Effectiveness of Group-visits in a Women's Lifestyle Physical activity Program for African American Women

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Disclosure

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Learning objective

The learner will be able to:

1. Describe the components of the lifestyle physical activity program designed to increase physical activity in African American women

2. Discuss the effects of the program components on adherence to physical activity.

No conflicts of interest

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BACKGROUND

- Need for culturally relevant, reproducible, cost-effective physical activity interventions for African American women that translate into "real world" clinical practice.

- 2001 designed a 12 month Women's Walking Program in collaboration with African American women (4 workshops & telephone coaching calls)
  - Retention rates at 6 months were high (85%)
  - Enhanced treatment group with workshops better adherence to walking 30 minutes 3 to 5x/week
  - Only 50% of the enhanced treatment group adhered to walking 3 to 5x/week at 6 months

BACKGROUND

Follow-up focus groups

- Relying on planned bouts of brisk walking problematic
- Workshops ended after four weeks so the women did not have the needed group social support when needed
- Women with low adherence tended to avoid telephone contacts

Changes to intervention

- Lifestyle: volume, steps, identified step goal
- Group visits (every 5 weeks during adoption & 1 during maintenance) are cost-effective & reimbursable
- Between group visits; two strategies (automated vs. person-contacts motivational interviewing)

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- To describe the components of the Women's Lifestyle Physical Activity Program based on Social Cognitive Theory that emphasizes behavioral skills to adopt/ maintain an active lifestyle.

- To examine the effect of intervention components (group-visit, personal calls, automated calls) on adherence to lifestyle physical activity in African American women.

The Women's Lifestyle Physical Activity Program

Six group visits guided by Social Cognitive Theory
(2 hours, culturally targeted/ tailored)

- Individual component:

  - lifestyle physical activity

  - prescription (overall goal, 3,000 steps over baseline, monitored steps by telephone

    response system)

- Group component:

  - role modeling

  - problem solving

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Telephone contacts (designed to keep connected between group visits)

- Personal calls (PC)
  Motivational interviewing (11)

- Automated telephone calls (AC)
  Barrier tips (11)

- No telephone calls

Meet your Women's Walking Program Staff

METHODS: SITES
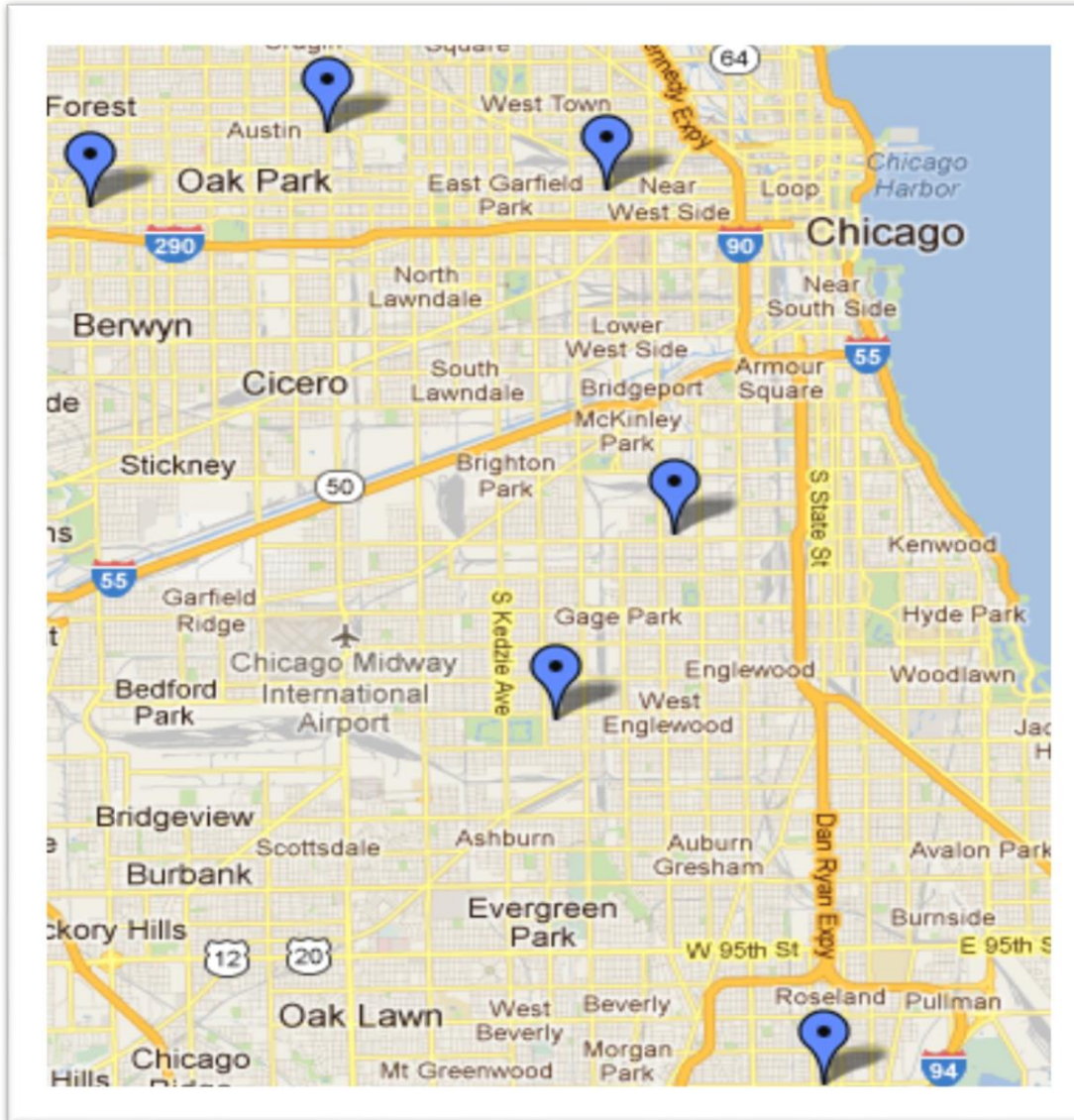
-3 community health centers

-3 community hospitals

METHODS: DESIGN

	Sites & order of delivering condition (Latin Square Design) Sites					
Wave	**1**	**2**	**3**	**4**	**5**	**6**
1	Group visit	Group visit	Group visit + PC	Group visit + PC	Group visit +AC	Group visit + AC
2	Group visit +AC	Group visit + PC	Group visit + AC	Group visit	Group visit	Group visit + PC
3	Group visit + PC	Group visit + AC	Group visit	Group visit + AC	Group visit + PC	Group visit

METHODS: SUBJECTS

Inclusion

- Female
- African American
- Sedentary
- Aged 40 to 65 years
- Without disabilities that would prevent regular participation in physical activity

Exclusion

- Major signs or symptoms suggestive of pulmonary or CVD
- Blood pressure $\geq$ 160/100 mmHg
- Self-reported history of myocardial infarction, stroke, $HbA_{1c} \geq 9$
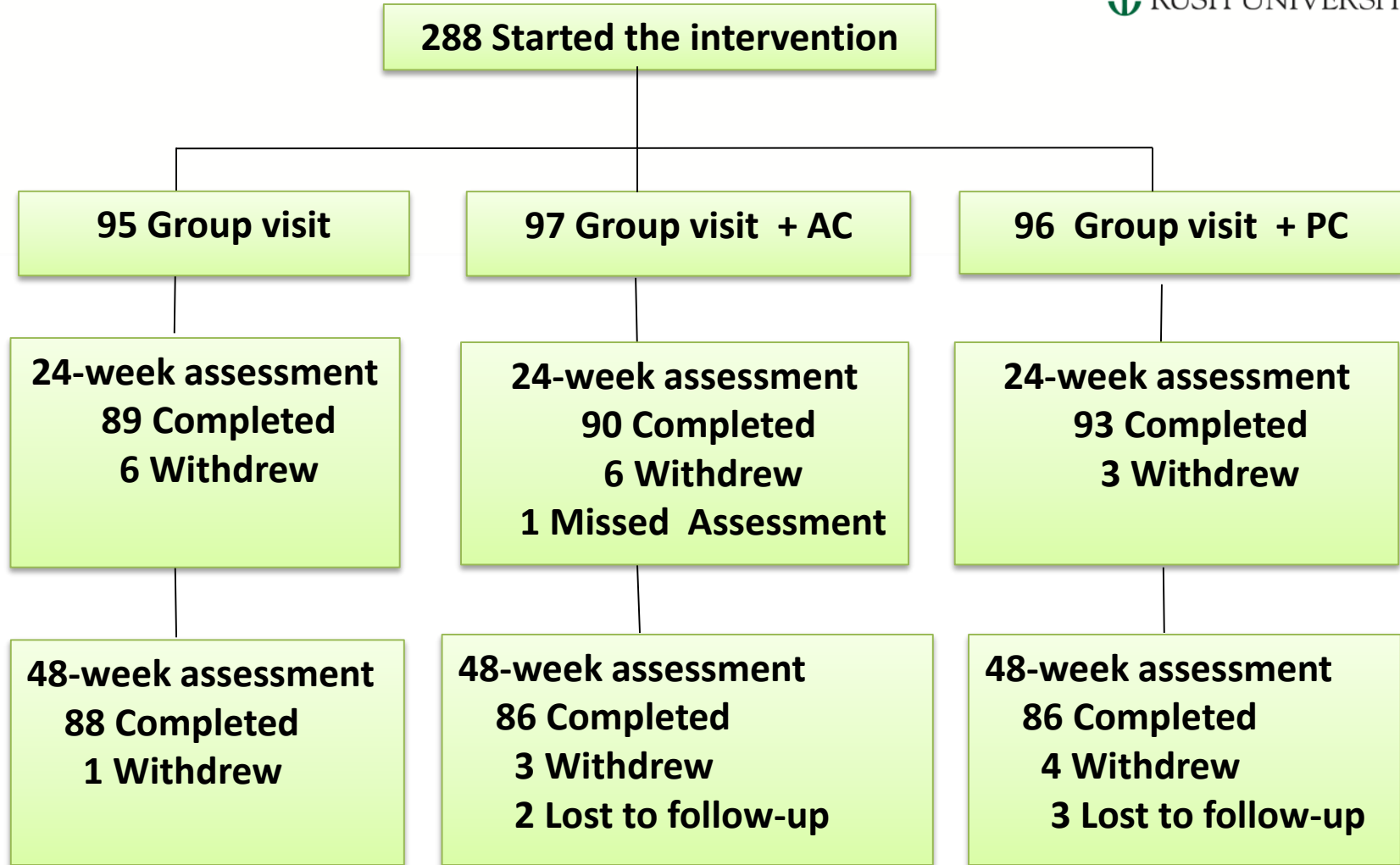
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Adherence to Lifestyle physical activity

- **Community Healthy Activity Model Program (CHAMPS)**

  – Overall moderate leisure time and household activities (30 items)

  – Retrospective past two weeks

  – Duration and MET value

  – Calculated minutes per week spent in:

    - overall moderate-to-vigorous physical activities

    - walking

METHODS: MEASURES

- **Accelerometer Lifecorder** EX (NL2200)
  - 90 days worth of steps and automatically resets to 0 steps at midnight
  - Piezo-electric gauge was shown not to be affected by increasing BMI or circumference of the waist and hip
  - Valid accelerometer data were days that included 1200 or higher steps.
  - Accelerometer steps (mean daily) were assessed at:
    - Baseline (steps accumulated from the week of blinded pedometer data divided by the number of days with valid data) .
    - 24 and 48 weeks (steps accumulated in the month before and after the 24 and 48 week assessments divided by the total number of days with valid data).

METHODS: MEASURES

- **Aerobic fitness test two minute step test**
  - Senior fitness test
  - Walk in place, lifting their knees to a minimum target midway between the patella and the iliac crest
  - Tape placed at this height on adjacent wall
  - A tally counter was used to count the number of times the right knee reached the stepping height
  - Score was determined by the number of full steps completed in 2 minutes

RESULTS: CONSORT SHEET

288 Started the intervention

95 Group visit	97 Group visit + AC	96 Group visit + PC
24-week assessment 89 Completed 6 Withdrew	**24-week assessment** 90 Completed 6 Withdrew 1 Missed Assessment	**24-week assessment** 93 Completed 3 Withdrew
48-week assessment 88 Completed 1 Withdrew	**48-week assessment** 86 Completed 3 Withdrew 2 Lost to follow-up	**48-week assessment** 86 Completed 4 Withdrew 3 Lost to follow-up

RESULTS: BASELINE DEMOGRAPHICS

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| Demographic Variables	(N=260)
Age, years M(SD)	53.5 (6.5)
Education, college graduate or higher (%)	49.2
Income (%)	
Medium	51.8
Low	48.2
Employment (%)	
Not employed (n=36)	13.8
Employed at only one time period (n=11)	4.2
Employed at only two time periods (n=20)	7.7
Employed at all three time periods (n=193)	74.2
Married/living with partner (%)	38.8
Children under 18 in household (%)	36.5

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Changes from Baseline to 24 and 48 Weeks by Outcome Measure and Intervention Condition
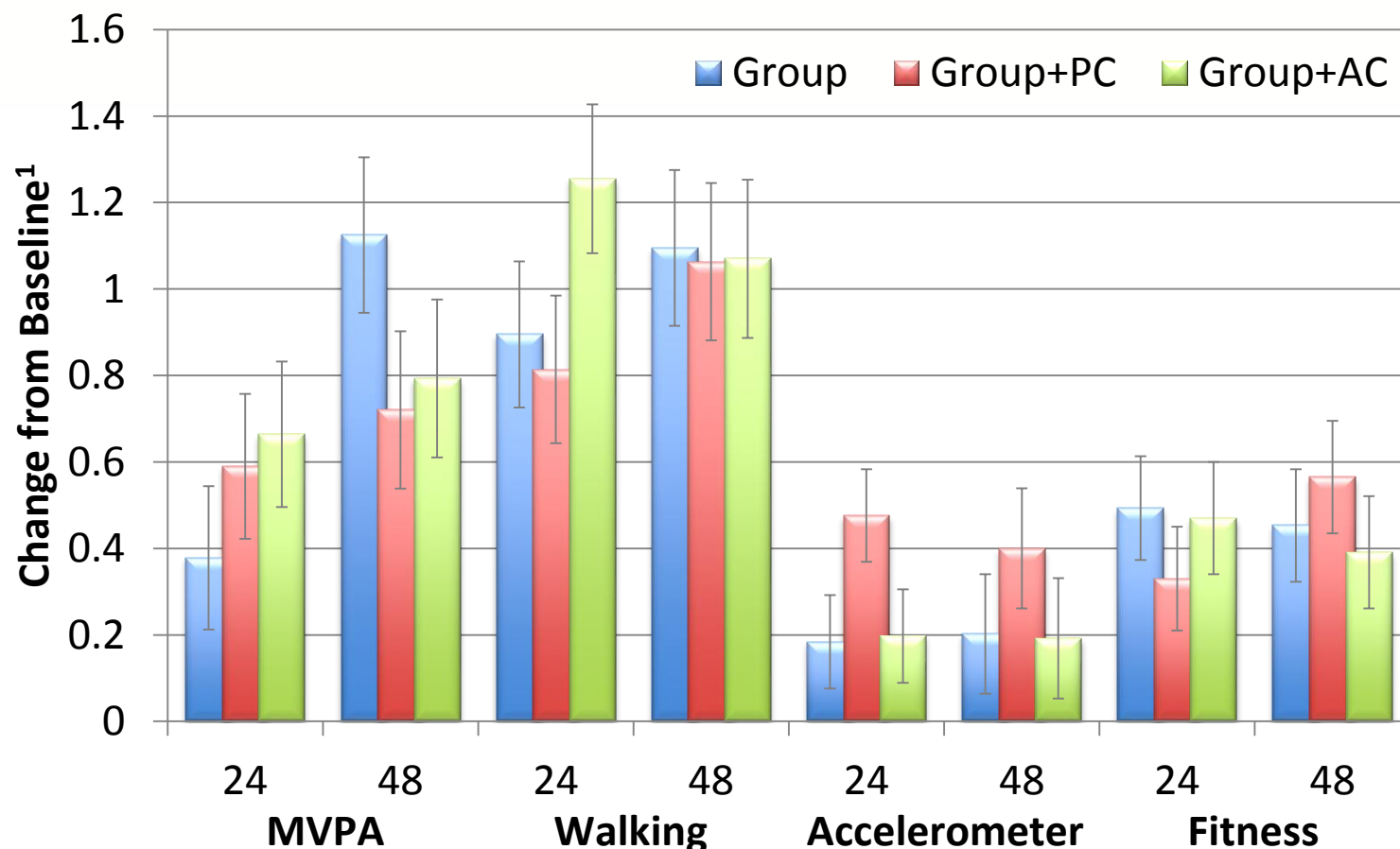
[1] Change expressed as effect size (Cohen's *d*). Main effects for all changes are statistically significant. Differences by condition are non-significant. Error bars represent ±1 SE.
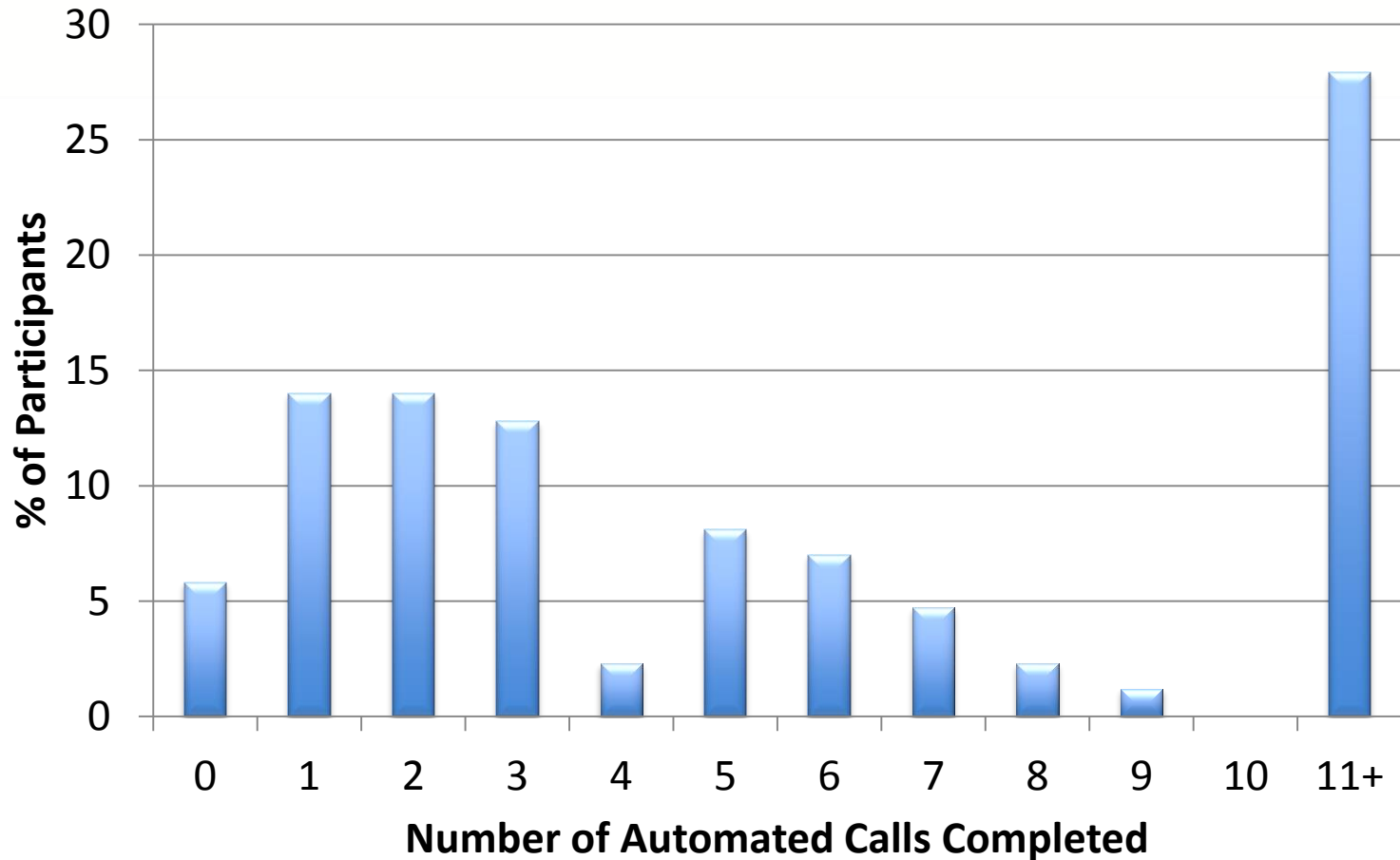
RESULTS: GROUP VISIT DOSE

Number of Group Visits Attended by Participants (n=260)
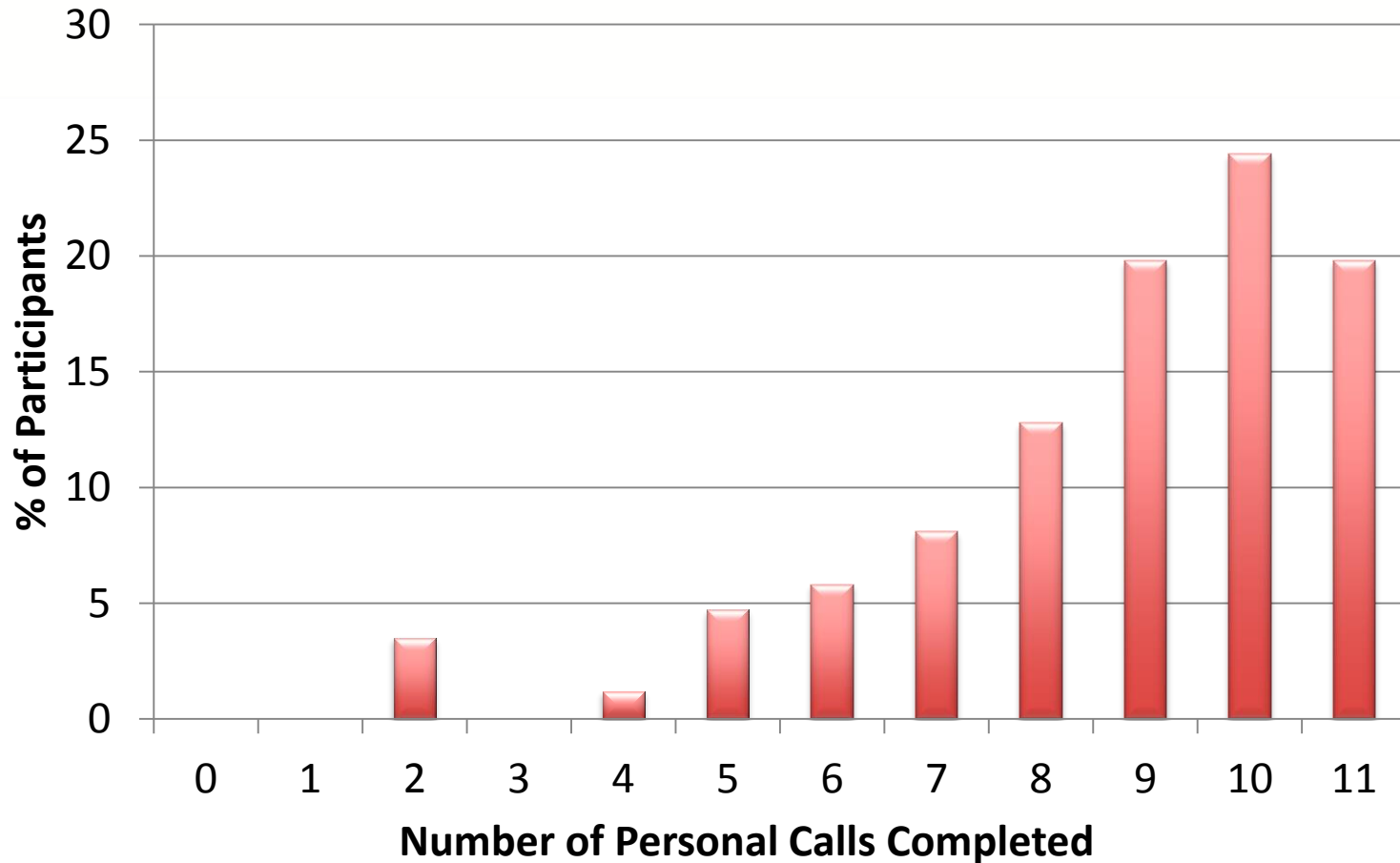**(mean= 5.14, SD=1.22)**
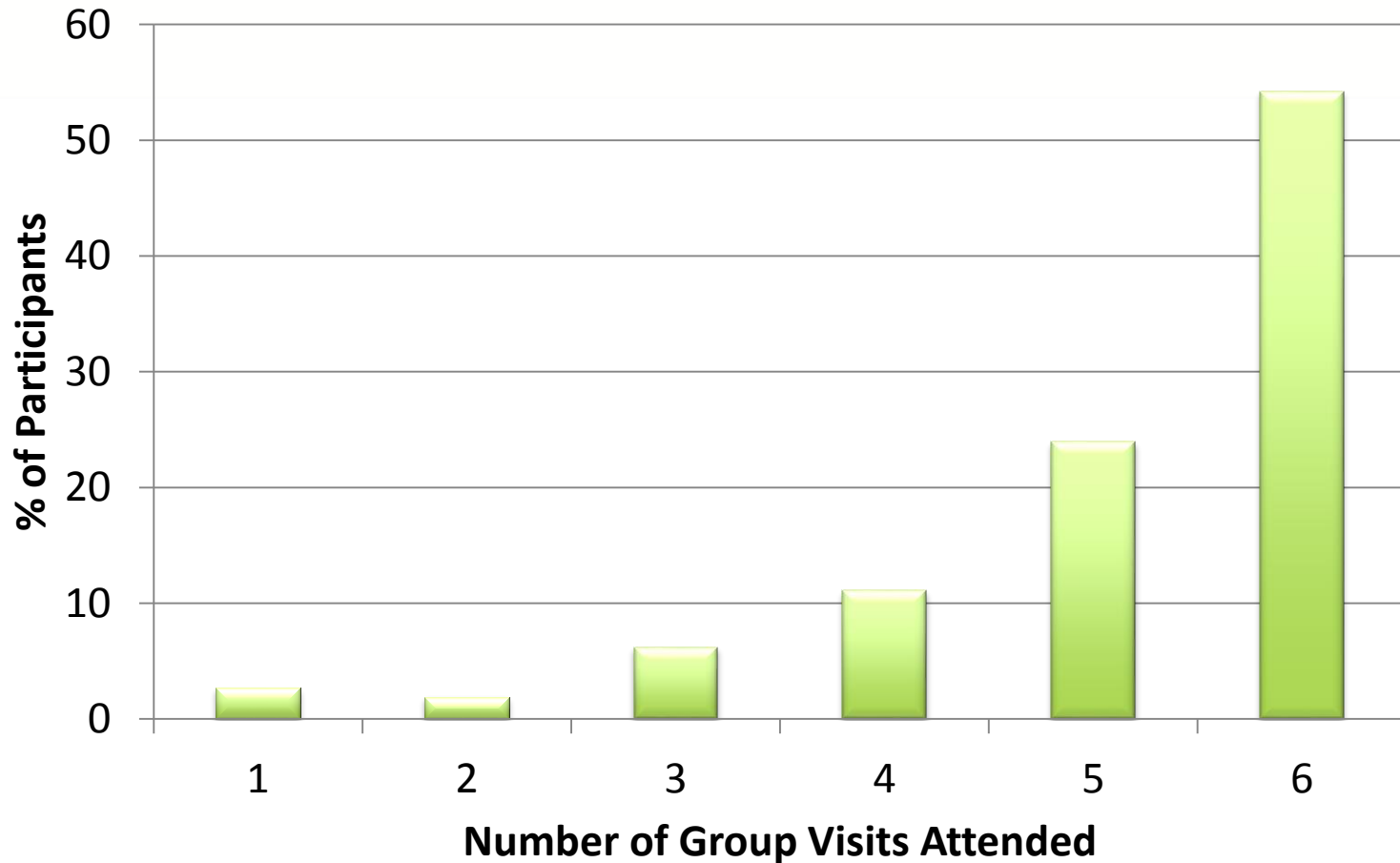
RESULTS: CALL DOSE

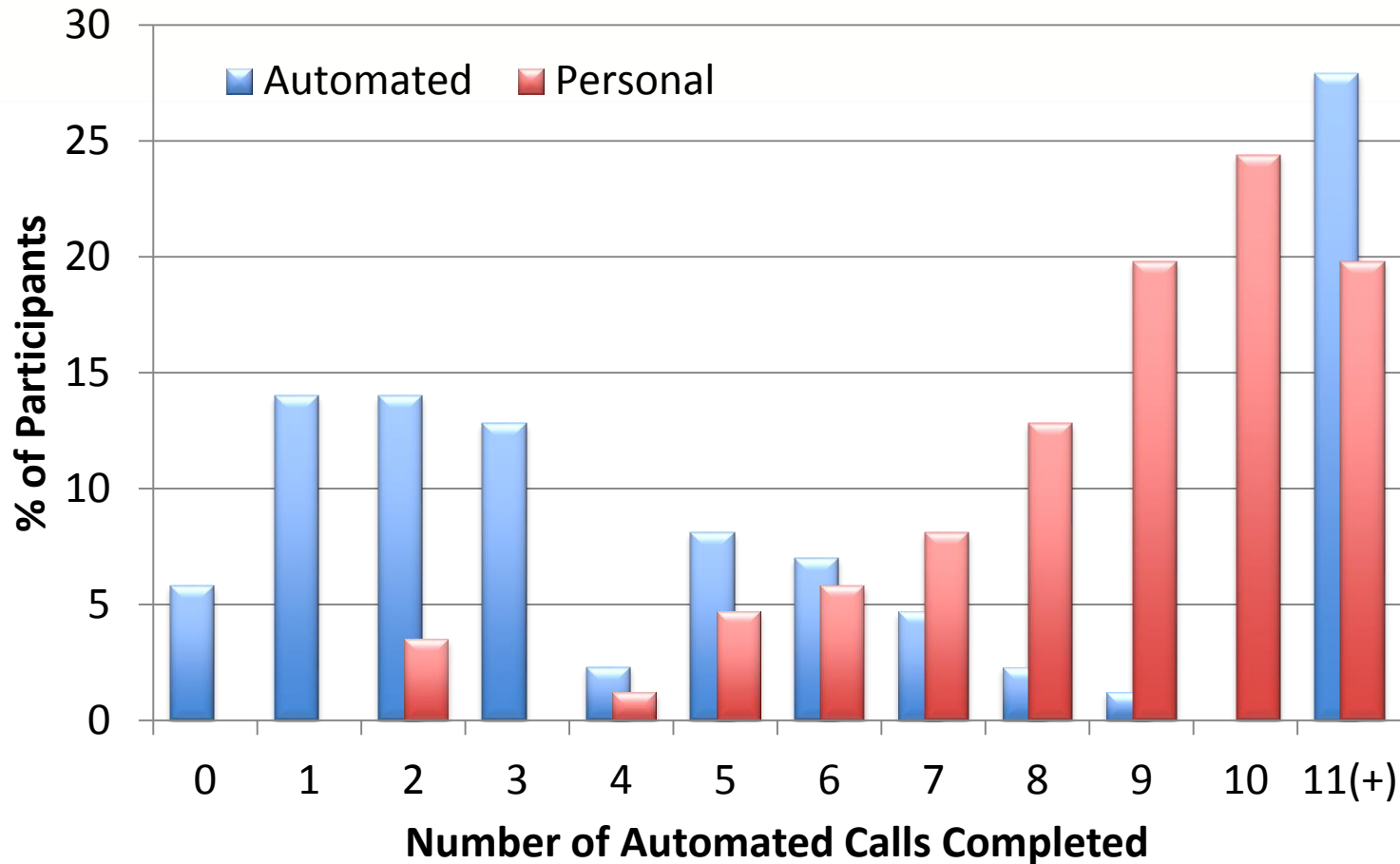**Number of Automated Calls Completed (N=86)**
(mean= 8.94, SD=11.17)

RESULTS: CALL DOSE

Number of Personal Calls Completed (N=86)
(mean= 8.69, SD=2.17)

RESULTS: GROUP VISIT DOSE

Effects[1] of Group Attendance on PA Outcomes

PA Outcome	BL v 24	BL v 48
MVPA (min/week)	16.6	26.0
Walking (min/week)	22.6	33.7$^{\sim}$
Accelerometer Steps (per day)	282.5*	6.5
Fitness Test (steps/2 min)	1.3	2.0*

$^{\sim}p<.10$ $^{*}p<.05$

[1] Parameters represent the change in the outcome from baseline to 24 or 48 week assessments associated with *each* group session attended.

Effects[1] of Call Dose on PA Outcomes

PA Outcome	PC Call Dose		AC Call Dose	
	BL v 24	BL v 48	BL v 24	BL v 48
MVPA (min/week)	-17.3	13.4	-3.0	-0.1
Walking (min/week)	-20.3	17.6	-2.9	2.5
Accelerometer Steps (per day)	209.4~	326.6*	-0.9	18.6
Fitness Test (steps/2 min)	0.6	0.9	0.1	0.2

~$p<.10$ *$p<.05$

[1] Parameters represent the change in the outcome from baseline to 24 or 48 week assessments associated with *each* additional call.

- Results show no significant variation in effects by treatment condition.
- Higher rates of group attendance were associated with greater gains in walking, accelerometer steps, and fitness.
  - These results highlight the importance of the group component
- Most participants completed more than half of the Personal Calls
  - Evidence for dose effects on accelerometer steps
  - Ongoing work is exploring whether Personal Calls may be beneficial for some subgroups of participants
- More than 50%of participants completed less than half of the Automated Calls
  - This population may not be comfortable with automated phone system for delivery of health information.
  - No evidence for dose effects
- Overall, results suggest primary importance of group visit with marginal benefit at higher doses of Automated calls.

DISCUSSION

- The trial was conducted by nurse facilitators in community health settings, but not part of the clinical programs.

- Similar formats in the form of "group visits" for chronic diseases such as diabetes already have been shown to be successful .

- New models for providing health care may offer a culturally relevant, potentially cost-effective and sustainable alternative for supporting behavior change particularly in at-risk populations such as midlife African American women

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