

Results of a randomized trial comparing individual e-mail with group e-counseling in a PDA enhanced Internet Program

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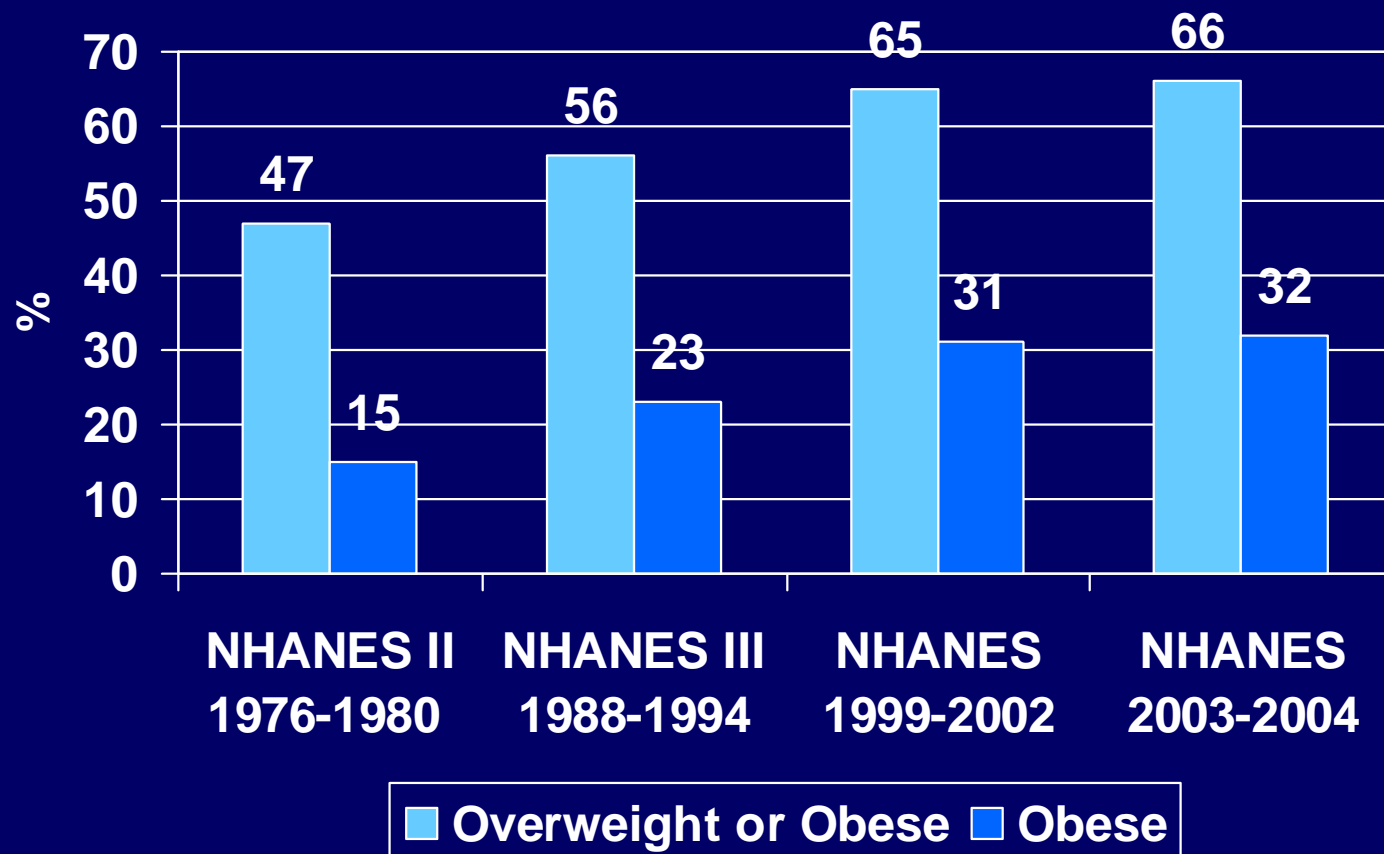
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Prevalence of Overweight and Obesity



Modest Weight Losses Significantly Reduce Morbidity

- Evidence-based treatment exists
- Diabetes Prevention Program
 - Modest weight loss (7%) results in a 58% reduction in diabetes incidence compared to placebo



(DPP Research Group, New England Journal of Medicine. 2002 Feb 7;346(6):393-403)

Gold Standard

- Behavior Therapy/CBT interventions
- Substantial face-to-face contact for 12-18 months or longer
 - Weekly group or individual for 6 months, bi-weekly for 6 months, monthly for 6 months

one treatment
can not
Serve All



Research Area

- What type of Internet intervention is most effective & cost-effective for long term management of weight?
 - Comparing Internet interventions
 - Utilizing additional strategies to increase the efficacy of Self-directed IBT

Overview of Studies

	Population/ Outcome	Intervention Duration	Interventions Studied
<u>Study 1</u> N=92	Adults Weight Loss	6 mo	1) Internet Education 2) Internet Behavior therapy (IBT)
<u>Study 2</u> N=92	Adults Weight Loss	12 mo	1) IBT (self-directed) 2) IBT w/ E-mail counseling
<u>Study 3</u> N=225	Adults Weight Loss	6 mo	1) Internet Education 2) IBT w/ computer tailored e-counseling 3) IBT w/ human e-counseling
<u>Study 4</u> N=158	Adults Weight Loss	12 mo	1) IBT group e-counseling w/ Palm pilot monitoring 2) IBT individual e-counseling w/Palm pilot monitoring
<u>Study 5</u> N=64	Adolescents Weight Loss	6 mo	1) Brief Face to Face 2) Brief Face to Face Plus IBT
<u>Study 6</u> N=312	Adults Weight Maintenance	18 mo	1) Newsletter 2) Face-to-Face 3) Internet

Overview of Studies

	Population/ Outcome	Intervention Duration	Interventions Studied
<u>Study 7</u> N=17 n=1200	Adults Weight Loss Worksite	12 mo	<ol style="list-style-type: none"> 1) Environmental Changes (ENV) 2) ENV + S-IBT (self-directed) 3) ENV + S-IBT + \$\$
<u>Study 8</u> N=13 n=1200	Adults Weight Loss worksite	18 mo	<ol style="list-style-type: none"> 1) Environmental Changes (ENV) 2) ENV + \$\$ 3) ENV + S-IBT 4) ENV + S-IBT + \$\$
<u>Study 9</u> N=20	Families Weight Loss in parent/child	6 mo	<ol style="list-style-type: none"> 1) Parenting skills focused website 2) Parent focused IBT

Background

- In Face to Face programs, group treatment has been shown to be equal or perhaps superior to individual treatment modalities
- More cost effective

IND vs. GRP – Bulimia

- Significant positive effects on both remission and recovery in Bulimia Nervosa with no differences between IND or GRP

Nevonen, L. & Groberg, A. (2006). Int'l Journal of Eating Disorders; 39: 117-127.

IND vs. GRP - Obesity

- Group treatment resulted in 1.9 kg greater weight losses than did individual treatment, even for those clients with a preference for individual therapy
- More cost effective

Renjilian, D; Perri, M. et al. . Individual versus group therapy for obesity: Effects of matching participants to their treatment preferences., *JCCP*, 2001, Vol. 69, Issue 4

Individual E-counseling

PROS

- Attention/tailoring to individual needs
- Private; participants may be more likely to disclose
- Asynchronous
- Convenient

CONS

- Asynchronous
- Less cost efficient
- No social comparison

Group E-counseling

PROS

- Cost efficient
- Opportunities for Social Support
- Synchronous

CONS

- Synchronous -
(Requires availability similar to in person support)
- Chat format is somewhat difficult to follow

Hypothesis

- The Enhanced Individual Internet program (IND) will produce significantly better weight loss at 3, 6 and 12 months than an a Group Internet program (GRP).

Both Groups

- 1 Face-to-Face Group Mtg. Web & PDA Orientation
- Dietary Recommendation
- Physical Activity Goals
- PDA Self-Monitoring
- Identical Website Content
- Weekly e-mail reminder

Group

- Submit Diary Summary
- Weekly Online Chat
- 1:20

Individual

- Upload PDA data
- Weekly E-mail
- 1:1

Rationale for PDA monitoring

- Frequency of self-monitoring is one of the best predictors of weight loss
- Self-monitoring is time consuming and difficult
- Upload of complete data could enhance individual e-mail counseling.

Traditional Weight Loss Diary

DATE: Tuesday, 3/21/00

TIME	FOOD OR BEVERAGE	CAL.	FAT
8a	4oz. orange jc	60	0
"	3/4c. special K cereal	80	0
"	4oz skim milk	45	.5
"	8oz coffee	0	0
	TOTAL	185	.5
12p	Lean Cuisine vegetable lasagna frozen entree	270	7
"	10 grapes	50	0
"	12oz diet coke	0	0
	TOTAL	505	7.5
4p	6 animal crackers	50	1.5
	TOTAL	555	9
6 ³⁰ p	4oz. skinless chick brst	190	4
"	1/2 c. cooked rice	90	0
"	1/2 c. mixed vegetables	60	0
"	1/2 tsp margarine	20	2.0
"	salad	0	0
"	vinegar - balsamic	0	0
	TOTAL	915	15
8p	1/2c. jello instant red, cal choc fudge pudding prep w/ skim milk	80	0
	TOTAL CALORIES AND FAT	995	15

PDA's for Monitoring Diet & Exercise



The screenshot shows a PDA application interface with a top navigation bar containing icons for a scale, an apple, a person running, a target, a list, a line graph, and a target with a star. Below the navigation bar is a summary row: "369 Calories (Cal) of 1440 #". A table lists items: "109 bananas, fresh 1 ea", "170 granola, apple blueberry 0.5 cup", and "90 soy beverage, plain lite 8 fl oz". At the bottom, there are buttons for "B", "L", "D", "Snacks", and "Day", a date display "6/26/02", and a search icon.

▼ Calories (Cal) of 1440 ▼ #		
109	bananas, fresh	1 ea
170	granola, apple blueberry	0.5 cup
90	soy beverage, plain lite	8 fl oz

B L D Snacks Day

0 6/26/02

PDA Methods

Palm pilot with off the shelf software

Memory card added with software to backup nightly

Programmed new application to upload data with touch of button
(Individual only)

Provided wireless service for palms or modem upload to our secure server





Halloween is just around the corner!



Check out these helpful tips for a healthy holiday!

[The Candy Counter](#)
[Autumn Activities](#)

FUN STUFF THIS WEEK

Poll Question-of-the-Week

Who do you most rely on for support?

- Spouse
 Other Family Member
 Friend
 Co-worker
 Boss

[SUBMIT](#) [-View Results-](#)

Tip-of-the-Week

Enlist your family's help! Good health is important to everyone in the family. Even if your family members do not want to lose weight, they can still help you prepare nutritious meals, stick to your exercise plan, and avoid unwise food choices. Ask them to not to bring home

Welcome, DebA!

PROGRESS REPORT

> My Last Reported Week

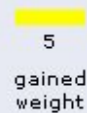
-Weight:
-Avg. Daily Steps: 1,429

> My Totals so Far:

-Weight Change:
-Miles I've gone: 10



29
lost weight



5
gained weight



1
above start weight

[VIEW MY WEIGHT CHART](#)

Your group's weight zones:
week of 10/23/2005



THIS WEEK'S LESSON



[Building Social Support](#)

CHAT [go to Chat >>](#)

[^CHAT TECHNICAL SUPPORT^](#)

Next Chats

- Wed. Oct. 26 at 8pm
- Wed. Oct. 26 at 9pm

Last chat:

- Oct. 19
- [8 pm Transcript](#)
- [9pm Transcript](#)

[LESSONS](#)[MESSAGES](#)[LIBRARY](#)**healthLife**About: [ME](#) | [GROUP](#) | [STAFF](#)[View previous lessons >>](#)

Select one

[TO DO LIST](#)







lesson five:

Building Social Support

Social scientists have studied the ways people provide help or support to one another and have identified three categories of social support: **informational, practical, and emotional**. Each of you in this program is working hard to make healthy changes in eating and exercise behavior and to lose weight. Ultimately, no one but you can make this important behavior change happen. However, family and friends may be able to help you achieve your healthy changes by providing you with various kinds of social support.

This lesson will help you understand the different types of social support, how to ask for it, and how to maintain it. Some of you may already be sharing the lessons from this program with your significant others so that they may better understand what it is you are trying to accomplish. We encourage you to show this particular lesson to family members and/or friends who may be in a position to offer you needed support.



-  Great John
-  **leader_karen**
This week we are talking about thoughts and weight control.
-  **leader_karen**
Most of us can see a relationship between our feelings and our actions.
-  **leader_karen**
Has anyone noticed that you eat more when you feel stressed, bored, nervous or depressed? GO
-  **LauraW**
i am definitely an emotional eater--stress makes me want to eat!
-  **JohnT**
when i'm stressed which is most of the time these days

Empty text input field for sending a message.

USERS **ROOMS**

Enter

Rooms	
Mon. HEALTH...	4
Lobby	0
Meeting	0
Tues. HEALTH...	0

SETTINGS LOGOUT

SEND MESSAGE

HELP! Chat messages are displayed here. Single-click on a private message to reply.

Baseline Characteristics

	Group (n=79)	Individual (n=81)	p-value
Weight (kg)	87.7	87.0	.78
BMI (kg/m ²)	31.5	31.6	.83
Age (years)	45.2	46.6	.30
Caucasian (%)	85	89	.45
Males (%)	17.7	17.3	.94

Follow-Up

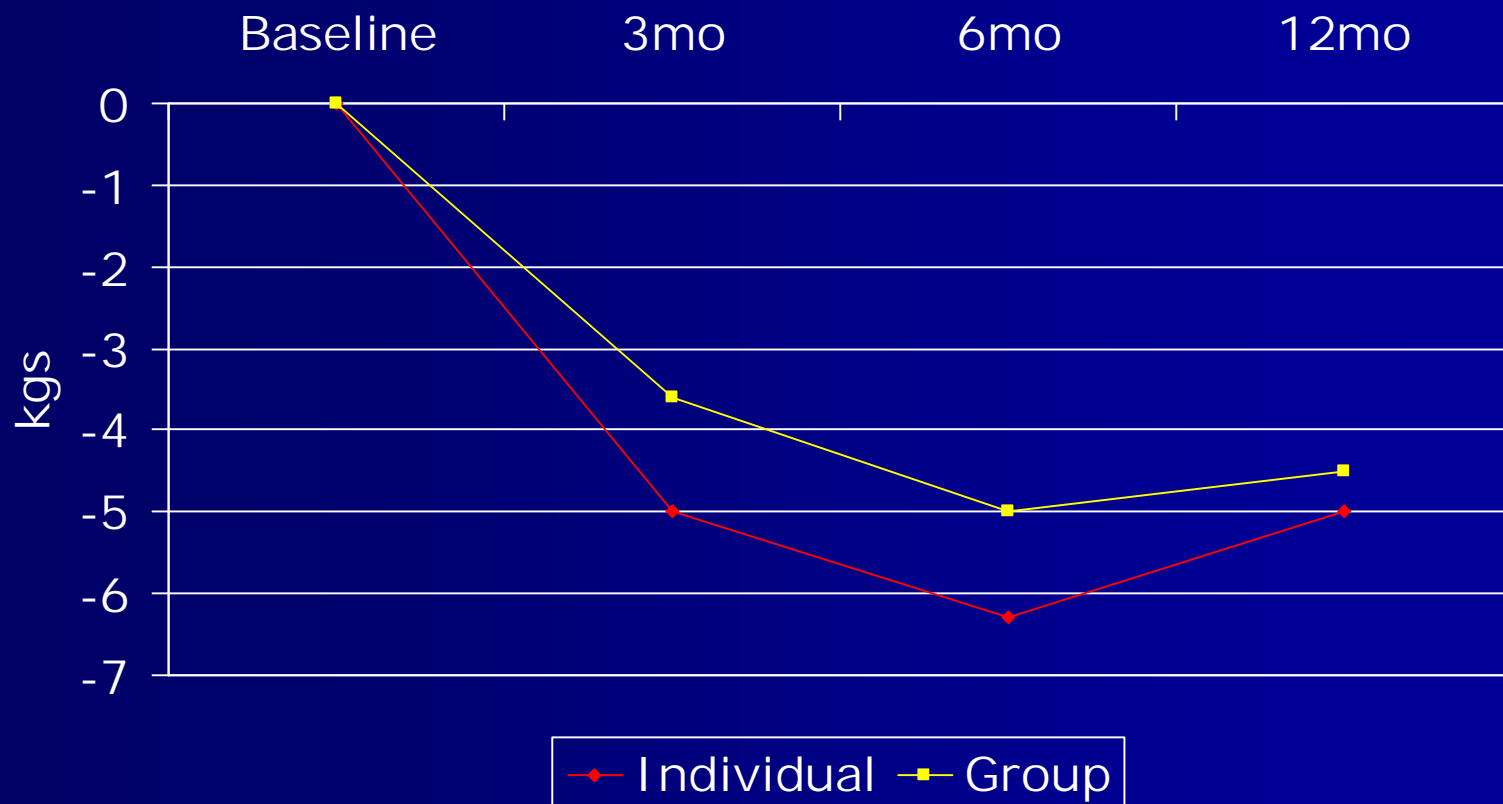
- Objective weights were obtained in the clinic by blinded assessors
- Retention at each follow-up

	Total
3mo	95%
6mo	91%
12 mo	89%

Data Analysis

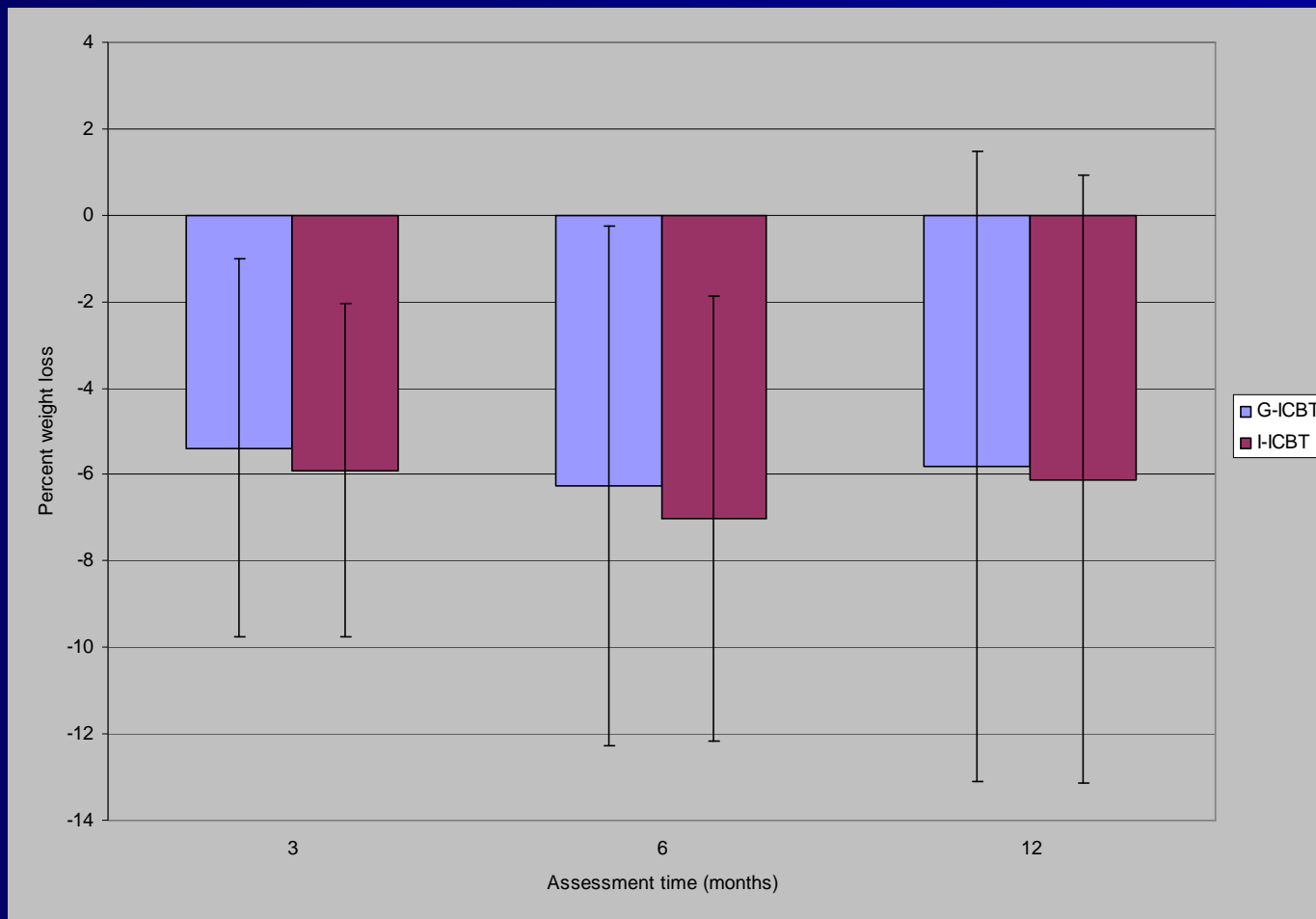
- Regression models for longitudinal data (GEE) were used to estimate the effect of individual vs. group counseling on outcomes at months 3 and 6 .
- All regression models adjusted for baseline BMI, gender, (which were used in the randomization algorithm) and study wave.
- We allowed for effects for assessment period and a possible assessment-by-treatment interaction.
- Except for the outcomes of % change in weight and attainment of 5% reductions in weight, the baseline measure was used as a covariate in all models.

Weight Loss

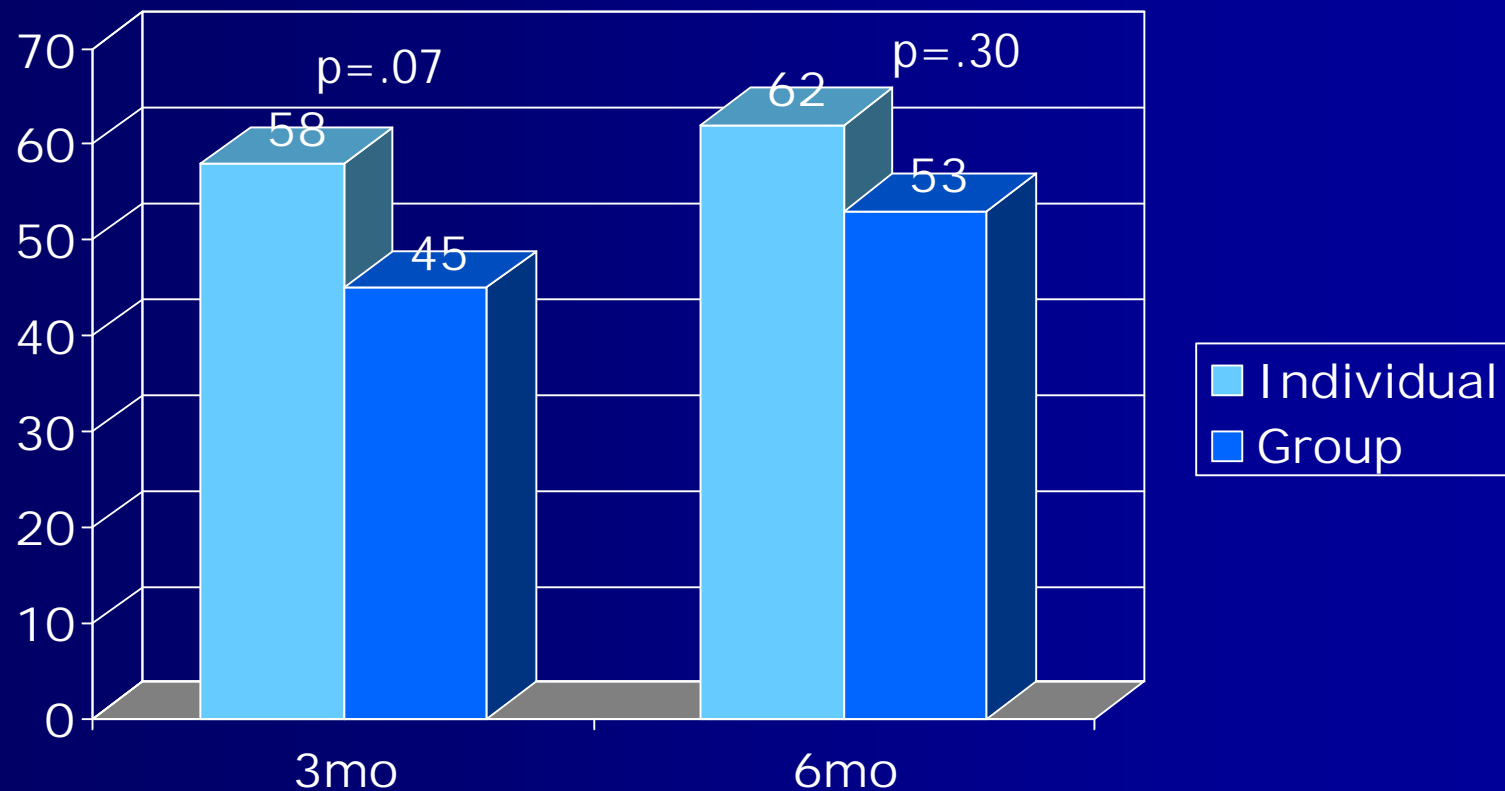


p's are non-significant

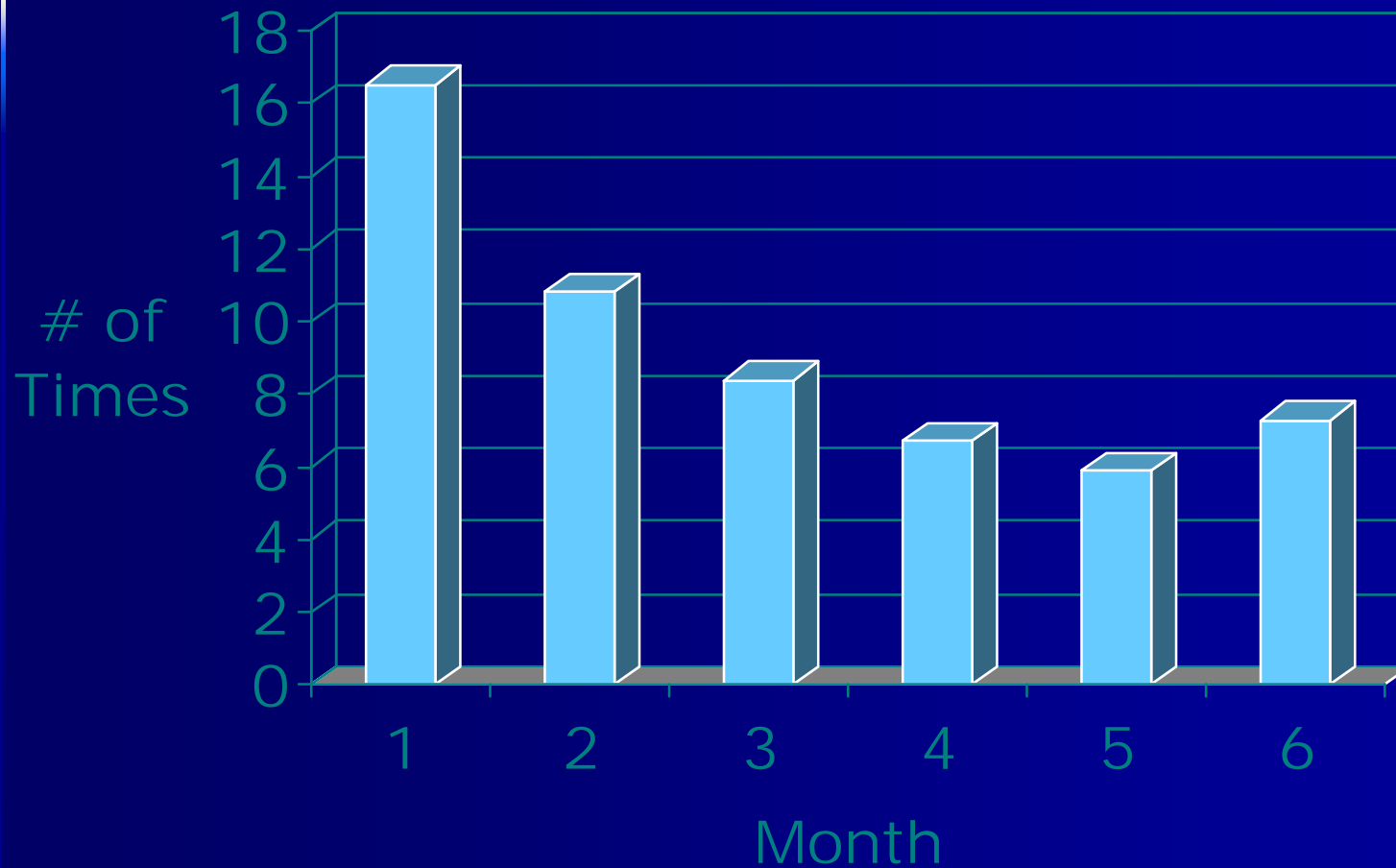
Percent Weight Loss



Met 5% Weight Loss Goal



Average Logins Per Month Over Time



Logging in More is Related to Greater Weight Loss at 6 months



Tertiles of Average Logins over 6 months

Adherence to Program Components & Weight Loss

Total Logins	.42
Online Diary Submission	.51 to .64
Attend Chats	.55
Index Score Diaries & Chat Attendance	.41

All $ps < .01$

Summary

- Both group and individual formats resulted in weight losses of $\geq 5\%$
- Individual and group formats do not differ significantly in weight loss produced.

Preliminary Cost Comparison

- Preliminary estimates of the counseling costs
 - 1/3 of the cost to deliver group

Implications

- Group e-counseling may provide a more cost-effective way to increase efficacy of Internet weight loss programs compared with individual e-mail approaches.

Thank You

- NIDDK
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- Statistics
 - Joseph Hogan, Ph.D.
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- Staff & Counselors:
 - Karen Erickson, MPH
 - Molly Grabow, MPH
 - Natalie Robinson, MS, RD
 - Emma Berca, BA
 - Erica Fergeson, BS, RD
 - Renee Kemske, MS, RD
 - Jeanne Gabriele, MS
 - Kelly Webber, BA

Average weight change by drop out pattern comparing treatment groups

