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Health information seeking among Singaporeans: Roles and collective contexts

This paper seeks to contribute to the literature on health information seeking by culturally locating the search for health information within the local contexts of everyday life in Singapore, and within the meaning making processes that individuals participate in. Based on in-depth interviews with 100 participants selected through stratified sampling, it asks: How do Singaporeans make sense of health information seeking in the realm of their everyday lived experiences? The study contributes to the literature on the roles familial ties play in information gathering and sharing in a collective context. More importantly, these familial ties provide perspective on the ways in which culture spatio-temporally constitutes health information seeking. Health information seeking is informed by familial role expectations in a collectivist context where filial piety and "respect for the elderly" are guiding anchors for behavior. Moreover, harmony and community well-being define societal roles and responsibilities of caregiving, directed broadly at communal care. These collectivist based inclinations therefore inform health information seeking.

Keywords: Health Information Seeking, Roles, Collective Seeking, Sharing, Gathering, Accessibility

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Health communication scholars increasingly recognize the importance culture plays in understanding how health and health information is understood, received, and communicated among different population groups (Airhihenbuwa, 1995; Dutta, 2007, 2011; Lupton, 1994; Thomas, Fine & Ibrahim, 2004). Culture plays a critical role in making sense of how communities come to conceptualize health information within particular epistemological frames (Boden, 2009; Chen, Kendall, Shyu, 2010). In a review of the literature on health information seeking (HIS), we find that the contextualization and attention to meanings assigned to HIS is mostly lacking. Currently, a large proportion of studies on health information seeking behavior tend to be instrumental (Bass, Ruzek, Gordon, Fleisher, McKeown-Conn & Moore, 2006; Rimal, 2001; Brashers, 2001; Powell, Ronnie & Large, 2012), with data that are United States (U.S.) centric (Fox & Rainie, 2002; McBride, 2007; Miller, 2014). The US-centrism and universalized framework of such studies have been critiqued extensively by Lupton (1994), Airhihenbuwa (1995), and Dutta (2008), who have called for culturally situated critical interrogations of the ways health behaviors have been typically conceptualized.

Lupton (1994) notes that current conceptualizations of health are limited because health is understood based on assumptions of individualism and scientific rationality, lacking in its accounting of the role of culture in interpreting experiences of health. Airhihenbuwa (1995) too suggested that dominant understandings of health, grounded in Eurocentric biases of health experiences as an outcome of individual behavior, have dominated the field of health communication. An important area of research includes factoring in culture as an integral dimension in health experiences, and more studies in the field are recognizing the

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role culture plays in the health experiences of diverse communities (Dutta, 2008, 2011). Keeping these critiques in mind, our study hopes to contribute to the literature on HIS by culturally locating the meanings of health information in everyday life, and the meaning making processes involved in making sense of what health information entails in localized contexts (Gray, Klein, Noyce, Sesselberg, & Cantrill, 2005). We begin by asking how HIS is understood in a particular context to best comprehend the meanings assigned to HIS from diverse viewpoints. Having reviewed the literature on HIS, this paper explores the ways in which participants construct sense of the processes involved when seeking health information. It draws on an interpretive framework to understand experiences and contexts of how health information is sought in the lives of everyday Singaporeans. What meanings do Singaporeans assign to HIS and how do they make sense of HIS in the realm of their everyday lived experiences? So far, research on health information seeking behavior has not explored the ways in which meanings come to be assigned to the processes involved in seeking health information, with the exception of Genuis (2012). Genuis (2012) studied social factors involved in the construction of knowledge by women experiencing health uncertainties. Genuis (2012) called for future studies to "…explore how other populations respond to and construct knowledge from uncertain health information" (p. 1563), providing the impetus for our study on HIS. We draw on sense making theory as an overarching conceptual lens to explore the meanings Singaporeans assign to their search for health information.

Sense Making

Information seeking and use have been studied extensively through Dervin (1983)'s sense making theory. Sense making has its roots in constructivist principles to explicate

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"human use of information and information systems" (Savolainen, 1993, p. 15). Sense-making is communicative behavior that explains individual behavior at both a cognitive and procedural level, in the construction of experience through time and space. It is concerned with how information is constructed, processed, used, and disseminated among individuals. Dervin (1983) conceptualizes sense as elements of knowledge and learning that include how one comes to interpret a particular experience. Sense is not just extrinsic understandings of knowledge, but also intrinsic senses that include "intuitions, opinions, hunches, effective responses, evaluations, questions, etc." (Savolainen, 1993, p. 16). Sense, as a concept, refers also to the process of reflexivity in evaluating the processes of knowledge creation. Therefore, sense making is a process that is in continuity of everyday experiences. Sense making concerned with how individuals use information and communicate this information is at the heart of the assumptions and propositions of the theory (Dervin, 1992). Using sense making to comprehend how individuals make sense of information seeking behavior allows individuals to define this process within their own logics of knowing, and sharing these logics in their own modes and language of understanding. Taking from the theoretical position and assumptions of sense making, we conceived our study on HIS. It is rooted in how seeking is made sense of in one's everyday life, personally and socially, as tied to Dervin (1989)'s commitment to the conception of sense making, as structural, social, and personal.

Making Sense of Health Information Seeking

What does health information mean in the context of everyday seeking? Health information can be sought or avoided in different contexts (Brashers, et al., 2000, Brashers, 2001). The literature tells us the HIS is often conducted in relationship to specific health

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queries (Brashers, Goldsmith, Hsieh, 2002). Other inductive studies have also reported that HIS is tied to an individual’s desire to regain control over a certain sense of powerlessness he/she may be facing during a health uncertainty (Rozmovits & Ziebland, 2004; Asbring & Närvänen, 2004). Studies that locate meanings underlying seeking patterns seek to understand the complexities behind information seeking. In locating the various complexities in an individual’s seeking behavior, research in this area has tried to understand HIS from the perspective of involvement or the lack off when seeking out health information, the disruptions and limitations to seeking, and one’s ability or inability to comprehend health information (Alpay, Verheof, Xie, Te’eni, Zwetsloot, 2009; Mosavi, Babazadeh, Najmabadi, Shariati, 2014; Gholami, Fallahi Khoshknab, Maddah, Ahmadi, Khankeh, 2014). In the U.S.the rise of information communication technologies (ICTs) is seen to encourage health information seeking behaviors, where individuals can participate in health care, use information to engage in preventative health behaviors, and manage their everyday health needs (Nikbakht Nasrabadi, Sabzevari, Negahban Bonabi, 2015; Chen & Feeley, 2014; Johnson, 2003).

The availability of health information and participation in seeking out health information can be viewed as acts of empowerment for health promotion in this context. This type of seeking may not be similar, supported, or encouraged in other contexts, due to cultural and contextual differences. For example, a study conducted with 17 Iranian women found that despite preferences for Iranian women to seek information from professionals, providers were not receptive in communicating health information to patients. Also, shame and embarrasement acted as layered barriers to actively sourcing for information, especially

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on issues that were construed as sensitive (Nikbakht Nasrabadi, Sabzevari, Negahban Bonabi, 2015). Therefore, much health information was sought accidentally. However, in many other cultural environments such as Hong Kong and many parts of the West , younger women with higher literacy are typically viewed as active seekers of health information (Warner & Procaccino, 2007; Yan, 2010). Context and culture play critical roles in informing us about how HIS is viewed by different communities. Our study explores this area of research further by interrogating the culturally relevant meanings individuals assign to HIS in a Singaporean context. How do Singaporeans make sense of health information seeking? How do they assign meaning to the processes involved when going about seeking information for health?

Like the U.S., Singapore consists of a culturally diverse population, comprising of Chinese, Malays, Indians, Eurasions, and recently, a large immigrant population (Department of Statistics Singapore, 2015). However, there are only a handful of studies focusing on HIS in Singapore. Two studies in particular discuss the use of specific channels in health information seeking, such as the telephone and online sources of information. In Singapore, there is an established network of health information for the public, including, Healthline, a telephone based information service on healthy living (Vijayalakshmi & Lam, 1999), Health Promotion Board (HPB) Online, an internet-based health education portal to disseminate health messages (Vijaya et al, 2006). The studies noted above looked at how the two different sources disseminate health information to Singaporeans.

The other three articles studied particular aspects of HIS patterns among Singaporeans (Mokhtar et al. 2009; Teoh et al. 2009). Mokhtar et al. (2009) explored HIS among the youth, finding that youth were in fact competent in HIS, which explained why male youth were less

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likely to visit the physician for both brief and prolonged illnesses. Teoh et al. (2009) inquired specifically about men's health seeking behaviors, finding that men often had poorer levels of knowledge and information on health, were less likely to visit a physician or engage in positive health behaviors compared to women, a common finding among male populations in the U.S. as well (Percheski, & Hargittai, 2011). In using an instrumental framework, studies resulted in trying to understand health behaviors and consequent health outcomes by quantifying them (Cornally & McCarthy, 2011).

In the backdrop of predominantly quantitative and predictive approaches to HIS, the construct is increasingly being studied through a qualitative lens. These qualitative studies have found that literacy and cultural peculiarities were barriers to HIS, and to maintaining good health (Boden, 2009; Chen, Kendall, Shyu, 2010; Yi, Stivilia, Mon, 2012). Attempting to understand the kinds of challenges faced by participants in acquiring information, especially among culturally diverse groups, these studies discussed the role of culture and how participants came to rationalize concepts of healing in relation to HIS. Healing systems rooted in cultural expressions were expressed as critical to their HIS patterns. Their ways of knowing and seeking health information were tied to complex systems of comprehending health. In Chen et al., (2010), participants described needing all the information they could get, traditional or otherwise, effective or not, to manage their health because they were unable to enact their agency in acquiring health information while living in a primarily western centric context of health and healing. Additionally, when literacy and culture were barriers for communities, they often turned to interpersonal social networks to gather and distribute information. The interpersonal network for HIS is particularly magnified when all other

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resources are rendered incomprehensible. Through descriptive and interpretive inquiry of HIS, studies have found that HIS needs are often diverse in nature. Seekers are trying to fulfill many different goals and needs, depending on context. These studies have resulted in practical suggestions for practitioners using a biomedical framework to be more culturally competent and sensitive when providing care in diverse populations.

Andreassen, Randers, Näslund, Stockeld and Mattiason (2005) focused on describing family members' experiences, information needs, and information seeking in relation to living with a patient suffering from esophageal cancer. Based on semi-structured interviews with nine family members, the study found that family members' information seeking relied on interpersonal as well as mass media sources to obtain knowledge about the disease, and to handle the uncertainty related to the illness, which many were unprepared for, and affected their day to day living. Studies such as Andreassen et al. (2005) indicate the importance of engaging with the family needs during a health crisis. Eysenbach and Kohler (2002) used naturalistic observation of users searching the Internet in a usability laboratory and in-depth interviews to examine techniques for information retrieval and appraisal in online HIS. The Internet was seen as a tool of empowerment for those able to use it because they were now able to seek advice from different sources online. The Internet was also viewed as an emancipatory space that fostered searching for topics not too commonly addressed by physicians such as alternative medicine. Bernhardt and Felter (2004) explored why and where mothers of young children look for online health information. Social support online from other expectant mothers was a key feature of their online HIS, especially for first time

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mothers. For other mothers, the Internet meant being able to diagnose and treat pediatric related concerns.

Kim, Kreps and Shin (2015) and Chen et al., (2010) have indicated the value of personal social networks for immigrant and ethnic populations in the U.S. Kim, Kreps, and Shin (2015) study on Korean American adults living in the U.S. found that friends, church members, and family members were the important network connections for obtaining health information. Consistently, the literature tells us the importance social support plays in the health information seeking process for different population groups. Various findings indicate that all kinds of social networks are important in facilitating support for different types of health enquiries (Andreassen et al., 2005; Bernhardt & Felter, 2004; Gray et al., 2005; Kim, Kreps & Shin, 2015)

These aforementioned studies, mostly based on depth interviews and focus groups, although qualitative in method, remain predominantly instrumental in perspective and methodology. Instead of viewing HIS as a process, most of these qualitative studies focus on identifying and labeling the sources of health information (e.g., Andreassen et al.,2005; Kim, Kreps, & Shin, 2015), the procedures of HIS (e.g., Eysenbach & Kohler, 2002; Lee, Hoti, Hughes, & Emmerton, 2014; Rozmovits & Ziebland, 2004), offering a linear framework for mapping individuals' motivations for HIS (e.g., Bernhardt & Felter, 2004; Fiksdal et al., 2014; Powell, Inglis, Ronnie, & Large, 2011). One study that attempted to view HIS as a process, albeit through an information science perspective, is Genuis (2012), who used the sense making (Dervin, 1992, 1999) lens to understand how individuals engage in various information behaviors to bridge gaps in their understanding to achieve an end state that comprises knowledge, opinion, intuition, evaluation, and affective response. The study investigated how menopausal women interact with and make sense of uncertain health information mediated by formal and informal sources. Based on interviews with 28 health information seekers and 12 health professionals, the study found that participants accessed and valued a wide range of information sources, moved fluidly between formal and informal sources, and strengthened their trust in the information through interaction and referral between sources. Genuis (2012) suggests that more studies should look at health information from the perspective of how different groups come to define health information, especially when facing information uncertainty. Sense making as a theoretical premise can offer a lens to study strategies used by individuals to reduce information disparity about particular health queries. Aligned with the work on interpretive processes, and filling the gap in the literature on cultural contexts of health information seeking, our study explores how meanings are assigned to health information seeking behavior. Adopting the sense making approach, it inquires: how do Singaporeans come to make sense of health information seeking?

Method

Participants

Our study utilized a stratified snowball sampling strategy targeting specific participants (n=100) that fit into a nationally representative demographic composition of the population-wide census in Singapore to participate in the in-depth interviews. Using a stratified snowball sample is important because Singapore is unique in the sense that culture is tied to ethnicity and distributed across all neighborhoods in Singapore based on ethnic quotas. This division is based on racial composition divided into Chinese, Malay, Indian, and

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Other (CMIO), Singapore's housing allocation requirement known as the ethnic integration policy (Sim, Yu & Han, 2003), and the distribution of housing by income. Therefore, stratifying was the best way to obtain a sample truly representative of Singapore's diversity. As our study is interested in looking at the broader themes, patterns and commonalities of HIS among Singaporeans, stratified snowball sampling best captures the data we are interested in observing.

Ethical Consideration

Prior to data collection, we received approval from the institutional review board (IRB) at our University to conduct the interviews. We received informed consent from every participant to be interviewed and to record the interviews. We informed each participant about the nature and intention of the study before embarking on the study.

Recruitment

Initially, n=500 respondents were recruited through randomized cold calls to Singaporean households through land lines. However, the response rate through cold calls was less than 1% and therefore, a stratified snowball sampling strategy was adopted instead, approaching participants through a combination of the face-to-face method and telephone calls. The sampling strategy ensured Singaporeans from all races, age groups, income levels and housing types were recruited, thus adequately representing Singaporeans stratified on the basis of demographics, and reflecting the diverse contexts and experiences of HIS.

Data Collection

Participants that agreed to be interviewed one-on-one were scheduled for an interview at a location and time that was mutually agreeable. Interviews generally lasted an average of

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60 minutes, with women interviewees more likely to be interviewed for up to 90 minutes. All interviews were audio-recorded for research purposes, and the tapes were destroyed after transcription. The interviews were conducted in the language that the participant felt comfortable in, resulting in interviews in Mandarin, Malay, Cantonese, and English. The table below provides information on the breakdown of demographics. All interviews and transcriptions were conducted by researchers' that are part of the research team.

[Insert Table 1 Here]

Questions were kept open-ended, grounded in explorations of the meanings of health information seeking behavior in the lives of our participants. Based on the tenets of sense making that explores the everyday processes of meaning making, we tailored our questions that inquired the construction of meanings that inform health information seeking in everyday lives of Singaporeans. Examples of these questions that broadly engage in explicating the meaning-making process include open-ended interview questions, a) What does health mean to you?, b)What does health information mean to you?, c) When I use the term HIS, what does that mean to you?, d) What are the challenges and barriers you face in seeking health information in Singapore?, e.) Why is HIS important for you? and f) Tell me more about how you retrieve health information? These broader questions shaped the interviews in the sense that the interviewer and interviewee are interacting, positioning the process of questions and answers as discourse (Mishler, 1986). All interviews were transcribed verbatim, and double-checked for accuracy. Interviews conducted in Mandarin, Malay, and Cantonese were translated by a bilingual translator and were checked by a second bilingual researcher for accuracy. Taking from grounded theory method to inform the process of data analysis for

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emergent themes, the interviews were then first open coded by hand, coding each sentence. After data and theoretical saturation, a final sample size was guided by the criterion of demographic representativeness, reflecting a cyclical process between open coding and recruitment of participants. Once all open codes were done, the axial coding process was conducted, where emergent themes and categories through the comparative analytic technique helped to refine the codes and to draw them in larger categories (Strauss & Corbin, 2015). These codes were compared for similarities and differences, before the final selective coding of data. The research team together went through the data for comparisons until the team reached a consensus on themes and sub-themes presented in the paper. The selective coding process deduced the main themes for the results and discussion on the basis of frequency of occurrence of the themes, focusing on the contextual environment that constitutes health information seeking.

Results

HIS is weaved into the everyday lives of the participants, tied to their roles, their familial networks, and their everyday relationships. In making sense of the experience of searching for health information, the participants in our study located it in relationship to the broader cultural contexts of relationships, ties, and community networks. Salient throughout the in-depth interviews is the role of the collective in guiding information seeking and in constituting the experiences with HIS. In addition, our study finds that familial ties and networks are not merely sources of information, but tell us about the ways in which individuals negotiate information disparities by finding ways to access information and bridge knowledge gaps through their familial ties.

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Information Seeking and Roles

Roles within their interpersonal and community networks constitute the meanings of health information that Singaporeans construct. When asked about their understanding of HIS, most participants referred to the roles they played within relationships, and the ways in which these roles necessitated health information seeking. For *Gina*[i], a twenty-six year old Chinese participant, her role as a grand-daughter constitutes her interpretation of HIS as she mostly seeks out information for her grandparents. *Jamila,* a 37-year-old Malay woman, seeks out health information from the Internet when one of her family members is not feeling well. Similarly, *Hamida,* a 64-year old Malay woman, shares how she depends on her grandchildren to receive information from the Internet, situating health information in affective networks of inter-generational relationships. She shares how she jots down the questions she has and shares them with her grandchildren. In 3-G (referred to as three generations of family members residing together) families, grandchildren play vital roles as sources of health information for grandparents, often themselves seeking out health information in response to a request from a grandparent. *Willie,* a 59-year-old Chinese participant, shares, “We, all three generations, my children and grandchildren, who go to poly (referring to polytechnic) now, all stay together. So I just have to wait till the evening, and my granddaughter when she gets home, she will pull up her phone, find things and explain. She is very good with finding things on the phone.” Living together across generations shapes the context of health information seeking and sharing. *Kriti,* a 29-year-old Indian woman, shares, “I know my grandmother will usually have a lot of questions, especially after she visits a doctor. I will accompany with her to the doctor, and translate in the meeting with

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the doctor. Once we get home, for a few days, I will gather as much information as possible and share with her. I know she will have a lot of questions, so I will try to go to a number of different websites to make sense of the information." Like *Kriti*, grandchildren often serve as translators/interlocutors and health information seekers for their grandparents.

When probed further, *Qian,* a 22-year old Chinese woman, shares "This is what we do in our culture. We have to take care of our grandparents. So this is the least I can do for my grandmother. Try to help her understand the information and what the doctor is saying." *Andrew* refers to this as "filial piety," the cultural expectation that children and grandchildren will take care of parents/grandparents. *Mary,* a 35-year-old Chinese woman, seeks out health information whenever her 72-year-old mother needs to know something, "She gets scared these days. At least, I can be there for her, and get the information on the treatment, the side effects. That calms her." Eighty-seven year old *Naima* (Malay woman) shared, "It is very difficult for me to follow all these instructions. So my daughter-in-law will come with me. Sometime, one of my grandchildren will come with me to the doctor. Then they will turn on the computer and print out information, and share with each other, and talk to me. We will talk as a family about my health condition, and that makes me feel secure." Note here the collective responsibility the family shares for *Naima's* health, depicting the context of filial piety (health information seeking as a collective process to be discussed in depth in the next section). Similarly, in an interview conducted in Mandarin, 76-year-old *Lin* (Chinese woman) shared that she can't understand most of the doctors and nurses or the information handed out, that is written in English. Her grandchildren will take time off from work to accompany her, and then later will spend time with her to explain things.

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Beyond the role of caring for the elderly as an anchor for health information seeking in the context of intergenerational communication in Singapore, participants also discussed health information seeking as a resource to motivate family members, and to encourage preventive behaviors in the familial collective. For *Rani*, a 55-year-old Indian woman, it is her husband who seeks out information from the Internet and then educates her about various health promoting habits:

> He is the one who do all the research, what is the problem with the leg, what are the things you need to take. He is the one…Every time, he asked me to exercise. Must exercise, cannot not exercise. He said exercise is good for your body, blood circulation, and all you need is peace walk. You must be active, your body must do all the movement. So it's good for me.

Rani's access to health information and preventive behaviors is both mediated and catalysed by her husband's active search for health information. Her husband plays an active role in sharing preventive health information with her, and in encouraging her to participate in healthy behaviors. Information seeking is thus intricately intertwined with information sharing in familial networks, particularly in information sharing to motivate health behaviors. Similarly, *Jie,* a 48-year-old Chinese woman, shares how she will converse with her husband and children about health information she gathers, and encourages them to eat healthy: "I will talk with them. I will advise them not to eat too much unhealthy food." She suggests that the information she searches for is often shaped by her thoughts about health of the entire family, and she will share this information with her family members during everyday interactions, such as while sitting down for a family meal or while watching television. Moreover, *Jie*, a motivated and confident information seeker, acquires health information because she feels it is part of her role and responsibility as a mother to motivate her family members to engage in healthy behaviors. *Shiva* shares, “My wife will find out all the information and will come and share. She will monitor my meal. What I eat, she will know.” Similarly, for *Arthur* (47-year-old Chinese man)*,* “my wife looks up all the health information for the family, and then when we are all together in the weekend or something, my parents and children, they will all listen to her. She makes sure that we are doing the right thing.”

Similarly, when speaking of their health information seeking behaviors, a number of women in our study pointed toward HIS in the context of their roles as mothers. The role of mothering is intimately tied to gatekeeping of health information for the family. *Rashida,* a 46-year-old Malay woman, describes her concern for her daughter’s diet as part of the reason why she seeks out health information, specifically information about diet and nutrition. She shared, “I am worried about my daughter’s weight gain. She eats a lot of unhealthy food. So I make sure to make healthy food for her, and also to share information with her so she is more aware.” Similarly, *Kathy,* a 57-year-old Chinese woman, shares, “When all the children are together, I will sit them down, and share with them information on healthy eating and exercising. How important all that is.” Women shared having multiple reasons why they sought particular types of information, expressing meaningful relationships as guiding posts for health information seeking. *Gayathri,* a 31-year old Indian woman, describes the important role of parents in addressing the diabetes problem in Singapore:

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> Like having more talks on health, bringing awareness to the parents, what will happen if you don't take care, if the child has obesity what will happen to them, then diabetes you know? What is that they are taking that at this young age they are getting?

One's identity as a mother connects the various threads of information seeking behavior, constituted in ensuring that the child is healthy. *Tian,* a 33-year old Chinese woman, explains searching for health information that pertain to her children's health issues. *Tian* looks for information from different mass media sources such as magazines, Chinese newspapers, and books. She looks through newspapers to find articles on health, actively clipping those articles, saving them for reference, and incorporating the information in how she cares for her children:

> I will start to cut newspaper and put it …Uhh, on and off, I will do it but…uhh…for certain time maybe, like, like I'm busy with my children, then I will stop. But I will still buy kids' health book for the children.

Participants also discussed the ways in which they will discuss health information in everyday family interactions. Shares *Aisha*, a 42-year old Indian woman, "When I serve the meal, I will use as an opportunity for us to all talk about, for example, less salt. Why we are eating less salt as a family." Family meals are opportunities for *Aisha* to explain health information. Similarly, *Ren,* a 54-year old Chinese woman, observes, "I try to make sure that everyone is healthy. There are so many different age groups in my household. My in-laws are in their eighties. My husband and I are in our fifties. Our boys are in their thirties, and their children are now six, seven, eight. So I try to have these health talks whenever we are together. Make it fun, and relevant to us all. So what can you learn from grandma? How can

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you take care of grandma's health? I try to teach them how important it is to take care of each other." These family talks on health information are also opportunities for passing the values of care across generations, depicting the culturally constitutive role of health information. The context of filial piety plays out in health information seeking and is further reproduced inter-generationally through health information sharing.

Participants also refer to the roles that friends play in the information seeking process. For *Alex,* a 63-year-old Chinese man:

> If you mentioned, I have high blood pressure, then of course you will check with friend. For example, hey, my blood pressure is so high, how do we reduce the high blood pressure, high cholesterol. Then they will say, oh, I also have. I am taking this pill. May be, you should take this, something like that. Then we will share during dinner time. Then search for more health information.

The context of a conversation with friends drives HIS, creating a back-and-forth process for seeking out and sharing health information, constituted around a health condition (in the example, high cholesterol). Friends seek health information from each other, and in turn, seek additional health information from other sources. Moreover, when they have gathered this health information, they further share the information in networks of friends. Shares *Saleema,* a 43-year-old Malay woman, "The girls and I will talk about health issues. My husband having this and that. My mother-in-law can't sleep at night. Then, they will share information, do this or try that. Someone will print out an article and bring." Health information shared in networks of friends is often constituted amid the health needs of a family member or of the broader family collective.

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Beyond friendship and familial networks, health information played a key role in relationships of care, constituted in culturally constituted commitments to caring for the elderly. For example, one of our interviewees, *Alice,* is a market researcher, who volunteers at an "old age home."[ii] For *Alice*, health information is sought specifically for the purposes of her role as an information provider for the elderly at the home she serves. *Alice*, concerned with the ailments of the aged she frequently meets in her role as a volunteer, actively seeks out health information to help them solve particular health crises or to look up health networks that can help them with their problems. In the excerpt below, she describes how she uses the Internet, looks through magazines, and also seeks the advice of myriad doctors to answer health questions raised by the elderly, sourcing particular types of information in order to help those she actively volunteers with.

> Yeah, because my surrounding you can see the old people, sometimes they cannot walk. So difficult, cannot walk, cannot talk, sometimes they have some illnesses we don't know. Yeah, sometimes they'll tell you, Ah, yesterday, I feel so uncomfortable, I got the flu ah, the cough ah, the stomach upset. Sometimes they say don't know is it the joint problem, cannot walk properly. Ask them to get some supplement. That type of kokosam, all that.

For *Alice*, the search for health information is guided by the health conditions of the elderly she volunteers with, constituted by the needs of the elderly that emerge during her conversations and participation in care giving processes. She shares, "I am playing a role for them that they might want their grandchildren to play." The elderly in Singapore, especially those residing in old age homes, often do not have access to familial ties. Typically, in the

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Singaporean context, elderly in old age homes are considered to have been abandoned by family members, an act often frowned upon by a society that values filial piety. *Alice's* role as a health information resource among the elderly also attempts to address a culturally constituted relational need.

Information seeking and sharing thus are relationally constituted, with roles of information seeking and sharing often assigned to grandchildren within 3G families. Roles that individuals play in the information sharing process have a lot to do with particular relationships and the expectations attached to these relationships. The roles that participants play in seeking out health information are enactments of important values in a collective, such as filial piety and familialism that in turn, narrate patterns, norms, and expectations of the collective tied to HIS. HIS is tied to the provision of care and support within kinship ties, caregiving in joint family units, filial piety, and responsibility to the community.

Collective Patterns of Health Information Seeking

Seeking information as part of keeping healthy is a collective effort, making the act of acquiring information a familial and a communal act. Filial piety plays out in expectations and health information seeking in the context of familial care: "When my mother was sick, all of us siblings searched out information, and discussed together as a family unit. We expected the doctors to know that we would be involved and making the decisions. That is what you expect in Singapore." Note how *Shiva*, a 58-year-old Indian male, shares the notion of information seeking as a responsibility toward parents "I have to get the most useful information so my parents are getting the best care. That is my responsibility as a son." That the familial process of decision-making takes center-stage was highlighted by *Cheryl*, a 38-

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year old Chinese woman, “The family is responsible for the key decisions when a parent is sick. So we have to be responsible. Get the best possible information, and make the best decision possible for our parents. That is what it is to be a good child. So health information seeking is very important.” The notion of responsibility of parental care is reiterated throughout the interviews, depicting the value of filial piety. Similarly, notes *Jacquie*, a 40-year-old Chinese woman, “When family members are involved, and with good health information, we can weigh the different aspects and then decide the best course of action.” The concept of familialism depicts the involvement of the extended/joint family in seeking health information, in evaluating options, and in making the decision collectively. Shares *Zulfie*, a 35-year-old Malay man, “When my mum was sick, the whole family was involved. All my cousins, their wives, their children, came to the hospital right away. My cousin Ashfaq is a PhD, so he found all the information, and then we cousins and brothers discussed with the doctor all the options, and then made the decision what would be best for her.”

As suggested in the previous section, health information sharing is embedded within collective behaviors of everyday life, as a contextually based activity reflected in the way information is gathered, evaluated, shared, and incorporated into decision-making within collectives. Participants in our interviews talked about the importance of not just acquiring information for oneself, but sharing relevant information that might concern those around them, and making sense of the information together in collective networks. For *Neera*, a 44-year old Indian woman, “Not only my sisters and I will pull out information from my mother’s health screening tests and discuss, I will also share this with my friends, and they will become part of the decision-making.” Similarly, for *Jameela*, a 50-year-old Malay

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woman, "The whole family is involved when it comes to making a health decision, and the neighbours, they have known my parents for many decades now, will also join in." *Nora,* a 44-year-old Chinese woman, notes, "If the uncle next door is having knee problems, I will try to see how I can help. I will find information to go share. Even late at night after I am back, I will stop by. I will discuss with his sons and they will ask me for advice because they know I can get on the Internet and find things." Note in *Nora's* articulation of her responsibility for seeking health information the depiction of a filial relationship (uncle) that extends to her neighbour. *Kishen* recalls:

> My father was very sick. Basically, he had an attack, and was at the hospital. All the neighbours, my buddies, my sister's classmates, all were there at the hospital. They were all with us, helping us take care, passing on information, standing by when meeting with the doctor, asking the doctor questions. They will go get information, and then talk to the doctor and my siblings, friends, neighbors, we would all talk. What to do? What step to take, talking to the doctor?

Respect, care, and concern for the elderly emerge across the narratives as shared cultural values that drive health information seeking. On one hand, the values of familialism and "filial piety" constitute health information seeking in the context of caring for aging parents and grandparents; on the other hand, the responsibility for the care for the elderly is borne as a collective cultural responsibility, constituted in neighbourhoods, friendships, and workplace relationships.

Beyond the sharing of health information contextually situated in networks of caring for the elderly, participants depict collective information sharing and sense-making of

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information within the realms of their everyday health experiences. Shares *Riyaz*, a 55-year old Malay man, “I will talk to my friends about some health information my wife shared, say information on sugar in the diet. We will then talk together and help understand, and go back and share with the wife. Wife might then add something, which I will bring back to friends.” This back-and-forth process of information sharing serves as a framework for interpreting the information, and for collective sense making. For the participants, making sense of health information is a collective effort. Also, the sharing of health information points to valuable health resources. *Bian,* a 37-year old Chinese woman, shares:

> Umm, yes normally, with my husband or my colleagues, if the thing is useful for them, then I will share with them so because you working with others quite nearby. So sometime, if you have anything you think it’s useful for other people, then you just share. Sometimes you learn from them also. They ohh, I know that ahh somewhere they have this kind check-up, very special price for the full check-up for women, maybe you can go for this, and they will share with me.

For *Bian*, information seeking is closely tied to information sharing with her colleagues. She suggests that she usually shares the information she finds with others in her network. She also observes that this kind of information sharing leads to greater health for everyone. She notes, “The more you share, everyone is then healthy. We all learn something from each other.” This notion of collective health information seeking is also shared by *Munira*, a 37-year-old Malay woman, who points out that she and her friends will often seek out the same information together, thus pulling together the different parts of the puzzle. She shares, “My husband was having this high blood pressure. My friend *Radha’s* husband was also suffering

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from high blood pressure, and she had found out all this information. So she shared a lot of information with me. And as I learned more information myself, I shared with her. And we both now share, and if something does not make sense, we talk it out." Similarly, *Wei,* a 56-year-old Chinese man, who finds information from the library, conveys:

> I just find them (referring to health information) randomly. I would see if it is relevant before reading it. I don't lose out even if it is not what I want to find. It's nothing much. If I think that it's plausible, I would try it out. If it works, then in the future, I can recommend it to my friends to try, I will recommend them to try. If it doesn't work for them, then maybe it's because the physiques are different.

Many of our interviewees also indicated the sharing of health information through informal networks as part of everyday relationships, thus fulfilling the relationship and the needs of the collective. For participants who were less likely to use the computer at home (middle-aged women), did not own a smartphone, or were unlikely to use social media because of language barriers, health information sharing in collective networks emerged as a key resource for health. For *Valerie*, a 62-year old Chinese woman, informal networks including colleagues, friends, and family are important health information sources as she does not use the Internet. These informal networks are also an important way of determining accuracy of the information gathered, evaluating the information on the basis of the lived experiences of others. *Valerie* relates:

> Yes, if out of 10 people, 9 people tell you that it's good, it should be good. Force myself to eat it. In my office, there is this auntie who is very strong. She said she has been eating oats for the past 40 years…Eat oats every morning… I feel that it is

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> important to try out the information that people share with you. If you don't think and try, you will lose out.

For women like *Valerie*, informal networks circulate health information that has been tried and tested, and therefore play vital roles in enabling health decisions of individuals.

Ushi, a 44-year old Chinese woman, explains the importance of keeping an open mind to health information sharing with others:

> Sometimes when a friend is not feeling well, gets sick, some of my friends would provide some information. E.g. cook something to eat, or you should do something. They will remind us. When I hear them, I would absorb some of the information… I wouldn't remember everything, but sometimes when I remember, I would call the friend and ask how to cook it. Then I would cook it.

Worth noting in *Ushi's* articulation is the role of interpersonal networks in learning health information on traditional healing, particularly in learning what to cook and what to eat during an illness (in traditional Chinese medicine, food, especially soups, form key elements of everyday healing). When we asked *Ushi* why she trusted informal information sources such as her friends, she simply replied:

> For some, it's because they have cooked it before and it was effective… so they would share it…that's why when I want to cook it, I would ask them what to put in to cook…so I would cook it occasionally.

Whether information shared pertains to traditional medicines (in this case, preparing soups to cook to heal and illness) or the latest supplements, the trustworthiness of sharing information through informal networks stems from one's own ways of knowing and understanding health,

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contextually located in trust in relationships. Particularly salient is the notion of learning from experience (having cooked it before and having found it effective). In this case, information shared in informal networks is understood as having gone through its own systems of reliability checks, having been tried and tested for efficacy and effectiveness by information sharers. Many participants were able to relate the values of diet and exercise in safeguarding themselves from illnesses and noted having learned health information regarding diet and exercise through informal collective networks, which are particularly salient in learning about health resources in Chinese, Malay, and Indian traditions.

The ways in which information comes to be shared in one’s everyday life is far from an individualistic act, but a product of a collective process of information sharing. Communal living, friendships, and extended family networks play key roles in how information comes to be sourced and shared, all of which make up the cultural threads underlying health information seeking. Our participants shared learning from others about diet and lifestyle. Here’s the articulation shared by *Ai*:

> Before I became vegetarian, I heard it from my friends. Before I was sick, I was not really vegetarian, but I heard it from my vegetarian friends, they suggested I eat more fruits and vegetables, it's better for us people with illness… I do lah, but most of it I get it from friends. They will talk about it, on what we eat, to have a balanced diet, fruits and vegetables, these things are helpful to our body, it will not harm us… I won't lah. Because in those areas, I might ask friends who know all these. We will ask. Those who have some knowledge, we will consult them.

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Ai recalls not being able to find information she needed when her daughter was ill, she easily overcame this despite not having access to the internet. She narrates:

> Check neighbor, ask friends. Can we check with friends or neighbors? Suppose, sometimes, neighbor, friends or relatives, family that they got people who are nurse or what. There is quite ok, then I will find info from them. If your health got certain problem, they help also…Young time la. Is that ok? I got baby, my daughter, then sometimes she kept on vomiting. I don't know what to do, right. So I will call my sis, my sister is a nurse. Then she will tell me, oh, you have to give some glucose for her to drink or some sweet, something like that. So I will find out. If I really got certain problem related to my sister. She is a nurse. If my sister don't really know, I think she will relate to her friends who are doctor. That's how I get my info. OK?"

Bei, a 54-year old Chinese homemaker, shared how she learnt healthy recipes from her neighbors. *Bei* does not have the ability to seek health information online, so she listens to the radio, and seeks wellness information from her neighbors, who will often stop by to share a recipe or a health solution:

> Oh, that's from my neighbors, who are my information source. In the past, when I got married, I stayed with my mother-in-law, who provided me health information. When I have children, I will go to my friends' house and learn health information from them. I learn how to cook soup from their house. They can cook authentic soup till now, and I learn about the health qualities of the soup.

Note here the familial tie with mother-in-law that shapes the context of learning health information. This familial tie then extends to friends, depicting the role of learning health

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information on traditional healing (soups are a key component of Chinese traditional healing traditions) from friends. Health information is constituted within collective processes of searching and making sense, often situated in local ties in friendships and neighbourhoods.

Discussion

Seeking health information is constituted amid the roles that individuals participate in, situated in their social networks, and reflecting the cultural values of filial piety, familialism, and respect for the elderly (Krishna, 2012). For the participants in this study, actively seeking health information is often motivated by the health information needs of family members and friends, and is seen as a responsibility in familial relationships of care. In existing research on HIS, HIS is typically categorized into searching for health information for oneself and searching for health information for someone else. Adding to this literature, this study, conducted in the context of Singapore, offers additional insights into the roles within relationships that constitute the HIS process, highlighting how familial ties, responsibility toward parents, family-based decision-making, and respect for the elderly constitute the meaning of health information seeking in Singapore. Much of the discourses of health information seeking in Singapore focus on seeking information to care for the elderly, depicting the aging context of Singapore as well as the important roles and responsibilities that are assigned to children in caring for the elderly. For the participants, seeking health information is an act of care that is located in familial responsibilities and in the culturally assigned role of children as carers for parents.

Note here that the 3G context of Singapore spatially shapes experiences of health information seeking. With three generations often residing together, the elderly discuss how

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often they wait for their grandchildren to return home in the evening and help them with their health information seeking. A contextually-based interpretation of health information attends to the ways in which cultural values play out in the intimate relationship between space and relational ties. Health information seeking and sharing as an activity in the evening where children/grandchildren get on the computer after returning from work and share health information with the elderly draw attention to the ways in which culture is intertwined with health. The spatial organizing of familial spaces contextually shapes the nature, patterns and meanings of HIS.

Moreover, participants discuss their roles within familial structures as constitutive of their HIS. For instance, mothers discuss the ways in which they seek health information to share with children and the broader family, sharing the information during family meals and incorporating the information into the preparation of meals. Similarly, practices of HIS are incorporated into everyday familial conversations. The complexities of health information seeking thus are tied to the everyday practices of health, contextually situated in familial ties. Culture thus play out in how, when, and where health information is sought and shared by the participants, connected to relational expectations of care.

Also, extending the notion of family from traditional Euro-centric notions of family as a nuclear unit, the participants depict familial responsibility as a collective responsibility in the extended family network, with health information seeking being constituted in these collective networks of care. Consider for instance the ways in which cousins play crucial roles in health information seeking, particularly in the realm of health crises, collectively gathering information to make decisions together as a family. Moreover, depicting the notion

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of "caring for the elderly" as a cultural value, participants depict how they seek out health information to care for an elderly neighbour, an elderly parent of a friend, or an elderly "uncle or aunt" (terms used to refer to an elderly person in Singapore) in an "old age home." Although we do notice nuances in how Indians, Malay, and Chinese participants discuss health information seeking in familial contexts (for instance, the notion of involvement of the extended collective seems much more prominent among the Malay participants), the overarching theme of familial ties resonates across the in-depth interviews.

The findings also suggest that HIS in the context of Singapore is a collective process, constituted in circles of family, friendships, office networks, and neighbourhood groups, with information being validated and checked by multiple participants within the network. Participants share the ways in which they simultaneously seek health information as well as circulate health information to their family members, friends, and neighbours; these friends, family members and neighbors further comment on the information and its quality through their everyday experiences with the incorporation of the information. Health information seeking is intertwined with health information sharing, and this back-and-forth process works to evaluate the quality of the information within the collective network. In other words, the collective sharing of health information constitutes a process of ascertaining quality through the evaluation of the information through everyday practices of health. Participants not only share the health information they retrieve from active information searches with others in their informal networks, but also make sense of this information through collective sharing of best practices and effectiveness tested through everyday practice.

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Informal networks therefore emerge as sites of collective sense making, in interpreting health information, in evaluating the quality of health information, as well as in testing the validity of the health information within the realm of lived experiences. The trustworthiness of health information is evaluated in terms of whether it makes sense to others in the interpersonal network and the experiences of others with the recommendations. Collective networks thus are spaces for validating health information, for evaluating the quality through the everyday lived experiences of participants, and for tweaking the information as needed based on context. Moreover, these collective resources themselves become health information sources, such that individuals, especially those without access to the Internet, seek out health information from these collective networks. Particularly salient is the role of the informal networks in securing access to internet-based health information for participants who are digitally disconnected.

This study is limited by the snowball sampling technique, which limits the generalizability of the results. However, the emphasis on understanding the cultural context and meaning of HIS lends itself to snowball sampling, with participants being recruited through word of mouth as well as through telephone calls. Future research may extend the findings of this study to the broader population by developing a quantitative instrument that measures the various aspects of HIS, information seeking roles, and collective contexts of health information seeking behavior. The findings on roles and collective HIS may be examined in the other collective contexts for drawing out generalizable insights.

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Practical Implications

The roles of filial piety, familialism, and respect for the elderly as defining cultural anchors of health information seeking suggest the importance of developing health information messages that are targeted toward the collective rather than being targeted toward the individual. When considering policies and design frameworks for building health information infrastructures, the contexts of familialism and filial piety suggest the importance of creating collective access to health information systems that address the needs of the family as a salient context for addressing the needs of the individual patient. As Singapore moves toward electronic medical records (EMRs) and digital health resources (Wee, Zhou, & Tayi, 2015), a key policy consideration is the development of culturally-centered health information infrastructures rather than uncritically replicating health information systems driven by Euro-centric concepts of individualism, patient autonomy, and privacy. Particularly salient is the incorporation of cultural morals about filial responsibility when building the privacy norms of health information infrastructures (Ho, Krishna, & Yee, 2010). Similarly, the importance of familial and community networks (friends, colleagues, neighbours) in shaping health behaviors suggests the development of collective health information resources that draw on family and community networks in promoting health behaviors.

Conclusion

In conclusion, this study depicts the lived experiences and everyday meanings of health information seeking among Singaporeans. Searching for health information is both an active process as well as an immersive process of learning health information from one’s networks, situated amidst cultural values of familialism, filial piety, and respect for the

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elderly. The active search for health information is tied to the roles that Singaporeans perform in their social networks, connected to collective articulations of responsibility in taking care of the elderly. Moreover, the process of HIS is a collective process, with the seeking and sharing of health information often taking place simultaneously in informal networks of the broader collective.

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Table 1. Demographic characteristics of the study population

Demographic characteristics (N=100)	Total
Gender	
Male	42
Female	58
Age	
21-29	21
30-39	12
40-49	20
50-59	16
60-69	20
70-79	7
80+	4
Race	
Chinese	65
Malay	20
Indian	10
Others	5
Education	
Pre-primary	3
Primary	16
Secondary	36
Post-secondary	4
Polytechnic	11
Professional Qualification	8
University	20
Unknown	2
Housing	
Rental	1
1 & 2-Room	15
3-Room	15
4-Room	33
5-Room	24
Condominium	6
Landed Properties	2
School Hostel	1
Unknown	3
Income	
No income	9
Below $1000	13
$1000 or more	11
$2000 or more	9

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$3000 or more	9
$4000 or more	8
$5000 or more	8
$6000 or more	5
$7000 or more	3
$8000 or more	3
$9000 or more	4
$12000 or more	1
$13000 or more	1
$15000 or more	2
Unknown	14
Household size	
1	18
2	11
3	16
4	28
5	14
6	6
7	4
9	1
Unknown	2

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References

Airhihenbuwa, C. O. (1995). *Health and culture: Beyond the western paradigm*. Thousand Oaks, Calif: Sage Publishers.

Nikbakht Nasrabadi, A., Sabzevari, S., & Negahban Bonabi, T. (2015). Iranian women's experiences of health information seeking barriers: A qualitative study in kerman. *Iranian Red Crescent Medical Journal, 17*(2), e25156.

Alpay, L, Verhoef. J, Xie. B, Te'eni. D, Zwetsloot-Schonk. J.H. (2009) Current challenge in consumer health informatics: bridging the gap between access to information and information understanding. *Biomed Inform Insights, 2*(1), 1–10.

Andreassen, S., Randers, I., Näslund, E., Stockeld, D., & Mattiason, A. C. (2005). Family members' experiences, information needs and information seeking in relation to living with a patient with esophageal cancer. *European Journal of Cancer Care*, 14, 426-434.

Anker, A. E., et al. (2011). Health information seeking: a review of measures and methods. *Patient education and counseling, 82,* 346-354.

Åsbring, P., & Närvänen, A.-L. (2004). Patient power and control: a study of women with uncertain illness trajectories. *Qualitative health research, 14,* 226-240.

Ayers, S. L. (2007). Chronic illness and health-seeking information on the Internet. Health: *An Interdisciplinary Journal for the Social Study of Health, Illness and Medicine,* 11, 327-347. doi: 10.1177/1363459307077547

Bass, S. B., Ruzek, S. B., Gordon, T. F., Fleisher, L., McKeown-Conn, N., & Moore, D. (2006). Relationship of Internet health information use with patient behavior and self-

Dutta MJ, Kaur S, Luk PLP, Lin J, Lee ST Health Information Seeking Among Singaporeans: Roles and Collective Contexts, Health Communication, 2018, v. 33 p. 433-442

efficacy: Experiences of newly diagnosed cancer patients who contact the National Cancer Institute's Cancer Information Service. *Journal of health communication, 11,* 219-236. doi: 10.1080/10810730500526794

Bernhardt, J. M., & Felter, E. M. (2004). Online pediatric information seeking among mothers of young children: results from a qualitative study using focus groups. *Journal of medical Internet research*, 6(1), e7.

Boden, C. (2009). Overcoming the linguistic divide: A barrier to consumer health information. *Journal of the Canadian Health Libraries Association, 30*(3), 75-80. doi:10.5596/c09-020

Brashers, D. E. (2001). Communication and uncertainty management. *Journal of Communication, 51,* 477–497.

Brashers, D. E., Haas, S. M., Klingle, R. S., & Neidig, J. L. (2000). Collective AIDS activism and individual’s perceived self-advocacy in physician-patient communication. *Human Communication Research, 26,* 372–402.

Chae, J., & Quick, B. L. (2014). An examination of the relationship between health information use and health orientation in Korean mothers: Focusing on the type of health information. *Journal of Health Communication, 20*, 275-10. doi:10.1080/10810730.2014.925016

Chen, C.-J., Kendall, J., & Shyu, Y.-I. L. (2010). Grabbing the rice straw: health information seeking in Chinese immigrants in the United States. *Clinical nursing research*, *19*, 335-353. doi: 10.1177/1054773810372542

Dutta MJ, Kaur S, Luk PLP, Lin J, Lee ST Health Information Seeking Among Singaporeans: Roles and Collective Contexts, Health Communication, 2018, v. 33 p. 433-442

Chen, Y., & Feeley, T. H. (2014). Numeracy, information seeking, and self-efficacy in managing health: An analysis using the 2007 health information national trends survey (HINTS). *Health Communication*, *29,* 843-853. doi:10.1080/10410236.2013.807904

Chong, J. A., Quah, Y. L., Yang, G. M., Menon, S., & Krishna, L. K. R. (2013). Patient and family involvement in decision making for management of cancer patients at a centre in Singapore. *BMJ supportive & palliative care*, bmjspcare-2012.

Cornally, N. and G. McCarthy (2011). Help-seeking behavior: A concept analysis. *International Journal of Nursing Practice, 17*(3), 280-288.

Corbin, J. M., & Strauss, A. L. (2008). *Basics of qualitative research: techniques and procedures for developing grounded theory*. Calif Sage: London

Deering, M. J., & Harris, J. (1996). Consumer health information demand and delivery: implications for libraries. Bulletin of the Medical Library Association, *84*(2), 209-216.

Dervin, B. (1992). From the mind's eye of the user: The sense-making qualitative-quantitative methodology. In J. Glazier & R. Powell (Eds.), *Qualitative research in information management* (pp. 61–84). Englewood, CO: Libraries Unlimited.

Dervin, B. (1983). *An overview of sense-making research: Concepts, methods, and results to date*. The Author.

Dervin, B. (1999). Chaos, order and sense-making: A proposed theory for information design. In R. Jacobson (Ed.), Information design (pp. 35–57). Cambridge, MA: MIT Press.

Department of Statistics Singapore. (2016, March 15). 2015 Annual Report. Retrieved from

Citation of this article

Dutta MJ, Kaur S, Luk PLP, Lin J, Lee ST Health Information Seeking Among Singaporeans: Roles and Collective Contexts, Health Communication, 2018, v. 33 p. 433-442

http://www.singstat.gov.sg/publications/publications-and-papers/population-and-population-structure/population-trends

Dutta, M. J. (2007). Health information processing from television: The role of health orientation. *Health Communication, 21,* 1–9.

Dutta, M. J. (2007). Communicating about culture and health: Theorizing culture-centered and cultural sensitivity approaches. *Communication Theory, 17*, 304-328. doi:10.1111/j.1468-2885.2007.00297.x

Dutta, M. J. (2008). *Communicating health: A culture-centered approach.* New York: Polity.

Eysenbach, G., & Köhler, C. (2002). How do consumers search for and appraise health information on the World Wide Web? Qualitative study using focus groups, usability tests, and in-depth interviews. *Bmj, 324*(7337), 573-577.

Fiksdal, A. S., Kumbamu, A., Jadhav, A. S., Cocos, C., Nelsen, L. A., Pathak, J., & McCormick, J. B. (2014). Evaluating the process of online health information searching: a qualitative approach to exploring consumer perspectives. *Journal of Medical Internet Research, 16*(10).

Fox, S., & Rainie, L. (2002). Vital decisions: how Internet users decide what information to trust when they or their loved ones are sick. United States: Pew Internet & American Life Project.

Genuis, S. K. (2012). Constructing “sense” from evolving health information: a qualitative investigation of information seeking and sense making across sources. *Journal of the American Society for Information Science and Technology, 63,* 1553-1566.

Dutta MJ, Kaur S, Luk PLP, Lin J, Lee ST Health Information Seeking Among Singaporeans: Roles and Collective Contexts, Health Communication, 2018, v. 33 p. 433-442

Gholami, M., Fallahi Khoshknab, M., Maddah, S. S. B., Ahmadi, F., & Khankeh, H. (2014). Barriers to health information seeking in Iranian patients with cardiovascular disease: A qualitative study. *The Journal of Critical Care, 43*(3), 183-191. doi:10.1016/j.hrtlng.2014.01.010

Gray, N. J., Klein, J. D., Noyce, P. R., Sesselberg, T. S., & Cantrill, J. A. (2005). Health information-seeking behavior in adolescence: the place of the internet. *Social science & medicine,* 60, 1467-1478.

Ho, Z. J. M., Krishna, L. K. R., & Yee, C. P. A. (2010). Chinese familial tradition and Western influence: a case study in Singapore on decision making at the end of life. *Journal of pain and symptom management*, *40*(6), 932-937.

Johnson, J. D. (2003). On contexts of information seeking. *Information Processing and Management, 39*, 735-760. doi:10.1016/S0306-4573(02)00030-4

Kim, W., Kreps, G. L., & Shin, C. N. (2015). The role of social support and social networks in health information–seeking behavior among Korean Americans: a qualitative study. *International journal for equity in health*, *14*, 40.

Krishna, L. R. (2012). Best interests determination within the Singapore context. *Nursing Ethics*, *19*(6), 787-799.

Lee, K., Hoti, K., Hughes, J. D., & Emmerton, L. (2014). Dr Google and the consumer: A qualitative study exploring the navigational needs and online health information-seeking behaviors of consumers with chronic health conditions. *Journal of Medical Internet Research, 16*(12).

Lupton, D. (1994). Toward the Development of Critical Health Communication Praxis. *Health Communication*, *6*, 55-67. doi: 10.1207/s15327027hc0601_4

Dutta MJ, Kaur S, Luk PLP, Lin J, Lee ST Health Information Seeking Among Singaporeans: Roles and Collective Contexts, Health Communication, 2018, v. 33 p. 433-442

McBride, D. (2007). Americans Look to Internet for Health Information. *ONS Connect, 22*(12), 11.

Miller, L. E. (2014). Uncertainty management and information seeking in cancer survivorship. *Health Communication, 29,* 233-243. doi: 10.1080/10410236.2012.739949

Mishler, E. G. (1986). *Research interviewing: Context and narrative*. Cambridge, Mass: Harvard University Press.

Mokhtar, I. A., et al. (2009). Medical and Health Information Seeking among Singapore Youths: An Exploratory Study. *Singapore Journal of Library & Information Management,38*, 49-76.

Mosavi, S. A., Babazadeh, R., Najmabadi, K. M., & Shariati, M. (2014). Assessing Iranian adolescent girls' needs for sexual and reproductive health information. *Journal of Adolescent Health, 55*(1), 107-113. doi:10.1016/j.jadohealth.2013.11.029

Oh, K. M., Kreps, G. L., Jun, J., Chong, E., & Ramsey, L. (2012). Examining the health information-seeking behaviors of Korean Americans. *Journal of health communication, 17*, 779-801. doi: 10.1080/10810730.2011.650830

Percheski, C., & Hargittai, E. (2011). Health information-seeking in the digital age. *Journal of American College Health, 59*, 379-386. doi:10.1080/07448481.2010.513406

Powell, J., Inglis, N., Ronnie, J., & Large, S. (2011). The characteristics and motivations of online health information seekers: cross-sectional survey and qualitative interview study. *Journal of Medical Internet Research, 13*(1).

Citation of this article

Dutta MJ, Kaur S, Luk PLP, Lin J, Lee ST Health Information Seeking Among Singaporeans: Roles and Collective Contexts, Health Communication, 2018, v. 33 p. 433-442

Rains, S. A. (2007). The Anonymity Effect: The Influence of Anonymity on Perceptions of Sources and Information on Health Websites. *Journal of Applied Communication Research*, 35(2), 197-214.

Rimal, R. N. (2001). Perceived risk and self-efficacy as motivators: Understanding individuals' long-term use of health information. *Journal of Communication, 51*, 633-654.

Rozmovits, L., & Ziebland, S. (2004). What do patients with prostate or breast cancer want from an Internet site? A qualitative study of information needs. *Patient education and counseling, 53*, 57-64.

Sadoway, D. (2013). How are ICTs transforming civic space in Singapore?: Changing Civic–cyber environmentalism in the island city-state. *Journal of Creative Communications, 8*, 107-138. doi:10.1177/0973258613512576

Sanjay, S., et al. (2009). Survey on the knowledge of age-related macular degeneration and its risk factors among Singapore residents. *Clinical & experimental ophthalmology 37*(8): 795-795.

Sim, L. L., Yu, S. M., & Han, S. S. (2003). Public housing and ethnic integration in Singapore. *Habitat International*, *27*(2), 293-307.

Strauss, A. L., & Corbin, J. M. (2015). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (4th ed.). Los Angeles: SAGE.

Teoh, S.-H., et al. (2009). An overview of the status of men's health in Singapore. *Journal of Men's Health, 6*(4), 307-316.

Citation of this article

Dutta MJ, Kaur S, Luk PLP, Lin J, Lee ST Health Information Seeking Among Singaporeans: Roles and Collective Contexts, Health Communication, 2018, v. 33 p. 433-442

Thomas, S. B., Fine, M. J., & Ibrahim, S. A. (2004). Health disparities: The importance of culture and health communication. *American Journal of Public Health*, *94*, 2050-2050. doi:10.2105/AJPH.94.12.2050

Vijaya, K., et al. (2006). HPB Online: an electronic health education portal in Singapore. *Singapore medical journal, 47*(1), 8

Vijayalakshmi, K. and S. L. Lam (1999). HealthLine--a telephone health information and promotion service in Singapore. *Singapore medical journal,* 40(7), 483.

Warner, D., & Procaccino, J. D. (2007). Women seeking health information: Distinguishing the web user. *Journal of Health Communication, 12,* 787-814. doi:10.1080/10810730701672090

Wee, Y. H., Zhou, Y., & Tayi, G. K. (2015). IT-Enabled Healthcare Integration: The Case of National Electronic Health Records in Singapore.

Yan, Y. Y. (2010). Online health information seeking behavior in Hong Kong: an exploratory study. *Journal of medical systems, 34*(2), 147-153. doi: 10.1007/s10916-008-9226-9

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[i] The names of the participants have been changed to protect their identity.

[ii] Old age homes reflect the shifting relationships of care amid changing household compositions and expectations of filial piety in Singapore. While the state actively promotes intergenerational care through its 3G (three generation) policies, Singapore has registered a rise in old age homes.