

*LETTER TO THE EDITOR*

COMMENTS ON THE SHORT COMMUNICATION “IMMEDIATE EFFECTS OF RIGHT AND LEFT NOSTRIL BREATHING ON VERBAL AND SPATIAL SCORES” BY MEESHA JOSHI AND SHIRLEY TELLES IN IJPP 2008; 52: 197–200.

Sir,

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The Short Communication by Drs. Joshi and Telles is on a topic of growing interest and importance. However, there are a number of errors in their text that deserve to be corrected.

They cite a reference 2 for “a rhythmic and alternating shift of activity in the autonomic nervous system and cerebral activity.” However, their reference 2 is not the original experimental study that first demonstrated this relationship of the lateralized ultradian rhythm of autonomic function, as marked by the nasal cycle, and the ultradian rhythm of alternating cerebral hemispheric activity (1).

In their second paragraph, they reference the Klein and Armitage (1979) study for their comment “Alternating cognitive performance with phases of the nasal cycle was first studied in eight subjects who were asked to perform verbal and spatial tasks every 15 minutes for eight hours (their reference 3). Spontaneous changes in nostril dominance brought about changes in cognitive performance.” The Klein and Armitage (1979) study did not include any measures of the nasal cycle, or any mention of this phenomenon, or the

nose. Therefore, their next sentence is also misleading: “Similar results were reported with unilateral forced nostril breathing.” The Klein and Armitage (1979) paper did not study unilateral forced nostril breathing (UFNB). In the Discussion they also cite reference 3 (Klein and Armitage, 1979), and again it is inappropriate as support for their comments.

They used a reference (their reference 4) to identify a study that showed a statistical significance ( $P=0.028$ ) for the effects of left UFNB on spatial skills, and marginal ( $P=0.14$ ), but not significant effects of right UFNB on verbal skills. However, their improper use of reference 2 (as noted above) would be appropriate here where the authors did show statistical significance for both of the effects of left and right UFNB on hemisphere specific tasks (2).

They also make the case for the use of left UFNB for the reduction of anxiety “The possibility of an anxiety-reducing effect of left nostril yoga breathing may be considered based on the fact that during a month of left nostril yoga breathing sympathetic activity decreased evidenced by an increase in skin resistance (their

reference 10).” Their case for the use of left UFNB for reducing anxiety would be strengthened by citing studies where this technique has been shown to have a significant effect on the reduction of the primary symptoms of obsessive compulsive disorder (OCD) (3, 4). OCD is classified as one of the anxiety disorders and is generally considered to be the most difficult-to-treat psychiatric disorder.

In the last paragraph of their Discussion section they also have an error in: “The mechanical receptors in the nasal mucosa are activated with airflow into the nostril, and this signal is unilaterally transmitted to the hypothalamus (their reference 1).” Their reference 1, the review and experimental paper by Keuning (1968), never described mechanical receptors in the nasal mucosa as a possible mediator of air flow effects on cognition or other phenomena. In fact, that paper never mentions anything about UFNB or the effects of consciously altering air flow patterns through the nose. However, that supposition is presented in two publications that are both recent and extensive reviews

on the cognitive and other effects of UFNB (5, 6). These two papers also review the waking and sleeping studies on the coupling of the lateralized ultradian autonomic rhythm of the nasal cycle and the lateralized ultradian rhythm of alternating cerebral hemispheric dominance as demonstrated by both EEG and cognitive performance testing. These two reviews also discuss how these ultradian rhythms are tightly coupled and presumably regulated and integrated by the hypothalamus in concert with the other major systems of the body, and how this autonomic-central rhythm now presents a new view for understanding the dynamics of physiological and psychophysiological (5, 6). The Joshi and Telles paper would benefit from citing the most recent reviews on the effects of UFNB. In addition, this same supposition of mechanical receptors in the nasal mucosa as a mediator of UFNB and how it influences the hypothalamus was also made in an earlier review on the topic of UFNB (7). The readers of IJPP that are interested in the phenomenon and the effects of UFNB might benefit from knowing about reviews on this topic.

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