Army Aircrew Members Perspectives On Use Of Dietary Supplements And Energy Drinks

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ABSTRACT

INTRODUCTION: This study was conducted to address the challenges faced by Army aviation personnel and their perceptions regarding the use of dietary supplements and energy drinks to overcome fatigue. It was hypothesized participants perceived energy drinks as a tool to help maintain alertness while also being concerned about potentially violating military policies regarding use of these products.

METHODS: Questionnaires were administered to 188 Soldiers from an Army Combat Aviation Brigade. A subset of 47 Soldiers was subsequently invited to participate in a focus group session. Questionnaires obtained information on dietary supplements, energy drinks, and their perceived benefits. Focus group questions were open-ended and addressed decision making, benefits, motivating factors, safety, supplement preference, and education about energy drinks and dietary supplements.

RESULTS: Of the participants, 74% used dietary supplements and 51% used energy drinks. Select focus group data indicated: 1) Energy drinks are perceived as important for coping with shift schedules and work environment; 2) Energy drinks are routinely consumed and easily accessible, especially during deployments; 3) Aircrews are aware of aeromedical policies and use judgement and take personal responsibility for using supplements/drinks; and 4) Participants attributed energy-drink usage in part to inaccessibility of healthy food options, inadequate nutrition and performance-based education, and demanding work environments. Respondents expressed a preference for autonomy regarding energy-drink choice and were skeptical about the Army's ability to develop an energy drink that would meet their needs. Participants were receptive to nutrition education and information on ways to improve performance.

DISCUSSION: Energy drinks and other dietary supplements are important to the Army aviation community for a variety of reasons. It appears aircrew members are taking calculated risks and accept personal responsibility for using energy drinks given existing aeromedical policies. Long-term dietary safety education and implementation of approved strategies are needed to help aviators manage work-related stressors and improve alertness.

SUPPORT: Supported by DHP and USAMRMC. The views expressed in this work are those of the author and do not reflect the official policy of the Department of Army/Navy/Air Force, Department of Defense, or U.S. Government.

LEARNING OBJECTIVE 1: Understand the usage of dietary supplements and energy drinks within the Army Aviation Community.

INTRODUCTION

- Aircrew personnel are prohibited from using certain DS that may be freely permissible for use by other military personnel.
- There is a requirement to notify a flight surgeon about medications or supplements that could potentially impact performance (AR40-8, Aeromedical Policy Letter 2005)[1,2].
- Use of unauthorized dietary formulations could potentially result in aircrew members being temporarily grounded.
- This study was conducted to address the perceptions of Army aviation personnel regarding the use of dietary supplements and energy drinks as well as to gain information on many of their work-related challenges such the management of operational fatigue.
- It was hypothesized participants perceived energy drinks as a tool to help maintain alertness while also being concerned about potentially violating military policies regarding use of these products.

METHODS

- Questionnaires
  - Administered to 188 Soldiers from an Army Combat Aviation Brigade.
  - Obtained information on dietary supplements, energy drinks, and their perceived benefits.
  - Obtained information on job-related factors such as typical duty durations, shift work, and fatigue management.
- Focus Groups
  - A subset of 47 Soldiers was subsequently invited to participate in one of five focus group sessions
  - Focus group questions were open-ended and addressed:
    - Decision making, perceived benefits of energy drinks
    - Motivating factors
    - Safety
    - Supplement preference
    - Education about energy drinks and dietary supplements

RESULTS

- Of the participants, 74% used dietary supplements and 51% used energy drinks.
- Select focus group data indicated
  - Energy drink consumption is perceived as a useful strategy for coping with shift schedules and the work environment
  - Energy drinks are routinely consumed and easily accessible, especially during deployments
  - Aircrews are aware of aeromedical policies and use judgement and take personal responsibility for using supplements/drinks
  - Participants attributed energy-drink usage in part to:
    - Inaccessibility of healthy food options
    - Inadequate education on nutrition and performance-optimization strategies
    - Demanding work environments
  - Respondents expressed a preference for autonomy regarding energy-drink choice and were skeptical about the Army's ability to develop an energy drink that would meet their needs.
  - Participants were receptive to nutrition education and information on ways to improve performance.

DISCUSSION

- Energy drinks and other dietary supplements are important to the Army aviation community for a variety of reasons.
- It appears aircrew members are taking calculated risks and accept personal responsibility for using energy drinks given existing aeromedical policies.
- Long-term dietary safety education and implementation of approved performance-management strategies are needed to help aviators overcome work-related stressors and improve alertness.

REFERENCES

1. Aeromedical Policy Letters and Aeromedical Technical Bulletins, 2015, U.S. Army Aeromedical Activity (USAAMA), http://www.rucker.amedd.army.mil/assets/documents/pdf/Army_APLs_May2015.pdf

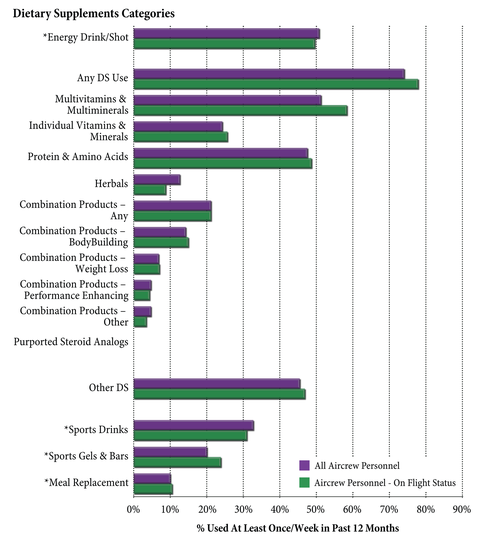
2. Army Regulation 40-8, Medical Services, Temporary Flying Restrictions Due to Exogenous Factors Affecting Aircrew Efficiency, Headquarters, Department of the Army, Washington DC, 16 May 2007.

SUPPORT: Supported by DHP and USAMRMC.

DISCLAIMER: The views expressed in this work are those of the author and do not reflect the official policy of the Department of Army/Navy/Air Force, Department of Defense, or U.S. Government.

DISCLOSURE STATEMENT: I have no financial relationships to disclose.

Figure 1. Frequency of Use of Energy Drinks, Supplements, and Other Products by the US Army Aircrew Personnel.



These products are not included in the aggregate calculation of "User of Any Dietary Supplement (DS)" as they are not classified as DS products by the U.S. Food & Drug Administration.

Figure 2. Body Mass Index Distribution.

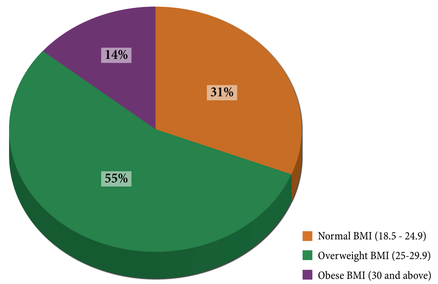
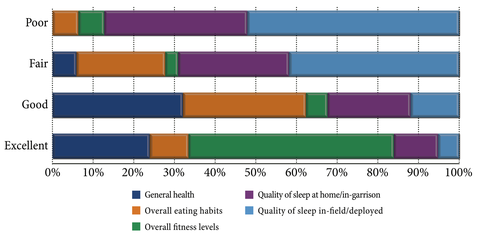


Figure 3. Self-Reported Health & Health-Related Behaviors.



RESULTS

Figure 4. Reasons for Energy Drinks Use.

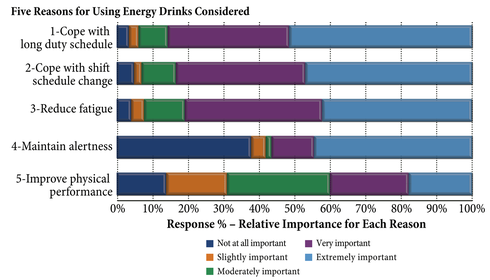


Figure 5. Is there a need for the US Army to develop and approve an energy drink for aircrew personnel?

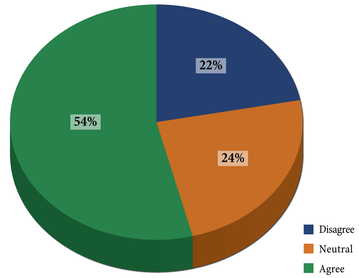


Figure 6. If the Army were to develop and approve an energy drink, would you use it?

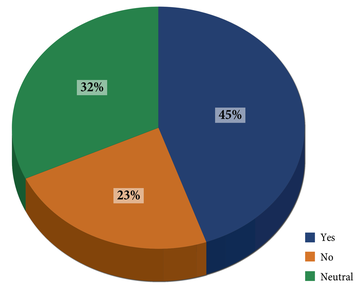


Table 1. Demographic profile of study participants.

CHARACTERISTICS		N	%	MEAN	SE
Total		188	100.0%		
Gender	Male	155	82.4%		
	Female	33	17.6%		
Age (years)		188		30.38	0.48
Ethnic background	Hispanic or Latino	23	12.2%		
	Not Hispanic or Latino	165	87.8%		
Rank Group	Junior Enlisted	49	26.1%		
	Senior Enlisted	49	26.1%		
	Junior Officer	51	27.1%		
	Senior Officer	39	20.7%		
Area of Assignment	Combat arms	176	93.6%		
Education Level	Some College/AA	94	50.0%		
	Bachelors/Graduate	59	31.4%		
	HS/Some HS	35	18.6%		
Time of service (years)		188		9.00	0.47
Number of deployments		188		1.96	0.13
Combined length of deployments (months)		188		23.13	1.57

Table 2. Aircrew personnel job specific characteristics.

CHARACTERISTICS		N	%	MEAN	SE
Army Aircrew member on flight status	Yes	112	59.6%		
	No	76	40.4%		
Typical flying time (hours) per week		188		4.46	0.49
Typical non-flying hours worked per week		188		30.26	2.07
Average length of a typical flight (hours)		188		1.54	0.17
Majority of the flying time	Daytime (0600-1700)	44	38.9%		
	Evening (1701-2300)	56	49.6%		
	Night (2301-0600)	13	11.5%		
Money spent on dietary supplements (Average/3 months)		188		64.48	5.45
Average sleep in the field/deployed, in a 24-hour period (hours)		188		6.15	0.11
Consumed energy drinks without flight surgeon approval	No	74	39.4%		
	Yes	114	60.6%		
Use of flight surgeon approved stimulants during operations	No	177	94.1%		
	Yes	11	5.9%		

Figure 7. Word cloud generated based on Solider responses on the topic of energy drinks.