FATIGUE MANAGEMENT IN CRITICAL CARE AIR TRANSPORT TEAMS: A PRE-DEPLOYMENT EVALUATION

Jennifer Serres, Ph.D.; Lt Col Susan Dukes, Ph.D.; Bruce Wright, Ph.D.; William “Buck” Dodson, M.D.; Capt Eric Powell, M.S.; and Lt Col Wanda Parham-Bruce, O.D.

Department of Aeromedical Research, U.S. Air Force School of Aerospace Medicine
Wright-Patterson AFB, OH 45433

INTRODUCTION

Critical Care Air Transport Teams (CCATTs) augment aeromedical evacuation (AE) operations by caring for severely injured patients during AE transport from pickup to delivery at treatment facilities that can provide definitive care. Often times, these teams are exposed to the stresses of flight for durations lasting from 8-14 hours. From an operational perspective, CCATT personnel are not classified as “aircrew.” Hence, they are not governed by crew rest regulations outlined in AFI 11-2AE that are intended to prevent the negative effects of chronic fatigue. However, it should be noted that a recent policy letter from the Air Mobility Command provided guidance on duty/rest cycles for CCATTs. This research assesses the amount and source of pre-deployment fatigue management training provided to CCATT members. Data were also collected to identify sleep quantity and fatigue countermeasures used while in garrison.

MATERIALS AND METHODS

A paper-based questionnaire was provided to 50 study participants during their pre-deployment CCATT training at C-STARS Cincinnati. The protocol was approved by the 711TH Human Performance Wing IRB (Protocol No. 210120006H) and by the U.S. Army Medical Research and Materiel Command IRB (Protocol No. M-12233). Subjects were self-consented and the questionnaire responses were anonymous. Responses were categorized by CCATT specialty (e.g., physician, nurse, and respiratory therapist), gender, and duty status. A frequency count comparison was used to report the amount of fatigue management training received by these personnel and to report the highest reported use of fatigue countermeasures.

RESULTS

The majority of participants were active duty Air Forces, with five from the Air Force Reserves and five from the Air National Guard. Figure 1 shows the specialty breakdown of the study respondents, with 39% physicians, 34% nurses, and 30% respiratory therapists. Figure 2 displays the grouped responses for AF fatigue management training; 22% of study respondents reported having received no fatigue management training, with the most frequently reported category being 1-2 hours at 52%. In contrast, 72% of all respondents indicated having received no fatigue management training outside of the Air Force. As indicated in Figure 3, physicians reported the highest percent of individuals receiving at least 1 hour of fatigue management training at 88%; 73% of the nursing group and 58% of the respiratory therapist group also reported receiving at least 1 hour of fatigue management training. Figure 4 displays the types of fatigue countermeasures. Caffeine was the highest reported fatigue countermeasure, with use by 82% of respondents; physical activity was the second frequently reported countermeasure, with 79% percent of respondents; followed by naps, which was reported by 59% of respondents.

CONCLUSIONS

While fatigue, at times, may be unavoidable in an operational environment, additional resources through fatigue management training and the availability of effective fatigue countermeasures may make these situations more manageable. Survey results indicate CCATT personnel receive more fatigue management training from the Air Force compared to outside the Air Force. However, 74% of all study respondents reported receiving less than 2 hours of training in this area (with 22% reporting no fatigue management training). Therefore, one recommendation is to integrate a fatigue management brief during pre-deployment training. It should also be noted this questionnaire is part of a larger CCATT fatigue study currently underway to investigate sleep patterns and the effectiveness of fatigue countermeasures in the field.

REFERENCES


ACKNOWLEDGMENTS

The authors would like to thank the 711TH Human Performance Wing for funding this effort. Additionally, the authors would also like to thank Dr. Lynn Caldwell for her consultation on the development of the experimental plan, as well as Mr. Sasan Mahmoudi for his assistance with the data processing.

CONTACT INFORMATION / DISCLOSURE STATEMENT

For additional information, please contact Jennifer Serres, Ph.D., at (937)938-2927 or jennifer.serres@wpafb.af.mil.

I have no financial relationships to disclose. I will not discuss off-label use and/or investigational use in this poster.