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Healthcare Message Design toward Social Communication: Convergence Based on Philosophical and Theoretical Perspectives

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Abstract

The importance of communication in healthcare has gained considerable attention especially with the rise of the model of patient-centered care. There are many types of messages between healthcare providers and consumers, which is an intangible form of healthcare message design (HMD) as a medium of communication. In the role, HMD is understood as an expansion of universal communicability and plays an important role in social communication. This chapter introduces the concept of HMD based on philosophical underpinnings and theoretical frameworks and defines the process of HMD. For the work, convergence research (or transdisciplinarity, and interdisciplinarity) was conducted, which entails integrating knowledge, theories, methods, data, and expertise from different disciplines.

Keywords: communication, convergence, interdisciplinarity, empathy, healthcare, nursing, philosophy, relationship, theory, transdisciplinarity

1. Introduction

Health is defined as a state of complete physical, social, and mental well-being and not merely the absence of illness, disease, or infirmity [1, 2]. Sociologist Aaron Antonovsky (1923–1994), the father of the *salutogenesis*, interpreted health as a "sense of coherence" or "becoming" rather than "being." Health (*salus*) is continuously being generated (*genesis*) [3]. Individual health is not fixed or static but requires continuous effort to maintain the status of "being healthy" in the process of change to protect against disease or injury. Healthcare is defined as "the

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organized provision of medical care to individuals or a community" [4]. Continuous healthcare focuses not on the treatment of disease but on the continuum of health management for curing, recovering, and healing through medical treatment, nursing, and caring throughout an individual's entire life within the systematic structure [5, 6]. In the provision of such services, communication between consumers and providers should be empathetic [2, 4]. Furthermore, there should be a strong social awareness of public healthcare services that are available. Therapeutic interactions through empathy make it possible to have insight into another person's thoughts or feelings, which, as we shall see, is vital to *salutogenic* healthcare [7, 8].

It is necessary for consumers to efficiently communicate with their healthcare providers in a safe, reliable, and informative way. Previous studies have reported that design should play an integral part in facilitating communication [6, 9, 10]. Recently, convergence research (or transdisciplinarity, interdisciplinarity) has been vigorously pushed forward [11], which entails integrating knowledge, theories, methods, data, and expertise from different disciplines and forming new frameworks, paradigms, or even disciplines to catalyze innovation across multiple research communities [6, 10, 11]. Healthcare design as a newly emerging discipline is an example of this approach, which focuses on therapeutic interactions between space and behavior for creating healing environments and improving health outcomes [6, 9, 10, 12, 13].

The importance of communication in healthcare has gained considerable attention especially with the rise of the concept of patient-centered care [14–17]. The patient-centered care model [16] stresses elements of health communication such as open-ended inquiry, reflective listening, empathy, and the identity (values and preferences) of individuals [17]. Designing messages effectively can serve as a medium of social communication [6, 10]. The goal of this interdisciplinary effort is to integrate design into health communication. Healthcare message design (HMD) is a new concept that needs to be defined philosophically and theoretically, which blends scientific disciplines in a coordinated, reciprocal way *to* develop effective ways of communicating across disciplines by adopting common frameworks and a new scientific language. This chapter introduces the concept of HMD based on philosophical underpinnings and theoretical frameworks and defines the process of HMD, which encompasses information, sustainability, partnership, publicness, integrity, and health promotion [6, 10]. Practically, it is expected that the content discussed in this chapter can provide a basis for future research on the implementation of HMD toward social communication.

2. Conceptual framework

This proposed conceptual framework is a modified hybrid model (**Figure 1**), which was based on the work proposed by Kim et al. [18, 19] and Parse's human-becoming theory [20]. The model consists of three interrelated phases: a theoretical phase, a fieldwork phase, and a final analytical phase. In this chapter, only the theoretical phase of this framework was adapted to theoretically define the concept of HMD, which consists of the following four attributes: concepts (healthcare, design, and communication), an interdisciplinary approach, meanings and measurements, and working conditions. The fieldwork phase and the final analytical phase will not be discussed because of the scope of this study.

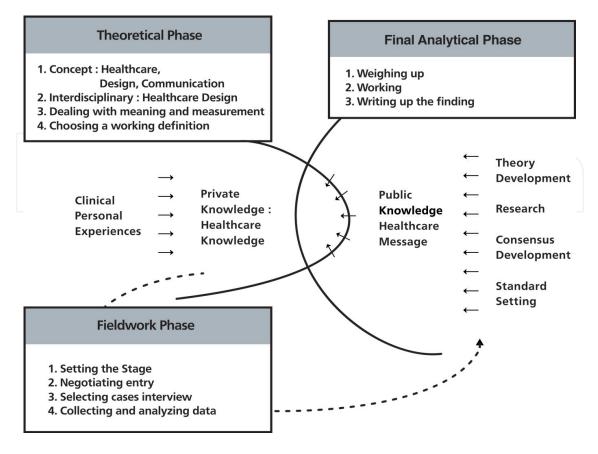


Figure 1. Conceptual framework.

3. Healthcare message design

Communication means (1) information exchange by speaking, writing, or using some other medium, (2) the successful conveying or sharing of ideas and feelings, and (3) social contact by means of sending or receiving information [21]. Immanuel Kant (1724–1804) provided the philosophical premise of communication and proposed the concept of *ästhetische Kommunikation* in the *Critique of Judgment* [22, 23]. *Social communication of beauty* should include not only the other but also the self; thereby, a social sharing of emotion is possible. Previous research has focused on efficient communication between providers and consumers fostered through mutual empathy [24, 25]. Emmanuel Lévinas stated, "The *Subject* is absorbed in the object it absorbs, and nevertheless keeps a distance" [26]. He also defined "the *Other* [as] an absolutely different person." Lévinas added that the Object is represented to the Subject as a painful face deprived of everything.

Empathy, which is the ability to understand the others in their experience, can make communication easier through a shared metaphor such as *beauty* or design [8, 22]. The philosophical underpinnings of empathy date back to Kant, who related empathy to the universal sense of *beauty* between the Subject and the Object [22, 23]. Kant utilized the term *Gemeinsinn* (*sensus communis*) to describe the universal sharing of the sense of *beauty*. *Ästhetischer Gemeinsinn* (*sensus communis* aestheticus), referred to by Kant as *ästhetische Kommunikation* [23], made an individual feel *beauty*, and because *beauty* is universal, an individual is able to reach into the realm of universal thought. *Ästhetischer Gemeinsinn*, in other words, is a subjective condition of *universal communicability*. In the *Critique of Judgment* [22], universal communicability was viewed as social esthetics. The term "universal" includes both the Subject and the Object; thus, universal communicability can actualize the body of social communication by an individual's choice in public sphere [6]. Social communication is possible when there is freedom to assert one's thought in the public domain while recognizing the differences of others [23].

Philosophy recognizes empathy as the extension of image schemata and expands the concept to include the other within oneself who recognizes others as different from oneself [26]. Bodily pain is "a complex social and psychological entity" beyond the pain [27]. Communication that delivers messages regarding human dignity and the value of life can be considered an important medium of artistic nursing [28]. Decision making for self-care is essentially based on informed decisions; therefore, information is essential to the improvement of health outcomes. Consumers gain power and confidence by actively participating in their care according to accurate and reliable information. Therefore, there is a need to design health communication that effectively delivers information.

Especially in the discipline of nursing, which is based on the philosophical understanding of a person as a whole, Carl Rogers [29] defined empathy as "being able to perceive another's feelings and experiences with accuracy." It has also been reported that empathy is one of the most important characteristics for aiding therapeutic relationships [7, 24, 30]. Florence Nightingale (1820–1910) actualized the concept of empathy by addressing social and psychological environment including chattering hopes and advices, and petty management. Nightingale defined "petty management" of the other as the Object in the community; in other words, "by not knowing how to manage that what you do when you are there, shall be done when you are not there" [31].

The importance of empathy has been introduced as a core of common aims within a conceptual framework for health professionals [32, 33]. Empathy is a core competence of healthcare providers; however, the concept of empathy seems to be still complex and multidimensional [7, 34–36]. Theoretically, it is assumed that empathy plays a role in healthcare providers' performance, which is related to patient satisfaction or even patient compliance, patient enablement, and clinical outcomes [14, 24, 30, 37, 38]. Empathy has three different competencies such as an affective attitude (compassionate care), a cognitive skill (perspective taking), and communicative behaviors, which provide insight into others' thoughts and emotions [7, 30, 32].

For the philosophical understanding of communication in health care, the awareness of oneself and others originates in philosophy. According to Kant, there is a kind of shared meaning that is not reducible to conceptual and propositional content alone [22, 23]. This insight was expanded by Mark Johnson who proposed that such thought is pre-conceptual and involves the metaphoric extension of image schemata, which means the acknowledgement of the distance between each other [39]. The Object cannot be the cognitive possession of the Subject nor recognized as the same as oneself (the Subject) when recognized as the Object. The scope of health communication covers "disease control and prevention, emergency preparedness and response, injury and violence prevention, environmental health, and workplace safety and health" [40]. Patient-centered communication based on empathy has demonstrated clinically positive effects on patient outcomes such as satisfaction, compliance, and diagnosis or treatment [16, 17]. For example, Wanzer et al. stressed that empathy in particular can reduce patients' anxiety [14]. Fox et al. reported that doctors who had experienced serious health problems felt more empathy when they communicated with their patients and especially showed more empathy when communicating with patients who had similar health problems to theirs [24].

Origins of design are the Latin *disegno* and *designare*. *Disegno*, or *desseing*, means "a plan to draw a picture." This originates in the division made in *Trattato di pittura* (1509) by the sixteenth-century painter Lancilotti, who said that the characteristics of painting consisted of *disegno*, *colorito*, *compositione*, and *inventione*. Therefore, the meaning of *disegno* is akin to the dictionary definition of "plan" [41], and its meaning has been expanded to include creative thinking, which is working in an artist's mind. *Designare* is a compound word using the prefix, *de*, and the root word, *signare*. *De* means to take away and *signare* means sign or symbol. Combining these two meanings, *designare* has been expanded beyond the primary dictionary meaning of symbol or sign to include the meaning of "meta," which is the interpretation and creation of cultural symbols as well [42]. In this sense, design can be described as an effort to create a meaningful order in human behavior [43].

In healthcare, design plays a meaningful role throughout the entire therapeutic and or healing process that is "other-centered "or "audience-centered" caring and the consideration of other people's circumstances [44]. Design in healthcare as an integrated practice of empathic design results in healthcare systems that place an increased value on the patient's engagement in care process [45, 46]. Designing healthcare systems requires a deep understanding of care protocols, patient safety, and efficacy requirements, user needs and experience, environmental and technological contexts, and organizational behaviors [12, 13, 45–48]. Ulrich [12] focused on psychosocial support in creating a healing environment that maintains and improves the status of health, namely supportive design [13]. The approach of design in healthcare unifies theories and practices by focusing on human experience that redefines healthcare design and patient care [49].

In this context, designing is the shared metaphor that enables individuals to understand the emotions of others. Designing health communication is a progress of signifying practice through the intervention of design. For designing messages in health communication, empathy of consumer's various tastes and preferences should be taken into consideration by healthcare professionals. To that end, it should be based on a certain degree of philosophical premise to the other within oneself. In other words, HMD represents the experiences of the Subject and the Object as a shared metaphor formulating empathy between providers and consumers. As a result, HMD can play an important mediatory role in enhancing health outcomes and simultaneously facilitate the therapeutic and or healing process when it is approached through the meta-concept based on social esthetics.

4. Theoretical framework

To propose a theoretical framework of HMD, Parse's ground theory of human becoming was borrowed, which encompasses three major themes: meaning, rhythmicity, and co-transcendence [20]. The theory of human becoming was developed to move nursing's view of a person from a medical model to a human science [50]. In the theory, the person is seen as "a participant in experiencing situations." The theory explains "how the meaning in any situation is related to the particular constituents of that situation" [51]. Parse emphasized that a human being can become human becoming by exchanging energies through interaction between other human beings and their environment [52–54].

Parse identified nine themes from the three philosophical assumptions (**Table 1**). In the theory, "meaning" refers to an ever-changing interpretation one gives to what is valued and the ways in which these interpretations reflect the person's reality. "Rhythmicity" refers to the cadent, mutual patterning of the human-universe mutual process. "Transcendence" refers to reaching beyond the possible, to the hopes and dreams envisioned in multidimensional experiences [20, 50, 52].

Human becoming is (1) freely choosing personal meaning in situations in the inter-subjective process of living value priorities, (2) co-creating rhythmical patterns of relating in mutual process with the universe, and (3) co-transcending multidimensionally with the emerging possible [20, 51, 54, 55]. **Figure 2** presents the concept of HMD based on these philosophical principles as a medium of communication within the health information context.

In this context (**Figure 2**), "meaning" is the effort to create an other-centered environment with the view that human care and the healthcare environment are not fixed; therefore, the other is an individual entity as a whole (illuminating meaning of others' experience). "Rhythmicity" is the development of partnership through openness of environment, that is, the development of empathy through continuous relationship with others (concurrently synchronizing rhythms for patients and their family members or caregivers). "Co-transcendence" is infinite potentiality to expand empathy, strengthening one's own specific method and mobilizing transcendence, reaching beyond and transforming toward possibility.

The ultimate product of HMD is better health outcomes, which facilitate the healing process and human dignity by way of "caring presence" [56]. This is in the same vein with the "ethics of care" based on emotion that is advocated by Carol Gilligan [57], which originates from the premises that (1) as humans, we are inherently relational and responsive beings and (2) the human condition is one of connectedness and interdependences (**Figure 3**). Ethics of care

Nine themes from philosophical assumptions			
Meaning	Imaging, valuing, languaging		
Rhythmicity	Revealing-concealing, enabling-limiting, connecting-separating		
Co-transcendence	Powering, originating, transforming		

Table 1. Three principles of Parse's human-becoming theory.

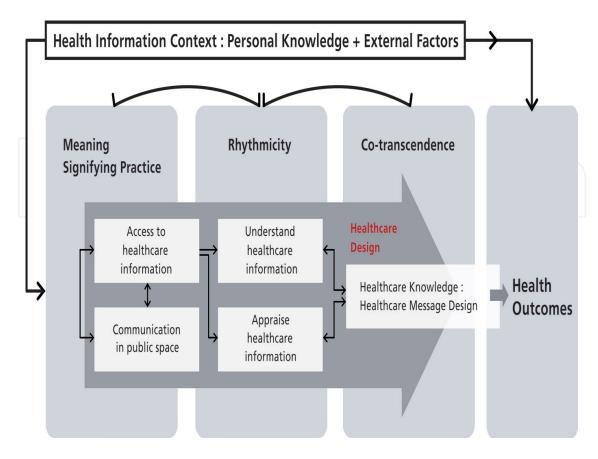


Figure 2. Health information context.

	Stage	Principle of Care	
	Post-Conventional Conventional Pre- Conventional	Principle of nonviolence	Transition from Goodness to
		Self sacrifice for the greater good	Truth Transition from
		Individual survival	Selfishness to Responsibility
Figure 3. Ethics of care			

directs our attention to the need for responsiveness in relationships (paying attention, listening, responding) and to the costs of losing connection with oneself or with others. Its logic is inductive, contextual, and psychological, rather than deductive or mathematical.

Current practice establishes providers as advocates for their consumers. For example, pain perceived by patients should be understood not just as a complaint but as a part of agony. This is why medical humanism must embrace the patients' pain [10, 27, 58]. The essence of suffering, as depicted by Eric Cassell, is "experienced by persons, not merely by bodies, and has its source in challenges that threaten the intactness of the person as a complex social and psychological entity" [27]. Parse's theory of human becoming also assists individuals in taking an active decision-making role in self-care, so that patients feel empowered [20, 54].

Accordingly, other-centered or audience-centered HMD highly regards the various channels for communication that makes access to healthcare service consistent [44, 58].

5. Conclusion

Communication delivers messages through verbal and non-verbal means. In healthcare, there are many types of messages between providers and consumers, which is an intangible form of HMD as a medium of communication. In the role, HMD is understood as an expansion of universal communicability [6, 10, 22] and plays an important role in social communication [6, 10, 24, 25, 59]. HMD can be expanded to include a new, shared esthetic sensitivity that *beauty* can be communicated as a social medium [5, 8, 22, 23].

Studies introduced in the *Bulletin*, which is published by the World Health Organization, have reported that communication is a complex social process but contributes to health outcomes (i.e., a major change in health behaviors) [60]. The Institute of Medicine calls upon educators in healthcare for the efficient delivery of patient-centered care through communication [14–17]. In nursing, Carper [61] has advanced four fundamental patterns of knowing; one of these, esthetic knowledge that is often called the *art of nursing*, is subjective and intuition-based. It calls for appreciating the unique qualities of individual patients as well as responding with compassion to facilitate the therapeutic and or healing process for better health outcomes.

In this chapter, to introduce the new concept of HMD, the convergence approach based on philosophical underpinnings and theoretical frameworks was emphasized. The core of HMD should be the understanding of the other within oneself, which can be actualized through the convergence approach regarding healthcare, design, and communication. Therefore, HMD assumes a mediatory, communicative role in the society, facilitating the therapeutic and or healing process through social communication for problem solving that originates in the discipline of design. One way to actualize design is to have a shared metaphor and understand the others' feeling [62].

In the study, most of the studies in health communication have focused on the development of quality messages reflecting evidence about health behavior [63]. Communication in healthcare should have explicit aims, and at the same time, HMD should be actualized in the process of planning and developing interventions according to diverse populations or various situations. To carefully construct messages and adequately expose the messages, the underlying conceptual frameworks and models should be posed. The convergence approach based on philosophical and theoretical perspectives can give a direction for future research. However, because in this study only the theoretical phase of the conceptual framework was discussed, the remaining phases such as the fieldwork phase and the final analytical phase should be further studied.

Considering that HMD theoretically falls within the scope of the health information context where it exists in the form of meaning, rhythmicity, and co-transcendence, future research

should be conducted to propose theoretically adequate constructs, to empirically test and validate the constructs, and examine the relationships between the constructs to generate empirical evidence [64]. The individual effects model, which focuses on individuals as they improve their knowledge and attitudes, and the social diffusion model, which leads to behavior change among social groups, may be considered to pose theoretical constructs within the context [63].

Previous research has consistently reported that a directional gap exists when conceived of communication. A majority of the studies show communications *from* providers *to* consumers, and the remainder show communications *between* providers and consumers [60]. Therefore, communications *from* consumers (i.e., self-reporting), *between* consumers (i.e., self-help groups), or *to* providers from another source (i.e., communication training) should be carefully designed at both the policy and programmatic levels [60, 63]. No matter how knowledgeable healthcare providers might be, if they are not able to successfully communicate with their consumers, they may not be of help.

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Conflict of interest

The authors certify that there is no conflict of interest with any financial or non-financial interest in the subject matter or materials discussed in this manuscript.

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References

- [1] Oxford Dictionaries. [cited at 2017 Nov 5]. Available from: http://oxforddictionaries. com/us/definition/american_english/health?q=health
- [2] World Health Organization. Geneva. [cited at 2017 Oct 20]. Available from: http://www. who.int/about/en/
- [3] Center on Salutogenesis. The resource center on Salutogenesis at the University West. Sweden: [cited at 2017 Oct 29]. Available from: http://www.salutogenesis.hv.se/eng/ Related_concepts.8.html
- [4] Oxford Dictionaries. [cited at 2017 Nov 5]. Available from: http://oxforddictionaries. com/us/definition/american_english/healthcare?q=healthcare
- [5] White E. Public healthcare settings and health promotion. Healing HealthCare Systems; 2006: 1-29: [cited at 2018 January 20]. Available from: http://www.healinghealth.com/ images/uploads/files/SettingsPromoteHealth.pdf
- [6] An JY, Park TJ, Lee TK, Paik JK, Sung YJ. The publicness of healthcare design to enhance commodity values. Journal of Digital Interaction Design. 2012;**18**:173-186
- [7] Irving P, Dickson D. Empathy: Towards a conceptual framework for health professionals. International Journal of Health Care Quality Assurance. 2004;**17**(4):212-220
- [8] Pfeil U, Zaphiris P. Patterns of Empathy in Online Communication. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems. ACM. 2007. Available from: http://nguyendangbinh.org/Proceedings/CHI/2007/docs/p919.pdf
- [9] The Center for Health Design. [cited at 2018 April 18]. Available from: https://www. healthdesign.org/topics/communicationabout
- [10] Sung YJ, An JY, Park TJ, Lee TK, Paik JK. Integrated u-healthcare design from the perspective of medical humanities. Journal of The Korea Society of Health Informatics and Statics. 2012;37(1):12-21
- [11] National Science Foundation. [cited at 2018 Feb 5]. Available from: https://www.nsf.gov/ od/oia/convergence/index.jsp
- [12] Ulrich RS. Effects of interior design on wellness: Theory and recent scientific research. Journal of Health Care Interior Design. 1991;**3**:97-109
- [13] Sung YJ, An JY, Paik JK. A review of concepts, characteristics, and guidelines of supportive design for healing environment. Archives of Design Research. 2013;**26**(1):507-523
- [14] Wanzer MB, Booth-Butterfield M, Gruber K. Perceptions of health care providers' communication: Relationships between patient-centered communication and satisfaction. Health Communication. 2004;16(3):363-384
- [15] Institute of Medicine. Washington, D.C.: National Academies Press; 2003
- [16] Stewart MA. Effective physician-patient communication and health outcomes: A review. Canadian Medical Association Journal. 1995;**152**:1423-1433

- [17] Stewart M, Brown J, Donner A, et al. The impact of patient-centered care on outcomes. The Journal of Family Practice. 1986;49:805-807
- [18] Kim HS, editor. The Nature of Theoretical Thinking in Nursing. New York: Springer Publishing Company; 2000
- [19] Schwartz-Barcott D, Kim HS. An expansion and elaboration of the hybrid model for concept development. In: Rodgers BL, Knafl KA, editors. Concept Development in Nursing: Foundations, Techniques and Applications. Philadelphia: W. B. Saunders; 1993. pp. 107-133
- [20] Parse RR. Parse's human becoming. In: Parker ME, editor. Patterns of Nursing Theories in Practice. New York: National League for Nursing Press; 1993
- [21] Oxford Dictionaries. [cited at 2017 Nov 5]. Available from: http://oxforddictionaries. com/us/definition/american_english/communication?q=communication
- [22] Kant I. Critique of Judgement. (Pluhar WS, Trans.) Indiana, IN: Hackett publishing company, Inc.; 1984. (Original work published 1790)
- [23] Kant I. Kant's Philosophy of History. (Lee HG, Trans.) Paju: Seogwangsa; 2009
- [24] Fox FE, Rodham KJ, Harris MF, Taylor GJ, Sutton J, Scott J, Robinson B. Experiencing "the other side": A study of empathy and empowerment in general practitioners who have been patient. Qualitative Health Research. 2009;19(11):1580-1588
- [25] Campbell RG, Babrow AS. The role of empathy in responses to persuasive risk communication: Overcoming resistance to HIV prevention messages. Journal of Health Communication. 2004;16(2):159-182
- [26] Levinas E, Hand S, editors. The Levinas Reader. Oxford: Basil Blackwell; 1989 [cited at 2012 Mar 18]. Available from: http://noahbickart.fastmail.fm/TAL7175/Emmanuel%20 Levinas%20-%20The%20Levinas%20Reader.pdf
- [27] Cassell EJ. The Nature of Suffering. Oxford: Oxford University Press; 2003
- [28] Fostering artistic nursing potential through communication. Proceeding of the 2nd Eulji International Nursing Conference; 2012. October 11-12. [cited at 2012 Oct 30]. Available from: http://einc2012.topmeeting.org/
- [29] Rogers CR. The necessary and sufficient conditions of therapeutic personality change. Journal of Consulting Psychology. 1957;21(2):95
- [30] Schrooten I, de Jong M. If you could read my mind: The role of healthcare providers' empathic and communicative competencies in clients' satisfaction with consultations. Health Communication. 2017;**32**(1):111-118. DOI: 10.1080/10410236.2015.1110002
- [31] Nightingale F. Notes on Nursing. New York: D. Broadway; Appleton and Company; 1860
- [32] Santo LD, Pohl S, Saiani L, Battistelli A. Empathy in the emotional interactions with patients. Is it positive for nurses too? Journal of Nursing Education and Practice. 2014;4(2):74-81

- [33] Branch WT. Teaching the human dimension of care in clinical settings. JAMA. 2001;**286**:1067-1074 PMid:11559292. http://dx.doi.org/10.1001/jama.286.9.1067
- [34] Aring CD. Sympathy and empathy. Journal of the American Medical Association. 1958;167:448-452 http://dx.doi.org/10.1001/jama.1958.02990210034008
- [35] Preston SD, de Waal FBM. Empathy: It's ultimate and proximate bases. The Behavioral and Brain Sciences. 2002;25:1-20
- [36] Wispé L. Altruism, Sympathy, and Helping: Psychological and Sociological Principles. New York: Academic Press; 1978
- [37] Sayumporn W, Gallagher S, Brown P, Evans J, Flynn V, Lopez V. The perception of nurses in their management of patients experiencing anxiety. Journal of Nursing Education and Practice. 2012;2(3):25-45 http://dx.doi.org/10.5430/jnep.v2n3p38
- [38] Veloski J, Hojat M. Measuring Specific Elements of Professionalism: Empathy, Teamwork and Lifelong Learning. Oxford: Oxford University Press; 2006
- [39] Johnson M. The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason. Chicago: University of Chicago Press; 1987
- [40] Parrot R. Emphasizing "communication" in health communication. Journal of Health Communication. 2004;**54**(4):751-761
- [41] Oxford Dictionaries. [cited at 2017 Nov 5]. Available from: http://oxforddictionaries. com/us/definition/american_english/design?q=design
- [42] Kim MS. A Cultural Navigation on the 21st Century's Design: Dialectics of Design, Culture and Symbol. Seoul: Sol Press; 1998. pp. 4-11
- [43] Papanek V. Design for the Real World: Human Ecology and Social Change. Seoul: Miejinsa; 1995: 15-16
- [44] Jensen JD. Addressing health literacy in the design of health messages. In: Cho HY, editor. Health Communication Message Design. California: SAGE; 2012. pp. 171-190
- [45] Teso G, Ceppi G, Furlanetto A, Dario C, Scannapieco G. Defining the role of service design in healthcare. Design Management Review. 2013;**24**:40-47. DOI: 10.1111/drev.10250
- [46] Maher L, Hayward B, Hayward P, Walsh C. Increasing patient engagement in healthcare service design: A qualitative evaluation of a co-design programme in New Zealand. Patient Experience Journal. 2017;4(1):23-32
- [47] Jethwani K, Ling E, Mohammed M, Myint-U K, Pelletier A, Kvedar JC. Diabetes connect: An evaluation of patient adoption and engagement in a web-based remote glucose monitoring program. Journal of Diabetes Science and Technology. 2012;6(6):1328-1336
- [48] Agboola S, Havasy R, Myint- UK, Kvedar J, Jethwani K. The impact of using mobileenabled devices on patient engagement in remote monitoring programs. Journal of Diabetes Science and Technology. 2013;7(3):623-629

- [49] [cited at 2012 Oct 4]. Available from: http://www.interiordesign.net/article/483463-Northwestern_Health_Care_Facility_Wins_Vista_Award.php?intref=sr
- [50] Martsolf DS, Mickley JR. The concept of spirituality in nursing theories: Differing worldviews and extent of focus. Journal of Advanced Nursing. 1998;27(2):294-303
- [51] McEwen M, Wills EM, editors. Theoretical Basis for Nursing. Philadelphia: Lippincott Williams & Wilkins; 2011
- [52] Lee CS, Kim SJ, Kweon YR. Theory: Parse's human becoming theory in practice and research. Nursing Research. 2006;14(2):122-158
- [53] Lee KO, Kim MJ. Parse's human becoming theory: Analysis and evaluation by kim's coherence model. Chonnam Journal of Medical Sciences. 1998;3(1):75-90
- [54] Fawcett J. The nurse theorists: 21st-centuryupdates-rosemarierizzoparse. Nursing Science Quarterly. 2001;14(2):126-131
- [55] Parse RR. Transforming research and practice with the human becoming theory. Nursing Science Quarterly. 1997;**10**(4):171-174
- [56] Smith MC. Pattern in nursing practice. Nursing Science Quarterly. 2007;3(2):55-56
- [57] Gilligan C. In a Different Voice: Psychological Theory and Women's Development. Cambridge: Harvard University Press; 1982
- [58] Lee KA, Song YH, Jang HM. A study on development of convergence design educating concept model (CDECM) for specialized design education: Focusing on a case of a communication design department at Korea national university of transportation. Journal of Digital Interaction Design. 2012;12(3):201-210
- [59] Kang NH. Artificial forest and poetic justice or social aesthetics and communes. Moonwhagwahak. 2008;**53**:23-50
- [60] Hill S. Directions in health communication. Bulletin of the World Health Organization. 2009;87:648-648
- [61] Carper BL. Fundamental patterns of knowing in nursing. Advances in Nursing Science. 1978;1(1):13-18
- [62] Papanek V. Design for Human Scale. New York: Van Nostrand Reinhold; 1983
- [63] Hornik RC. Public health communication: Making sense of controdictory evidence. In: Hornik RC, editor. Public Health Communication: Evidence for Behavior Change. New Jersey: Taylor & Francis; 2008. pp. 1-19
- [64] Fawcell J. The Relationship of Theory and Research. Philadelphia: FA Davis Company; 1999



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