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CISM Sport Science Featured Article

Research line: Psychophysiological military fitness and operational readiness

Physical Fitness in Young Men between 1975 and 2015 with a Focus on the Years 2005–2015

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Journal

Medicine and Science in Sports and Exercise

Original Abstract

The purpose of the present study was to investigate changes in physical fitness and anthropometry of young men entering the military service in Finland during the years 1975–2015.

The study included the fitness test results of 627,142 healthy young male conscripts (age 19.1 ± 0.4 y). Data included results of aerobic capacity, muscle fitness tests, and anthropometric characteristics.

The results show that the increase in mean body mass of young men has slowed down during the last 10 yr. However, the total increase in body mass was 6.8 kg (8.8%, $P \leq 0.001$) between 1993 and 2015. The mean distance achieved in the 12-min running test decreased by 337 m (12.2%, $P \leq 0.001$) between the peak in 1980 and 2015. The relative number of conscripts who ran less than 2200 m increased from 3.6% to 25.9% ($P \leq 0.001$) between 1980 and 2015, and the proportion who ran more than 3000 m decreased from 25.1% to 6.5% ($P \leq 0.001$). The relative number of conscripts who achieved an excellent or good muscle fitness index decreased from 66.8% to 40.1% ($P \leq 0.001$) between 1992 and 2000, and remained unchanged between 2000 and 2010. However, the proportion who achieved a poor muscle fitness index increased from 8.1% to 31.4% ($P \leq 0.001$) between 1992 and 2010.

The present study shows that the increase in mean body mass of young male conscripts has slowed down during the last 10 y. However, their aerobic capacity has still decreased during recent decades. In addition, the proportion of conscripts with poor muscle fitness has increased. From the national defense and health perspective, more initiatives are needed to encourage young men to increase their level of daily physical activity to be fit and ready for operations.



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Practical Implications

by Thomas Wyss, PhD, Member of the CISM Sport Science Commission

Physical activity (PA) behaviour and physical fitness (PF) are strongly related to health outcomes. Therefore, data on the population's PF, anthropometrics and PA behaviour are important from a public health perspective. At the same time, conscripts' PF level is strongly related to injury and attrition rates as well as military performance during military service. From a national defense and health perspective, long-term monitoring of PA and PF is important as an indicator of a population's health and military readiness status. Between the years 1980 to 2000, PF steadily decreased and body weight increased in the populations of industrialized countries in Europe, America and Asia. Almost twenty years later, it is of great interest to learn from Santtila et al. that the trend of decreasing PF and increasing body mass has been stopped in Finland. However, the authors highlighted as well that today, every fourth conscript in Finland is of poor aerobic fitness. The results from Finland, with stagnating or slower decreasing PF in Finnish conscripts might be good news, however, are the news good enough from a national defense perspective? In my opinion, these results do not yet compensate the challenge that a large difference between physical demands in military occupations and physical capabilities in conscripts and soldiers exists. Military organizations still have to find ways to increase their soldier's PF prior to military service and they have to adapt the first weeks of basic military training according to the capabilities of their conscripts. For individual preparation prior to military service, several armed forces have developed or are currently developing specific smartphone training applications. Further, changes to the military training program during the first weeks of basic training should allow the conscripts to slowly adapt to the physical demands during daily military routine and should provide enough and good quality physical fitness training combined with enough time for recovery. Those changes in basic military training are only possible, if other military training contents are reduced or postponed. Practical experience shows that the decision makers are not (yet) willing to reduce or postpone today's military specific training contents of the first weeks of basic training in favor of more time for an improved physical adaptation of their conscripts.

In conclusion, such data as Santtila et al. have published, are very important for decision makers within national defense and health organizations and are therefore of high practical implication. I encourage all of you to analyze and publish such data from your country as well, together we learn more about the global change in physical fitness and physical activity behaviour.

Reference to original article

Santtila M, Pihlainen K, Koski H, Vasankari T, and Kyröläinen H. Physical Fitness in Young Men between 1975 and 2015 with a Focus on the Years 2005-2015. Med Sci Sports Exerc. 2018.