G.R.A.C.E. for nurses: Cultivating compassion in nurse/patient interactions

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Abstract

The practice of nursing is grounded in clinical competence, but it is also deeply embedded in the experience of relationship and the cultivation and expression of compassion. In the world of Western medicine, however, nurses can suffer profound challenges to compassionate practice. A deficit of compassion might be relevant to the nursing experience, affecting nurse well-being, patient and family satisfaction, frequency of nursing errors, and the retention of nurses in their vocation.

Key words

Compassion, Nursing, Attention, Affect, Cognitive, Somatic

Introduction

The practice of nursing is grounded in clinical competence, and is also deeply embedded in the experience of compassion-based relationships. In the world of Western medicine, however, nurses can suffer profound challenges to compassion. A deficit of compassion might be relevant to the nursing experience, affecting nurse well-being, patient and family satisfaction, frequency of nursing errors, and the retention of nurses in their vocation. From this point of view, skillful training of nurses in compassion is of increasing importance today, given the impact of technological medicine, work overload, staff shortages and conflicts, and institutional demands on the nursing experience [1-4].

Compassion is viewed by some as “nursing’s most precious asset” [5]. Those who are ill usually feel that it is essential that they are not only “cared for” but also “cared about” [6]. One could surmise that curing without being able to offer care creates suffering not just for patients, but for nurses as well [7, 8]. The question then arises: how can nurses be supported in keeping compassion intact, and in cultivating compassion within the complexities of the modern nursing experience [9]?

What is compassion?

Compassion is considered to be the capacity to attend to the experience of others, to feel concern for others, to sense what will serve others, and potentially to be able to be of service. Compassion has been more simply defined as “the emotion one experiences when feeling concern for another's suffering and desiring to enhance that person's welfare” [10]. From this point of view, compassion is considered to have two main valences: the affective feeling of caring for one who is suffering,
and the motivation to relieve that suffering[11]. This is a conventional view of compassion and might not take into account a more nuanced view of compassion (see Note 1).

From a more granular perspective, compassion can be said to fall into two major categories: referential or biased compassion and non-referential or unbiased compassion. *Referential compassion* is compassion with an object, such as compassion towards another who is suffering, compassion toward one’s in-group, or biologically-based compassion. Referential compassion also encompasses conceptually-based compassion, in which compassion is focused on phenomenula, including ethical imperatives, or primed by insights concerning permanence and impermanence, and self and selflessness[12].

The second major category of compassion is non-referential or unbiased compassion, also called universal compassion. *Non-referential compassion* is an experience in which compassion appears to pervade the mind of the experiencer as a way of being. This is an actualization of compassion that is characterized by a sense of the pervasiveness and boundlessness of kindness and concern. No subject or object need be experienced per se; rather the experiencer is infused with the factors associated with actualized principled compassion.

From a systems perspective, compassion is perhaps not a discrete characteristic. Rather, it is an emergent and contingent process that is context-sensitive and dependent on attentional, affective, cognitive, and somatic processes.

**ABIDE model of compassion**

An innovative model of compassion developed by the author looks at compassion as an emergent process primed by non-compassion elements, including attention and affect, intention and insight, and embodiment and engagement[13]. Called the “ABIDE Model of Compassion”, it draws on neuroscience, social psychology, ethics, and contemplative perspectives. In this model, three interdependent processes prime compassion:

![Figure 1. The ABIDE Model of Compassion](image)

The A/A Axis encompass two interrelated domains, attention and affect, that support mental balance. The first part of the A/A Axis is attention, which involves the allocation of mental processing resources to an object. Attention forms the stable

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**Note 1.** Research on compassion has grown in the recent past[24]. Meditation adepts have participated in research with neuroscientists endeavoring to map the neural substrates of compassion[25, 26]. Research suggests that compassion might be a source of resilience and well-being[27] and an important aspect of socialization essential to our individual and collective wellbeing[28-30]. Findings also suggest that compassion plays a significant role in reducing physiological stress and promoting physical and emotional wellbeing[31]. Other research has involved explorations of enhanced immune response[31]. Thus, compassion seems to be a relevant psychophysical and social feature in the human experience[32, 33].
base of compassion; it is as well biased by and contingent on affect\textsuperscript{[14]}. The I/I Axis, intention and insight, delineates the ability to guide the mind in accord with one’s intentions, and to stabilize the mental continuum in order to have insight, a metacognitive perspective, and discernment. These dimensions represent the cognitive dimension of compassion. The third axis, the E/E Axis, comprising embodiment and engagement, relates to the relevance of the somatic level of lived experience and to the fact that compassion, directly or indirectly, entails some level of engagement. These axes are non-linear and co-emergent.

**G.R.A.C.E.**

The G.R.A.C.E. process was developed for the purposes of utilizing the principles set forth in the ABIDE model. Nurses working in stressful situations can utilize G.R.A.C.E., a simple and efficient intervention, to remember to open to their patient’s experience and to stay centered in the presence of suffering in order to actualize principled, healthy compassion. The process guides the nurse to pause briefly in order to focus his or her attention (Gathering attention) and to briefly recall his or her intention (Recalling intention). This brief check-in is followed by a rapid self-assessment (Attunement to self) into three interrelated domains of experience: noticing briefly what the body is experiencing, what one’s emotional tone is, and what cognitive biases might be present. This is followed by the clinician sensing into what the patient might be experiencing (Attuning to other: empathy and perspective taking), and then moving to a short internal prescriptive process (Considering what will serve) before directly engaging the patient.

These internal processes might happen very rapidly, even automatically, with practice. Clinicians often do not take a “reflective pause” but jump into immediately assessing the patient before getting attentionally and ethically grounded, seeing their biases, then sensing into the patient’s experience before making a clinical assessment. The G.R.A.C.E. process can guide a nurse into that moment (or moments) of reflection that can provide the base for healthy, grounded, and principled compassion. When “engagement” unfolds, there can be a base of integrity and stability to the interaction.

The mnemonic for the G.R.A.C.E. intervention is as follows:

- **Gathering attention:** A/A Axis: Attentional Domain; focus, grounding, balance
- **Recalling intention:** A/A Axis, I/I Axis: Affective/Cognitive Domain: motivation/intention
- **Attuning to self/other:** A/A Axis: Affective Domain: somatic, affective, cognitive attunement
- **Considering:** I/I Axis: Cognitive Domain: insight/discernment: what will serve
- **Engaging:** E/E Axis: Somatic Domain: ethical enactment, ending

![Figure 2. G.R.A.C.E. Process as a Base for Cultivating Compassion in Interactions](image-url)
The G.R.A.C.E. process has been developed to offer nurses and others a practice to enable them to respond more compassionately and with greater clarity and ethical grounding as they endeavor to find a compassionate path through complex clinical situations. The process can enable nurses to understand and focus on specific and integrated elements, ideally allowing compassion and resilience to emerge in the relationship between nurse and patient, nurse and nurse, inter-professional team members, and nurse and family caregivers.

**Gathering attention**

G.R.A.C.E. is a mnemonic that is easy to remember – important when a nurse is in the midst of a stressful interaction or situation. The “G” in G.R.A.C.E. is a reminder to the nurse to pause and gather her or his attention. This can be done through a simple grounding process with attention on the inbreath, or by bringing attention to a particular physical sensation, like the pressure of the feet on the floor, or the sensation of sitz bones on the seat of the chair. Gathering attention can also occur when a nurse recalls a moment that is experienced as a resource, such as a positive interaction with a patient or even a quiet moment at home. What is important in this first phase of G.R.A.C.E. is that the internal processing of the nurse is gently interrupted so that he or she can be more of a resource to the self and the patient through offering a quality of non-distracted and fresh presence that is stable, discerning, present, and caring. This can involve the reallocation of attentional resources, briefly away from the patient and into the nurse’s subjective experience, in order to get grounded and focused [15].

**Recalling intention**

Attentional balance supports the next phase of G.R.A.C.E. This is the “R” of G.R.A.C.E., recalling intention. The nurse, possibly on the exhale, recalls the essential intention of the nurse’s mission, which is to protect and preserve the well-being and integrity of the patient [16]. Reifying one’s altruistic motivation primes the so-called “narrative self,” an aspect of the psyche that is affirmed in the field of meaning and purpose [17]. A deeper exploration into intention, motivation, and meaning in the path of nursing is implied in this step and should be pursued in the G.R.A.C.E. training process [18].

**Attunement to self and other**

The “A” of G.R.A.C.E. refers to the process of attunement – attunement first to oneself and then attunement to the patient, family member, or colleague. Most commonly, a nurse turns her or his attention immediately to the patient. Not infrequently, perceptual, affective, and cognitive biases are in place, which make it challenging to perceive the patient in an unfiltered way. These screens or filters can bias a nurse’s perception of the patient. Bringing these biases to the surface allows one to take a metacognitive perspective in evaluating the patient. For example, a nurse might be unconsciously triggered by a birthing mother who is addicted to cocaine. Her anger toward the mother might affect her ability to give care and also be a burden to her. Getting in touch with this aversive reaction might allow her to regulate a negative response toward the mother by re-appraising the mother’s situation, based on the reflection that drug use is often associated with factors of oppression and lower economic status, and is a sign of deep suffering. This mindful appraisal process can have the effect of shifting a nurse’s attitude and behavior toward the patient, and of supporting a compassion-based response.

In the “attunement process”, one first brings attention to one’s own somatic experience, noticing what the body feels like, sensing into one’s visceral experience and the felt-sense through bodily awareness of the lived experience [19]. One aspect of the relevance of being sensitive to one’s own bodily experience can be illustrated by research done by Dr. Tania Singer on alexithymia, an autism related disorder. According to Dr. Singer’s research, the same neural circuits are activated in the experience of interoceptivity as in the experience of empathy. Findings from her studies on empathic response suggest that the same brain structures that represent an individual’s affective state seem to play a role in sharing others’ affective states. Dr. Singer and her colleague Leiberg [20] propose an interoceptive model of emotions to explain the experience of empathy, suggesting that being mindful of the body might well prime one’s capacity for empathy.

Attention is then brought to the affective stream, which can bias attention [14, 21, 22]. There is evidence showing that the representation evoked by observing another person’s affective state is biased by one’s own affective state — a tendency called egocentricity bias.
Then attention rests briefly with the cognitive stream or the thoughts that can bias attitude and behavior. When biases are recognized, a re-appraisal process can be activated that allows an individual to re-cognize or re-frame the situation or the response to the situation in a non-aversive, non-judgmental way.

This self-attunement is primed by attention, which grounds one’s attentional base, characterized by stability, vividness, and duration. It also is primed by intention, where the narrative self is oriented toward beneficence.

From this base of self-attunement, one attunes to the patient. In this model, self-attunement provides the base for empathy or affective resonance, perspective-taking or cognitive attunement [16], and somatic attunement or sensing into the physical state of one’s patient [19].

**Considering what will serve**

The next phase of G.R.A.C.E. involves an internal process that is grounded by attention, intention, and self- and other-attunement. The nurse should also undertake consideration of the factors that are woven into the set and setting of the patient, including institutional expectations and requirements, the impact of environmental features, such as the patient being intubated in the ICU, the family’s expectations, the needs of the inter-professional team, and so forth. All of these threads come together and prime a discernment process that is involved in ascertaining what will truly serve this patient (or family member or colleague).

Considering what will serve is, from one point of view, a diagnostic process, and it requires that the nurse engage in a process that is not only based in conventional medical diagnosis but also supported by intuition and heuristics. Nursing intuition, for example, has been posited to be a valuable way of knowing. In a paper by C. Green [23], it is suggested that nursing intuition is composed of four distinct aspects: “(1) embodied knowledge rather like that knowledge we have when we have learned to ride a bicycle; (2) well-trained sensory perceptions attentive to subtle details of complex, often rapidly changing situations; (3) a significant store of pertinent conceptual knowledge; and (4) a history of habitual actions intentionally directed towards achieving the best outcomes for our patients.”

In the script that follows, when working with the “C” of G.R.A.C.E., the practitioner is advised not to jump to conclusions too quickly. The discernment process might take time; it certainly requires attentional and affective balance, a deep sense of moral grounding and an ethical imperative, as well as an unbiased attunement into the patient’s experience and needs.

**Enacting, ending**

The “E” of G.R.A.C.E. is focused on two phases of the embodied process and the lived interactional experience of compassion. With the involvement of attention, prosocial affect, self- and other-attunement, and the cognitive process of discernment and consideration, principled, ethical, and compassion-based action can proceed. This is the first part of the “E” of G.R.A.C.E., which is to engage or apply compassion in service to others.

To successfully conclude the interaction, it is also necessary to acknowledge internally and often interpersonally what has transpired in the course of the G.R.A.C.E.-based exchange. This second phase of the “E” of G.R.A.C.E., following engagement, makes it possible to let go of the current interaction and to refresh and move on to the next patient-nurse interaction in a cleaner, clearer manner, thus ending the interaction with the current individual.

In conclusion, the elements of G.R.A.C.E. allow a nurse to slow down and be more mindful and aware in the process of interacting with a patient so that compassion can be primed. It is also possible to use G.R.A.C.E. in everyday interactions and allow it to help an individual to cultivate more compassion in her or his own life.

**G.R.A.C.E. script**

In the script that follows, Dr. A Back, Dr. C. Rushton and I crafted a text that endeavors to guide a nurse or clinician into priming compassion as he or she encounters a patient. The text that follows is a guide in bringing forward the elements of
the ABIDE compassion model described above. The text can be modified as appropriate to each individual and each situation.

**Setting the stage for compassion in the clinical encounter:**

**Gather your attention:**

Pause, breathe in, give yourself time to get grounded by gathering your attention.

Invite yourself to be present and embodied, by sensing into a place of stability in your body.

You can focus your attention on the breath, for example, or on a neutral part of the body, like the soles of your feet or your hands as they rest on each other.

You can use this moment of grounding to interrupt your assumptions and expectations.

(A/A Axis: Attention)

**Recall your intention:**

Remember what your service to the patient is really about: to relieve the individual’s suffering and to act with integrity and preserve the integrity of the other.

Recall the felt-sense of why you have chosen to relieve the suffering of others and to serve in this way. This “touch in” can happen in a moment.

Your motivation keeps you on track, morally grounded, and connected to the patient and to your highest values.

(A/A, I/I Axis: Affect, Intention)

**Attune by checking in with yourself, then the patient:**

First notice what’s going on in your own mind and body. Then sense into the experience of your patient. This is an active process of bearing witness and inquiry, first involving yourself, then the patient.

Give attention to your own somatic state, what the body is experiencing at this moment. Shift your attention to your affective stream, and what emotions are present for you. Then shift to your cognitive stream, and notice what thoughts are present. Your sense of and insight into your internal experience can help you regulate biases that might be present in your perception of and attitude toward your patient.

Now, sense into what the patient might be experiencing. Sense without judgment. Sense into not only what the patient is experiencing but also how they might be seeing their situation, and experiencing you.

Open a space in which the encounter can unfold, in which you are present for whatever may arise, in yourself and in your patient. How you notice the patient, how you acknowledge your patient, how your patient notices you and acknowledges you, all constitute a kind of mutual exchange. The richer you make this mutual exchange, the more there is the capacity for unfolding. (A/A Axis, I/I Axis, E/E Axis)

**Consider what will really serve your patient by being truly present with your patient and letting insights arise.**

As the encounter with the patient unfolds, notice what the patient might be offering in this moment. What are you sensing, seeing, learning? Ask yourself: What will really serve here?

Draw on your expertise, knowledge, and experience, and at the same time, be open to seeing things in a fresh way.

This is a diagnostic step, and as well, the insights you have may fall outside of a medical category. Don’t jump to conclusions too quickly. (I/I Axis: Insight)

**Engage, enact ethically, and then end the interaction: allow for emergence of the next step. (E/E Axis)**

Part 1:

**Engage and enact:** Compassionate action emerges from the sense of openness, connectedness, and discernment you have created. This action might be a recommendation, an open question about values, or even a proposal for how to spend the remaining time with this patient.

You co-create with the patient a dynamic, morally grounded situation, characterized by mutuality, trust, and consistent with your values and ethics; you draw on your professional expertise, intuition, and insight, and you
look for common ground consistent with your values and supportive of mutual integrity. (E/E Axis: Ethical Enactment)

What emerges is principled compassion: mutual, respectful of all persons involved, and as well practical and actionable. These aspirations may not always be realized; there may be deeply rooted conflicts in goals and values that must be addressed from this place of stability and discernment.

Part 2:

**End:** Mark the end of the interaction with your patient; release, let go, breathe out.

Explicitly recognize internally when the encounter is over, so that you can move cleanly to the next patient or task; this recognition can be marked by attention to your out-breath.

While the next step might be more than you expected would be possible or disappointingly small, notice that, acknowledge your work. Without acknowledging your own work, it will be difficult to let go of this encounter and move on.

(E/E Axis: Ending)

**Summary**

This article has briefly outlined a typology of compassion, parsing compassion into two main types: *referential compassion*, which is compassion with an object, and *non-referential compassion*, or universal compassion. The article then outlines a heuristic model of compassion that includes the interaction between attention and prosocial affect, ethical intention and insight, and embodiment and engagement; this model is called ABIDE. This paper concludes with a contemplative intervention that nurses and others can use as a way to prime compassion. This intervention is called G.R.A.C.E. and is based on the ABIDE Model of Compassion.

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**References**

[1] Chang E. M., Hancock, K. M., Johnson, A., Daly, J., & Jackson, D. Role stress in nurses: review of related factors and strategies for moving forward. Nursing & Health Sciences. 2005; 7(1): 57-65. PMid:15670007 http://dx.doi.org/10.1111/j.1442-2018.2005.00221.x

[2] Tyler, P. & Cushway, D. Stress, coping and mental well-being in hospital nurses. Stress Medicine. 1992; 8(2): 91-98. Article first published online: 10 FEB 2006 doi: 10.1002/smi.246080206. http://dx.doi.org/10.1002/smi.246080206

[3] McNeely, E. The consequences of job stress for nurses’ health: time for a check-up. Nursing Outlook. 2005; 53(6): 291-299. PMid:16360700 http://dx.doi.org/10.1016/j.outlook.2005.10.001

[4] Harrington, A. A science of compassion or a compassionate science? What do we expect from a cross-cultural dialogue with Buddhism? In R.J. Davidson & A. Harrington (Eds.). Visions of Compassion: Western scientists and Tibetan Buddhists examine human nature (pp.18-30). Oxford, U.K.: Oxford University Press; 2002.

[5] Schantz, M. Compassion: a concept analysis. Nursing Forum. 2007; 42(2): 48-55. PMid:17474937 http://dx.doi.org/10.1111/j.1744-6198.2007.00067.x

[6] National Nursing Research Unit. High quality nursing care – what is it and how can we best ensure its delivery? Policy+, Issue 13, October 2008.

[7] Burdett Trust for Nursing. Who Cares, Wins. Leadership and the Business of Caring. London: Burdett Trust for Nursing; 2006.
[8] Johnson, M. Can compassion be taught? Nursing Standard. 2008; 23: 11, 19-21.
[9] Rushton, C. Sellers, D. E., Heller, K. D., Spring B., Dossey, B. M., & Halifax, J. Impact of contemplative end of life training program: being with dying. Palliative and Supportive Care. 2009; 7(4): 405-414. PMid:19939303 http://dx.doi.org/10.1017/S1478951509990411
[10] Leiberg S, Klimeck O, Singer T. Short-term compassion training increases prosocial behavior in a newly developed prosocial game. PLoS One, 6:e17798. doi:10.1371/journal.pone.0017798. http://dx.doi.org/10.1371/journal.pone.0017798
[11] Hofmann, S.G., Grossman, P., & Hinton, D.E. Loving-kindness and compassion meditation: Potential for psychological interventions. Clinical Psychology Review. 2011; 31: 1126-1132. PMid:21840289 http://dx.doi.org/10.1016/j.cpr.2011.07.003
[12] Halifax, J. The precious necessity of compassion. Journal of Pain and Symptom Management. 2011; 41: 146-153. PMid:21123027 http://dx.doi.org/10.1016/j.jpainsymman.2010.08.010
[13] Halifax, J. A heuristic model of enactive compassion. Current Opinion in Supportive and Palliative Care. 2012; 6: 228-235. PMid:22469669 http://dx.doi.org/10.1097/JOP.0b013e3283530be
[14] Todd, R. M., Cunningham, W. A., Anderson, A. K., Thompson E. Affect-biased attention as emotion regulation. Trends in Cognitive Sciences. 2012; 16(7): 365-372. PMid:22717469 http://dx.doi.org/10.1016/j.tics.2012.06.003
[15] Lutz, A., Slagter, H.A., Rawlings, N.B., Francis, A.D., Greischar, L.L., & Davidson, R.J. Mental training enhances attentional stability: Neural and behavioral evidence. The Journal of Neuroscience. 2009; 29: 13418 -13427. PMid:19846729 http://dx.doi.org/10.1523/JNEUROSCI.1614-09.2009
[16] Schmidt S. Mindfulness and healing intention: concepts, practice, and research evaluation. Journal of Alternative & Complementary Medicine. 2004; 10: 7-14. http://dx.doi.org/10.1089/1075553042245917
[17] Pennebaker, J.W. Telling stories: The health benefits of narrative. Literature and Medicine. 2000; 19: 3-18. PMid:10824309 http://dx.doi.org/10.1353/lm.2000.0011
[18] Rushton, C. H., Penticuff, J. H. A framework for analysis of ethical dilemmas in critical care nursing. AACN Advanced Critical Care. 2007; 8(3): 323-328. http://dx.doi.org/10.1097/01.AACN.0000284434.83652.d5
[19] Gendlin, E.T. Thinking beyond patterns: body, language and situations. In B. den Ouden & M. Moen (Eds.), The presence of feeling in thought. 1991; pp. 25-151. New York: Peter Lang.
[20] Singer, T., Leiberg, S. Sharing the emotions of others: The neural bases of empathy. In: Gazzaniga, M S. The Cognitive Neurosciences. Cambridge, MA, 2009; 971-984. ISBN 978-0-262-01341-3.
[21] Fredrickson, B. L., & Branigan, C. Positive emotions broaden the scope of attention and thought-action repertoires. Cognition and Emotion. 2005; 19: 313-332. PMid:21852891 http://dx.doi.org/10.1080/02699930441000238
[22] Orntr, C.N.M., Kilner, S.J., & Zelazo, P.D. Mindfulness meditation and reduced emotional interference on a cognitive task. Motivation and Emotion. 2007; 31: 271-283. http://dx.doi.org/10.1007/s11031-007-9076-7
[23] Green, C. Nursing intuition: a valid form of knowledge. Nursing Philosophy. 2012; 13(2): 98-111. doi: 10.1111/j.1466-769X.2011.00507.x. http://dx.doi.org/10.1111/j.1466-769X.2011.00507.x
[24] Marsh, A.A. Empathy and compassion: A cognitive neuroscience perspective. In J. Decety (Ed.), Empathy: From bench to bedside. (pp. 191-205). Cambridge, MA: MIT Press; 2012.
[25] Lutz, A., Brefczynski-Lewis, J., Johnstone, T., & Davidson, R.J. Regulation of the neural circuitry of emotion by compassion meditation: Effects of meditative expertise. 2008; PLoS ONE, 3(3), e1897. doi:10.1371/journal.pone.00011897.
[26] Lutz, A., Greischar, L.L., Perlman, D., & Davidson, R.J. BOLD signal in insula is differentially related to cardiac function during compassion meditation in experts vs. novices. Neuroimage. 2009; 47: 1038e1046.
[27] Duerr, M. The Use of Meditation and Mindfulness Practices to Support Military Care Providers: A Prospectus. Northampton: Center for Contemplative Mind in Society. 2008.
[28] Eisenberg, N. Empathy-related emotional responses, altruism, and their socialization. In R.J. Davidson & A. Harrington (Eds.), Visions of compassion (pp. 131-164). Oxford, UK: Oxford University Press; 2002.
[29] His Holiness The Dalai Lama. Understanding our fundamental nature. In R.J. Davidson & A. Harrington (Eds.), Visions of compassion: Western scientists and Tibetan Buddhists examine human nature (pp. 66-80). New York: Oxford University Press; 2002. PMid:11853250 http://dx.doi.org/10.1093/acprof:oso/9780195130430.001.0001
[30] Vaish, A., & Warneken, F. Social-cognitive contributors to young children’s empathic and prosocial behavior. In J. Decety (Ed.), Empathy: From bench to bedside (pp. 131-146). Cambridge, MA: MIT Press; 2012.
[31] Pace, T.W.W., Tenzin Negi, L., Adame, D.D., Cole, S.P., Sivilli, T.I., Brown, T.D., Issa, M.J., & Raison, C.L. Effect of compassion meditation on neuroendocrine, innate immune and behavioral responses to psychosocial stress. Psychoneuroendocrinology. 2009; 34: 87-98. PMid:18835662 http://dx.doi.org/10.1016/j.psyneuen.2008.08.011
[32] Lamm, C., Batson, C.D., & Decety, J. The neural substrate of human empathy: Effects of perspective-taking and cognitive appraisal. Journal of Cognitive Neuroscience. 2007; 19: 42-58. PMid:17214562 http://dx.doi.org/10.1162/jocn.2007.19.1.42
[33] Goetz, J. L., Keltner, D., Simon-Thomas, E. Compassion: An evolutionary analysis and empirical review. Psychological Bulletin. 2010; 136(3): 351-374. doi: 10.1037/a0018807. http://dx.doi.org/10.1037/a0018807