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Letter To Editor

How Much To stress On Stress: Transition From 's' To 'S'

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"You don't get ulcers from what you eat. You get them from what's eating you." - Vicki Baum

The all engrossing article by Shah et al in august issue of JCDR made an interesting read. The authors are to be congratulated on their attempts to study coping mechanisms in medical students. In fact the first exposure to human cadaver dissection itself is a recognized potential stressor. Approaches outlined by Singh et al can reduce the likelihood of medicos engaging in avoidable coping strategies such as "denial"[1].

Stress: Older Literature (small s)

Stress was first studied in 1896 by Walter B. Cannon on his experiments on dog and he also came up with the term homeostasis. As early as 1910, Sir William Osler explored a relationship between angina pectoris (stress) and a hectic pace of life (strain). Hans Selye, a Canadian endocrinologist then developed the model-General Adaptation Syndrome. Selye published in 1975 a model dividing stress into eustress and distress. In 1976 Lazarus' cognitive appraisal model disagreed with those who saw stress simply as environmental pressure.

A growing body of empirical research has accumulated in recent years. Recently, cognitive processes (e.g, appraisal, coping) and emotional

states (e.g, anxiety, depression) have been noted as essential in the definition of stress. Of the many forms of coping outlined by Lazarus and Folkman in their seminal transactional theory of stress[2], the construct of positive reappraisal is especially salient. However this important reference and personal resilience and cognitive appraisals were missing in the paper in question. In spite of the known significance of positive-reappraisal coping to healing, the paper has largely ignored the question of how recent advances may leverage this adaptive coping process. The lack of any reference after 2000 in the paper stimulated us to stress on the transition from Lazarus till now.

The Bigger Picture: Stress In Recent Times (the capital S)

Lee classified burnout into three components: emotional exhaustion, depersonalization, and perceived lack of personal accomplishment [3]. Stress and burnout are related to the desire to give up practice and are, therefore, a human resources issue for the entire health care system. Stress in McManus's model was caused by personality differences, being greatest in those having high neuroticism scores, and unrelated to learning style [4].

Current research reveals that people often experience positive outcomes from stressful events, even though the events themselves did not have concretely beneficial resolutions, feeling as if one had grown from dealing with the stressful event [5]. These findings are incongruent with Lazarus' seminal theory [2]. Positive reappraisal, a form of meaning-based coping, is the adaptive process by which stressful events are re-constructed as benign,

valuable, or beneficial. The biopsychosocial sequelae of the stress reaction is potentially intensified or attenuated by reappraisals [6]. Positive reappraisal is an active coping strategy, rather than a defense mechanism used to repress or deny [7]. Positive reappraisal has been found to reduce distress in myocardial infarction [8].

It's a general response that chronic stressors usually suppress immune function and increases a host's vulnerability towards disease; however this may not be always true. This year's study revealed that, under conditions in which individuals face the chance of being injured repeatedly, it may be an adaptive advantage to maintain or even enhance an immune response [9]. The development of glucocorticoid resistance after social disruption was thought to be the mechanism.

Another study elucidating stress resilience provided behavioral immunization as psychobiological mechanism.¹⁰ The authors discussed significant connection between cognitive memory and immunological memory in developing coping responses to stress.

Current research suggests vital links among psycho-neuro-humoral-immune system that serve as the basis for Pituitary- Neuro-Endocrine (PNE) network in regulating stress mediated immune responses [11].

Stress-induced cognition scale (SCS) is highly reliable and valid, and can be utilized as an effective measure for research related to cognitive assessment [12]. Other important useful adjuvant for assessing psychological morbidity are global assessment of recent stress (GARS) scale, the perceived stress questionnaire (PSQ), Symptom Checklist-90-Revised (SCL-90-R), and the Maslach Burnout Inventory.

These inventories are widely used in medical schools of western countries and their use in Asian perspective along with source of stress, stressor duration, stressor intensity, stressor timing with regard to memory phase, and learning type can further enrich our knowledge on stress physiology and coping mechanisms.

References

- [1] Singh S, Sethi J, Sood S. Cadaver Dissection-Need to Cope the Inevitable Stressor. *J Indian Med Assoc.* 2007 Feb;105 (2):99
- [2] Lazarus R, Folkman S. *Stress, appraisal, and coping.* New York: Springer; 1984
- [3] Lee FJ, Stewart M, Brown JB. Stress, burnout, and strategies for reducing them. What's the situation among Canadian family physicians? *Can Fam Physician.* 2008 February; 54(2): 234-35.
- [4] McManus IC, Keeling A, and Paice E. Stress, burnout and doctors' attitudes to work are determined by personality and learning style: A twelve year longitudinal study of UK medical graduates. *BMC Med.* 2004; 2:29
- [5] Zoellner T, Maercker A. Posttraumatic growth in clinical psychology - a critical review and introduction of a two component model. *Clin Psychol Rev.* 2006 Sep;26(5):626-53.
- [6] [Garland E](#), [Gaylord S](#), [Park J](#). The Role of Mindfulness in Positive Reappraisal. *Explore (NY).* 2009; 5(1): 37-44.
- [7] Folkman S, Moskowitz JT. Positive affect and the other side of coping. *Am Psychol.* 2000;55(6):647-54.
- [8] Santavirta N, Kettunen S, Solovieva S. Coping in spouses of patients with acute myocardial infarction in the early phase of recovery. *J Cardiovasc Nurs.* 2001 Oct;16(1):34-46.
- [9] [Avitsur R](#), [Powell N](#), [Padgett DA](#), [Sheridan JF](#). Social interactions, Stress, and Immunity. *Immunol Allergy Clin North Am.* 2009 May;29(2):285-93
- [10] Lewitus GM and Schwartz M. Behavioral immunization: immunity to self-antigens contributes to psychological stress resilience. *Molecular Psychiatry* (2009) 14, 532-36.
- [11] Kulkarni DD and Bera TK. Yogic exercises and health- a psycho-neuro-immunological approach. *Indian J Physiol Pharmacol* 2009; 53 (1): 3-15
- [12] Kyung Bong Koh, Joong Kyu Park, and Sunghoe Cho. Development of the Stress-induced Cognition Scale. *Yonsei Med J.* 2006 June 30; 47(3): 384-92