

Information seeking: a component of client decisions and health behavior

The information-seeking patterns of clients have received little attention in nursing theory and research, but they are important antecedents of health-related decisions and behavior. The concept of information seeking is analyzed within the framework of a six-step process model. Inter-related dimensions of the information search process are identified and the impact on cognitive and behavioral outcomes is postulated. Sociodemographic, experiential, personality, and contextual variables suggested by prior research to predict variation in search behavior are identified, and implications for nursing theory and research are discussed.

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THE PROVISION of information to clients by nurses has received considerable attention in the nursing literature, but relatively little cognizance has been given to the active role of *clients* in seeking and acquiring information that may be instrumental in determining their health behavior. The salience of client information seeking as a concept for nursing investigation is suggested by several factors.

First, active search for health-related information is a widespread activity. It has been empirically demonstrated in relation to such diverse aspects of health-related behavior as resource use,¹⁻³ childbearing and child rearing,^{4,5} and specific illnesses such as cancer and hypertension.⁶⁻⁸ It is acknowledged to be one mechanism for coping cognitively with change, uncertainty, disability, and crisis and for gaining control over health-related events.⁹⁻¹⁴ Second, there is evidence that despite desire and effort to acquire health-related information, clients often perceive that they are

unsuccessful in obtaining the information they need, particularly from health professionals who may hold erroneous views of what and how much clients want to know.^{4,5,12,14,15}

Third, much health and illness behavior is discretionary; that is, it involves the ability to act on the basis of personal judgment and can be conceptualized as the outcome of decision processes. From this perspective, a behavior manifested by a client represents one of several options, provided the client is aware that alternatives exist. For example, utilization of a nurse midwifery service for prenatal care can be viewed as one of several options but one that could not be enacted unless the client were aware of the existence of the service. Other options include the use of a physician, a non-nurse midwife, a clinic, or self-treatment. In addition to the selection and use of health care services, other examples of health behavior include self-care practices, preventive health behaviors, adherence to recommended preventive or treatment regimens, parenting practices, and some life-style changes.

Although active search for information is not prerequisite to information acquisition (information can be acquired passively), information-seeking patterns have potential to help explain discretionary health behavior because they affect the scope and nature of information acquired, the repertoire of alternative courses of action known to the searcher, and ultimately, the action taken.

THEORETICAL FOUNDATIONS

Theoretical underpinnings for the current analysis were derived primarily from

two bodies of literature: those related to consumer decisions and health care utilization. Information search is included as a major concept in models of the consumer decision process, which posit that consumers desiring to purchase a particular class of product engage in overt information-seeking activities, using a variety of information sources to gain knowledge about the existence, price, and quality of a product prior to making a purchase decision based on the information acquired.^{16,17} Information search is viewed as a component of the decision process; it affects not only the choice of product but also its perceived desirability and benefit to the consumer.¹⁸ The nature of the search behavior, particularly its extensiveness and the information sources used, is postulated to affect the information obtained. For example, different information is acquired from a salesperson than from a periodical or government report.

Although consumer decision models tend to emphasize overt information seeking, some have acknowledged the importance of passively acquired information, that is, information that is not purposefully sought but is acquired while engaging in another activity such as watching television. Information search occurs within the context of previously acquired information, as evidenced by the distinction between retrieving from memory information acquired previously either passively or through previous search and actively seeking new information; both are assumed to be involved in consumer decisions.^{18,19}

Typically, studies of health care utilization have not had client information seeking as a pivotal concept, despite early recognition that the search for information

is a basic step in the process of choosing and making use of medical services.²⁰ The potential theoretical importance of information seeking as an intervening process between the perception of symptoms and receipt of health care was established by studies, which documented relationships between search behavior, the extent and content of information received, and the choice of a provider from among those potentially available.^{1,2,21} These studies indicated that health care seeking involves a patterned sequence whereby individuals perceiving an actual or potential health problem consult others in their social networks, receive information and advice, and are referred to lay and professional persons for information and help. The individuals contacted provide information based on personal knowledge, beliefs, and past experiences.

The information acquired during the search process constrains and helps dictate the searcher's choice of possible health care resources. Perhaps the most dramatic evidence of the constraints that operate in a health care search is provided by Lee's study of the search for an abortionist,²¹ which was conducted before abortion was legalized. Middle-class women, whose search behavior involved consulting acquaintances of similar age and socioeconomic status (SES), were able to learn about physician abortionists, whereas lower-class women, whose referral networks did not have access to information about medical abortionists, found only nonphysician or self-induced methods available to them.

A major contribution of health care search studies to the understanding of information search behavior is the empha-

sis on its social dimensions. Search is conceptualized as an interpersonal process, with the primary source of information being others to whom one has direct access or can be referred. Since persons in a social network have different information, the information acquired by a client is viewed in part as a function of those consulted. These studies stress the importance of the client's position in a social structure (primarily SES) as a determinant of the consultants used; thus, information search is viewed as an intervening variable in the well-established relationship between SES and the utilization of health services.

INFORMATION SEARCH PROCESS

The information search process is conceptualized as a subcomponent of the decision process, which precedes the enactment of discretionary health behavior. Most decision models postulate a sequence of steps that involve identifying a problem to be solved or goal to be achieved; gathering information about alternative courses of action; evaluating and weighing the options; choosing the optimal alternative; and taking action to solve the problem or achieve the goal. It is assumed that the information-gathering component of the overall decision process (the information search process) is comprised of six analytically distinct steps:

1. a stimulus;
2. goal setting;
3. a decision regarding whether to seek information actively;
4. search behavior;
5. information acquisition and codification; and

6. a decision regarding the adequacy of the information acquired.

A seventh analytical component of the model is the outcome. It is hypothesized that the steps occur sequentially and, with the exception of the decision points (steps 3 and 6), which represent unidimensional phenomena, each step may vary along several dimensions. Variation in any step, therefore, has potential to influence all subsequent steps. The search process is assumed to be variable in duration and complexity and to be terminable at any point.

Stimulus

A wide variety of situation-specific occurrences may start the information search process. Stimuli may derive from within the person (eg, the experience of symptoms or injury) or the external environment (eg, the death of a friend, family discord, negative comments from others about health habits, or a television program about smoking). Such stimuli, when placed in the context of stored information, constitute a "call to action," which initiates the search process by signaling a discrepancy between information possessed and needed. Common stimuli for the health-related information search include recognition of a problem to be solved or avoided, a choice to be made, or a goal to be accomplished and actual or anticipated placement in an unfamiliar or threatening situation. Aspects of the stimulus that have been found to affect subsequent steps of the search process include the degree of importance the individual attaches to the situation and the degree of uncertainty and risk associated with it.²²

Information goal setting

Some authors suggest that persons confronting a problem or choice use existing information to set goals that place parameters on the information search and acquisition.²³ They decide in advance how soon information must be obtained, the information sources to be used, the kind of information desired, or the number of alternatives to be investigated. Such goal setting is not necessary for the process to continue; however, information goals have potential to focus and constrain subsequent activities. For example, Lenz²⁴ found, in a study of health care search, that persons predefined the time limits for receiving care and usually determined in advance the kind of health care sources they would investigate. The immediacy with which they required information was negatively related to the extent of search.

Decision point on active search

The presence and recognition of a stimulus, with or without the definition of explicit goals, require a decision whether to engage in active search for new information. The decision is influenced by the amount and type of relevant prior information and the anticipated cost-benefit ratio of engaging in active search.¹⁸

Persons who believe they have sufficient relevant information may decide not to engage in search. If anticipated costs, such as delay in being able to make a decision, financial and time expenditures, frustration, confusion, or diminished status or credibility resulting from revealed weakness or ignorance, outweigh anticipated benefits, an active search is unlikely. Potential benefits include not only the new

information, which may be of utilitarian and intrinsic value to the searcher, but also reduction of anxiety and uncertainty and an increased sense of mastery or control. Individuals may decide that active information search is not necessary if needed information can be acquired passively. For example, clients may not ask questions because they believe physicians and nurses will tell them everything they need to know.

Search behavior

A decision to search for information moves the person into the key step of the process, which is search behavior, conceptualized as a series of inter-related behaviors that can vary along several dimensions. The *extent* of search is generally defined as the total number of activities carried out and is often considered to encompass two components: scope (number of alternatives investigated) and depth (number of dimensions of an alternative investigated). The extent of information search varies widely, ranging from a thorough, in-depth survey of many alternatives to a superficial (or selective) and limited undertaking.^{3,24-27} Limited search is the modal pattern in decision making. The extent of search is positively related to the amount of information acquired,^{2,6,24} but the relationship is not perfect, since each search activity does not necessarily yield a new or relevant piece of information. The extent of search influences the decision made and is related to some tangible benefits accruing from a consumer decision.^{2,18}

Another dimension of search behavior is the *method* of search, a variable that addresses the information source tapped.

Two basic methods are (1) impersonal, in which information is sought from an inanimate source, such as a publication, referral service, or person unknown to the searcher, and (2) personal, in which information is sought from an individual known personally (a consultant).²⁸ A combination of the two methods is often used. Information can also be acquired through direct observation, which, if undertaken purposely, is considered active search. Studies of health-related search suggest that personal methods are used before and in preference to impersonal methods; however, impersonal information sources such as books, pamphlets, and information services are also

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used extensively and provide valuable information.^{1-3,6,7,24,29}

Ironically, health professionals may fail to acknowledge the value of impersonal information sources to clients. Messerli and associates⁶ found that nearly 80% of surgeons surveyed provided no written information to patients, although breast cancer patients rated printed material as a very important source of information. The search method used may influence the amount and type of information acquired, because different information sources provide different kinds of information. For example, regarding health services, impersonal methods are more effective in providing information about the location and

range of services available, whereas personal sources can provide details about a specific practitioner. Personal methods allow the searcher to tailor the questions asked to the information desired. They subject the searcher to more interpersonal influence and usually to more subjective information than do impersonal search methods. They also preclude anonymity.

When search behavior involves personal methods, it is important to consider the *consultants* from whom information is sought and acquired. To help explain the extent and diversity of information obtained, relevant variables include not only the *number* of consultants used but also the *strength of the social tie* linking searcher and consultant.

Studies of information search and dissemination have shown that there is a tendency for those with only weak ties to the searcher (in terms of emotional closeness, geographical proximity, and frequency of interaction) to possess information the searcher does not already have.³⁰ The acquaintance networks of two persons who are weakly tied generally have minimal overlap; therefore, it is less likely that interpersonally communicated information possessed by one would be possessed by the other than if the two were strongly tied and knew each other's acquaintances well. The strength of the tie linking searcher to consultant has been found to be negatively related to the extent and diversity of information acquired^{2,30} but, presumably, it would be positively related to the amount of influence exerted on the searcher. In health-related information seeking there is evidence that strongly tied consultants (relatives and close friends) are used more frequently and prior to weakly tied consul-

tants, except when specialized expertise is deemed necessary or a support system of strongly tied consultants with relevant information is lacking.^{1-3,5,29}

A third consultant variable that is relevant to health-related search is the *level of professional health expertise*. Although health professionals would be expected to possess more extensive and different health-related information than laypersons, the latter tend to be consulted more frequently, perhaps because they are more accessible.^{3,24} In institutional settings, clients frequently use, or attempt to use, physicians and nurses as consultants, but they may be thwarted because of time pressures, lack of privacy or professional attitudes, and norms regarding information giving; fellow patients are often used as alternatives.^{4,12}

It is apparent that search behavior is, in itself, a complex process. The situation is complicated further because the person can also acquire relevant information passively during the search process. This likelihood is heightened because search behavior is in progress and the person is in a state of "high involvement" relative to the topic of the decision.¹⁹ Individuals, for example, who are seeking information about nursing home placement for an elderly parent would be more likely to notice the location and appearance of nursing homes or pay attention to media advertisements or conversations about the topic than those not similarly involved.

Information acquisition

Information acquisition is portrayed as a separate step following search behavior, thereby oversimplifying the processes involved. After each search activity, the

searcher probably evaluates the information gained (if any) in terms of prior information and determines whether it is new and relevant, new and irrelevant, or redundant. New and relevant information is added to memory storage and may serve as a cue to guide and encourage further search behavior. For example, hearing from a nurse that a particular procedure might be painful may encourage the patient to ask additional questions about the nature of the pain. A pattern whereby persons cycle between memory-based information and seeking new information has been suggested.²³

Relevant dimensions of information acquisition include the amount of information acquired and its content, both of which are influenced by the search behavior. The extensiveness of information is salient in decision theories; the more information acquired, the more rational the decision can be. The benefits of extensive information have also been addressed in nondecisional models of preventive health behavior, coping, uncertainty and anxiety reduction, and postsurgical recovery.

The extent of information acquired has two components: scope or diversity (the number of options known) and depth (the amount of information about a given option). The relative distribution of information between these two components should relate directly to the proportion of information search directed toward each. Use of multiple search methods and sources and weakly tied consultants should result in the most extensive information acquisition; however, empirical results, to date, provide only limited support for these relationships. Individual differences in the ability to process and retain information;

ex post facto measurement of information acquisition, which measures information remembered rather than information acquired; redundancy in information received; and a possible ceiling on information acquisition may be important confounding variables.

Typologies of information content are usually specific to the nature of the decision or behavior studied; however, there is a generic distinction between information about the existence of an option and its characteristics. The content of information acquired through search is influenced by the method and specific information sources used, including the consultants from whom information is sought.^{2,19,21,28}

Decision point on information adequacy

Once information is acquired, the searcher evaluates its adequacy in order to determine whether to continue or terminate the search. Criteria for the evaluation are subjective and may emanate from the goals set for the search process, comparison between the information needed and obtained, or a cost-benefit analysis.

It has been well substantiated that information seekers act on the basis of minimal, incomplete information, that is, information considered to be inadequate from an objective point of view. Search involves costs that may be deemed too high to warrant additional effort, particularly if the anticipated return is judged to be minimal. Therefore, a person who determines the information acquired to be inadequate may stop searching, recognizing that the decision will be made under less-than-ideal conditions. Fatigue, boredom, frustration,

urgency to take action, and difficulty in extracting information from sources encourage "premature" termination of search, whereas curiosity, interest, knowledgeable and willing consultants, and strict adherence to predefined goals encourage continuation.

OUTCOMES OF THE SEARCH PROCESS

Cognitive and behavioral outcomes have been identified as resulting from information search. In the present model, since information search is conceived to be a subcomponent of a more comprehensive decision process, a major outcome of interest is the information repertoire about possible alternatives; it can be either used immediately in later steps of decision making (rank-ordering alternatives, making a choice, and taking action) or stored and used later.

The total set of information possessed at the termination of search is comprised of previously acquired information, information acquired as a result of active search, and information acquired passively during the search process. Therefore, it is theoretically desirable but operationally difficult to separate the three components in order to ascertain the extent to which increase in information or change in information content is attributable to search behavior *per se*. Other cognitive outcomes of interest may include opinions, attitudes, or beliefs formulated or changed as a result of information search. Changes in perceptions of self, others, or the environment or in emotional state can also be considered possible outcomes of information seeking.

Behavioral outcomes, when viewed in

the context of a decision model, are best considered indirect results of the information search process, since several cognitive processes related to weighing and selecting alternatives intervene between the acquisition of information and the manifestation of behavior. The most directly relevant behavioral outcomes are those reflecting a conscious choice, such as the type of health care product purchased or health service used; the extent to which a recommended preventive or treatment regimen is followed; whether an available screening program is used; or whether a person selects home or hospital care for a terminally ill relative.

Related aspects of these behaviors are often studied; these include congruence of the choice made with preexisting goals, degree of satisfaction with or effectiveness of the decision made, and tangible benefits or problems resulting from it. Equally relevant are outcomes that reflect behavioral change potentially resulting from information search. Changes in health habits (eg, the number of cigarettes smoked) or child-rearing practices are examples. Information about a given behavioral option is a necessary but not a sufficient condition for its enactment, and information may be only one of several factors that influence discretionary health behavior, even behavior that seems to be heavily constrained by cognitive elements.³¹

VARIABLES AFFECTING INFORMATION SEARCH

This model suggests that search behavior is the key step in the information search process. Three types of variables are poten-

tial predictors of variation in search behavior.

Background

Major background variables influencing search behavior include sociodemographic characteristics and previous health experiences. Several sociodemographic characteristics are relevant to the study of search. Age (among adults) has been found to relate negatively to the extent of search, perhaps because older persons have larger stores of information in memory and less energy to expend in information seeking and may have less access to both personal and impersonal information sources than younger adults.^{3,7,32,33} The elderly who presumably have greater need for health information are the least likely to seek it.

Socioeconomic status is generally considered to be negatively related to the extent of search behavior.^{33,34} Explanations of why persons with higher status seek information more extensively include

- higher level of cognitive skill, which facilitates definition of information needs and comprehension of the complex and abstract dimensions of health;
- greater status and belief congruence with health professionals;
- greater interest in health matters;
- fewer financial constraints; and
- access to larger social networks, which can serve as information sources.

Socioeconomic status is generally considered to be negatively related to the extent of search behavior.

Regarding the relation of SES to other dimensions of search behavior, persons of lower status are more likely to rely on personal information sources and strongly tied consultants and less likely to have access to professional consultants and to seek information from professionals to whom they have access.^{4,32,30,33} Other potential sociodemographic predictors of search behavior include marital status, which relates primarily to the consultants; employment status; ethnicity; and sex. Women are generally considered to engage in more extensive health search.^{5,34-37}

In general, although sociodemographic differences in search behavior have been identified, the variables explain a relatively small proportion of the variance. Previous experiences, which help determine the amount and content of information stored in memory at the onset of search, constitute another aspect of background characteristics, which potentially interact with sociodemographic variables to increase the variance explained. It is thought that the extent of relevant prior experience (usable prior knowledge) relates negatively to the extent of search.^{18,38} For example, a person who has been hospitalized frequently is less likely to seek information about hospital routines than one experiencing initial hospitalization.

Personality

In a review of the consumer behavior literature, Schaninger and Sciglimpaglia³³ identified six inter-related cognitive personality traits as the most likely to influence the extent of search behavior: tolerance for ambiguity, self-esteem, need for cognitive clarity, rigidity, trait anxiety, and cognitive style.

The first three relate positively to the extent of search because information seeking is encouraged by tendencies to perceive ambiguous or inconsistent situations as desirable and to seek to clarify rather than simplify, as well as by personal confidence in ability to master and evaluate information.^{33,39} Rigidity and dogmatism discourage information search because these traits reflect resistance to change and to new, potentially conflicting ideas.⁴⁰ High levels of anxiety inhibit information processing and may cause new or complex information to be viewed as threatening. Cognitive style reflects a distinction between a pattern of simplification (or avoidance) of incongruous information and one of sensitization in which new information is sought in order to learn and clarify. Those with sensitizer/clarifier styles are more likely to seek information actively.⁹

Several studies have addressed the relation of locus of control to the extent of search. Persons who believe they have control over reinforcement relative to their behavior (internal locus) are more likely than those with an external locus of control to engage in information seeking, a strategy that allows direct confrontation of a problem or decision and effort to exercise control.^{41,42} The effect of internal locus of control on health-related information search has been found to be strongest when combined with high valuation of health.⁸

Context

The third class of variables that impact search behavior concern the conditions under which it is performed. Some impor-

tant aspects of the situation surrounding the onset of search are the existence of time constraints, the degree of uncertainty and risk involved in the decision, and its importance to the searcher. Relatively few studies have systematically examined contextual variables, with the exception that consumer research often takes the complexity of the market (ie, the number of alternative products available) into account. Information search seems to be encouraged by the availability of alternatives about which to seek information.^{18,38}

Search behavior also may be influenced by the physical and interpersonal environment. For example, privacy and comfortable familiar surroundings facilitate information exchange between client and health professional; however, these conditions are generally lacking in hospitals and clinics. Shapiro and associates⁴ found that, with SES-controlled, private obstetrical patients had more of their informational needs met than patients in public clinics; they attributed the difference to the structure of clinic routines, which limited the time spent with the physician and precluded privacy.

The affective character of the interpersonal environment may facilitate or impede seeking information from consultants. For example, a cooperative, supportive atmosphere facilitates information search and encourages individuals to seek information from those in superordinate positions, possibly including health professionals.^{12,22,43} In addition to the immediate interpersonal situation in which information seeking occurs, the larger interpersonal environment of the searcher has been shown to influence health-related search behavior, much of which occurs during

informal interaction. The searcher with a large social network has more opportunity to engage in personal search than one who has few social contacts. The fact that the very poor, chronically ill, and elderly are most in need of health information but least likely to have large social networks underscores the relevance of this contextual variable to nursing.

Considerably more research is needed to determine the ways in which antecedent and contextual variables inter-relate and to discern patterns in their relationships to health-related information search and acquisition. Research that has examined multiple predictors of consumer search behavior has revealed that predictive patterns are complex, involving many interaction and moderation effects, and that they differ depending on the dimension of search behavior studied.^{18,26}

IMPLICATIONS FOR NURSING THEORY

The idea that individuals actively seek and acquire information to guide decisions and behavior is highly compatible with nursing theories that emphasize clients' purposefulness and rationality; acknowledge their ability and right to make conscious, independent health decisions; advocate active client participation in health care; and incorporate decision making and health information in explanations of client health behavior. Nevertheless, the concept of information seeking has been largely neglected. The present analysis suggests it to be a potentially important antecedent of client decisions and behavior, which should be expressly taken into

account in nursing theory and research regarding client health behavior and nursing intervention.

Probably the most important theoretical implication of the concept of information seeking is that it portrays the client as an active seeker, rather than a passive recipient of health-related information. Emphasis is placed, therefore, not on "what nursing does to affect client health outcomes,"^{31(p41)} but on what the *client* does, with or without nursing awareness or assistance.

From this perspective, the nurse is viewed not as teacher, but as one of many possible information sources for the client. Since information provided by the nurse comprises only a subset of that which the client brings to bear on a given decision, it appears that nursing action may exert less influence on client behavior than is suggested by other, less client-centered perspectives, which emphasize the provision of information by nurses and passive acquisition of information by clients. The importance of nursing action is not negated, however, since information provided by the nurse may increase client awareness of available options, rectify erroneous information from other sources, and stimulate additional search. Increased attention to the concept of information seeking has potential to increase the efficacy of information giving by nurses; individual differences in client search behavior can be incorporated in prescriptive theories that guide intervention.

Explicit inclusion of information seeking as a concept in nursing theories may increase their explanatory and predictive power. The present analysis has revealed that persons differ in the ways they seek and acquire information and that these

differences may help to explain their health-related decisions and discretionary health behavior.

Many of the variables included in nursing theories in order to explain differences in health behavior also relate to search behavior; thus, the search process represents a potentially fruitful set of intervening variables to consider in the relationships between client characteristics, nursing intervention, and client behavior. Patterns of information seeking may contribute, for example, to explaining why some individuals seem to exhibit more behavioral change following preventive health teaching programs than others and might serve as useful predictors of which clients have most potential to benefit from various vehicles for supplying preoperative information. Further theoretical exploration of the concept of information seeking may help to amplify not only theories of client decision making, but also those regarding related concepts of interest to nurses, such as communication, coping, anxiety, and control.

IMPLICATIONS FOR NURSING RESEARCH

The present analysis portrays information seeking as a complex, multivariate process that is not well understood. Additional research is needed to clarify the nature of relationships among its variable dimensions and between process and outcome variables. The complexity of information search suggests the need for multivariate analyses, which can be used to identify patterned relations among its vari-

ous components, but it also indicates that more theoretical and empirical groundwork should be laid before moving to large-scale, highly quantitative research.

Information seeking is not an easy concept to study. Most research has been retrospective, with reliance on self-report measures of key variables. A major problem associated with retrospective studies of information seeking has been low reliability and questionable validity of the measures used.^{18,44} Persons tend to forget and under-report search activities, and the likelihood of bias is great because of systematic differences in ability to recall past health-related events. Cognitive aspects of the search process are particularly difficult to measure retrospectively be-

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cause subjects may be unable to recall thoughts, motives, and goals; they may not have even been conscious of them at the time of the search. Information acquisition, a key cognitive step, cannot be accurately measured retrospectively because of the confounding effects of a person's prior memory structure and passive information acquisition. Like other cognitive aspects of the search process, it is often inferred rather than directly measured.

Alternatives to retrospective self-report have included laboratory and field observations of search in progress and

measurement of responses to hypothetical situations. The former are confined to time- and space-limited search processes; they lack generalizability and, unless combined with nonobservational measures, cannot tap the cognitive dimensions of search. The latter are problematic because there is only a weak relationship between intended and actual information seeking.⁴⁵

The ideal is to study information seeking as it occurs in natural settings. However, few health-related search processes are amenable to such research because they occur over protracted time periods and in a variety of settings. Notable exceptions are searches undertaken by hospitalized clients; these can be investigated on site using observation and interview. Retrospective approaches are the most feasible for studying most health-related search. Associated problems can be ameliorated through several strategies; these include

- designing interview sequences and probes that help the subject reconstruct the search process;
- using multiple measures of key variables, particularly those used as indicators of cognition;
- scheduling data collection as soon as

possible after the search has terminated;

- using comparisons before and after search to assess the relation of process to outcome; and
- assessing bias produced by variables that have a high probability of affecting subject recall.

Despite the difficulties involved, information seeking is a salient concept for nursing investigation. Additional research is needed to determine the extent to which the process described and the variables identified in this analysis, which drew heavily from consumer literature, accurately depict health-related information search. For example, the conditions under which clients use nurses as consultants in decision making and the impact of nurse-provided information on client decisions are aspects of the information search process that should be examined.

The present analysis focuses on information seeking as a component of client decisions. The potential applicability of this concept to client behaviors, which may not occur within a decision-making context, and to decisions and behavior of nurses are fruitful arenas for exploration.

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