지역사회간호학회지 제8권 제2호(1997)
The J. of Korean
Community Nursing
Vol. 8. No. 2. 1997

Key concepts : dementia, physical touch, analysis of model

Critical Analysis of Conceptual Model of Touch

Kim, Eun Joo*

Introduction

Interpersonal touch is physical contact between humans. When touching, people share their feelings, engage in nonverbal communication and establish human relationships by using tactile sense. Victims with dementia may have an increased need for physical contact because their cognition and language capabilities are impaired. They maintain, however, their emotions and sense of touch. Accompanied by cognitive impairment, patients with dementia gradually lose their normal use of language and increase in levels of stress and frustration. This heightens the potential for anxiety and dysfunctional behavior. Researchers asserted that the use of touch as a form of nonverbal communication alleviates anxiety in situations of stress through providing comfort, reassurance, and support to patients with dementia (Burnside, 1979 ; Hollinger & Buschmann 1993 ; Taft, Deliney, Seman, & Stansell, 1993).

Hollinger and Buschmann (1993) developed the conceptual model of touch in 1993. Employing the touch model, Buschmann and Hollinger (1994) studied the relationship between perception of touch and depression in the elderly. Perception of touch significantly contributed to reducing depression. Peterson (1994) implemented the use of expressive physical touch on both normal and depressed elderly and found that the expressive physical touch significantly reduced depression in the elderly.

However, the touch model was not examined in patients with dementia. The purpose of this paper is to analyze and criticize the touch model. On the basis of this analysis, the model is modified to be applied to patients with dementia.

Explication of Concepts and Relationships

Hollinger and Buschmann (1993) developed the conceptual model of touch based on their study of interpersonal touch between nursing home residents and the health caregivers. The major concepts of the model are (a) the interaction between caregiver and resident, (b) perception or attitude toward touch, (c) touch behaviors, and

* College of Nursing, University of Illinois at Chicago

(d) outcomes of touch. Major concepts and definitions discussed by the authors are presented in Table 1.

The following are the relationships among the concepts : The interaction between caregiver and resident influences both caregivers' and residents' perception of touch and subsequent touch behavior. The perception of touch impacts touch behavior directly and outcomes indirectly through actual touch behavior. Touch behavior results outcomes and reversed impact to touch behavior. Outcomes influence future caregiver−resident interactions, perception of touch (Hollinger & Buschmann, 1993). Refinement and validation of the model are recommended through future studies. In the proposed study, two concepts (touch behavior and outcomes) will be examined.

Critique of the framework

Assumptions

There are no explicit assumptions in the original framework, but the model is based on a number of implicit assumptions. Most implicit assumptions flowed from Montagu's philosophical claims (Montagu, 1953) and Barnett's theoretical claims of touch (Barnett, 1979). There are implicit assumptions that this researcher identified and summarized in Table 2. Considering the lack of explicit assumption, the model is a less effective guide of the author's thinking. However, relationship between implicit assumptions and concepts in the model is congruent.

Logical consistency

The fit among concept definitions, assumptions and clinical exemplars is consistent because the conceptual framework was originally developed from theoretical basis of the concept of touch and empirical evidence from clinical study (Hollinger & Buschmann, 1993). Central concepts of the framework are based in nursing practice and stem from empirical evidence. Most concepts were defined clearly by original authors. How-

Table 1. Major Concepts and Definitions of Touch Model

Concepts	Definitions
Caregiver−resident interaction	The interaction between the health caregiver and patient represented a dyad.
Attitudes toward touch	Acceptance of touch, measured by the Perception of Touch Instrument.
Touch behavior	The intentional physical contact between two or more consenting individuals. Two general forms of touch occurring during the nurse−patient interaction are "procedural" and "nonprocedural" touch. Procedural touch is the physical contact occurring while another task is being performed (Hollinger & Buschmann, 1993; Watson, 1975). This type of touch is called also "task−oriented touch" or "instrumental touch". Nonprocedural touch does not require a task component, rather, it is spontaneous and affective, including holding a patient's hand while talking or placing one's arm around the shoulder of another in a greeting or supportive gesture. This form of touch also refers to "expressive touch".
Outcomes	Responses to the touch behavior including both subject and objective responses. Subjective outcomes encompass both the caregiver's and patient's perceived satisfaction with the touch interaction. Other subjective outcomes include operationalized by measuring a patient's comfort level effects on self−concept and self−esteem, and level of anxiety. Objective outcomes are such as frequency of verbal communication, changes in physical status, level of orientation, degree of depression, degree of compliance, and changes in level of independence.

Table 2. Implicit Assumptions of Touch Model

Assumptions
• The need and desire to contact with others is basic for normal development in human (Hollinger & Buschmann, 1993 ; Barnett, 1979).
• Interpersonal touch provides soothing effect under conditions of stress (Hollinger & Buschmann, 1993 ; Montagu, 1953).
• Touch is not only experienced as a simple physical modality, as sensation, but affectively, as emotion and behavior (Hollinger & Buschmann, 1993 ; Montagu, 1953).
• Touch is a vital means of communication between two people ((Hollinger & Buschmann, 1993 ; Barnett, 1979).
• "Touch, as a form of nonverbal communication, is an integral part of the nurse-patient interaction" (Hollinger & Buschmann, 1993, p. 446).
• Both nurse and patient bring particular characteristics to the interaction : (a) nurse-related attributes, (b) patient-related attributes, (c) interaction or situation-related attributes (Hollinger & Buschmann, 1993).
• "Touch is multidimensional being influenced by myriad factors" (Hollinger and Buschmann, 1993, p. 446).
• As with all forms of both verbal and nonverbal communication, the touch gesture is made up of four components : (a) the message, (b) the sender, (c) the receiver, and (d) the context of the situation (Hollinger & Buschmann, 1993 ; Weiss, 1979).

ever, theoretical definition of the caregiver-resident interaction was not provided clearly. Initially, without looking at the graphic model presented by authors, this researcher thought that the caregiver-resident interaction was a factor which influences attitudes toward touch rather than a major concept. The following matrix (see Figure 1) demonstrates signs and directions of relationships between concepts. All elements of the model logically congruent. All predictions are specified.

Usefulness

The model could be used to guide and describe nursing care. It is specially focused on implementation of physical touch related health. A secondary effect of implementing this model is the cost-effectiveness of the touch interventions prescribed. Thus, the model may very helpful to practitioners, administrators and researchers in nursing.

Testability

Central concepts in the framework evolved out of nursing's potential reality and had empirical references. The original authors suggested guidelines to operationalize the main concepts. Users of the touch model may easily operationalize its concepts and derive testable hypotheses and relational statements. Also, the authors provided reliable and valid measures ; i. e., the Perception of Touch Scale for the measure of attitude toward touch, (Buschmann & Hollinger, 1994 ; Hollinger & Buschmann, 1993) and the Expressive Touch Protocol for measure of touch behavior (Peterson, 1994). Therefore, the model have high potential of being tested.

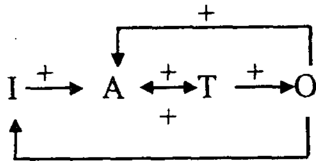
Generalizability

The theory has relatively wide boundaries and is currently in early testing stages. Although it was constructed based on a nursing home setting study, this researcher believes it could be modified for use with anyone who needs health related physical touch.

Parsimony

Hollinger and Buschmann (1993) provided a diagram which visually relates the concepts to each other. The diagram is simple enough that

(a) Diagram of touch model



(b) Matrix of major concepts in touch model

	I	A	T	O
I	+	+	+	+
A		+	+	+
T			+	+
O				+

Symbols for Diagram and Matrix:
(Gibbs, 1972, p. 205; Hardy, 1974, p. 103)
Sign of the relationship:
Positive: +
Negative: -
Two-direction relationship: ←→
One-direction relationship: ⟶

Fig. 1. Concepts and relationships in touch model
Note. I=caregiver-resident interaction,
A=attitude toward touch,
T=touch behavior, O=outcome.

readers may understand the theory through the figure alone without verbal explanation. The model is relatively new. Walker and Avant (1995) suggested that when a theory is new it is often small and parsimonious, the theory subsequently grows during justification phases and then has to be reduced to a smaller and more parsimonious model over time. Therefore, the model may undergo refinement or revision through many testing stages.

Review of the extent

Studies on nonverbal communication modalities did not appear in the literature until the 1950s (Barnett, 1972). It was in 1993 that the conceptual framework of touch was developed. Research using the original model are few. However, since the 1950's, the framework's major elements have been studied by numerous researchers employed in nursing.

In terms of the estimation of number of publications using the major construct (touch) of the framework, there are fifty (50) empirical and theoretical studies. In this paper, only the empirical studies related to major constructs /concepts for proposed study (touch behavior and outcomes) were reviewed (Buschmann & Hollinger, 1994 ; Copstead, 1980 ; Eaton, Mitchell-Bonair, & Friedmann, 1986 ; Lange-Alberts & Shott, 1994 ; Langland & Panicucci, 1982 ; McCorkle, 1974 ; Penny, 1979 ; Peterson, 1994 ; Snyder, Egan, & Burns, 1995). "Therapeutic Touch (TT)", a no-touch therapy using hand motions and human energy field without physical contact is excluded in this review procedure. Two reasons for excluding TT follow. The first reason is that the touch model assumes that the meaning of touch is related to the haptic system. The haptic system is the biologic system pertaining to tactile sensations in the skin (Weiss, 1979). Animals and men gather vital information about the environment by the haptic system (Gibson, 1966 ; Hollinger, 1980). A second reason for excluding TT comes from literature reviewed. A recent article in Time magazine (Jaroff, 1994) reported on the growing acceptance of TT within the nursing academic community but concluded that major skepticism regarding the human energy field theory still exists. Oberst (1995), an editor of Research in Nursing and Health, asserted that "there is no empirical evidence whatever to support the existence of a 'personal energy field' capable of being transferred between persons"

(p. 1). Bullough and Bullough (1995) stated "all of the research done in the name of therapeutic touch is far removed from the theoretical rationale" (p. 377). Therefore, TT is differentiated from physical touch in view of its theoretical construct.

The subject areas which has been used

This framework has been used to investigate hospitalized or nursing home institutionalized elderly, seriously ill adult patient, postpartum women, elderly confused clients and chronic brain syndrome patients.

Concepts / variables which have been used

Considering selection of a variable for study, the use of the concept of touch behavior as an independent variables than as a dependent variable is more useful. In a review of empirical studies, the concept of touch behavior was used as independent variables, while outcome concept was used as dependent variables in reviewed studies.

Touch behavior. Physical touch have been used by way of hand massage or intermittent touch on hand, arm and shoulder with or without verbal and nonverbal communication. The concept of verbal communication was utilized by measuring conversation between a patient and a nurse focusing on the patient's feelings and thoughts. The concept of nonverbal communication has been used by way of observing nonverbal behavior : facial expression, body movements, eye contact, and tone of voice.

Patient's outcomes. Implemented touch influenced the increase of self appraisal, acceptance response, attention, comfort, calorie intake and decreased depression of the subjects. There is one empirical evidence validating the effects of touch when employed with demented patients. Results showed physical touch decreased agitation and disruptive behavior.

When developing the touch model, Hollinger and Buschmann (1993) examined five factors influencing the perception of touch in nursing home situations : staff status ; type of touch ; area of the body touched ; resident's locus of control and resident's functional level. Results showed that resident's locus of control was the most influential factor affecting residents' and caregivers' perceptions of touch. Touch was experienced as positive when it was appropriate to the situation. Following the touch model, Buschmann and Hollinger (1994) studied the relationship between perception of touch and depression in the elderly. Perception of touch, as a measure of affective social support, significantly contributed to reducing depression. Peterson (1994) implemented the use of expressive physical touch on both normal and depressed elderly in nursing home setting. The results show that the expressive physical touch with verbal communication significantly reduced depression in the elderly.

Discussion and Conclusion

The touch model was proposed for use with nursing home residents and health caregivers, yet the model extends beyond the nursing home setting and greatly enhances our understanding of the substance of interpersonal touch between all patients and health caregivers. Furthermore, the model is a very useful perspective of the nonverbal communications between nurses and the patients. Several strategies may be established in order to facilitate the use and acceptance of touch in institutions and community settings. There is a growing body of research which suggests that professional caregivers' nonverbal communication is an integral component in delivery of health care. Evaluation program of touch implementation need to be developed for delivery of health services. Future studies should

also examine cultural differences as to the interpretation of touch gestures prior to concluding that touch has universally similar meanings. The use of touch and the amount of assistance must be individually assessed and evaluated.

The touch model was not examined in patients with dementia. In proposed study, the effectiveness of touch will be examined in sample of dementia. Two concepts(touch behavior and outcomes) will be studied.

In relation to apply the model on patients with dementia, it should be considered that their cognition and language capabilities are impaired but their sense of touch remains and their emotions respond to their environment. Therefore, the conceptual model of touch needs to be modified.

The modified touch model (see Figure 2) includes caregiver touch as an intervention variable. The outcomes included in the modified model are the patient's responses only. Caregiver-patient interaction influences attitude toward touch. Each person in caregiver-patient relationship is involved as a portion of an interaction field, rather than as a separate entity, in process both caregiver and patient affect each other. Perception/attitude toward touch was defined as acceptance of touch by original authors. In previous studies(Hollinger & Buschmann, 1993 ; Peterson, 1994), two tools were used to determine the acceptance of touch by the subjects(i.e., Perception of Touch Scale and the Privacy Preference Scale). These scales require that subjects be cognitively intact. Since these scales are inappropriate for patient wit dementia, the potential subjects' reaction to physical touch will be observed. If the subject shys away or pulls back repeatedly, this reaction to touch will be considered a rejection of touch. The touch model assumes that touch outcomes can then affect future caregiver-patient interactions, perception of touch, and caregiver touch behavior. Attitude toward touch directly influences caregiver touch behavior and patient's outcome and indirectly influences outcomes through behavior. Socio-cultural backgrounds which caregiver and patient bring influence not only touch behavior but also outcomes. Based on the assumption of the feedback effects, the touch behavior followed by the outcomes may be measured by objective observation. Refinement and validation of the model are recommended through future studies.

Individual cultural differences influence the patients perception and response to the touch. Huss(1977) identified that individuals learn the boundaries of tactual communication culturally. In fact, the previous studies (Hollinger & Buschmann, 1993 ; Peterson, 1994) found that an individual's preference for privacy was strongly related to his/her attitudes/perception and responses to the touch. Therefore, the researcher

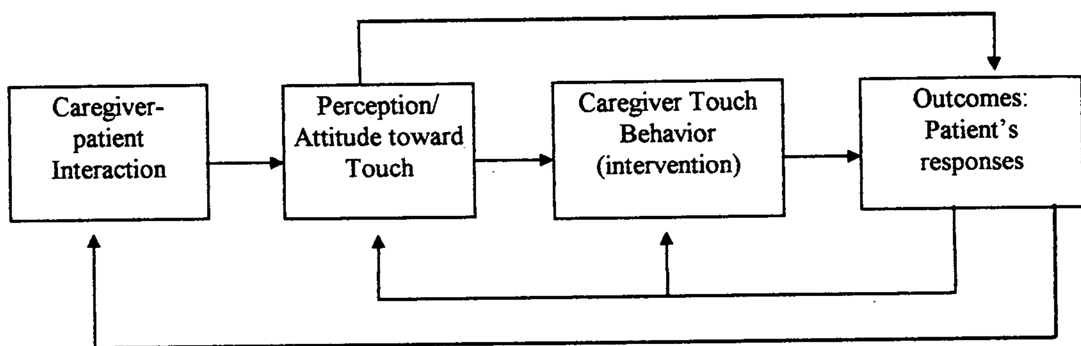


Figure 2. Modified Conceptual Model of Touch

should determine the subjects' acceptance of touch during sample selection. Observational methods should be employed when collecting data because the subjects' cognition, affected by dementia, impairs their ability to provide appropriate responses to interview or questionnaire questions.

References

Barnett, K. (1972). A theoretical construct of the concepts of touch as they related to nursing. Nursing Research, 21, (2), 102－110.

Bartol, M. A. (1979) Nonverbal communication in patient with Alzheimer's disease. Journal of Gerontological Nursing, 5, (4), 21－31.

Beck, C. & Heacock, P. (1988). Nursing interventions for patients with Alzheimer's disease. Nursing Clinics of North America, 23, (1), 95－124.Burnside, I. M. (1979). Alzheimer's disease : An overview. Journal of Gerontological Nursing, 5, 14－20.

Buschmann, MB. T., & Hollinger, L. M. (1994). Influence of social support and control on depression in the elderly. Clinical Gerontologist, 14, 13－28.

Buschmann, MB. T., Peterson, S., & Hollinger, L. (in press). Implementation and evaluation of expressive physical touch protocol in the elderly. The Gerontologist.

Copstead, L. (1980). Effects of touch on self-appraisal and interaction appraisal for permanently institutionalized older adults. Journal of Gerontological Nursing, 6(12). 747－752.

Fawcett, J. (1995). Analysis and evaluation of conceptual models of nursing (3rd ed.). Philadelphia : F. A. Davis.

Eaton, M., Mitchell-Bonair, I. L., & Friedmann, E. (1986). The effect of touch on nutritional intake of chronic organic brain syndrome patients. Journal of Gerontology, 41(5), 611－616.

Fitz, A. G. & Teri, L. (1994). Depression, cognition and functional ability in patients with Alzheimer's disease. Journal of American Geriatrics Society, 42, 186－191.

Gibson, J. J. (1966). The senses considered as perceptual systems. Boston : Houghton Mifflin Company.

Hall, G. (1994). Caring for people with Alzheimer's disease using the conceptual model of progressively lowered stress threshold in the clinical setting. Nursing Clinics of North America, 29, 129－141.

Hall, G., & Buckwalter, K. (1987). Progressively lowered stress threshold : A conceptual model for care of adults with Alzheimer's disease. Archives of Psychiatric Nursing, 1, 399－406.

Hoffman, S. B., Platt, C. A., Barry, K. E., & Hamill, L. A. (1985). When language fails : Nonverbal communication abilities of the demented. In J. T. Hutlon & A. D. Kenny (Eds.), Senile dementia of the Alzheimer type (pp. 49-64). New York : Alan R Liss, Inc.

Hollinger, L. M. (1980). Perception of touch in the elderly. Journal of Gerontological Nursing, 6 (12), 741－746.

Hollinger, L. M., & Buschmann, M. T. (1993). Factors influencing the perception of touch by elderly nursing home residents and their health caregivers. International Journal of Nursing Studies, 30, 445－461.

Huss, A. J. (1977). Touch with care or a caring touch. The American Journal of Occupational Therapy, 31 (1), 11－18.

Jaroff L. (1994, November 21). A no-touch therapy. Time, 88－89.

Lange-Alberts, M., & Shott, S. (1994). Nutritional intake : Use of touch and verbal cuing. Journal of Gerontological Nursing, 2, 36－40.

Langland, R., & Panicucci, C.L. (1982). Effects of touch on communication with elderly confused clients. Journal of Gerontological Nursing, 8, 152－155.

McCorle, R. (1974). Effects of touch on seriously ill patients. Nursing Research, 23(2). 125-132.

Meleis, A. I. (1991). Theoretical nursing : Development and progress (2nd ed.). Philadelphia : J. B. Lippincott Co.

Montagu, M. F. A. (1953). The sensory influences of the skin. Texas Report Biological Medicine, 2, 291-301.

Oberst, M. (1995). Editorial : Our naked emperor. Research in Nursing & Health, 18, 1-2.

Penny, K. (1979). Postpartum perceptions of touch received during labor. Research in Nursing and Health, 2(1), 9-16.

Peterson, S. (1994). Implementation and evaluation of expressive physical touch in the elderly. Unpublished master thesis, University of Illinois at Chicago.

Snyder, M., Egan. E. & Burns, K. (1995). Efficacy of hand massage in decreasing agitation behaviors associated with care activities in persons with dementia. Geriatric Nursing, 16, 60-63.

Taft, L. B., Delaney, K., Seman, D., & Stansell, J. (1993). Dementia care : Creating a therapeutic milieu. Journal of Gerontological Nursing, 10, 30-39.

Teri, L. & Reifler, B. V. (1987). Depression and dementia. In : Carstensen L, Edelstein B, eds. Handbook of clinical gerontology. New York : Pergamon Press, 112-119.

Weiss, S.J. (1979). The language of touch. Nursing Research, 28 (2), 76-79.

-국문초록-

주요개념 : 치매, 신체접촉, 모형 분석

신체 접촉 모형의 비평 분석

김 은 주*

인지능력 손상으로 인해 치매환자의 정상 언어 사용은 점차 감소되고 좌절감과 스트레스는 상승된다. 신체접촉은 비언어적 의사소통의 한 형태로서 치매환자를 지지하고 스트레스 상황에서 겪는 불안을 완화한다. Hollinger와 Buschmann은 1993년 신체 접촉 모형을 개발하였으며, 그 모형을 적용하여 신체 접촉 인지도와 우울과의 관계와 신체 접촉의 우울증 감소 효과를 정상 노인과 우울증 노인을 대상으로 연구했다. 그러나, 모형을 치매환자 연구에 적용시켜 검토한 연구는 없다. 본 연구의 목적은 신체 접촉 모형을 비평 분석하는 것이다. 또한, 분석을 기초로 하여 모형을 치매 환자 연구에 적용 하도록 변형시켰다.

치매 환자의 인지, 언어 능력 은 손상되었지만, 환경에 반응하는 감정과 접촉 감각은 유지되고 있다는 것은 신체 접촉 모형을 치매환자에게 적용할 때 반드시 고려 해야 할 점이다. 개인의 문화 차이는 신체 접촉에 대한 인지와 반응에 영향을 준다. 따라서, 연구 대상자 선택시 대상자가 신체 접촉을 긍정적으로 받아 들이고 있는지를 확인 해야 할 것이다. 대상자는 인지 능력 손상으로 면담이나 질문지에 적당히 반응할 수 없으므로 연구시 관찰 방법의 이용을 제언한다.

* 일리노이 주립대 간호대학 박사과정