Abstract:
The Omega-3 Index is defined as erythrocyte eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), and represents an individual's status in these two marine omega-3 fatty acids. A target range of 8 to 11% has been suggested, because values below predispose to cardiovascular events, especially sudden cardiac death, as well as to suboptimal brain function, like prolonged reaction times or even depression. Compared with the general population, elite athletes have an increased incidence of sudden death. The Omega-3 Index has not yet been investigated in elite athletes. In an exploratory approach, we determined the Omega-3 Index in 106 consecutive German national elite winter endurance athletes presenting for preparticipation screening, using a well-established analytical procedure (HS-Omega-3 Index). Surprisingly, only one athlete had a value within the target range, but all others had values<8%. We conclude that we have identified a deficiency of EPA and DHA in these elite athletes. This deficiency presents a potential option for prevention of cardiovascular events such as sudden cardiac death, and improving aspects of brain function. It will be important to scrutinize our finding by more thorough epidemiologic studies and appropriate intervention trials.