

# A brief explanation of the air traffic controller professional activity

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According to the International Labor Association (ILO), a specialized agency of the United Nations, the occupation known as Air Traffic Controller is classified as Major Group 3 (Technicians and Associate Professions), Sub-Major Group 31 (Physical Science and Engineering Associate Professionals), Minor Group 314 (Ship and Aircraft Controllers and Technicians) and Unit Group 3144 (Air Traffic Controllers).<sup>(1)</sup>

The Brazilian Air Traffic Control (ATC) Service is provided mainly by a military staff, though a few civilians work in this activity. As a specialty inside the Brazilian Air Force, the rules that workers are submitted to may or may not follow those recommendations by the ILO associated with those issued by the World Health Organization (WHO). Nevertheless, as ATC is essentially an interaction of cognitive task, and considering it is also a high-risk system similar to Nuclear Power Plants, the need that workers perform at their highest potential is imperative.

Before being accepted on the ATC *ab initio* course, prospective candidates have to have the psychological requirements of the profession and pass through intensive psycho-technical tests and group dynamics exercises.<sup>(2)</sup> ATC workers must cope with some abnormal conditions of stress though it is expected that the work environment is organized in such a way as to distribute the workload in order to mitigate its negative impact. These conditions in general are commonly related to the high number of the aircraft under the jurisdiction of air traffic controllers however monotony is also seen as a cause of worker stress.

Other factors that contribute to the stressful workload of the Brazilian ATC is the complexity of the sectors that controller's work with, unexpected traffic conflicts, the necessity to deviate from English phraseology to solve problems, time pressure, limitations and reliability of the equipment, and sometimes a shift schedule that does not coincide with the relationship between peak traffic and the worker's circadian rhythm.

According to Vismari, the time spent by an air traffic controller to detect a conflict in his/her jurisdiction, to effectuate an adequate solution and to communicate the instruction to the aircraft crew is 4.95 seconds on average.<sup>(3)</sup>

Thus, the air traffic controller works as part of a team in complex sociotechnical and high-risk systems where most of the common place concepts known in many other professional activities cannot be applied in the same way. Working intensively in a cognitive activity, air traffic controllers should ensure that their conditions best fit this very well known Latin quotation: "*Mens sana in corpore sano*", which means "a healthy mind in a healthy body".

After all, the air traffic controller is the last link, ready to consistently activate the system, looking for the best timely solution when technology fails. Creativity is the air traffic controller's differential when compared with technology.

This scientific comment gave us the opportunity to present several nuances of an activity little described in medicine. The article by Ribas et al.<sup>(4)</sup> demonstrates an aspect peculiar to air traffic controllers.

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