

Acupuncture And Obesity

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ABSTRACT

Background The prevalence of obesity is increasing in the United States. Treatment options for obesity include a reduced-calorie diet, increased activity, behavior modification, pharmacotherapy, and surgery. In addition to these treatment options, acupuncture may be an effective adjunct therapy.

Objective To describe the efficacy of acupuncture in the management of obesity when administered in conjunction with a reduced-calorie diet and increased physical activity.

Design Prospective, randomized controlled trial from February–April 2001.

Patients and Setting Twenty obese female health care workers (22–42 years) were recruited in Phoenix, Arizona for the 8-week study; 10 of these women were randomized to receive ear acupuncture at the relevant points. All participants had a baseline body mass index higher than 27.

Intervention Acupuncture treatment weekly for 8 weeks (15 minutes per session) with needling of the Shen Men, mouth, stomach, small intestine, and endocrine points. Patients also consumed a 2000-calorie/d diet and increased physical activity.

Main Outcome Measures Change in weight from baseline to trial completion. In addition, change in appetite and compliance were documented.

Results Mean weight loss for patients in the acupuncture group was 9 lbs, while controls demonstrated a mean weight loss of 4 lbs. Compliant acupuncture participants had a mean weight loss of 10.3 lbs; compliant controls had a mean weight loss of 3 lbs. ANOVA (analysis of variance) repeated measures yielded a significant change in weight loss from baseline to trial completion ($P=.003$). There was also a 2-way interaction between weight loss and group ($P=.03$).

Conclusion These findings indicate that ear acupuncture at designated points, in conjunction with a reduced-calorie diet and increased physical activity, can be effective in treating obesity.

KEY WORDS

Obesity, Ear Acupuncture, Diet, Exercise, Randomized Controlled Trial

INTRODUCTION

Obesity is on the increase in the United States.^{1,2} Obesity is a significant factor in morbidities such as hypertension, coronary artery disease, type 2 diabetes, and gallbladder disease.³ Treatment options for obesity include a reduced-calorie diet, increased activity, behavior modification, pharmacotherapy, and surgery.⁴ Ear acupuncture using Shen Men, point zero, appetite control, and stomach points has been demonstrated to decrease appetite and lipid levels, reduce anxiety, and promote weight loss.^{5–9} Data are limited regarding the role of acupuncture in the management of obesity, specifically when administered in conjunction with a reduced-calorie diet and increased physical activity. The purpose of this study was to examine the effect of needling the ear points of the mouth, stomach, small intestine (gastrointestinal points for nutritional factors), endocrine point for overall metabolism, and Shen Men for the anxiety of dieting – in obese women who were instructed to consume a reduced-calorie diet and increase physical activity.

METHODS

Twenty obese female health care workers (22–42 years) from Phoenix, Arizona consumed a reduced-calorie diet and engaged in increased physical activity for an 8-week period between February and April 2001. All women had a baseline body mass index (BMI) higher than 27.

Study participants were prospectively randomized into acupuncture and control groups with 10 women in each group. All participants were required to follow a 2000-calorie/d diet prescribed by the American Diabetes Association, and to exercise (walking) 15 min/d. Members of the acupuncture group also received weekly ear acupuncture at the appropriate ear points, including mouth, stomach, small intestine, endocrine, and Shen Men.^{5–9} Consent was obtained from all participants.

Weights were measured at baseline and at trial completion. Appetite and compliance were documented by self-report. None of the patients experienced any morbidity during this study.

RESULTS

The median baseline BMI was 35 (range, 28->40) for the acupuncture group, and 31 (28->40) for the control group. The median weight for each group was 208 lbs (range, 142-289 lbs) and 179 lbs (128-230 lbs), respectively. Table 1 shows data for weight loss, along with self-reported compliance and decrease in appetite. Table 2 displays data for net weight gain or loss in the 2 groups, and further highlights compliance. Although mean weight loss for women in the treatment arm was 9 lbs, controls demonstrated a mean weight loss of only 4 lbs (Table 2). Compliant acupuncture patients, meanwhile, had a mean weight loss of 10.3 lbs; compliant controls had a mean weight loss of 3 lbs. ANOVA (analysis of variance) repeated measures yielded a significant change in weight loss from baseline to trial completion ($P=.003$). There was also a 2-way interaction between weight loss and group ($P=.03$).

DISCUSSION

The human ear has been described as a microsystem of the body in an inverted fetal position.⁷⁻⁹ The mouth, stomach, and small intestine are critical for eating, digestion, and absorption. The endocrine point assists in metabolic processes while the Shen Men helps ease anxiety related to dieting. The energy associated with needling these points helps the body to function well against obesity. The current study supports evidence from earlier trials of acupuncture for treating obesity.^{5,6}

Table 1. Patient Outcomes

	Acupuncture Group (n=10)	Control Group (n=10)
All 10 acupuncture participants (100%) reported a decrease in appetite, compared with only 1 in 10 controls (10%). Furthermore, total weight loss in the acupuncture group was nearly 3 times greater than in the control group. A mean weight loss of 10.3 lbs for compliant acupuncture		
Patients experiencing weight loss	9	7
Compliant patients	6	4
Patients with decreased appetite	10	1

participants supports the efficacy of the treatment design, particularly when compared with data for the compliant and noncompliant controls. Weekly ear acupuncture at the mouth, stomach, small intestine, endocrine, and Shen Men points, in conjunction with a 2000-calorie/d diet and 15 minutes of daily walking, led to weight loss for obese women.

CONCLUSION

Our findings indicate that ear acupuncture at designated points, in conjunction with a reduced-calorie diet and increased physical activity, is effective in treating obesity. The results of this study emphasize the need for continued research into the value of acupuncture as an adjunct treatment for obese people from a variety of populations. Future studies also need to follow up participants to evaluate the persistence of the acupuncture effect for longer periods.

Table 2. Weight Loss

	Acupuncture Group	Control Group
Net weight changes, lb		
Loss	81	28
Gain	2	12
Loss in compliant patients	63	12

Mean weight changes, lb		
Loss in noncompliant patients	13	4
Loss per patient	9	4
Gain per patient	1	4
Loss in compliant patients	10.3	3
Loss in noncompliant patients	3.25	0.6

REFERENCES

1. Kuczmarski RJ, Flegal KM, Campbell SM, Johnson CL. Increasing prevalence of overweight among US adults: the National Health and Nutrition Examination Surveys, 1960 to 1991. *JAMA*. 1994;272:205-211.
2. Mokdad AH, Serdula MK, Dietz WH, et al. The spread of the obesity epidemic in the United States, 1991-1998. *JAMA*. 1999;282:1519-1522.
3. Wadden TA, Berkowitz RI, Sarwer DB, et al. Benefits of lifestyle modification in the pharmacologic treatment of obesity: a randomized trial. *Arch Intern Med*. 2001;161:218-227.
4. National Institutes of Health. Clinical Guidelines on the Identification, Evaluation and Treatment of Overweight and Obesity in Adults: the evidence report. *Obes Res*. 1998;6(suppl 2):51S-209S.
5. Niemtzw RC. A high-protein regimen and auriculomedicine for the treatment of obesity: a clinical observation part I. *Medical Acupuncture*. 1997/1998;9(2).
6. Apostolopoulos A, Karavi M. Over eating: treatment of obesity and anxiety by auricular acupuncture: an analysis of 800 cases. *Acupuncture Med*. 1996;14(2).
7. Helms JM. *Acupuncture Energetics: A Clinical Approach for Physicians*. Berkeley, Calif: Medical Acupuncture Publishers; 1995:137-139.
8. Frank BL, Soliman NE. *Atlas of Auricular Therapy and Auricular Medicine*. Richardson, Tex: Integrated Medicine Seminars; 2000.
9. Oleson T. *Auriculotherapy Manual: Chinese and Western System of Ear Acupuncture*. 2nd ed. Health Care Alternative Publishers; 1996:37, 56, 93.

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