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WOMEN HEALTH AT HIGH ALTITUDE: PHYSIOLOGY AND REPRODUCTIVE PERSPECTIVES

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In the current scenario, there is a rise in number of women being commissioned into the forces and they constitute a significant proportion of the active, reserve and allied component of Indian military and border security forces. They are often deployed at high altitude areas, as a part of their duties and there is paucity of information on the effect of hypoxic exposure on women health particularly their physiology and reproductive functions. High altitude hypoxia triggers a series of systemic adjustments to maintain an adequate oxygenation of the different organs termed as acclimatization. The physiological adjustment of women to altitude is comparatively less explored until recently. There are a few reports and studies on the hypoxia and physiological responses of women to high altitude stress but remain contentious. This presentation is to focus on physiological and reproductive function of women at high altitude with the aim whether women demonstrated similar physiological adjustments to those previously found in men and the extent to which these responses are attributed to the circulating ovarian or gonadal hormones and whether native women at high-altitude and sea level residents behave differently and are at increased risk for acute altitude sickness. We have carried out extensive field trials at sea level as well as among native women at high altitude, Leh (11,700ft). Different physiological parameters like, blood pressure, heart rate, SpO₂, heart rate variability, were measured along with recording of menstrual diary and blood sampling for hormonal assays. We found average age of menarche was much higher whereas average age of menopause was found lower compare to sea level. Late onset of menarche with low ovarian reserve may trigger early menopause with altered hormonal level. Present study will help to provide a data base on valuable information about the physiological response and how intense hypoxia impinges the reproductive health of Indian women at high altitude however, the hidden reason behind these variations should be enlightened to understand the actual role of hypoxia.



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