
Knew about alternative medicine(s) and therapies	9	18

In addition to the possible uses we listed for interviewees, they added the following uses:

- Share in the discussion blogs
- Post on relevant websites to share with others who have the same disease
- Increase their knowledge about the disease
- Reduce uncertainty

Patients also pointed out some other important aspects of health information that they thought were important other than the one covered in the interview schedule. They suggested sharing information through social media. They thought that on the social networking sites information could be made available while the patients still have control on it. They quoted examples of sharing information through *'WhatsApp'* and *Twitter*, and other social networking applications on smart phones. This has also been highlighted in the literature. For example, Neal and McKenzie (2011) reported that endometriosis patients may find informational value in blogs, especially for affective support and epistemic experience. Guidelines for evaluating the authority of consumer health information, informed by established readers' advisory practices, are suggested.

CONCLUSION

Although cardiovascular diseases are the leading cause of death (Stewart et al. 2004), only a few studies have explored the effect of information on cardiac patients. Cardiac patients consider information seeking important after the diagnosis. Information is considered particularly important on risk factors, alternative treatment, diet, and exercise. Patients felt more confident if they sought information themselves or through their family members. Most heart patients appear to be convinced that information has changed the way they eat and it has an effect on their decisions to do exercise.

It was also pointed out during the interviews that some cardiac patients do not seek information considering that heart disease was destined for them. This is linked to their religious beliefs. There is a need to create awareness about the role of active information seeking on health related issues highlighting that there is no conflict between information seeking and religious and cultural practices.

Interviews with cardiac patients indicated that Internet is currently not a frequent source of information for most cardiac patients. Those who use Internet depend on search engines as the primary means for finding information, whereas official and trusted websites (e.g., websites of hospitals, department of health, and health promotion agencies) may have information of better quality. It was also noted during the interviews that use of social media in Kuwait is on the increase. It is suggested that further research on information behaviour of patients investigates how potential of social media can be realized for information exchange and health literacy.

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APPENDIX
Study of Information Behavior of Cardiac Patients
Interview Schedule

Dear Participant:

Your agreement to participate in this study is very much appreciated. I would like to talk to you about the need for information with regard to your medical condition and preferences of information sources. Information obtained through interview will remain anonymous and will be used only for research purposes. There are 21 questions that I will use to conduct the interview. The entire interview may take approximately half an hour.

1. What type of heart disease do you have?

- Ischemic heart disease
- Valvular heart disease
- Cardiomyopathy
- Other _____

2. What heart disease related health condition do you have?

- None
- Hypertension
- Diabetic
- Hypercholesterolemia
- Kidneys problems
- Others, _____

3. How long has it been since your heart disease was first diagnosed?

- Less than 1 year
- 1-3 years
- 4-6 years
- 7-10 years
- More than 10 years

4. Does any other member of the family have had heart disease? Yes No

5. Are you currently taking any medication for heart disease? Yes No

6. Had any surgery (valve, CABG) or any intervention procedures (Catheterization, PTCA) been performed? Yes No

7. At the time of diagnosis, did you seek information other than provided through the doctor's office? Yes No

8. If no, what were the reasons for not seeking additional information after you were diagnosed with the disease?

- Had enough information already
- Did not know where to look for information
- Did not know how to look for information
- Did not have time
- Doctors told me what I needed to know.
- Others, please specify _____

9. If yes, what motivated you to seek information?

- The medical professional recommended specific sources.
- You wanted to supplement the information given by the medical professional.
- The information provided by the medical professional was not clear.
- You were not satisfied with the information given by health professional.
- There was not enough time to ask the medical professional more questions.
- You wanted to find out more information at your own.
- You needed to make decision about the possible medical treatment
- Others, _____

10. What type of heart-related information did you try to find?

- Information on causes or risk factors of heart disease
- Diagnosis and symptoms
- Information on food choices and diet
- Information on physical exercise
- Information on medication
- Information on alternative medicine(s) and therapies
- Other, please specify _____

11. Did you try to find information in view of any of the following considerations?

- Before visiting a doctor
- After visiting a doctor
- Instead of visiting a doctor
- Other, please specify _____

12. Who do you rely on the most in finding information related to health?

- Family
- Friends
- Information provider (librarian)
- Personnel staff
- Co-worker
- I prefer to look information by myself
- Other _____

13. Following are the commonly used information sources on health issues. Which sources have you used and how useful did you find them. Please provide your feedback on a scale of 1-5.

Usability: 1 2 3 4 5
 Never Rarely Sometimes Frequently Very Frequently

Usefulness: 1 2 3 4 5
 Unable to determine Not useful Not too useful Somewhat useful Very useful

Information sources	Usability					Usefulness				
	1	2	3	4	5	1	2	3	4	5
Family/Friends										
Coworkers										
People with same condition										
Doctors (patients' doctors)										
Other doctors as second opinions										
Other health care providers (nurse, dietitian, pharmacists)										
Newspapers										
Books (medical, health)										
Magazines										
Booklets /brochures										
Radio/TV										
Seminars/Programmes										
Libraries/information centres										
Internet/ Web sources										
Others										

14. Were you ever referred to any information resources by healthcare Professionals?

- Yes No

If yes who referred to the sources? _____

What sources were suggested? _____

15. How frequently have you been using Internet to find health information?

- Have not used
- Rarely (once to 3 times a year)
- Somewhat frequently (once or twice a month)
- Frequently (once a week)

16. If not using the Internet, please specify the reasons?

17. Please choose most frequently used websites.

- Commercial websites
- Search engines (Google, Yahoo, and other)
- Electronic newspapers
- Blogs
- Discussion forums
- Academic websites
- Library websites
- Others _____

18. After obtaining information from the Internet or other sources did you discuss with the doctor or other healthcare professionals about the authenticity or usefulness of information?

- Yes No

19. If yes, did this affect your decisions about health treatment?

Improve the way you eat

The way you exercise

Did you share this information with others?

Other _____

Yes No

Yes No

Yes No

Yes No

20. Please provide information on other aspects not covered in the interview but are important/relevant in your opinion.

21. Please provide the following Personnel Information

Age: Less than 30 30-39 40-49 50-59 60 and above

Gender: Male Female

Nationality: Kuwaiti Other, please specify _____

Marital status: Single Married Divorced Separated Widowed

Education: > Than high school High school Diploma College/university

Employment: Occupation -----

Status: Full-time Part time Retired

Thank you for your participation. We would like to have your contact details to send you a copy of the results of this study:

Name _____

Mailing address _____

Email _____

Phone _____