

Quality Process Improvement Through Healthy Lifestyle Change: The Eisenhower LIFE Wellness Weight Program

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The LIFE Wellness Program is a model healthy lifestyle change program that was developed at the Southeast Regional Medical Command Eisenhower Army Medical Center. This innovative day treatment program saved over 2 million dollars through the retention of military personnel. High satisfaction levels were reported for both patients and their supervisors while participating in this program. Patient's physical fitness scores and numbers of good meals eaten by participants increased while weight and perceived stress were reduced. The major reinforcers for weight loss appeared to be exercise, physical appearance, and self-esteem.

Introduction

In the face of changing political landscapes, the role of the U.S. Army will become increasingly dynamic. The number of deployments, the number of countries supported by the Army, and the average number of days a soldier is deployed away from his or her home station remain substantial. This, coupled with factors such as the current effort to downsize the Armed Forces and a greater concentration on a smaller, more technologically capable Army, makes preparing oneself for the stressful environment of war even more paramount. **This preparation involves family issues, weapons qualification, technical and tactical competence, and soldiers' well-being.** The Fort Gordon Command and Community had many different agencies to address the first three issues; however, the well-being issue of healthy lifestyle change was primarily the responsibility of the soldier. Over the past number of years, there has been a focus on healthy lifestyle change in Psychology, Family Practice, Nutrition Care, and Preventative Medicine. In 1997, 3.8 percent of chapters were for body fat/weight reasons. Those figures for 1998-2001 were 4.5 percent, 3.5 percent, 2.5 percent, and 1.9 percent, respectively. **(Army G1)**

The growing focus on health and wellness may be a reflection of the recent reduction in Army chapters. Accordingly, this proposal established a Health and Wellness Program that would offer the information, the staffing, and the forum for teaching, exercising, monitoring, and evaluating soldiers who needed assistance in meeting the physical requirements placed on them by the Army AR600-9.

This program was designed to assist military personnel in weight reduction and to further reduce the effects of other medical conditions influencing participants. Weight gain leading to obesity, the excess accumulation of body fat, is associated with a number of medical conditions that impair soldiers' ability to deploy, such as knee problems, back problems, depression, and risks of several heart conditions. These findings have salient implications for the general population because obesity is becoming increasingly prevalent. According to the National Health and Nutrition Examination Surveys (NHANES 1999), 35 percent of the population is overweight with a Body Mass Index of 25.0-29.9, and 26 percent is obese with a BMI of 30.0 or more.¹ Sixty-five point eight percent of black women are overweight and/or obese, 65.9 percent of Mexican American women, 49.2 percent of white women, 56.5 percent of black men, 63.9 percent of Mexican American men, and 61.0 percent of white men.² The military is merely a cross section of the American population. Consequently, the Army has soldiers who suffer from the same types of weight and health-related issues that exist in the general population. This type of program assists in the retention of highly qualified soldiers as well as preventing the cost of training new soldiers. The initial cost to train a soldier can cost up to \$65,000³. They have also noted the high cost of failing to retain soldiers through chapters or leaving the military.

Finding a Process to Improve: Rationale for Program Development

At Eisenhower Army Medical Center (EAMC), there was an increase of active duty referrals to Nutrition Care per month for soldiers who were currently not meeting the weight standards for the Army. Thus, it is in the Army's best interest to educate and train soldiers to meet the weight standards to prevent an excess of expenditures on training soldiers who were being chaptered out. Additionally, the training on meeting weight standards enhanced the survivability of soldiers on the battlefield.

The program concept entailed maximizing resources to provide an outpatient treatment regime that included didactics, exercise, timely evaluations, and feedback to the participants. The resources required to support this program fell into three categories: finances, personnel, and space. These categories of resources will be addressed in the briefing to the Executive Staff. With their support, this program could make a difference in the health and wellness of the soldiers stationed at Fort Gordon.

This program employed a variety of behavioral interventions led by experts in each of the fields involved. Other programs similar in nature that have been successful have implemented strategies for proper eating, exercise, counseling, and evaluation. Active duty soldiers were referred to the program through their chain of command, or they voluntarily requested to enroll in the program. An initial interview was conducted with each participant, and lab tests were conducted and reviewed. Upon acceptance, members completed a series of pre-tests on eating habits, weight reduction, and exercise techniques to establish a baseline. This baseline was then used by the staff to determine whether progress had been made by the end of the course. With the enrollees participating in classes on dieting and eating habits, exercising with the Master Fitness Trainer, and receiving continual feedback from the Health and Wellness Team, we

expected significant changes. These results were measured by changes in weight, physical fitness scores, surveys, and psychological test results.

As the Army continues to change, the services in the Army must also change to facilitate meeting the needs of its soldiers. Clearly, health and wellness issues are a priority in today's Army, which constantly deploys its soldiers. Considering the costs incurred to train a soldier, it is a prudent investment to establish this program and to offer soldiers the education and training they need to meet the standards and improve the quality of life. Research⁴⁻⁷ has documented medical and psychological problems related to obesity and has identified them specifically in our military personnel.^{3,6,8,9}

Reason for Quality Change: Clarify the Current Process

The LIFE Wellness Program was created in 1996 after examining several factors that identified this need at Fort Gordon. The first contributing factor was Nutrition Care who reported an increasingly large active duty population desiring their services. Second, the leadership from the Signal Corp, Military Intelligence, and Medical community supported the concept of the LIFE Program. Finally, when discussing this idea with Eisenhower staff, a multi-disciplinary team was developed with the intention of it contributing to an outpatient day treatment program. This program was developed specifically as a means to retain service members who may otherwise have been released from the military, due to their inability to meet weight standards. This program's investment in technically qualified service members improved the service members' quality of life and helped preserve our most valued asset, the service member in highly complex operations today.

Do the Improvement: Program Overview

The Eisenhower Army Medical LIFE Wellness Program is a military weight reduction program that promoted healthy lifestyle change. The program was a psychology-directed multi-disciplinary team of health care providers who offered an intensive treatment approach to lifestyle change. Military personnel who were overweight were targeted for treatment in this health lifestyle change program. Participants were referred to the LIFE program through their command and health care provider. Thirty-three military personnel participated on a voluntary basis. The program focus was on cognitive behavior, exercise, and nutrition principles. These principles were applied to a one-week intensive day treatment program along with a one-year follow-up treatment. Follow-up in the LIFE Weight Program began immediately after day treatment.

Participants in the program completed an initial screening intake interview to assess for psychological issues. Participants found to have marital problems, bulimia, or affective disorders were referred for individual treatment to address such issues prior to attending the program. Participants accepted into the program were referred for a physical examination and were subsequently given a medical examination and a lab test through the Department of Family Practice. Additionally, they were given a psychological assessment through the Department of Psychology. This program was designed to assist military personnel in weight reduction and to further reduce the effects of other medical conditions influencing participants. The program benefited from staff expertise in a variety of areas, such as Family Practice, Internal Medicine, Nursing, Nutrition Care, Occupational Therapy, Pathology, Physical Therapy, Chaplancy, Substance Abuse, Psychiatry, and Psychology. A master fitness trainer was also a member of the team providing physical fitness and administrative support.

We expected improved health of the participants to be demonstrated by changes in weight, physical training scores, and self-report measures by the participants and their command.

Understanding Sources of Process Variation: Program Concept

The concepts and philosophy of the LIFE Program assist members in identifying lifestyle stagnation with a particular emphasis in these core areas: **Lifestyle Change, Individual Readiness, Fitness Excellence, and Eating Healthy.** Lifestyle changes are practices and skills that were unknown or not regularly practiced by participants; however, they began to become health habits when practiced early on in the day treatment portion of the program. Participants were trained in healthy eating skills, communication skills, and stress management skills to promote **Individual Readiness.** Participants were trained in maintaining a diet journal and other techniques that helped modify their eating behaviors. In the **Fitness Excellence** component of the program, soldiers received a broad range of fitness training, which has application to units' fitness programs and well-being time with the family. At the end of the day-treatment portion of the program, we continued with the one-year follow-up program and provided additional fitness training if desired.

A modified LIFE Program was also conducted in the first I.D. which involved four to six weeks for three hours per week. All the other critical components were placed in this program.

The schedule for the first I.D. was as follows:

TIME	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5
3 to 3.5 hours	Group Intro/ Keeping a Food Log The Food Pyramid The Food Exchange Plan	Stress Management Improving your eating technique Commissary Tour Food Log	Dealing with Difficult People How to Cope with Eating Lapses Dining Out Food Log	Nutrition and Stress Nutrition Supplements Food Log	Nutrition in The Field Nutritional Q&A Session

Procedure

Participants attended a five-day initial treatment phase and one-year follow-up support group in Phase 2. Participants were weighed and were given an Army Physical Fitness Test (APFT) prior to the treatment. An APFT was given one to two months after the initial test. Participants' weight was recorded each time they attended the weekly follow-up support group. The participants' supervisors completed an 11- question survey.

Participants

Participants were 33 military personnel who completed the initial five-day LIFE Program day treatment. These participants also received an initial diagnostic Army Physical Fitness Test (APFT) prior to day treatment and a one-month follow-up APFT. There were 12 females and 21 males. There were 19 African Americans, 12 Caucasians, and two Hispanics. Twenty-two LIFE participant supervisors completed an 11-question survey that assessed their satisfaction level with the program.

Results

One month weight loss was significantly related to the increase in push-ups, sit-ups, ($p < 0.01$) and there was a trend for a decrease in run time. Significant gender differences were found on run and push-up scores (all $p < 0.02$); however, there was no significant difference with sit-up scores ($p > 0.80$). The participants that have completed the one-year program had lost a significant amount of weight ($p < 0.01$).

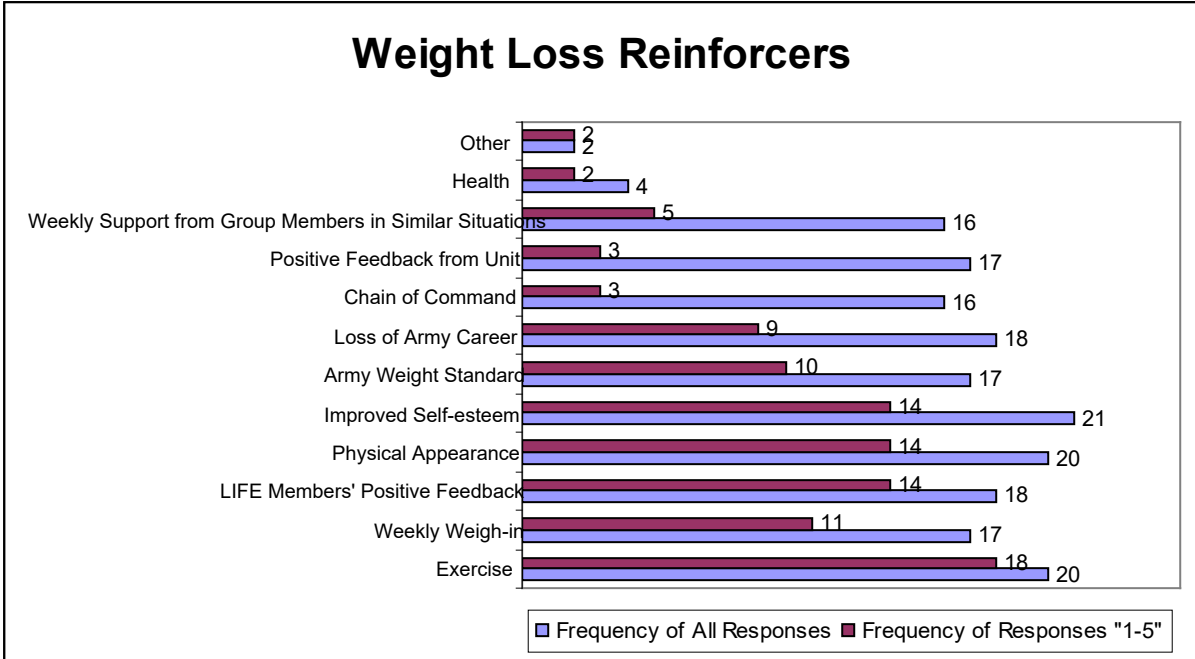
1 Month Physical Exertion Improvements

Female		n=12		Male		n=21	
	0mo	1mo		0mo	1mo		
PU	25(8.6)	35(9.6)	PU	39(8.7)	50(11.2)		
SU	51(11.6)	57(6.8)	SU	51(11.6)	59(10.3)		
RUN	18.92(2.1)	17.9(1.8)	RUN	17.0(2.4)	16.1(1.7)		
Female weight	0mo	1mo	Male weight	0mo	1mo		
	175(30.6)	169(30.4)		218(29.1)	210(26.6)		
<hr/>							
Total		n=33					
	0mo	1mo					
PU	34(11.1)	44(12.7)					
SU	51(10.3)	58(9.1)					
RUN							
Weight	202(36.0)	195(33.9)					

Listed are the Mean (SD)'s above.

In addition, out of 22 patients surveyed, 100% were satisfied with the program. Eighty-three percent of the twelve commanders surveyed were satisfied with the program. Also, twelve commanders were taught new weight control techniques and were provided a comprehensive, multi-disciplinary program for weight reduction. Eleven commanders felt the program increased the unit's readiness and prevented the service member's separation. Eight commanders felt the program saved the unit time, and one commander felt the program gave the service member health habits which would last a lifetime.

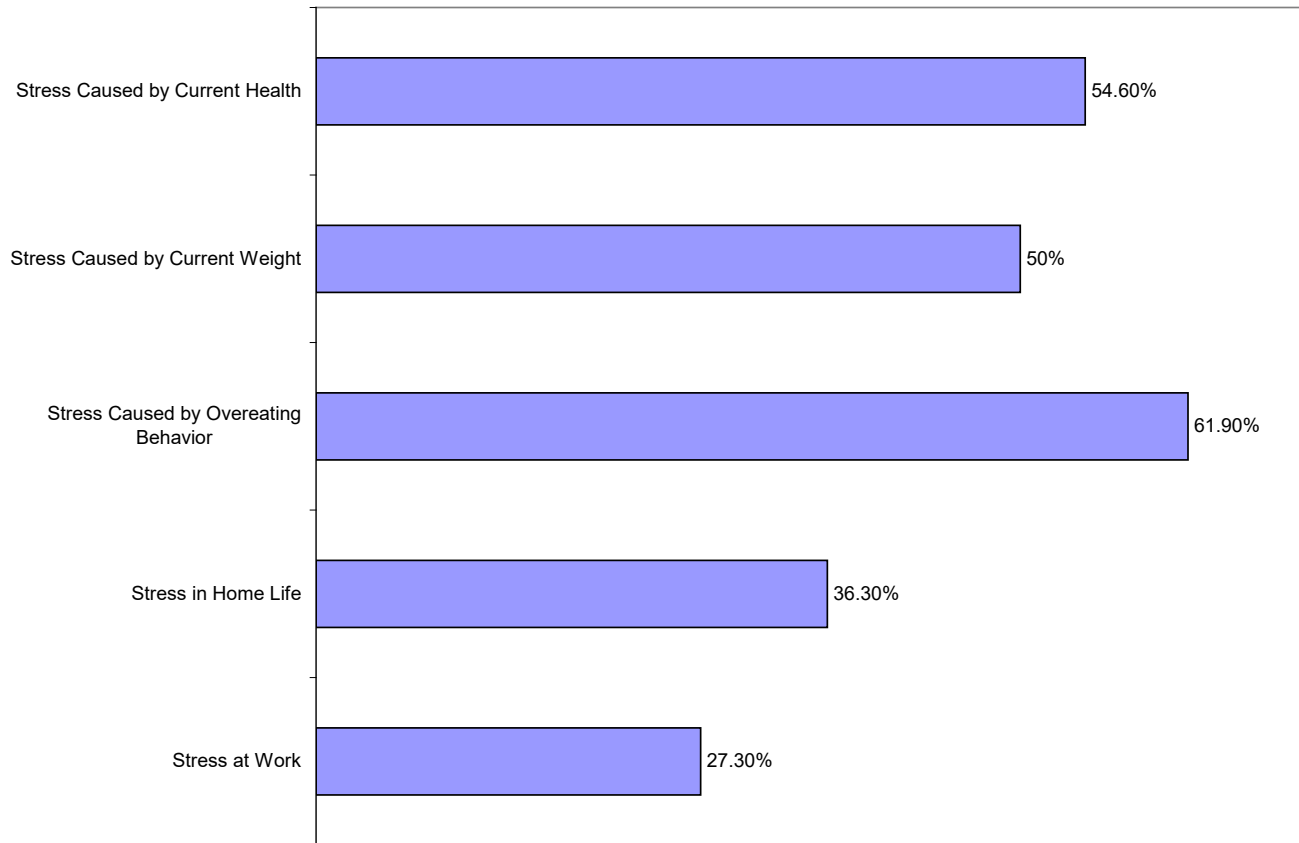
LIFE participants were given a survey to rank which aspects of the program motivated and reinforced their weight loss behavior with a rating of "1" being the most helpful. The following table summarizes the participants' answers:



Exercise, improved self-esteem, and physical appearance were the three most important factors considering the frequency of responses (20, 21, 20, respectively) and the frequency of responses rated “1” through “5” (18, 14, 14, respectively).

Participants were also given a six-item survey about the amount of stress they experienced in the previous year. (1 = very high, 5 = none) The following table summarizes the percentages of participants who responded with “4” or “5” (little or none):

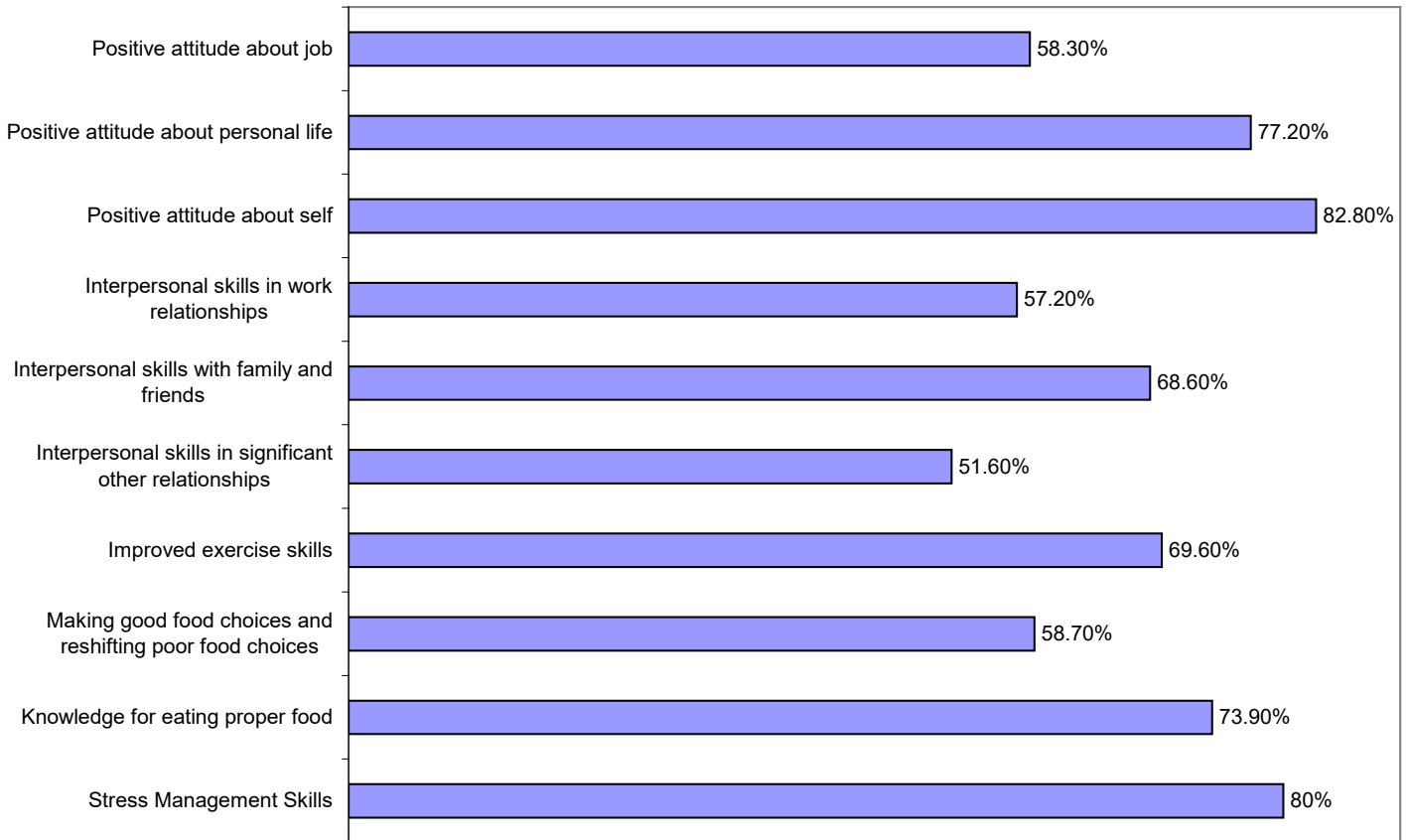
Follow-up Stress Survey



The percentages of answers of “4” or “5” were as follows: Q1- 27.3, Q2– 36.3, Q3- 61.9, Q4- 50.0, Q5- 54.6.

Participants were also given a 10-item survey (1= strongly disagree, 5= strongly agree) about benefits of the LIFE program (nutrition, exercise, interpersonal skills, etc.). The results of this survey are summarized in the following graph:

Follow-up Benefits Survey



The percentages of answers of “4” or “5” were: Q1- 80.0, Q2- 73.9, Q3- 58.7, Q4- 69.6, Q5- 51.6, Q6- 68.6, Q7- 57.2, Q8- 82.8, Q9- 77.2, Q10- 58.3.

Discussion

A program such as LIFE can have positive effects for a unit. It can save the unit training time and improve soldiers’ morale and well-being. Becoming involved and going out into the field is key for physicians, psychologists, nutritionists, and other professionals in making a wellness program succeed. Management (company commanders, for example) can also have

input into the design of such programs. The inpatient approach has benefits such as requiring patients to eat certain healthy foods at certain times, but this approach may not be practical in field units. Therefore, an abbreviated outpatient version of the LIFE program could be a viable alternative. This shorter program might entail three hour sessions once a week for five weeks as outlined earlier. Three hour sessions would have a more powerful dosing effect and thus be more beneficial compared to shorter sessions. Wellness programs such as LIFE are valuable and well received by participants as well as leaders within the division.

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