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Outcomes of a Home-based Walking Program for African American Women

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APHA

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Behavioral Risk Factor Surveillance Survey

Percentage of women who reported no participation in any PA or exercise such as running, calisthenics, golf, gardening or walking for exercise in past 30 days.

African American	33.9%
Caucasian	21.6%

BRFSS (2004)

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Focus of women and physical activity studies

Studies prior to 2000

- Self-report measures of adherence
- Predominantly Caucasian participants
- Few interventions targeted to minority groups
- When AA women include physical activity primarily an adjunct to dietary change for weight loss

After 2000 including African American women

- Provide methods for targeting cultural specificity
- Still primarily small sample sizes and lack a comparison group.
- Studies with large sample sizes combined dietary and physical activity changes (Yanke 2001, Resnicow, 2005, Yancey 2006)

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Purpose

- To compare the effectiveness at 24 and 48 weeks of a home-based moderate intensity walking intervention enhanced by behavioral strategies targeted and tailored (ET) to midlife urban AA women as compared to a minimal treatment (MT) on adherence and health outcomes.

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Hypothesized

- At 24 weeks (end of adoption) and 48 weeks (end of maintenance), compared to MT women, ET women would have:
  - higher walking adherence
  - greater improvement in aerobic fitness

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Study design

Baseline		24 wks	48wks	72 wks
	Adoption		Maintenance	Follow-up
R Enhanced	OX	O	O	O
R Minimal	OX	O	O	O

R = random assignment to site
O = observation/assessment
X = treatment
_____ = Enhanced treatment

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Common treatment elements: Individualized walking prescription

Mode: Walking

Frequency: 3-4 times a week

Duration: 30 minutes

Intensity: Moderate

Length: 24 weeks
adoption
24 weeks
maintenance

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Common treatment elements: Orientation with video tape

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Enhanced Treatment intervention

Targeted workshops (4)

- Benefits of walking
- Overcoming personal barriers
- Overcoming environmental barriers
- Anticipating and handling relapses

1 hour

Held at community health center

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Enhanced Treatment intervention

Tailored telephone calls

- Adoption: 10
- Maintenance: 6
- Assessment
  - Adherence reviewed
  - Stage matched supportive feedback

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Eligibility and recruitment

- Eligibility
  - African American woman
  - 40 to 65 years of age
  - Sedentary
  - Preparation and Contemplation stage of change
  - No major signs or symptoms suggestive of cardiovascular disease
- 281 women participated

Wilbur et al., 2006 Research in Nursing and Health

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Outcome measures: Adherence

- Adherence measures
  - Telephone response system
  - Heart rate monitors
  - Exercise logs
- Cross referenced the 3 sources
- Percentage of expected walks based on exercise prescription

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Health outcome measures: Health

- Aerobic fitness
  - Time on treadmill (minutes)
  - Symptom limited, modified Bruce protocol
- Body mass index (kg/m^2)
- Waist circumference (inches)

Measured at baseline, 24, and 48 weeks

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Results: Baseline health measures

- BMI: obese or extremely obese 71%
- Mean waist circumference
  - (cutoff for obesity 35”) 38”
- Fair or poor fitness 77%
- Hypertension 34%

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Demographics

Determinants	Mean
Age	48.5
	Percent
Children (mean 2.4, range 0-9)	88
Children under 18 years at home	32
Married	40
Work full time	79
Hardship (difficulty meeting expenses)	43
Personal income < $30,000	39
Less than college education	74

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Adherence to walking prescription

Treatment	Frequency (%)	Duration (minutes)	Intensity (minutes)
Enhanced	45%	30.5	10.14
Minimal	29%	19.76	10.97
T-test	p<.001	p<.03	NS

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Correlation between intervention dose and walking adherence for ET

Intervention	Telephone Contact	Workshop
Walking Adherence	0.25*	0.58*

P<.01

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Outcome measures by treatment group at baseline, 24, and 28 weeks

On-Treatment Analysis

	Group	N	Baseline	24 week	p	48 week	p
Adherence to walking (%)	ET	68	-	67.2%	-	42.7%	**<.001**
	MT	37	-	45.8%	-	23.6%	**<.001**
p value (group difference)				**<.001**		**<.001**	
BMI (kg/m2)	ET	63	35	34.3	0.152	34.6	0.513
	MT	41	33.4	33.2	0.214	33	0.186
p value (group difference)			0.568	0.44		0.207	
Waist circumference (in)	ET	63	37.9	37.5	**0.044**	37.3	**0.001**
	MT	38	37.6	37.2	0.168	37.3	0.527
p value (group difference)			0.466	0.564		0.632	
Time on treadmill (min.)	ET	62	11.5	11.9	**0.011**	11.9	**0.024**
	MT	38	11.7	11.9	0.102	11.8	0.343
p value (group difference)			0.575	0.945		0.824	

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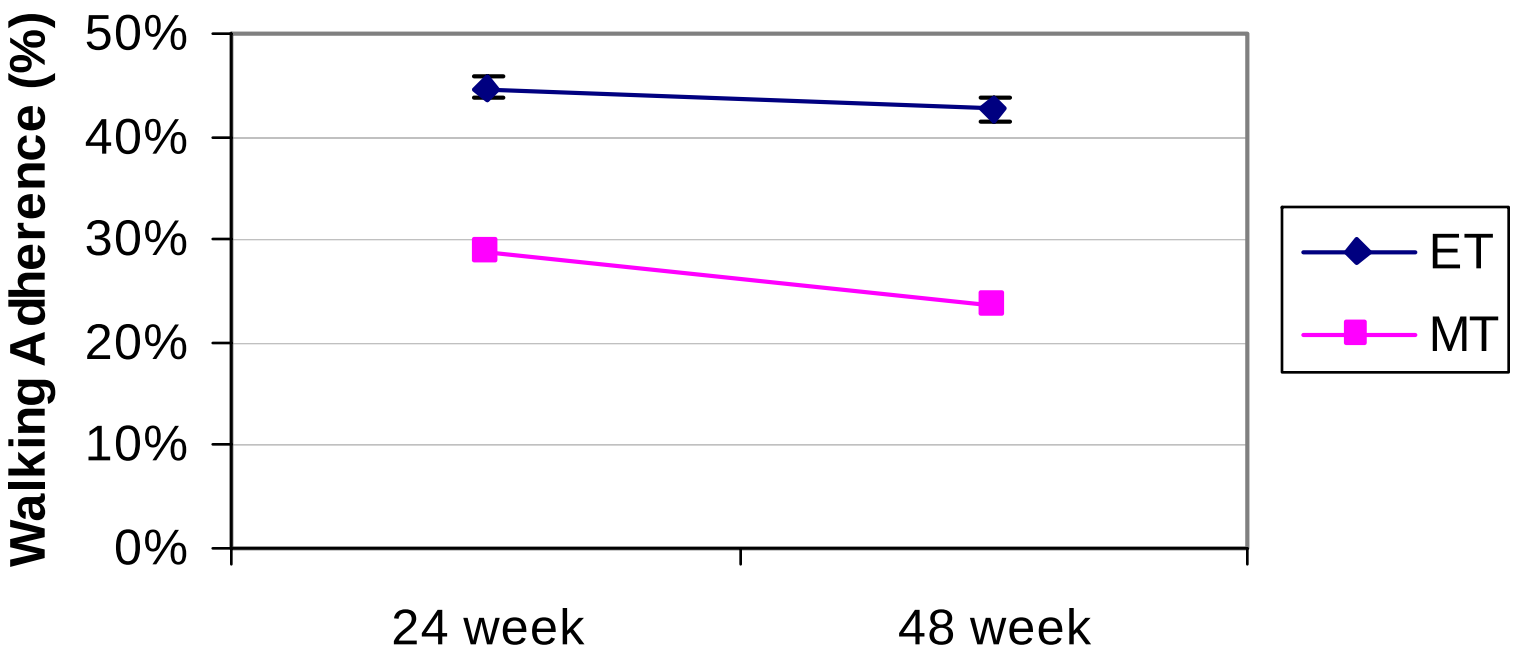
Walking adherence by treatment group

Mixed models: Intent-to-treat analysis



Significant group (p<.001) and time (p<.001) effects

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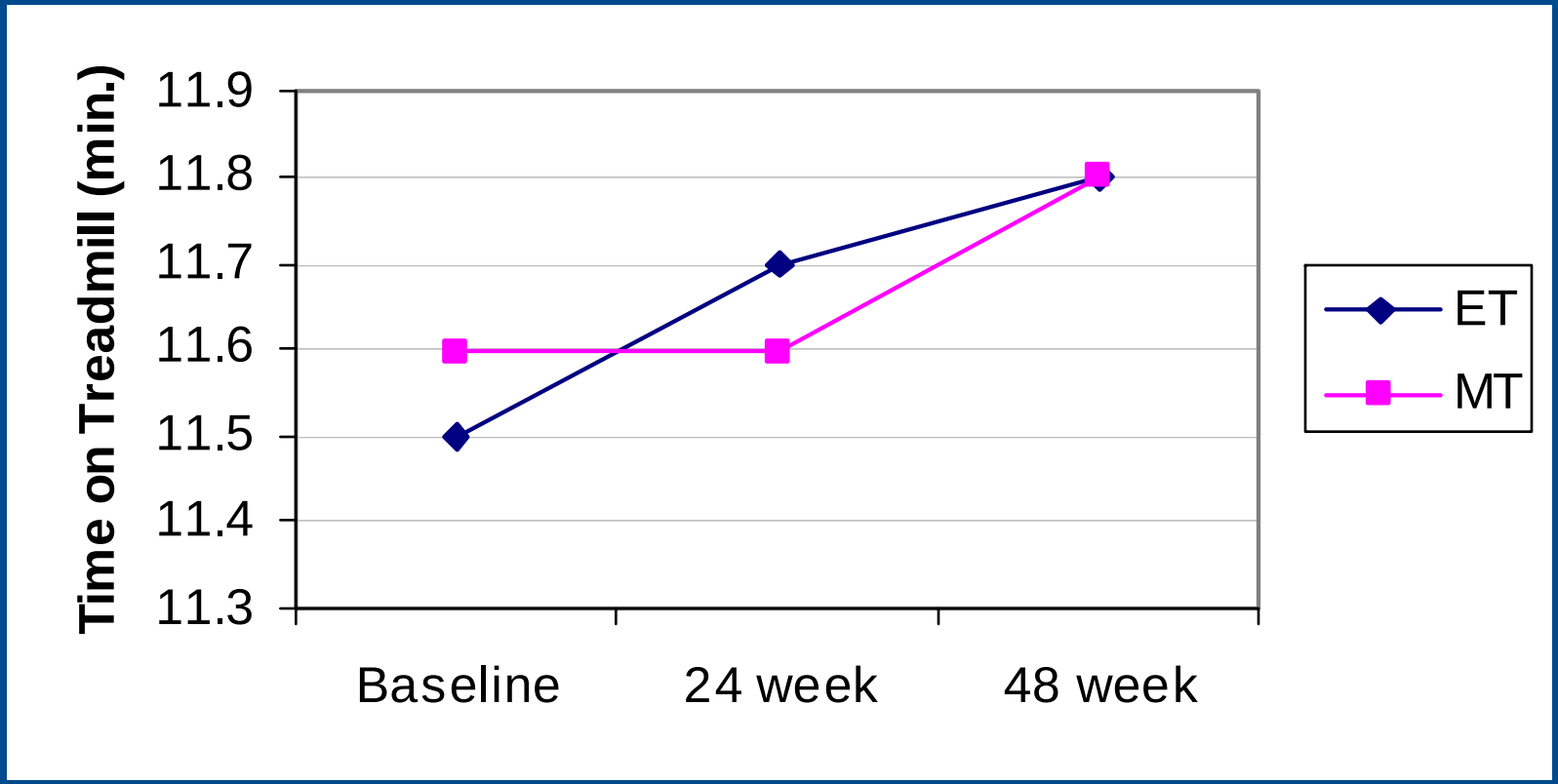
Time on treadmill by treatment group

Mixed models: Intent-to-treat analysis



Significant time (p=.041) effects

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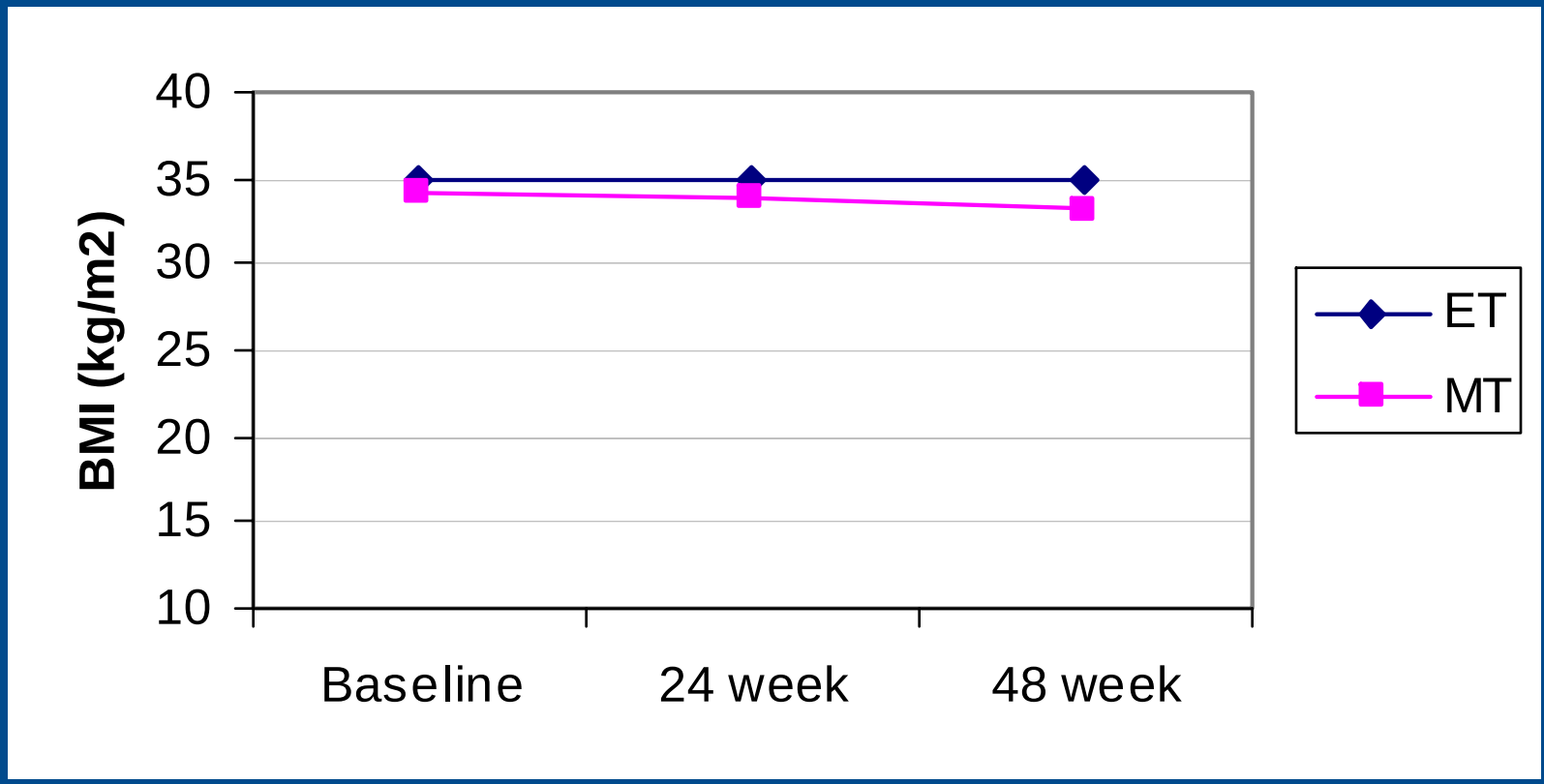
BMI by treatment group

Mixed models: Intent-to-treat analysis



No significant effects

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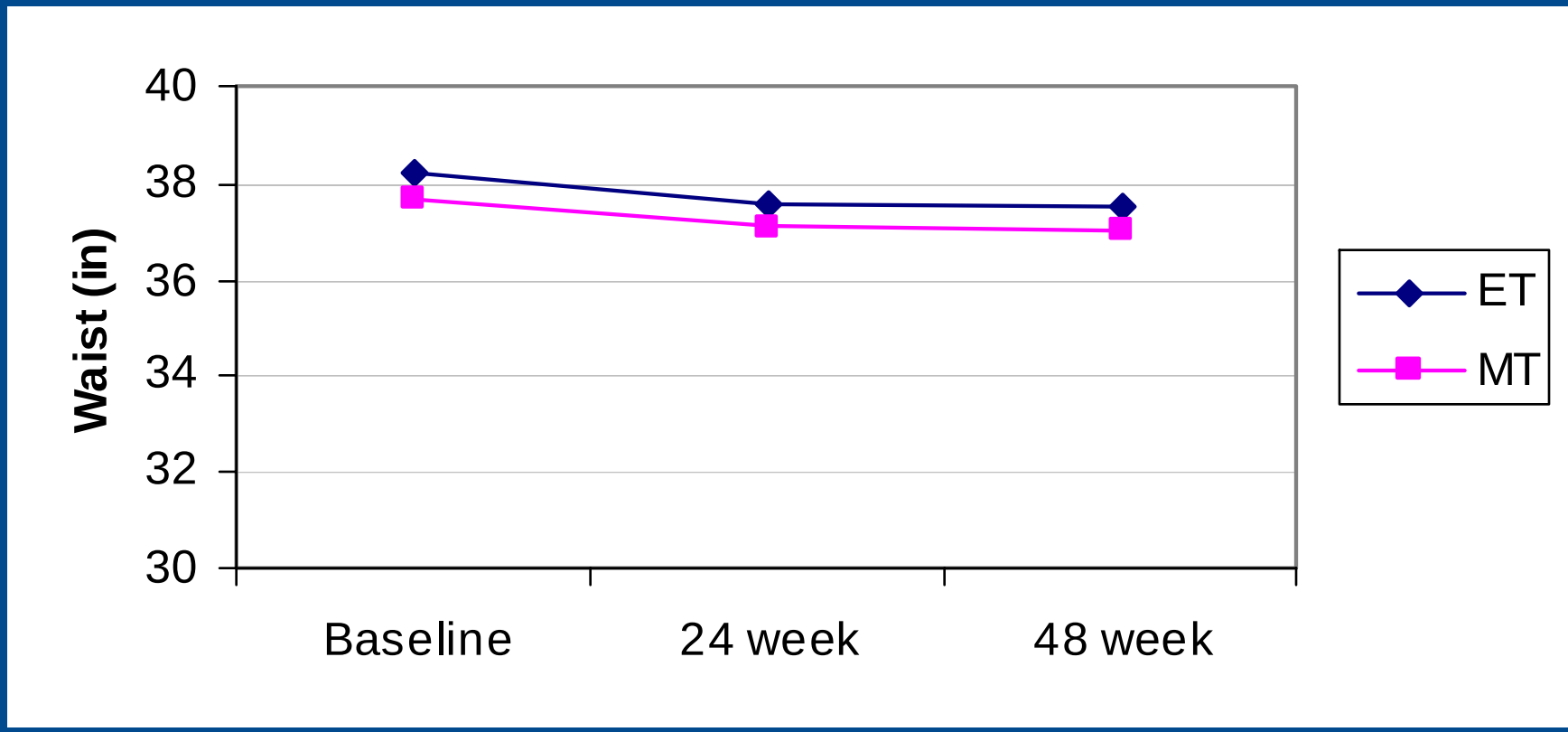
Waist circumference by treatment group

Mixed models: Intent-to-treat analysis



Significant time (p=.020) effects

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Discussion

- Adherence outcomes
  - Adherence was significantly higher in the ET versus the MT.
  - There was a dose effect of workshops as well as phone calls on adherence.
  - Supports enhancing home-based walking with culturally targeted workshops and tailored phone calls.

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Discussion (continued)

- Health outcomes
  - Increased time on treadmill for ET
  - As expected with no dietary component BMI did not change in either ET or MT
  - On average did not gain weight
    - regardless of treatment group
  - Decreased waist circumference for ET

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Strengths and limitations

- Strengths of study
  - Closely mirrors cardiovascular risk factors prevalent in the African American community
  - Diverse sample of low and moderate income women
  - No run in period
- Limitation of study
  - Randomization by community health center

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