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Unexpected and abnormal weight gain observed At the student pilots during the flight training

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ABSTRACT

In this study sampled from an ATO (Approved Training Organization) in Turkey which has an extensive student pilot and instructor pilot capacity; 71 subject (61 males, 10 females), 64 student pilots and 7 instructor pilots were observed for their body weight change within a 3-18 months period and 1-27 kg body weight increase was determined in 58 of 71 subjects. Although the reasons for the increase in body weight in this study are not known, it was discussed that the effects of factors such as sleep disorder, unbalanced nutrition, long distance between the training location and the accommodation point should be reevaluated. Along with the CVD (cardiovascular diseases) and other medical problems that may occur during their professional life as a result of the body weight increases in subjects, there are some worrying publications about the negative effects to their performance and flight safety. Before encountering the heavy cost table that may arise from elimination of this unsafe environment, detailed studies on the causes of body weight increase in pilot training should be carried out. The studies and observations, focusing on the matter we mentioned should involve ATOs, flight training centers. Follow-up and treatment of indicated and/or predictable situations should be handled by authorized Aeromedical examiners (AMEs) directly assigned for the ATOs. We suggest that observation forms and methods as well as treatment protocols for the assigned AMEs are to be legislated and published by the competent authorities.

INTRODUCTION

In our study, the increase in body weight of student pilots and flight instructors during the pilot training in Turkey was discussed. This preliminary survey, aiming to scope that flight training students needed close attention for their health was made with individuals sampled from an ATO (Approved Training Organization) with an extensive number of student and instructor pilot.

In our study, the sample group was of those 71 subjects (61 males, 10 females) who were certified according to the International Aeromedical Regulations. Of the sample group aged between 19 and 46 (M28); 64 were student pilots (at PPL and ATPL pilots training stage), 7 were instructor pilots. During the data recording, the time elapsed between the first weight record and the last weight record of the student pilots was between 3-18 months.

DISCUSSION

According to the data obtained in the survey, the sample group projected massive body weight increase. While 58 (81.6%) of the subjects indicated weight gain, body weight loss was observed in 6 subjects (8.4%) and 7 subjects (9.8%) indicated no body weight difference. In female subjects, 5-20 kilograms (avg 7,22kg) weight gain between the ages of 23-30, 2-14 kilograms (avg 7,01kg) weight gain in male subjects between the ages of 19-25, 1-27 kilograms (avg 7,58 kg) weight gain between the ages of 26-35 and 2-23 kilograms (avg 7,57kg) weight gain between the ages of 36-46 were observed.

The causes of body weight increase in subjects in the study group are unknown, but there are considerable publications about the possible medical causes and consequences of the increase in body weight at the apparent rate. (Samur & Yıldız, Şubat 2008), (Ludwig et al., 1999). It is beyond any doubt that the medical conformity of subjects with increased body weight will be questioned by the Aeromedical examiners (AMEs) in the near future due to the problems they will cause.

In our study; although sleep conditions, eating habits, medication, inappropriate substance use or other such parameters of the individuals are neither observed nor measured. Since the nature of the work is known and predictable, some points have been mentioned in this section. According to this, in the period of the hard training that lasts not less than 18-24 months, with the facts as the subjects are stationed far away from the place they are theoretically studying, we think that sleep patterns and feeding patterns can be discussed. In the studies conducted, increase in BMI is observed in short-term sleep patterns (BJORVATN, et al., 2007). In addition, Taheri et al. showed that there is a relationship between short sleep time habit and increased body mass index in their study of large population samples (Taheri, Lin, Austin, Young, & Mignot , 2004).

As a result of a study conducted with the employees of a civil aviation company in Hunan, China, it was observed that despite the fact that they get the adequate nutrition from their meals, the aviation personnel were fed unilaterally, without considering their nutritional values and balance (YAN, LIU, & LIU, 2011-09). In another study, it is emphasized that sleep patterns have a great effect on people's eating habits. According to this, individuals with short-term sleep patterns, are fed with foods rich of fat and refined carbohydrates; consume less vegetables and develop more irregular feeding patterns (Peuhkuri, Sihvola, & Korpela, 2012). Furthermore, in the study conducted by Deliens et al., it was observed that the relationships between factors and eating behaviors of students were managed by school characteristics such as housing, student communities, school lifestyle and examinations (Deliens, Clarys, Bourdeaudhuij, & Deforche, 2014). Sleep disorder, undernourishment/malnutrition are highly influential elements for an intense, mentally and physically imprinting period such as pilots training. As a result of this, body weight gain may be normal in the subjects of our survey.

There are studies showing that rapid weight gain at early ages (20-35) causes unexpected CVD (cardiovascular disease). Our main concern is that, these CVDs and other health issues may arise as a result of the continuous weight gain of the subjects (Samur & Yıldız, Şubat 2008), (Ludwig et al., 1999).

The effect of body weight increase will not be limited to the duration of the flight training of the student. Following their graduation, for the pilots who continue flight as a profession, how long they can continue their occupation with the weight they gained is a matter of debate. In long-term flights, after a long period of inactivity, there is a decrease in performance and the possibility of sleep apnea (Ruskin, Caldwell, Caldwell, & Boudreau, September 2015).

CONCLUSIONS

What we observed in our study is that a significant amount of pilot students gain weight in a significant amount that cannot be accepted as normal during flight training and this situation should be examined and taken under certain control. Although the medical tables mentioned in the discussion section can be evaluated under the title of flight personnel health, it is obvious from a wider and more important point that this will create serious flight safety problems in the near future. Of course, every unsafe environment develops a great cost to eliminate it. We believe that the pilot candidates should be examined in more detail with the reasons of weight gain before all this safety issues and heavy costs occur. The studies and observations, focusing on the matter we mentioned should involve ATOs, flight training centers. Follow-up and treatment of indicated and/or predictable situations should be handled by authorized Aeromedical examiners (AMEs) directly assigned for the ATOs. We suggest that observation forms and methods as well as treatment protocols for the assigned AMEs are to be legislated and published by the competent authorities.

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