ANTARCTIC STATION "VOSTOK" AS AN ANALOG OF THE FUTURE LUNAR BASE:
PHYSIOLOGICAL REACTIONS OF THE HUMAN CARDIORESPIRATORY SYSTEM DURING A
ONE-YEAR EXPOSURE TO THE CONDITIONS OF HYPOBARIC HYPOXIA, ISOLATION, AND
HYPOKINESIA

Abstract

A number of cardiorespiratory system physiological reactions of the crew members of the polar expedition were studied at the Russian Antarctic station "Vostok", located in Central Antarctica, during the 64th Russian Antarctic Expedition (2019).

Methods: the studies were carried out on 9 male expedition members aged 47 - 66 years using 24-hour ECG Holter monitoring, nighttime respiratory monitoring, dynamic assessment of blood oxygen saturation (SpO2) and blood pressure. Results: during a one-year stay at the Vostok station, the cardiorespiratory system gradually adapted to the unusual conditions of life and work. The level of blood oxygen saturation by the second month stabilized and was in the range of 86.0-91.0.

Conclusions: the studied indicators testify to the adaptation of the cardiorespiratory system to the complex of extreme factors of stay at the Vostok station. At the same time, the results obtained do not allow us to conclude that this system is fully adapted to the conditions of life and work at the station.

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