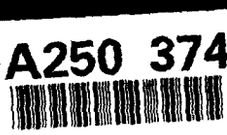

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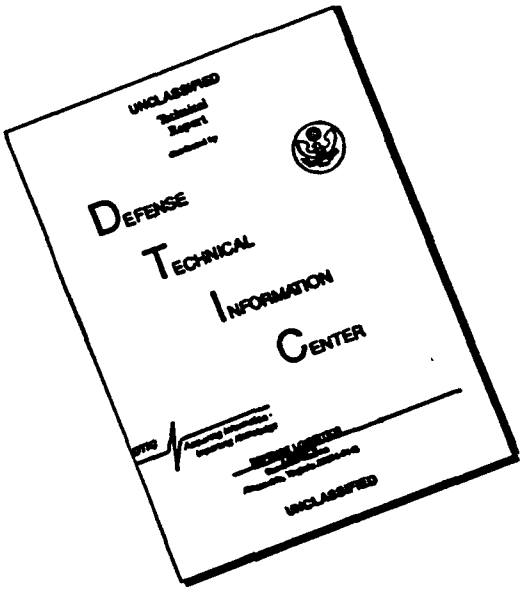

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Recommendations, for all levels of the Army, are put forward for increasing the understanding of the nutrition and fitness relationship. Congress has mandated that the Department of Defense develop plans to implement applicable Department of Health and Human Services Healthy People 2000 Objectives. The findings of this survey may also provide some assistance to Army planners as they focus on ways to incorporate the Department of Defense Promoting Health 2000 objectives into the current "Fit to Win" program.

USAWC MILITARY STUDIES PROGRAM PAPER

A SURVEY OF COMMANDERS' PERCEPTIONS AND KNOWLEDGE OF THE ARMY HEALTH PROMOTION PROGRAM FOCUSING ON NUTRITION AS ONE OF ITS COMPONENTS

AN INDIVIDUAL STUDY PROJECT

by

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ABSTRACT

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The Army implemented Department of Defense health promotion policy guidance in 1987 with its "Fit to Win" program. Nutrition is one of the operational components of the program. To date, assessments of program effectiveness have not included commanders who are responsible for the program at unit level. A survey of one hundred thirty-two Army War College students, who had been in battalion command during the period January 1990 to July 1991 was conducted to determine their use of the "Fit to Win" materials and how they included nutrition education into their program. The questionnaire also attempted to estimate the nutrition knowledge that the surveyed group had gained through the "Fit to Win" program.

The findings indicate that, at least among those former commanders surveyed, implementation of the "Fit to Win" program, to include nutrition education, has not been fully embraced as envisioned. Army dietitians are not the primary provider of nutrition education at the unit level, and are not considered by the commanders to be their primary source of nutrition information. Results of the nutrition knowledge questions, as well as results of similar surveys with enlisted personnel, indicate more emphasis and education is needed to effect a change in nutrition behavior. Over half of those surveyed believe the Army places too little emphasis on nutrition as a component of overall health and performance.

Recommendations, for all levels of the Army, are put forward for increasing the understanding of the nutrition and fitness relationship. Congress has mandated that the Department of Defense develop plans to implement applicable Department of Health and Human Services Healthy People 2000 Objectives. The findings of this survey may also provide some assistance to Army planners as they focus on ways to incorporate the Department of Defense Promoting Health 2000 objectives into the current "Fit to Win" program.

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INTRODUCTION

PURPOSE

The Army implemented Department of Defense health promotion policy with its "Fit to Win" program in 1987. In the ensuing years, commanders at all levels have had responsibility for promoting soldier and family member well-being through an integrated and coordinated health program. Personnel and financial resources have been expended over the last six years toward meeting the Department of Defense (DoD) health promotion goals of improving and maintaining military readiness and quality of life. The Deputy Chief of Staff for Personnel, as the Army Staff proponent for health promotion, is about to embark on a revision of the "Fit to Win" program materials. To date, measures to evaluate progress toward meeting DoD health promotion goals have not included a commanders' assessment of the "Fit to Win" program.

The purpose of this individual study project is to assess whether former battalion commanders, now Army War College students, utilized the available health promotion tools and personnel during their command tenure. Specifically, the project focused on former commanders' use of nutrition education resources, since nutrition is one of the components of the health promotion program. An attempt was also made to estimate the nutrition knowledge that the surveyed group had gained through

the "Fit to Win" program.

RELEVANCE OF THE STUDY

Since the early 1980's, nutrition, as a synergistic element of physical fitness, has been receiving increased attention in both the military and civilian sectors. Over time, consumers have become more interested in and more aware of the close relationship between diet, exercise and disease prevention. Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention refocused the nation on these two areas for the decade of the 80's. The report identified that five of the ten leading causes of death are related to improper diet and a lack of exercise.[1] Just how to best achieve nutrition and fitness goals can be confusing. It is the position of The American Dietetic Association that the public needs help in sorting out accurate nutrition information from that which is false and misleading in order to make informed choices about food selection.[2]

The publication of Army regulations AR 350-15, Army Physical Fitness Program, and AR 600-9, Army Physical Fitness and Weight Control Program brought about a realization that achieving optimal fitness also requires nutrition education for military members and their families. Even before DoD health promotion policy was issued, the Army published The Individual's Handbook on Physical Fitness, DA Pamphlet 350-18 in May 1983. This

handbook provided both physical fitness and basic nutrition information in the same document. The "Dietary Guidelines for Americans" were also included. These seven guidelines, developed and published by The Departments of Health and Human Services and Agriculture, are aimed at helping Americans improve food selection and nutritional well-being. Except for caloric requirements, the guidelines are equally applicable to the general public, athletes and military personnel.

Nutrition was included as an integral component of health promotion when The Assistant Secretary of Defense (Health Affairs) established such policy for the Department of Defense and published DoD Directive 1010.10, Health Promotion, in March 1986. To fulfill health promotion policy goals, the directive required each military service to prepare a plan for implementation, including all the program elements identified in the definition of health promotion. Health promotion is defined in DoD Directive 1010.10 as any combination of health education and related organizational, social, economic or health care interventions designed to facilitate behavioral and environmental alterations that will improve or protect health. It includes those activities intended to support and influence individuals in managing their own health through lifestyle decisions and self-care. Operationally, health promotion includes smoking prevention and cessation, physical fitness, nutrition, stress management, alcohol and drug abuse prevention, and early identification of hypertension.

The Army subsequently published AR 600-63, Army Health Promotion, in November 1987. The stated goal of the Army Health Promotion program is to maximize readiness, combat efficiency, and work performance. Enhancing the quality of life for all soldiers, family members, civilians and retirees; and encouraging lifestyles that improve and protect physical, emotional and spiritual health are the stated objectives. Nutrition is one of the Army's functional components of health promotion. The health promotion program, marketed as "Fit to Win", is a commander's responsibility. Commanders, at all levels, are charged with implementing "Fit to Win" within their units. Installation health care professionals are responsible for providing or coordinating the nutrition education component.[3] Subsequent to the publication of Army Health promotion guidance, then Secretary of the Army John O. Marsh chaired quarterly meetings to ensure forward progress of program implementation as well as cohesive integration of all functional components.

In 1987, two Army dietitians surveyed all other Army dietitians to determine the target audiences receiving nutrition education. Weight control and basic nutrition counseling to support the "Fit to Win" program followed prenatal nutrition counseling in order of target audience frequency. Using a five point Likert-type scale, those surveyed were asked to describe their perception of the military community's interest in nutrition. The average rating was four on the five point scale, indicating that dietitians perceived interest in nutrition

education to be very good or excellent.[4]

Five stages in the health promotion process are identified in AR 600-63. The Health Risk Assessment Appraisal (HRAA) in stage 2, the assessment stage, is the focal point for determining individual risks. The HRAA, developed by the Centers for Disease Control, asks five specific questions about eating habits. Nutrition recommendations are based on the composite results of these questions plus identified risk factors and the blood lipid profile evaluation. Individuals may also self-refer to any functional component of the "Fit to Win" program at any time during their military career.

Those identified by the Health Risk Assessment Appraisal for nutrition intervention have not been the only focus for nutrition education. Collaborative efforts by all Army agencies involved in feeding soldiers and families have resulted in a broad based nutrition education and marketing program. For example, since 1986, food advisors, club, commissary and exchange managers, dietitians and public affairs officers have annually utilized the month of March, which is National Nutrition Month, to place a special coordinated promotional emphasis on nutrition education. The Armed Forces Information Service has also supported DoD health promotion and nutrition initiatives by printing and distributing, to military installations worldwide, posters and materials that are in the public domain. Attention has also focused on providing more healthful food choices for soldiers in dining facilities, clubs and exchange food outlets. Sodium and

fat amounts were reduced in the recipes used in dining facilities. Two percent fat milk has been the standard milk for the Army since 1986. Consequently, the menu available for soldiers to select in dining facilities now meets the Surgeon General's nutrition standards for sodium and fat, and other nutrients prescribed in Army Regulation 40-25, Nutrition Allowances, Standards and Education. Attempts to reduce the cholesterol level in the Army garrison menu, by reducing the number of days eggs are available and adding breakfast fitness bars, has had mixed results. Command emphasis is essential for successful implementation of healthy eating initiatives.

The fitness movement has brought about confusing and generally invalid recommendations for the use of electrolyte replacement beverages and protein supplementation to enhance performance. Periodically, well-intended commanders have requested such products be included in the military subsistence system. Over the past few years, there has been increased emphasis on teaching soldiers the importance of drinking adequate amounts of water in all environments to prevent dehydration. This emphasis paid off during Operation Desert Shield/Storm as very few cases of dehydration were reported.

A Committee on Military Nutrition Research, composed of distinguished nutrition experts from academia and clinical practice, advises the military services on appropriate nutrition policies and practices consistent with National Research Council findings and recommendations. The committee's February 1991

report endorsed the military departments' policy changes and nutrition education efforts which were focused on helping soldiers relate healthy eating practices to food selection. The committee did recommend a nutrition education program be established for military women that emphasizes ways to select calcium-rich foods.[5]

Looming ahead for the Department of Defense is the congressional mandate to develop an implementation plan for the Department of Health and Human Services (DHHS) Healthy People 2000, National Health Promotion and Disease Prevention Objectives. This project builds on some 1990 objectives and expands on other objectives including high blood cholesterol and high blood pressure. Nutrition is one of the seven projects under the health promotion priority area. One hundred eighty-one of the 383 DHHS objectives are of concern to DoD and have been incorporated into the DoD plan called Promoting Health 2000.[6] The DoD plan will be superimposed on health promotion policies and initiatives already in place.

METHODS

A survey was conducted to determine whether or not former commanders had implemented the "Fit to Win" health promotion program and utilized available nutrition education resources. The population to be surveyed was selected from the 1992 Army War College resident class. From the Academic Year 1992 Biographical

Sketch Book, one hundred thirty-two officers who had been in command at anytime during the period January 1990 to July 1991 were selected as survey participants. This sample represents sixty-three percent of the active Army officers in the class. Medical commanders and reserve officers were excluded from the survey population. Three of the participants were female officers.

It was hypothesized that despite regulatory requirements, commanders had not fully embraced implementation of the "Fit to Win" program and had not incorporated nutrition education as a key component. The survey also asked the commanders to identify their sources of nutrition information and to respond to knowledge questions about nutrition. It was also hypothesized that although commanders have been exposed to nutrition information from a variety of sources since inception of the "Fit to Win" program in 1987, they still do not have a confident grasp of some basic nutrition concepts. Commanders have responsibility for feeding their soldiers in garrison as well as on the battlefield. Since eating a well-balanced diet is the practical application of nutrition education obtained through the "Fit to Win" program, the survey also asked commanders to respond to questions about feeding soldiers.

The major limitation of this study is the small sample size. The sample represents only a fraction of those officers who have been commanders since the inception of the Army Health Promotion program.

The survey instrument at Appendix A was developed from a variety of informational sources. Part I asked commanders about their role in the nutritional fitness of their soldiers. This section also asked questions about their decisions on water discipline, electrolyte replacement beverages, protein supplements and rations used in field training operations. The questions in this section were constructed based on the author's interest in health promotion, nutrition and feeding policy issues.

Part II included nine nutrition knowledge questions, and also asked the respondents to rank order their sources of nutrition information. The United States Army Research Institute of Environmental Medicine (USARIEM) Military Nutrition Division conducts research studies to determine the effectiveness of health promotion nutrition initiatives. Some of the personal nutrition knowledge questions included in this survey were also in USARIEM's survey of basic trainees at Fort Jackson in August 1988. Some questions were also used in a nutrition knowledge assessment that USARIEM conducted in August 1990 with Marine Officer Candidates. Lastly some of the questions were taken from nutrition knowledge studies conducted with high school and college coaches.[7] To date there has not been any other nutrition knowledge survey of Army officers.

The last part of the survey asked former commanders to identify the type of unit they last commanded, and whether or not they were deployed to Operation Desert Shield/Storm as a

battalion (or equivalent) commander. To encourage maximum participation and minimize the time required to complete the survey, only thirty-two questions were constructed. A Likert-type scale, with statements to which respondents indicated their agreement on a five point continuum, was used for response to twelve of the thirty-two questions. Such scaling techniques do not allow the respondent to provide candid opinions or observations, although several anecdotal comments were made by the respondents. True, false or undecided were used as response choices for the nine personal nutrition knowledge questions. Therefore, the responses will not reflect in-depth knowledge of nutrition that may exist among the respondents. A validation test was not conducted before the survey was given to the participants. The survey questions were analyzed using SPSS/PC+, a statistical software program. Appendix B includes the Frequency Responses to the survey. Anecdotal comments are included at Appendix C under the categories of health promotion, nutrition, garrison food service and Army Field Feeding System.

RESULTS AND DISCUSSION

RESPONSES RATE AND RESPONSE DEMOGRAPHICS

Of the one hundred thirty-two surveys that were distributed, one hundred thirteen were returned for a response rate of eighty-six percent. Respondents reported that fifty percent of the

units they commanded were combat arms; twenty-five percent combat support and twenty-two percent combat service support. Thirty percent of the respondents indicated they were deployed to Operation Desert Storm/Shield as battalion or equivalent level commanders. Sixty-one percent of those completing the survey indicated they had previously performed the extra duty of food service officer.

HEALTH PROMOTION

Sixty-five percent of the respondents reported they had rarely or never used the "Fit to Win" materials for commanders, while thirty-three percent reported frequent or occasional use of the materials (Q1). When asked whether nutrition education was included in their "Fit to Win" program (Q2), fifty-seven percent reported "no". Those who reported "yes" indicated nutrition education was administered by dietitians, physician assistants, nurses, master fitness trainers, drill sergeants, battery commanders, dining facility sergeants, training and logistics officers and even executive officers. By crosstabulating questions one and two, it was determined that of twenty-eight respondents who frequently or occasionally used "Fit to Win" materials, fifty-seven percent of them also included nutrition education in their program. Eighty-four percent stated that master fitness trainers were effectively utilized in their organization (Q13). However, only thirty-nine percent either

agreed or strongly agreed that the master fitness trainer could provide reliable nutrition information (Q14). The master fitness trainer curriculum at the Army Physical Fitness School includes eight hours of nutrition training. When the school moves from Fort Benjamin Harrison to Fort Benning, resident master fitness training will not be conducted, and therefore the opportunity to provide nutrition education to a captive audience will be lost.

Fifty-nine percent indicated that Army dietitians were available to provide nutrition education to their soldiers while forty-one percent were uncertain or disagreed (Q15). Sixty percent of the respondents agreed that the Army places too little emphasis on nutrition as a component of overall health and performance (Q17). In addition, eighty-eight percent believe that most Army personnel associate eating habits and nutrition with the weight control program (Q18). This is not a hopeful outcome, since weight control is identified with punitive policies and procedures as opposed to a desired positive connotation for the health promotion program.

There was no degree of certainty regarding understanding of the relationship between healthful eating and optimum combat performance (Q7). While fifty-one percent agreed or strongly agreed, ten percent were undecided and thirty-eight percent disagreed or strongly disagreed. This uncertainty correlates with similar responses regarding understanding of the linkage between a well-balanced diet and fitness (Q11). Forty-six percent strongly agreed or agreed that Army personnel understand

the linkage; fourteen percent were undecided and forty percent disagreed or strongly disagreed.

ATTITUDES TOWARD SUPPLEMENTS AND WATER DISCIPLINE

Only thirty-eight percent agreed that officers influence the food choices of soldiers. This was further reinforced by the fact that only two respondents indicated they had recommended protein supplements (Q4) and only seventeen indicated they had ever recommended soldiers consume commercial electrolyte beverages rather than plain cool water (Q3).

Ninety-seven percent did agree that command emphasis is necessary to get soldiers to drink sufficient amounts of water to maintain hydration (Q12). Of those who were deployed as commanders to Operation Desert Shield/Storm, ninety-seven percent also agreed that command emphasis was essential to maintain hydration.

The American Dietetic Association position on nutrition for physical fitness and athletic performance emphasizes the need for proper hydration during athletic events with plain cool water adequately meeting fluid replacement needs in moderate climates.[8] Loss of more than two percent of body weight from sweat by unacclimatized soldiers performing heavy work can affect both performance and recovery. Sodium and potassium losses through sweat may also predispose soldiers to heat cramps, exhaustion or stroke.[9] USARIEM recently conducted a study to determine the

long term effects of fluid intake on circulating and urinary electrolytes in soldiers consuming an adequate diet and a two-and-a-half percent carbohydrate-electrolyte solution during hot weather field training. The study concluded that soldiers preferred the carbohydrate-electrolyte solutions over plain cool water and that drinking these solutions did not significantly alter serum sodium and potassium over the eight day trial. Though the study established the safety of consuming solutions while performing work in moderate heat, it did not conclude that any nutritional or hydrational benefit is gained under these conditions.[10]

Though the small positive response to recommending commercial electrolyte beverages is encouraging, it is contradictory to anecdotal reports by installation troop issue subsistence activities who indicate that commanders frequently request procurement of such products. The Army Surgeon General's current policy does not authorize the use of carbohydrate-electrolyte solutions for routine consumption by soldiers.[11]

NUTRITION KNOWLEDGE

The former commanders were queried about their nutrition knowledge (Q19-26). Figure 1 summarizes the responses to these questions. Two of the questions regarding the need for water and fiber consumption were correctly answered by all respondents. Ninety-three percent of those surveyed correctly identified that

lowfat milk has fewer calories and less cholesterol than whole milk. Correlating this question to the one on the caloric value of fat, only forty-three percent, however, correctly identified that fat has twice as many calories as carbohydrates. Fifty-seven percent either incorrectly responded or were undecided. Sixty-five percent of those responding did not know that one Meal, Ready-to-Eat (MRE) provides one-third of a day's caloric requirements. Forty-eight percent correctly identified that carbohydrate loading does not enhance short duration physical performance. Ninety of the respondents correctly identified that physical and mental alertness is enhanced when one-third of the day's calories are consumed at breakfast. All but two of the respondents indicated a well-balanced diet with reduced calories and increased exercise is the most appropriate weight loss method. Fifty-five percent knew that ingredients on food labels are arranged in order of decreasing quantity.

When basic trainees at Fort Jackson were asked about their knowledge of nutrition, sixty-four percent of the sample knew the correct answer to every question asked. Female soldiers had slightly higher scores than male soldiers. Only seven percent of the former commanders surveyed correctly answered every nutrition knowledge question.

Percent of Responses to Nutrition Knowledge Statements

Statement Topic	Correct Response	% True	False	Undec
Fat	True	42.5	28.3	29.2
Label ingredients	True	54.9	22.1	22.1
Lowfat milk	True	92.9	3.5	3.5
Water	True	100.0	----	----
Vegetables, fruits	True	100.0	----	----
Breakfast	True	79.6	8.0	12.4
Carbohydrate load	False	47.8	20.4	31.9
Weight loss method	True	98.2	1.8	----

Figure 1

A profile of the responses at Figure 2 identifies the number and percentage of former commanders who missed from one to five questions.

Profile of Responses to Nutrition Knowledge Questions

Response	Number	Percent
All correct	8	7
Missed 1	41	36
Missed 2	30	27
Missed 3	22	19
Missed 4	8	7
Missed 5	4	4

Figure 2

Respondents most frequently missed questions on the caloric value of fat compared to carbohydrate (Q19), the caloric value of lowfat milk vice whole milk (Q21), and the benefit from carbo-

hydrate loading for short endurance events (Q25). Since much of the Army's nutrition education focus has been on decreasing fat intake to reduce total calories, it is somewhat surprising that this question was missed by one-third of the respondents. Thirty-five percent of the basic trainees in USARIEM's assessment also missed these questions.

When USARIEM completed their survey of basic trainees, they concluded that if the sixty-four percent were compared to a grading curve, it would be a low score and more nutrition education emphasis would be needed to significantly elevate trainee nutrition knowledge scores.[12] When similar nutrition knowledge questions were given to college coaches, seventy percent correctly answered all responses.[13]

SOURCES OF NUTRITION INFORMATION

The respondents indicated that they received most of their nutrition information from popular magazines and newspapers, followed by nutrition books, radio, television and family. Dietitians and other health care providers ranked the lowest as sources of nutrition information (Q28).

While mass media is considered a useful tool for increasing awareness about nutrition, research has found that mass media messages do not address the need for individualized changes in food behavior. Three hundred healthy men in Iowa were asked about their sources of dietary fat information. About nineteen

percent of the three hundred had been diagnosed with high blood cholesterol levels. Mass media sources were the most frequent of those with higher educational and income levels. However, older subjects with higher levels of education and income, and diagnosed with high blood cholesterol levels, utilized family or friends as most frequent sources of information. Individualized information received from a health care professional was positively and significantly correlated with adoption of food behavior changes to reduce dietary fat.[14]

ARMY WAR COLLEGE HEALTH AND FITNESS ASSESSMENT

Army Regulation 350-15 charges the Commandant of the Army War College with responsibility for conducting fitness educational and training programs for Army War College personnel and for conducting applied fitness research relating to the health and fitness of senior military personnel. This responsibility is performed by the Army Physical Fitness Research Institute (APFRI). During inprocessing, students complete a comprehensive physical fitness assessment including a blood lipid profile and nutritional analysis. Students with elevated cholesterol and/or triglyceride levels are provided the opportunity, along with their spouse, to take a series of nutrition intervention classes. The goal of these classes is to provide sufficient information to effect changes in food selection behavior. The Physical Fitness Guide for Senior

Officers also provides comprehensive nutrition information. Those surveyed were asked whether the APFRI health and fitness assessment had increased their understanding of nutrition in relation to total well-being (Q27). Seventy-four percent of the respondents indicated "yes", while seventeen percent said "no" and nine percent were undecided. This response level adds credence to the fifty-four percent who stated the linkage between a well-balanced diet and fitness is not well understood, and the eighty-eight percent who felt that Army personnel associate eating habits and nutrition mostly with weight control.

RESPONSIBILITIES AND DECISIONS ABOUT FEEDING SOLDIERS

Food is the basis for sustaining soldier strength and morale in any military setting. It is the responsibility of the commander to assure adequate quality and quantity of food for soldiers to eat. It is not uncommon for the food intake of soldiers to be reduced during field training either deliberately or involuntarily because of environmental and training conditions. Weight loss to a level that impairs physical and mental performance must be monitored carefully and prevented. Well disciplined and trained troops generally will police their own food consumption patterns if they are convinced that eating enough is important.[15] What soldiers eat is often determined by commanders and their training priorities. Since over time nutritional fitness can impact on combat readiness, the survey

asked respondents questions about their decisions on feeding soldiers. Commanders are given much flexibility and latitude in determining the rations that are best suited for their training objectives. However, feeding during Airland Operations primarily focuses on use of operational rations which require no cooking or minimal preparation. Additionally, the number of Army cooks was reduced in 1985 and resources were consolidated at the battalion level. Refrigeration trailers for rations which tie-up critical transportation assets were also sharply reduced. The Meal, Ready-to-Eat is the individual operational ration which requires no preparation by cooks. The Tray Ration is a thermally stabilized ration packaged in a flat metal pan which requires only reheating in boiling water and the B Ration is a dehydrated and canned ration which requires some preparation. Fresh foods, or A Rations, can be served in the field, but require a longer preparation time and refrigeration. Serving of A Rations is important during extended field operations to prevent monotony and provide needed fiber. However, the preparation and serving of this ration has to be carefully coordinated with training events. Sixty-three percent of the former commanders responded that they were involved in the decision process to determine the type of rations that were used during field training (Q6). Those who reported "yes" were then asked to rank order the reasons which framed their decisions. The training scenario was rated as the most important reason for determining the rations used, followed by time to prepare rations, soldier preferences, dislike

for operational rations, and personal preferences. When the reasons were crosstabulated by those deployed to Operation Desert Storm/Shield, the rankings were identical.

When asked what impact the Army Field Feeding System had on their ability to perform the mission (Q5), thirty-nine percent indicated it was very to somewhat positive, twenty-seven percent indicated somewhat to very negative, while thirty-three percent indicated no effect. Crosstabulating this question with question 45, forty-two percent of those who were commanders during Operation Desert Shield/Storm reported the Army Field Feeding System had a positive impact. However, thirty-nine percent of these commanders indicated a negative impact and eighteen percent indicated no impact.

Soldiers often carry "pogey bait" or supplemental, non-nutritionally dense foods in their ruck sacks to field exercises. When asked whether such foods are acceptable substitutes for government furnished meals (Q8), eighty-seven percent indicated that they were not. The same percentage was reported by the officers deployed to Operation Desert Shield/Storm.

From late January to early March 1991, interviews were conducted with soldiers deployed to Southwest Asia by one of USARIEM's nutritional scientists.[16] Soldiers indicated they did not know that three MRE's provided all their nutritional requirements. They recommended adding nutrition labels to the MRE package. This suggestion, however, is not supported by the responses of commanders on the same issue. Fifty-six percent

disagreed or strongly disagreed that adding such labels would aid in making food choices (Q9), while twenty-seven percent favored adding labels. Of those respondents who were in Southwest Asia, fifty-eight percent do not favor adding nutrition labels.

CONCLUSIONS AND IMPLICATIONS

The results of this survey support the original thesis. Of commanders surveyed, over half had not used the Army's "Fit to Win" health promotion program, including nutrition education, as envisioned by the proponents of AR 600-63. As expected, dietitians were not the only providers of nutrition education in connection with health promotion. In fact, commanders relied on a variety of personnel to provide the nutrition in their "Fit to Win" program, and dietitians were the least likely source of nutrition information among the respondents.

In Johnson and Rinke's study, dietitians perceived the interest level of Army personnel to be high. The perceived level may be high, but the results of this survey and USARIEM's study of basic trainees would indicate that interest does not necessarily translate to understanding of the nutrition principles and facts necessary to select healthful food choices.

Over half of the officers responding indicated the linkage between a well-balanced diet and fitness is not well understood. Also over three-fourths of the respondents felt the APFRI health and fitness assessment increased their awareness of nutrition in

relation to total well-being. From these results, it could be surmised that this relationship has not been correctly focused, or even taught, as a part of the "Fit to Win" program. Since such a high percentage of the respondents felt the APFRI assessment was beneficial, perhaps this same intense educational program should be provided to mid-level officers at the Command and General Staff College. These officers have more years left in the Army to improve their own health habits and influence the health behaviors of subordinates than do senior officers.

One former reception battalion commander commented that he believed the eating habits displayed by young soldiers is reflective of their eating habits at home and society as a whole. Changes in American food consumption patterns are occurring as measured by the Department of Agriculture. Particularly encouraging is a decreasing percentage of calories consumed from fat sources. The percentage had been over forty percent of calories but now is measured at thirty-six percent of calories. These findings mirror USARIEM's analysis of changes in the fat content of the Army garrison menu.

With the implementation of Defending Health 2000, the Army has an opportunity to help soldiers and families shape their "health destiny". Shaping the future health of the military now will, in the long-term, prevent premature death, disability, chronic disease and dependence on either military or private sector health care. Inculcating the relationship between five of the leading causes of death to improper nutrition behaviors is

critical to cultural change. The Department of Health and Human Services Secretary Sullivan envisions a "culture of character" as a way of thinking, being and acting to promote the responsible behaviors and lifestyles conducive to good health.[17] The Army Plan (TAP) for Fiscal Years 1992-2007 identifies implementation of the comprehensive Army Health Promotion program and achievement of improved lifestyle behaviors and reduced health risks as a mid-range planning objective. The results of this survey suggest that the Army has to place much more emphasis on the importance of healthful behaviors, from the very highest to lowest leadership levels, before positive long-term results are achieved. Health promotion must be seen by commanders as more than a training distractor. Commanders must also understand and value the importance of health promotion in maximizing readiness and combat efficiency.

RECOMMENDATIONS

Based on the results of this study the following recommendations are offered.

1. Office of the Deputy Chief of Staff for Personnel should conduct a similar survey with a larger population of former commanders on their use of the "Fit to Win" program materials before a costly revision of these materials is undertaken.

2. Office of the Surgeon General and Office of the Deputy Chief of Staff for Personnel should revise DA PAM 600-63-1, "Fit

to Win". Articulating the commander's responsibility for health promotion and identifying appropriate resources for each of the program's functional components should be the focus of the revision.

3. Training and Doctrine Command should evaluate all programs of instruction, including pre-command courses, and ensure that appropriate, progressively more complex health promotion instruction is included at all levels of military education.

4. A survey instrument be designed and annually administered to Army War College and Command and General Staff College classes as one means to measure progress toward reaching Defending Health 2000 objectives.

5. The Surgeon General's Chief Dietitian and the Chief of Physician Assistants (PA) should identify ways that PAs can assist in providing nutrition education to soldiers and families since physician assistants are the battalion medical officers in peacetime and are therefore a ready source of information.

6. The Medical Research and Development Command should provide the necessary resources to allow the Research Institute of Environmental Medicine's Military Nutrition Division to continue conducting research on soldier nutrition behavioral changes.

7. Members of the military services nutrition community should continue to aggressively pursue printing of public domain nutrition education materials with the Armed Forces Information

Service since dollar resources for such projects are virtually nonexistent.

APPENDIX A

SURVEY INSTRUMENT

NUTRITION IN COMMAND SURVEY

PART I COMMANDER'S ROLE IN NUTRITIONAL FITNESS

CIRCLE YOUR RESPONSES.

AS A COMMANDER:

1. How often did you use the Army Health Promotion FIT TO WIN (DA PAM 600-63) materials for commanders?

FREQUENTLY OCCASIONALLY RARELY NEVER

2. Did you include nutrition education as part of your unit's FIT TO WIN program?

YES NO
(If Yes, Who Administered_____)

3. Did you ever recommend soldiers consume a commercial electrolyte drink (ex. Gatorade-like drink) rather than water?

YES NO
(If Yes, In What Situation(s)_____)

4. Did you ever recommend soldiers consume protein supplements?

YES NO
(If Yes, Under What Conditions_____)

5. What impact did the Army Field Feeding System have on your unit's ability to perform the mission?

VERY POSITIVE	SOMEWHAT POSITIVE	SOMEWHAT NEGATIVE	VERY NEGATIVE	NO EFFECT

6. Did you, as the commander, decide the type of rations to be used during field operations?

YES NO

(If Yes, rank order the reasons which contributed to your decision. Rank from 1 to 6 with 1 the most important reason.)

_____Training scenario

_____Personal preferences

_____Soldier preferences

_____Time for food preparation

_____Dislike for operational rations

_____Too few cooks

TO THE RIGHT OF THE STATEMENTS BELOW, CIRCLE THE LETTER WHICH BEST INDICATES YOUR RESPONSE:

SA Strongly Agree
A Agree
U Uncertain or Neither Agree or Disagree
D Disagree
SD Strongly Disagree

7. Army personnel understand the relationship between healthful eating and optimum combat performance. SA A U D SD

8. "Pogey-bait" snacks are acceptable substitutes for government provided meals. SA A U D SD

9. Nutrition labels on Meal, Ready to Eat (MRE) packages would aid in making food choices. SA A U D SD

10. One MRE provides one-third of the daily caloric requirements for a moderately active soldier. SA A U D SD

11. The linkage between a well-balanced diet and fitness is well understood by Army personnel. SA A U D SD

12. Command emphasis is required to get soldiers to consistently drink water to maintain hydration. SA A U D SD

TO THE RIGHT OF THE STATEMENTS BELOW, CIRCLE THE LETTER WHICH BEST INDICATES YOUR RESPONSE:

SA Strongly Agree
A Agree
U Uncertain or Neither Agree or Disagree
D Disagree
SD Strongly Disagree

13. Master fitness trainers were effectively utilized in my command organization. SA A U D SD

14. Master fitness trainers could be counted on to provide reliable nutrition information. SA A U D SD

15. An Army dietitian was available to provide nutrition education to my soldiers. SA A U D SD

16. Army officers are very influential in a soldier's food choices. SA A U D SD

17. The Army places too little emphasis on nutrition as a component of overall health and performance? SA A U D SD

18. Army personnel associate eating habits and nutrition MOSTLY with the Army weight control program. SA A U D SD

PART II NUTRITION KNOWLEDGE

TO THE RIGHT OF THE STATEMENTS BELOW, CIRCLE YOUR RESPONSE:

19. Fat has more than twice as many calories as carbohydrates. True False Undecided

20. The ingredients listed on food labels are arranged in order of decreasing quantity. True False Undecided

21. Low fat milk has fewer calories and less cholesterol than whole milk. True False Undecided

22. Water is essential for the body to function properly. True False Undecided

23. Increasing the consumption of vegetables, fruits, and whole-grain breads and cereals will aid digestion and elimination. True False Undecided

24. To aid physical and mental alertness, one-third of the day's calories should be consumed for breakfast. True False Undecided

25. Carbohydrate loading will enhance performance in all events of one hour or less. True False Undecided

26. The best weight loss method is to consume fewer calories in a well-balanced diet and to increase exercise. True False Undecided

27. The APFRI health and fitness assessment has increased my understanding of nutrition in relation to total well-being. True False Undecided

28. I obtain the most of my nutrition information from: (check all that apply)

_____ Popular magazines/newspapers
_____ Radio/television
_____ Dietitian
_____ Sports Nutritionist
_____ Gym/Fitness Facility
_____ Nutrition Books
_____ Fitness Class
_____ Family Member
_____ Physician/Nurse
_____ Other (Specify)

PART III GENERAL INFORMATION

29. Which of the following best describes the type of unit you last commanded?

_____ Combat Arms
_____ Combat Support
_____ Combat Service Support
_____ Other (please identify_____)

30. Were you deployed to Operation Desert Shield/Storm as a battalion (or equivalent) commander?

YES NO

31. During your career, have you ever performed the extra duty of food service officer?

YES NO

32. COMMENTS.

THANK YOU FOR YOUR PARTICIPATION.
RETURN TO CELIA ADOLPHI, BOX 39 BY 19 DECEMBER 1991.

APPENDIX B

SURVEY RESPONSES

Q1 use fit to win

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
freq	1	10	8.8	8.8	8.8
occas	2	29	25.7	25.7	34.5
rarely	3	39	34.5	34.5	69.0
never	4	35	31.0	31.0	100.0
	TOTAL	113	100.0	100.0	

Mean 2.876 Std Dev .956 Minimum 1.000
Maximum 4.000

Valid Cases 113 Missing Cases 0

Q2 nutrition educ

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	49	43.4	43.4	43.4
no	2	64	56.6	56.6	[illegible]
	TOTAL	113	100.0	100.0	

Mean 1.566 Std Dev .498 Minimum 1.[illegible]
Maximum 2.000

Valid Cases 113 Missing Cases 0

Q3 electrolyte vs water

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	17	15.0	15.0	15.[illegible]
no	2	96	85.0	85.0	100.0
	TOT	113	100.0	100.0	

Mean 1.850 Std Dev .359 Minimum 1.000
Maximum 2.000

Valid Cases 113 Missing Cases 0

Q4 protein sup

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	2	1.8	1.8	1.8
no	2	111	98.2	98.2	100.0
	TOTAL	113	100.0	100.0	

Mean	1.982	Std Dev	.132	Minimum	1.000
Maximum	2.000				

Valid Cases 113 Missing Cases 0

- -

Q5 army field feeding

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
vpos	1	11	9.7	9.8	9.8
somepos	2	33	29.2	29.5	39.3
someneg	3	25	22.1	22.3	61.6
vneg	4	6	5.3	5.4	67.0
noeff	5	37	32.7	33.0	100.0
	.	1	.9	MISSING	
	TOTAL	113	100.0	100.0	

Mean	3.223	Std Dev	1.425	Minimum	1.000
Maximum	5.000				

Valid Cases 112 Missing Cases 1

Q6 type of rations

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	71	62.8	63.4	63.4
no	2	41	36.3	36.6	100.0
	.	1	.9	MISSING	
	TOTAL	113	100.0	100.0	

Mean 1.366 Std Dev .484 Minimum 1.000
Maximum 2.000

Valid Cases 112 Missing Cases 1

- -

Q7 training

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	51	45.1	72.9	72.9
	2	8	7.1	11.4	84.3
	3	5	4.4	7.1	91.4
	4	2	1.8	2.9	94.3
	5	2	1.8	2.9	97.1
	6	1	.9	1.4	98.6
yes	7	1	.9	1.4	100.0
	.	43	38.1	MISSING	
	TOTAL	113	100.0	100.0	

Mean 1.614 Std Dev 1.277 Minimum 1.000
Maximum 7.000

Valid Cases 70 Missing Cases 43

Q8 pers pref

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	3	2.7	4.8	4.8
	2	3	2.7	4.8	9.7
	3	4	3.5	6.5	16.1
	4	14	12.4	22.6	38.7
	5	14	12.4	22.6	61.3
	6	24	21.2	38.7	100.0
	.	51	45.1	MISSING	
	TOTAL	113	100.0	100.0	

Mean 4.694 Std Dev 1.421 Minimum 1.000
Maximum 6.000

Valid Cases 62 Missing Cases 51

- -

Q9 sold pref

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	7	6.2	10.3	[illegible]
	2	18	15.9	26.5	[illegible]
	3	25	22.1	36.8	[illegible]
	4	14	12.4	20.6	[illegible]
	5	3	2.7	4.4	[illegible]
yes	7	1	.9	1.5	[illegible]
	.	45	39.8	MISSING	
	TOTAL	113	100.0	100.0	

Mean 2.882 Std Dev 1.140 Minimum [illegible]
Maximum 7.000

Valid Cases 68 Missing Cases 45

Q10 time

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	2	1.8	2.9	2.9
	2	34	30.1	49.3	52.2
	3	12	10.6	17.4	69.6
	4	14	12.4	20.3	89.9
	5	4	3.5	5.8	95.7
	6	2	1.8	2.9	98.6
yes	7	1	.9	1.4	100.0
	.	44	38.9	MISSING	
	TOTAL	113	100.0	100.0	

Mean 2.913 Std Dev 1.245 Minimum 1.000
Maximum 7.000

Valid Cases 69 Missing Cases 44

- -

Q11 oprats

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	4	3.5	6.3	[illegible]
	2	3	2.7	4.8	[illegible]
	3	2	1.8	3.2	[illegible]
	4	9	8.0	14.3	[illegible]
	5	27	23.9	42.9	[illegible]
	6	18	15.9	28.6	[illegible]
	.	50	44.2	MISSING	
	TOTAL	113	100.0	100.0	

Mean 4.683 Std Dev 1.389 Minimum 1.[illegible]
Maximum 6.000

Valid Cases 63 Missing Cases 50

Q12 cooks

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	5	4.4	7.4	7.4
	2	5	4.4	7.4	14.7
	3	20	17.7	29.4	44.1
	4	12	10.6	17.6	61.8
	5	11	9.7	16.2	77.9
	6	15	13.3	22.1	100.0
	.	45	39.8	MISSING	
	TOTAL	113	100.0	100.0	

Mean 3.941 Std Dev 1.525 Minimum 1.000
Maximum 6.000

Valid Cases 68 Missing Cases 45

- -

Q13 optimum perf

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
sa	1	4	3.5	3.5	3.5
a	2	54	47.8	47.8	51.3
u	3	12	10.6	10.6	61.9
d	4	33	29.2	29.2	91.2
sd	5	10	8.8	8.8	100.0
	TOTAL	113	100.0	100.0	

Mean 2.920 Std Dev 1.127 Minimum 1.000
Maximum 5.000

Valid Cases 113 Missing Cases 0

Q14 pogey-bait

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
a	2	8	7.1	7.1	7.1
u	3	7	6.2	6.2	13.3
d	4	70	61.9	61.9	75.2
sd	5	28	24.8	24.8	100.0
	TOTAL	113	100.0	100.0	

Mean 4.044 Std Dev .772 Minimum 2.000
Maximum 5.000

Valid Cases 113 Missing Cases 0

Q15 nutrition labels

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
sa	1	8	7.1	7.1	7.1
a	2	23	20.4	20.5	27.7
u	3	17	15.0	15.2	42.9
d	4	44	38.9	39.3	82.1
sd	5	20	17.7	17.9	100.0
	.	1	.9	MISSING	
	TOTAL	113	100.0	100.0	

Mean 3.402 Std Dev 1.204 Minimum 1.000
Maximum 5.000

Valid Cases 112 Missing Cases 1

Q16 mre calories

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
sa	1	3	2.7	2.7	2.7
a	2	37	32.7	32.7	35.4
u	3	31	27.4	27.4	62.8
d	4	36	31.9	31.9	94.7
sd	5	6	5.3	5.3	100.0
	TOTAL	113	100.0	100.0	

Mean 3.044 Std Dev .986 Minimum 1.000
Maximum 5.000

Valid Cases 113 Missing Cases 0

Q17 diet and fitness

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
sa	1	1	.9	.9	[illegible]
a	2	51	45.1	45.1	[illegible]
u	3	16	14.2	14.2	[illegible]
d	4	42	37.2	37.2	[illegible]
sd	5	3	2.7	2.7	[illegible]
	TOTAL	113	100.0	100.0	

Mean 2.956 Std Dev .986 Minimum 1.
Maximum 5.000

Valid Cases 113 Missing Cases 0

Q18 hydration

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
sa	1	49	43.4	43.4	43.4
a	2	61	54.0	54.0	97.3
u	3	1	.9	.9	98.2
d	4	2	1.8	1.8	100.0
	TOTAL	113	100.0	100.0	

Mean 1.611 Std Dev .604 Minimum 1.000
Maximum 4.000

Valid Cases 113 Missing Cases 0

Q19 mft in organ

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
sa	1	38	33.6	33.6	33.6
a	2	57	50.4	50.4	84.1
u	3	6	5.3	5.3	89.4
d	4	10	8.8	8.8	98.2
sd	5	2	1.8	1.8	100.0
	TOTAL	113	100.0	100.0	

Mean 1.947 Std Dev .953 Minimum 1.000
Maximum 5.000

Valid Cases 113 Missing Cases 0

Q20 mft and nutrition

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
sa	1	3	2.7	2.7	2.7
a	2	41	36.3	36.3	38.9
u	3	37	32.7	32.7	71.7
d	4	28	24.8	24.8	96.5
sd	5	4	3.5	3.5	100.0
	TOTAL	113	100.0	100.0	

Mean	2.903	Std Dev	.925	Minimum	1.000
Maximum	5.000				

Valid Cases 113 Missing Cases 0

- -

Q21 dietitian and nutrition

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
sa	1	11	9.7	9.7	9.7
a	2	56	49.6	49.6	59.3
u	3	15	13.3	13.3	72.6
d	4	26	23.0	23.0	95.6
sd	5	5	4.4	4.4	100.0
	TOTAL	113	100.0	100.0	

Mean	2.628	Std Dev	1.079	Minimum	1.000
Maximum	5.000				

Valid Cases 113 Missing Cases 0

Q22 officers and food

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
a	2	22	19.5	19.5	19.5
u	3	21	18.6	18.6	38.1
d	4	59	52.2	52.2	90.3
sd	5	11	9.7	9.7	100.0
	TOTAL	113	100.0	100.0	

Mean 3.522 Std Dev .917 Minimum 2.000
Maximum 5.000

Valid Cases 113 Missing Cases 0

- -

Q23 nutrition emphasis

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
sa	1	12	10.6	10.6	10.6
a	2	45	39.8	39.8	50.4
u	3	23	20.4	20.4	70.8
d	4	31	27.4	27.4	98.2
sd	5	2	1.8	1.8	100.0
	TOTAL	113	100.0	100.0	

Mean 2.699 Std Dev 1.043 Minimum 1.000
Maximum 5.000

Valid Cases 113 Missing Cases 0

Q24 weight control prog

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
sa	1	25	22.1	22.1	22.1
a	2	75	66.4	66.4	88.5
u	3	4	3.5	3.5	92.0
d	4	8	7.1	7.1	99.1
sd	5	1	.9	.9	100.0
	TOTAL	113	100.0	100.0	

Mean 1.982 Std Dev .790 Minimum 1.000
Maximum 5.000

Valid Cases 113 Missing Cases 0

Q25 fat calories

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
true	1	48	42.5	42.5	42.5
false	2	32	28.3	28.3	70.8
undec	3	33	29.2	29.2	100.0
	TOTAL	113	100.0	100.0	

Mean 1.867 Std Dev .840 Minimum 1.000
Maximum 3.000

Valid Cases 113 Missing Cases 0

Q26 ingredients and labels

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
true	1	62	54.9	54.9	54.9
false	2	26	23.0	23.0	77.9
undec	3	25	22.1	22.1	100.0
	TOTAL	113	100.0	100.0	

Mean 1.673 Std Dev .818 Minimum 1.000
Maximum 3.000

Valid Cases 113 Missing Cases 0

- -

Q27 low fat milk

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
true	1	105	92.9	92.9	92.9
false	2	4	3.5	3.5	96.5
undec	3	4	3.5	3.5	100.0
	TOTAL	113	100.0	100.0	

Mean 1.106 Std Dev .409 Minimum 1.000
Maximum 3.000

Valid Cases 113 Missing Cases 0

- -

Q28 water and function

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
true	1	113	100.0	100.0	100.0
	TOTAL	113	100.0	100.0	

Mean 1.000 Std Dev 0.0 Minimum 1.000
Maximum 1.000

Valid Cases 113 Missing Cases 0

Q29 digestion and elim

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
true	1	113	100.0	100.0	100.0
	TOTAL	113	100.0	100.0	

Mean	1.000	Std Dev	0.0	Minimum	1.000
Maximum	1.000				

Valid Cases 113 Missing Cases 0

- -

Q30 calories and brea st

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
true	1	90	79.6	79.6	79.6
false	2	9	8.0	8.0	87.6
undec	3	14	12.4	12.4	100.0
	TOTAL	113	100.0	100.0	

Mean	1.327	Std Dev	.687	Minimum	1.000
Maximum	3.000				

Valid Cases 113 Missing Cases 0

- -

Q31 carbohydrate loading

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
true	1	23	20.4	20.4	20.4
false	2	54	47.8	47.8	68.1
undec	3	36	31.9	31.9	100.0
	TOTAL	113	100.0	100.0	

Mean	2.115	Std Dev	.717	Minimum	1.000
Maximum	3.000				

Valid Cases 113 Missing Cases 0

Q32 weight loss method

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
true	1	111	98.2	98.2	98.2
false	2	2	1.8	1.8	100.0
	TOTAL	113	100.0	100.0	

Mean 1.018 Std Dev .132 Minimum 1.000
Maximum 2.000

Valid Cases 113 Missing Cases 0

Q33 fitness assess

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
true	1	84	74.3	74.3	74.[illegible]
false	2	19	16.8	16.8	[illegible]
undec	3	10	8.8	8.8	[illegible]
	TOTAL	113	100.0	100.0	

Mean 1.345 Std Dev .638 Minimum 1.0[illegible]
Maximum 3.000

Valid Cases 113 Missing Cases 0

Q34 magazines and news

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	77	68.1	68.1	68.1
no	2	36	31.9	31.9	100.0
	TOTAL	113	100.0	100.0	

Mean 1.319 Std Dev .468 Minimum 1.000
Maximum 2.000

Valid Cases 113 Missing Cases 0

Q35 radio and tv

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	40	35.4	35.4	35.4
no	2	73	64.6	64.6	100.0
	TOTAL	113	100.0	100.0	

Mean	1.646	Std Dev	.480	Minimum	1.000
Maximum	2.000				
Valid Cases	113	Missing Cases	0		

Q36 dietitian

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	22	19.5	19.5	19.5
no	2	91	80.5	80.5	100.0
	TOTAL	113	100.0	100.0	

Mean	1.805	Std Dev	.398	Minimum	1.000
Maximum	2.000				
Valid Cases	113	Missing Cases	0		

Q37 sports nutr

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	15	13.3	13.3	13.3
no	2	98	86.7	86.7	100.0
	TOTAL	113	100.0	100.0	

Mean	1.867	Std Dev	.341	Minimum	1.000
Maximum	2.000				
Valid Cases	113	Missing Cases	0		

Q38 gym/fitness

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	32	28.3	28.3	28.3
no	2	81	71.7	71.7	100.0
	TOTAL	113	100.0	100.0	

Mean 1.717 Std Dev .453 Minimum 1.000
Maximum 2.000

Valid Cases 113 Missing Cases 0

Q39 books

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	43	38.1	38.1	38.1
no	2	70	61.9	61.9	100.0
	TOTAL	113	100.0	100.0	

Mean 1.619 Std Dev .488 Minimum 1.000
Maximum 2.000

Valid Cases 113 Missing Cases 0

Q40 fit class

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	35	31.0	31.0	31.0
no	2	78	69.0	69.0	100.0
	TOTAL	113	100.0	100.0	

Mean 1.690 Std Dev .464 Minimum 1.000
Maximum 2.000

Valid Cases 113 Missing Cases 0

Q41 family

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	43	38.1	38.1	38.1
no	2	70	61.9	61.9	100.0
	TOTAL	113	100.0	100.0	

Mean 1.619 Std Dev .488 Minimum 1.000
Maximum 2.000

Valid Cases 113 Missing Cases 0

- -

Q42 physician/nurse

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	24	21.2	21.2	21.2
no	2	89	78.8	78.8	100.0
	TOTAL	113	100.0	100.0	

Mean 1.788 Std Dev .411 Minimum 1.000
Maximum 2.000

Valid Cases 113 Missing Cases 0

- -

Q43 other

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	10	8.8	8.8	8.8
no	2	103	91.2	91.2	100.0
	TOTAL	113	100.0	100.0	

Mean 1.912 Std Dev .285 Minimum 1.000
Maximum 2.000

Valid Cases 113 Missing Cases 0

Q44 branch

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
ca	1	56	49.6	49.6	49.6
cs	2	28	24.8	24.8	74.3
css	3	24	21.2	21.2	95.6
other	4	5	4.4	4.4	100.0
	TOTAL	113	100.0	100.0	

Mean	1.805	Std Dev	.924	Minimum	1.000
Maximum	4.000				
Valid Cases	113	Missing Cases	0		

Q45 op des sh

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	34	30.1	30.1	30.1
no	2	79	69.9	69.9	100.0
	TOTAL	113	100.0	100.0	

Mean	1.699	Std Dev	.461	Minimum	1.000
Maximum	2.000				
Valid Cases	113	Missing Cases	0		

Q46 food ser off

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
yes	1	69	61.1	61.1	61.1
no	2	44	38.9	38.9	100.0
	TOTAL	113	100.0	100.0	

Mean	1.389	Std Dev	.490	Minimum	1.000
Maximum	2.000				
Valid Cases	113	Missing Cases	0		

APPENDIX C

ANECDOTAL COMMENTS

ANECDOTAL COMMENTS

HEALTH PROMOTION

. Master fitness trainers return to units and push increased PT programs, not nutrition education.
. Could not get "Fit to Win" materials in Germany.

NUTRITION

. There is a linkage between diet and fitness but many in Army do not understand well enough.
. Link between diet and fitness not well understood at all levels, i.e., ranks and ages.
. Nutrition and total fitness needs more emphasis top down. Soldier perception is that current program is for over 40 or overweight. Soldiers are fast food factories and self perceiving as immortal. A true product of American society. We need to focus on young soldier, change his understanding of nutrition and provide him alternatives.
. We need to do a better job on nutrition education.
. For all our talk and emphasis on nutrition, we still do not follow through, i.e. take it seriously.
. My battalion was in excellent shape going into and throughout Desert Storm; primarily due to an emphasis on PT and nutrition. More emphasis on nutrition would have helped even more. I was comfortable with the MRE in the desert as far as providing adequate nutrition to my battalion.
. I believe the physician's assistant is the best person to act as nutrition expert in a battalion size unit.
. Too much red tape at MEDDAC to be seen by a dietitian.
. Used commercial electrolyte beverage during summer heat at Ft Benning; before, during and after PT.
. Used commercial electrolyte beverage on a 12 mile road march.
. Made commercial electrolyte beverages and protein supplements available but didn't recommend them.
. Recommended soldiers use gatorade during ODS.
. As a reception battalion commander, I often observed young soldiers in the dining facility; one eating habit I observed was that they have an aversion to anything green or unusual. Unless forced, most will not eat vegetables. I believe the eating habits they displayed were at best a reflection of their eating habits at home. Soldiers come to the Army as reflections of society and unless the Army incorporates more nutrition training as part of POIs in BT or incorporate more in unit training, we should not expect much improvement in soldier eating habits until those of general society improves.
. Regulations and military schools place more emphasis on weight control program than on nutrition and eating habits.
. Hydration has to be continuously monitored by commanders.
. Officers, more than NCOs/soldiers understand link between diet and fitness because we have received training.

. Training ranges and maneuver areas frequently have pogey-bait trucks on site which discourages healthful nutrition.
. APFRI didn't tell me anything I didn't already know.
. My peers and subordinates possessed just enough nutritional information to be dangerous, but enough to know good nutrition from bad. I taught more officers some of the basics and had my companies run classes with the hospital dietitian. I think these had some positive impact. I also made every soldier on overweight program receive one-on-one counseling from the dietitian.

GARRISON FOOD SERVICE

. Daily garrison menu has come a long way but could improve more by varying vegetables.
. Need to rearrange dining facilities to put fitness/salad bar selections before higher fat/calorie choices. Then dining facility sergeants can't say soldiers don't like the healthful choices. Had difficulty getting white fish regularly from TISA; frequently they force issued breaded fish.
. When dining facility sergeant would run out of a main course invariably back up choice was a fried selection.

ARMY FIELD FEEDING SYSTEM

. MRE packages should list ingredients.
. Not enough fresh salad; too many calories for light duty soldiers.
. My battalion ate MREs for 52 straight days with only two minor cases of constipation because we maintained command emphasis on water and fresh fruit consumption.
. It was the biggest morale factor I had control over.
. Ate MREs for 3-1/2 weeks in ODS; greatest morale boost was going to T rations at dinner and breakfast, whatever the menu was.
. Insufficient cooks always a problem.
. My guys hated T rations and I couldn't convince them they were good.
. MOS 94Bs in TOEs are too few and get worked to death on exercises and deployments.
. MREs too spicy - cause a lot of heartburn.
. In combat I was forced to pull soldiers of other MOS; to help feed, because the TOE is too short and contract cooks did not deploy with me.
. MREs are a disaster. Try eating them for several weeks - pogey bait is the only thing to get you through.
. AFFS is positive in sense that we needed MREs to train tactically and allowed us to work around two A-rations per day.
. AFFS worked ok in Saudi Arabia as long as T rations were available. My unit ate salad 4 or 5 times between October and April. AFFS needs to improve supplements. At NTC supplements are also always a problem.
. Soldiers think that our field feeding system is a debacle..not very good but adequate; worse than 20 years ago.

- Class I point determined rations to be served.
- Important that breakfast meal be A rations or at least B rations.

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