

Feasibility and Acceptability of Time-restricted Eating Combined with Aerobic or Resistance Training in Peri- and Post-menopausal Women with Prediabetes

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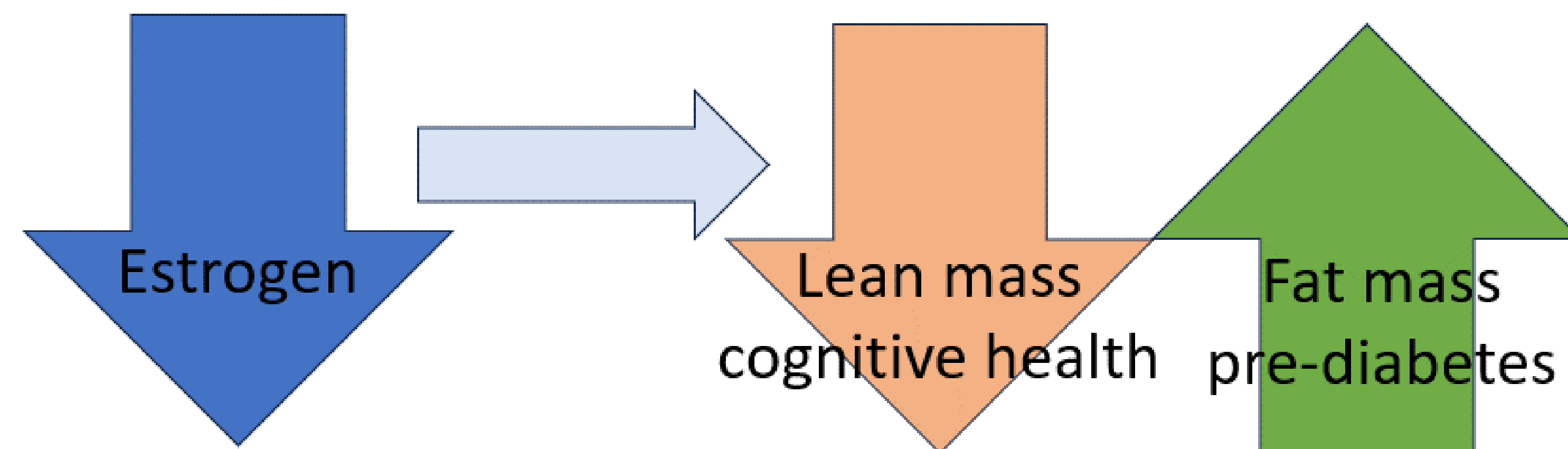


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BACKGROUND

- Excess adiposity, decreases in lean mass and cognitive health and increases in fat mass, and prediabetes occur in tandem with the loss of estrogen.

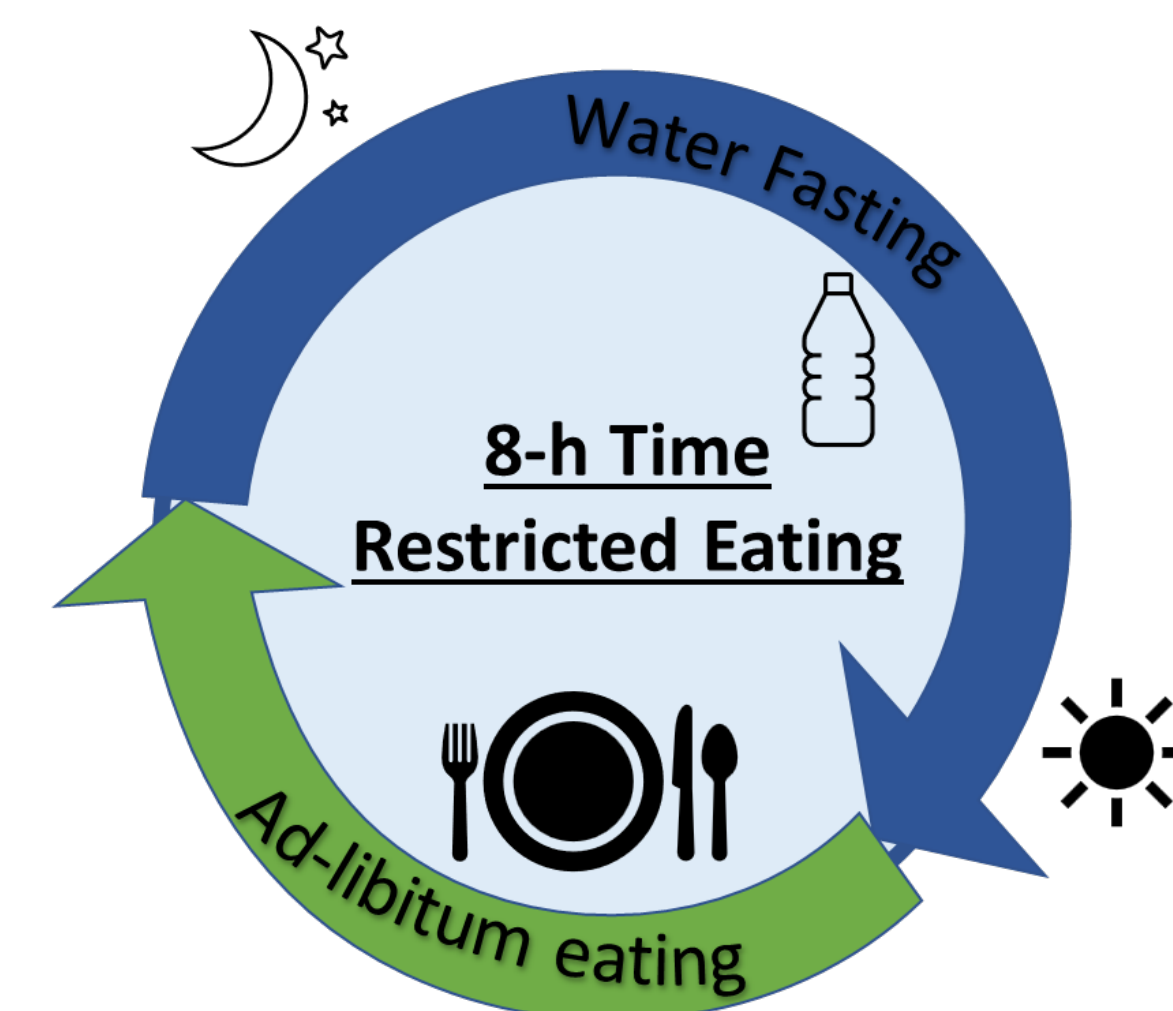
Figure 1: Conceptual model of estrogen loss



- Current treatment of obesity and pre-diabetes includes lifestyle intervention including diet and physical activity, yet success is limited.

- Time restricted eating (TRE) shortens the daily eating window and may be an accessible alternative to decrease body fat and improve metabolic health.

Figure 2: TRE Pattern



- Few studies have combined TRE with exercise which is critical for maintaining lean mass and improving metabolic health.

OBJECTIVE

The aim of this study is to assess the feasibility and acceptability of 12 weeks of 8-hour TRE combined with 4 days of resistance training (RT) or aerobic training (AT) on body weight, body composition, cognitive functioning, and insulin sensitivity among 40 peri- and postmenopausal women.

Methods

We are implementing a 12-week feasibility pilot study of: **(1) TRE+RT** (8h TRE + RT 4d/wk) or **(2) TRE+AT** (8h TRE + AT 4d/wk) in women ages 50-80 years with obesity (BMI ≥ 30 kg/m²) and prediabetes (fasting glucose: 100-125 mg/dl or HbA1c 5.7%-6.4% or HOMA-IR >1.9 or <2.9).

RESULTS

Figure 3: CONSORT flow chart

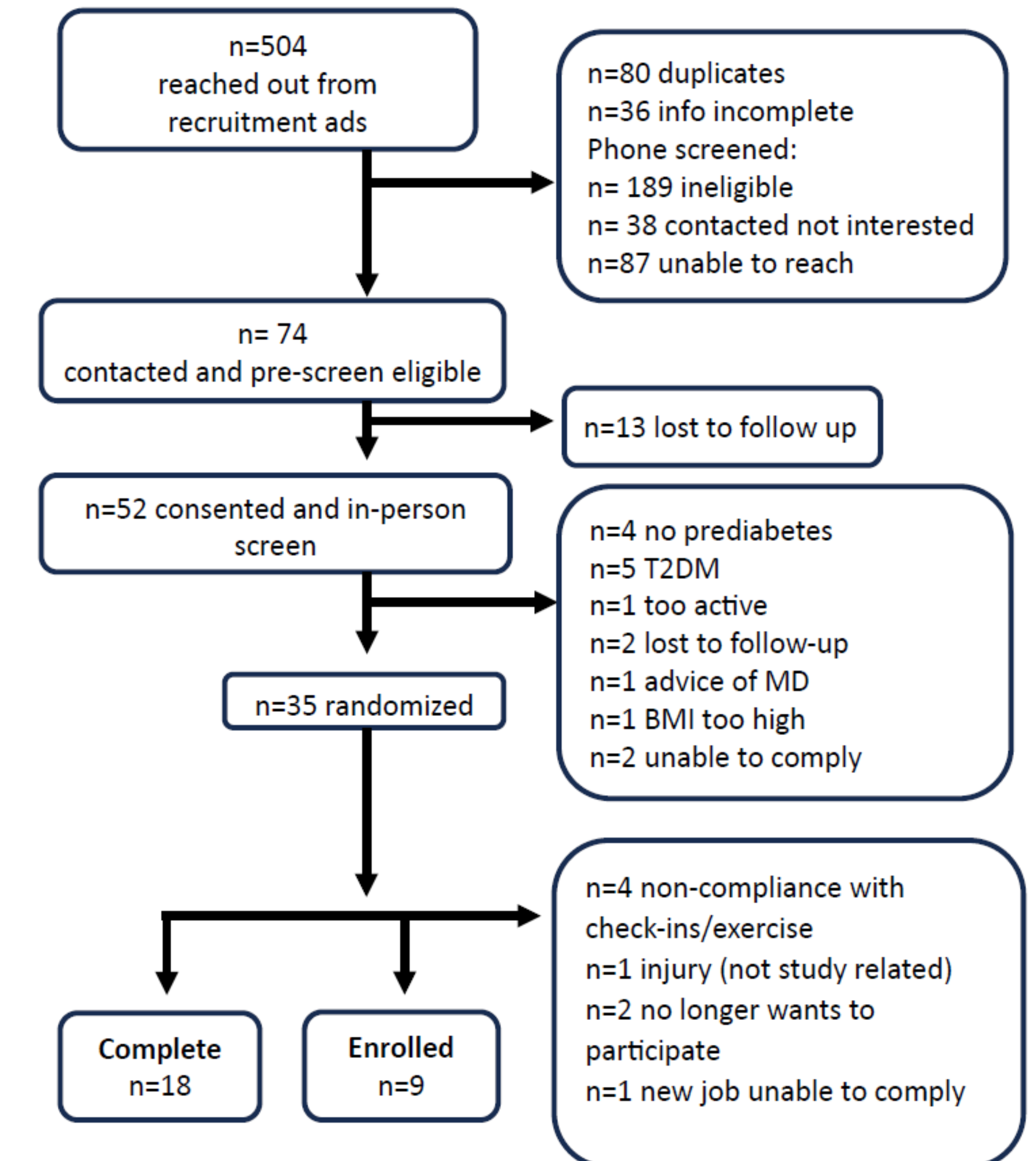


Figure 4: Window choice

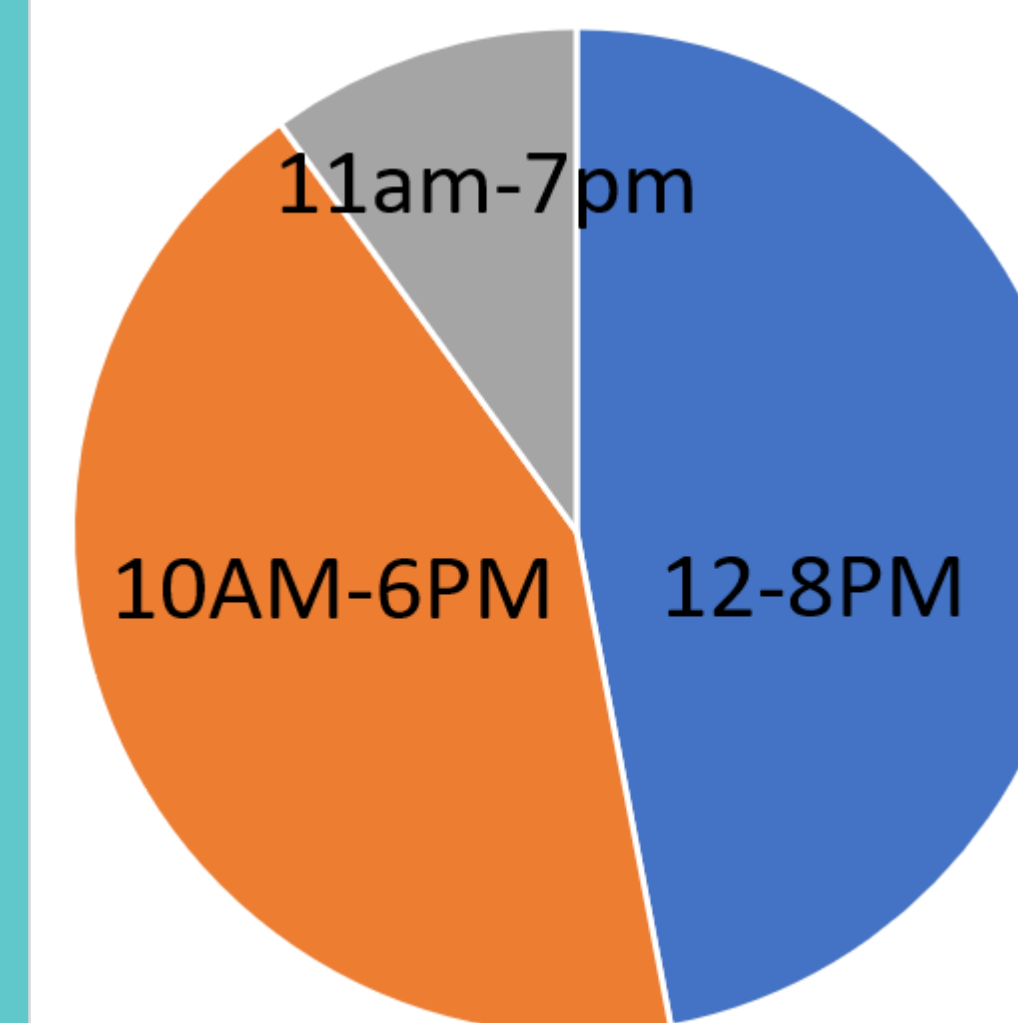


Table 1: Adherence

Adherence type	n=18
TRE 8h Window (d/wk)	5.6
Counseling sessions	
Completed 80%	17
Exercise Prescribed	
Completed 60%	15
Completed 80%	10

CONCLUSION

Early findings indicate that 8-hour TRE is feasible and acceptable among peri- and post-menopausal women, however remote or local options for exercise may be required for exercise compliance.