Literature Review

Women's Health Information Behaviors

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Introduction
Women's Health and Information Communities

Although Fisher and Durrance (2003) emphasize the use of the internet in exploiting the

information sharing qualities of technology in their definition of information communities,

women's health information communities can be traced back to the pre-internet feminist self-

help movements of the 1970s, which valued sharing experiences and information about women's

bodies and healthcare experiences as a way to liberate women from a male-dominated medical

system (Howes & Allina, 1994). Present-day women's health information communities take

advantage of the multiplier effects of the internet, and often function either partially or wholly

online. They serve as places where women can research and share information about health

issues and political issues related to women's health, and also gain emotional support and

connection to other women.

Women's health information communities serve women of different ages, ethnicities,

locations, sexualities, socio-economic statuses, and other variables. Because these differences

affect both the types of information needed and the context in which it is needed, it is important

to understand how these differences affect women's information needs and behaviors (Wathen &

Harris, 2007).

Types of Research and Topics Covered

The literature on women's health information seeking behavior is drawn from several

methodologies. Researchers such as Harris and Wathen (2007) and Bell (2014) relied on in-

depth interviews to collect personal responses which were then analyzed qualitatively to discover

common themes. Other authors, such as Warner and Procaccino (2004, 2007), Yoo (2008), and

Shifren, Johannes, Monz, Russo, Bennett, and Rosen (2009) gathered data from written surveys and questionnaires. Pandey, Hart, and Tiwary (2003) used a telephone survey. Rowlands, Loxton, Dobson, and Mishra (2015), Kim (2015), and Cotten and Gupta, (2003) analyzed data from broad population based surveys conducted prior to their research projects, and Eysenbach and Köhler (2002) conducted usability tests to capture actual internet search behavior. All articles discussed in this literature review were published in peer reviewed journals. Some were drawn from Information and Library Science publications and other from Medical and Social Science journals. In addition to examining health information seeking behaviors, many of the researchers also sought to identify the characteristics of information seekers and the factors that differentiate them, especially in regards to internet health information seeking.

Review of Literature

Reasons for Searching and Uses of Information

Women seek out health information in order to manage their own health and the health of their families (Harris & Wathen, 2007) and to take an active role in their health by seeking information both before and after visiting medical professionals as a way to supplement or better understand information provided by doctors (Warner & Procaccino, 2004, 2007). Women who use the internet to look for health information cited convenience (Cotten & Gupta, 2004; Pandey, Hart, & Tiwary 2003;Wathen & Harris, 2007; Yoo & Robbins, 2008) and privacy (Harris & Wathen, 2007; Rowlands, Loxton, Dobson, & Mishra 2015; Shifren, Johannes, Monz, Russo, Bennett, & Rosen, 2009; Yoo & Robins, 2008) as primary motivations for their resource choice.

Sources Consulted for Health Information

The sources women consult in their health-information seeking include both formal and informal, and interpersonal and print resources. An example of a formal interpersonal resource would be a doctor, nurse, or other medical professional; an informal interpersonal resource could be a friend or family member; formal print resources include magazines, books, and websites produced by professionals, whereas web 2.0 content such as blogging and bulletin boards would be classified as an informal print resource (Warner & Procaccino, 2004). Across the literature, women cited interpersonal resources more frequently than others as their preference for health information. Several studies showed doctors or other medical professionals as the preferred source of health information, followed by friends or relatives, and then media and print resources (Cotten & Gupta, 2004; Pandey et al., 2003; Rowlands et al., 2015; Warner & Procaccino, 2007). In contrast, Harris and Wathen (2007) found in their study that rural Canadian women cited the internet, books, and the library as sources they would consult for a nagging health concern with greater frequency that doctors, although they still preferred hospitals and doctors for urgent health concerns. Shifren et al. (2009) also had results that differed from the norm, finding greater rates of women who sought informal information and care for sexual problems than those who consulted medical professionals.

Rates of Online Information Seeking

The literature varies in rates of online health information seeking reported. While this can be attributed to the varying demographics and sample sizes used in different studies, it is also possible that it is a function of time, with rates growing as internet access expands. Warner and Procaccino used the same data for both of their articles, in which 87 of 118 women reported using the internet to look for health information, for a rate of 74%. Yoo and Robbins as well as

Cotten and Gupta reported a rate of 80%, taken from the *Pew Internet & American Life Reports*.

Pandey et al. reported the lowest rates, ranging from 16-39%. This may be due to the phrasing of

the question, which asked about using the internet to find healthcare services for women, rather

than simply healthcare information. Rowlands et al. also reported low rates, with 43.54% of

Australian women aged 18-23 using the internet for health information, which could be a

function of the limited age range.

Geography and Search Costs as a Factor in Resource Choices

Wathen and Harris (2007) used the rurality of their subjects as an explanation for their

self-reliance and preference for resources other than medical professionals. Many of their

interviewees talked about location as a factor in their healthcare choices and "nearly half

commented on . . . aspects of rural living that affected their help-seeking experiences, such as

problems with transportation (i.e., the distances required for travel to services, especially during

the winter)" (p. 642). Pandey et al. (2003) examined geography as a potential factor in their

search cost model, which hypothesized that women turn to the internet for health care

information because it is less costly in terms time, money, and effort than navigating the

healthcare system. They did not find that travel time from health professionals correlated with

higher use of the internet for health information. Instead, search costs and higher internet use

rates were significant for women who had busy lives due to family obligations such as child and

elder care.

Differences Between Web Users and Non Web Users

Several authors focused their attentions on the differences between women who search

for health information online and those who do not. The most consistent finding across the

literature is that internet health information searching is correlated with higher education levels,

higher income, and higher levels of health concern (Cotten & Gupta, 2004; Pandey et al., 2003;

Warner & Procaccino, 2007; Yoo & Robbins, 2008). Age was also correlated with internet

useage, as Warner and Procaccino (2007) found that internet users were on average 11 years

younger than non-users. They also found that web users had greater familiarity with a range of

both print and online health resources than non-web users. Shifren et al. (2009) found that

women who consulted the internet or other anonymous sources about distressing sexual

problems reported a greater level of embarrassment about their health concerns than those who

consulted medical professionals, and Rowlands et al. (2015) found that women who experienced

stigmatizing conditions, women who were looking for sexual health information, and pregnant

women and mothers, were more likely to use the internet for health information than others.

Warner and Procaccino (2007) found that web users were 10% more likely than non-web users to

discuss the information they found with a doctor or other healthcare professional. Cotten and

Gupta (2004) studied both men and women, and cited previous studies that show women are

more likely to search for health information online than men.

Socioeconomic Status and the Digital Divide

The digital divide is a term used to describe the information gap between people who

have access to and know how to use the internet, and those who do not. The digital divide is

commonly associated with socioeconomic status (SES), due to the expense of computer

equipment and internet service, but also applies to age and geographic location, with older and

more rural individuals having lower rates of internet use (Cotten & Gupta, 2004). The higher

rates of internet health information seeking by wealthy and educated women discussed above are often attributed to the digital divide.

Socioeconomic status can also affect access to information in other ways. Bell (2014) found that social and cultural capital influenced women's information behaviors, with women of low SES reporting that their information on infertility came from passive, scanning methods of mass media, whereas women of high SES used active methods of information seeking and consulted books, and interpersonal resources as well as the internet. Low SES women were less likely to have doctors and other health-care professionals in their social networks to consult informally, and were socialized to behave in a passive manner with medical professionals, rather than actively discussing research. Bell also tied access into education level, citing a study that found "almost half of Americans read at or below the eighth-grade level, but most web information is written at or above the tenth-grade level. This might contribute to the fact that 80% of adults with low literacy do not receive any health information from the internet" (Bell, 2014, p. 512).

Pandey et al. (2003) also compared information behavior between women of high and low SES, finding a nearly 20% difference in rates of internet usage for health information seeking between high and low SES women. This is in contrast to a gap of approximately 10% difference in rates of consulting doctors, and identical rates of consulting newspapers.

Kim (2015) examined the digital divide in regards to health information searching and came to a different conclusion. Looking at the impact of income on health problems, and the impact of health problems on online information seeking, Kim found that low income was correlated with a greater number of health problems, as hypothesized, but, contrary to

predictions, low income individuals with health problems were just as likely to use the internet to

search for health information as high income individuals, although their rates of general online

information seeking remained lower. Yoo and Robbins (2008) found that strong motivations

contributed to women's likeliness of using online health information. Pandey et al. (2003) had

similar findings in their research supporting a *health needs* model, or "the idea that use of

internet for health information is triggered by a health condition" (p181). It is likely that the

health problems in Kim's study acted as strong motivators or health needs, and served as an

impetus for the higher rates of online health information searching than general online searching.

One caveat to Kim's findings is that although they include individuals who do not have internet

access at home, they excluded responses from individuals who reported not using the internet at

all. Kim did find that "individuals possessing literacy are more likely to seek out health-related

information online than their counterparts who have lower literacy" (p. 231), which is in

agreement with Bell's assessment of literacy as a barrier to online health information seeking.

Online Search Strategies and Efficacy

Are women who look for health information online able to effectively find it? The web

users in Warner and Procaccino's (2004) research gave conflicting answers about their

information habits. Although they reported a 95% success rate in finding the information they

were looking for, they also expressed concerns about finding the right information and

uncertainty about its credibility. Warner and Procaccino explain this discrepancy as part of

Kulthau's Information Search Process model, in which users may feel confusion, frustration and

doubt during the exploration stage of their search process. Users also reported search methods

that researchers view as weak or suboptimal, relying on search engines and not verifying the credentials of websites.

Eysenbach and Köhler (2002) conducted usability testing in order to analyze search methods, which resulted in similar results. In pre-testing focus groups, users discussed their desires for authoritative sites which provided credentials. When given health questions to research on their own, however, the 17 study participants did not explore websites to find out whether or not they were trustworthy. They also almost universally used search engines, usually typing in only one or two keywords. Only one participant used BOOLEAN operators, and search phrases, or string of words surrounded by quotation marks, were used in only 3.5% of 280 recorded searches. Participants overwhelmingly chose the first results produced by search engines, with 97.2% of clicks occurring on a link in the first 10 results, and 71.3% occurring in the first five. In spite of these methods, study participants were able to correctly answer the majority of the health questions they were tasked with researching.

Conclusion

Overall, the literature supports an understanding of women as pro-active health information consumers who utilize a variety of formal, informal, interpersonal, and print resources to manage their health and the health of their families. Although rates differ between studies, many women increasingly use the internet as a health information resource. Despite unsophisticated search methods, they are generally successful in finding the information they need. While several researchers have examined the effect of socioeconomic status on women's health information behaviors, and factors such as age and location on rates of internet usage, the research does not address whether or not ethnicity or sexual orientation affects women's health

information behaviors. Given the emphasis on intersectionality in current feminist movements,

and the roots of women's health information communities in the feminist movement, this is an

area in which further study would be worthwhile.

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