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RESEARCH LETTER



A randomised pilot and feasibility study examining body weight tracking frequency and psychosocial health indicators

KEYWORDS

Weight tracking;
Self-weighing;
Feasibility and
acceptability;
Psychosocial measures;
Standards of care

Summary Daily weight tracking may enhance weight loss, but experimental data are scarce. This study tested feasibility of delivering varying weight tracking instructions, assessed adherence, and monitored psychosocial changes. Thirty adults were enrolled and randomised to daily or weekly tracking for 6 months. Study retention was 100%. Adherence averaged 97.5% with no group differences ($p = .15$). There were no group differences and minimal changes for depression, anxiety, and body image ($p = .41-.82$). Daily trackers reported fewer barriers ($p < .01$) at 3 months. The study was highly successful at delivering weight tracking instructions without adverse effects or diminished adherence.

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Daily weight tracking has the potential to optimise weight control [1,2]. However, many experts recommend only weekly weight tracking due to concerns about adherence and psychological harm [3]. The current study addresses feasibility of delivering daily versus weekly weight tracking instructions, while monitoring psychosocial health, adding experimental data to this evidence base.

Participants were 30 adults (70% women) recruited from community advertisements (see Fig. 1). Respondents were excluded for body mass index (BMI) <25 or >35 kg/m², current weight loss program participation, chronic health conditions (diabetes, cancer, heart disease, psychiatric disorders), eating disorders, or pregnancy. The University of Minnesota Institutional Review Board approved the study. Informed consent was obtained and participants were randomly assigned to weekly

or daily weight tracking. All were provided with a digital bathroom scale, pre-stamped postcards, and instructions. Participants received 24 weekly emails with reminders and weight control tips. To assess adherence, participants were instructed to return a postcard each week with weight data entered on the card.

Demographics (age, gender, race/ethnicity, marital status, education, weighing frequency) were assessed at baseline. Weight and height were measured by study staff; BMI was calculated. Depression and anxiety were assessed via the Beck Depression Inventory (BDI; $\alpha = .91$, retest $r = .93$, range 0–60) [4] and Beck Anxiety Inventory (BAI; $\alpha = .92$, retest $r = .75$, range 0–63) [5]. Body image was assessed with the Appearance Evaluation subscale of the Multidimensional Body-Self Relations questionnaire ($\alpha = .88$, retest $r = .81$, range 0–42)

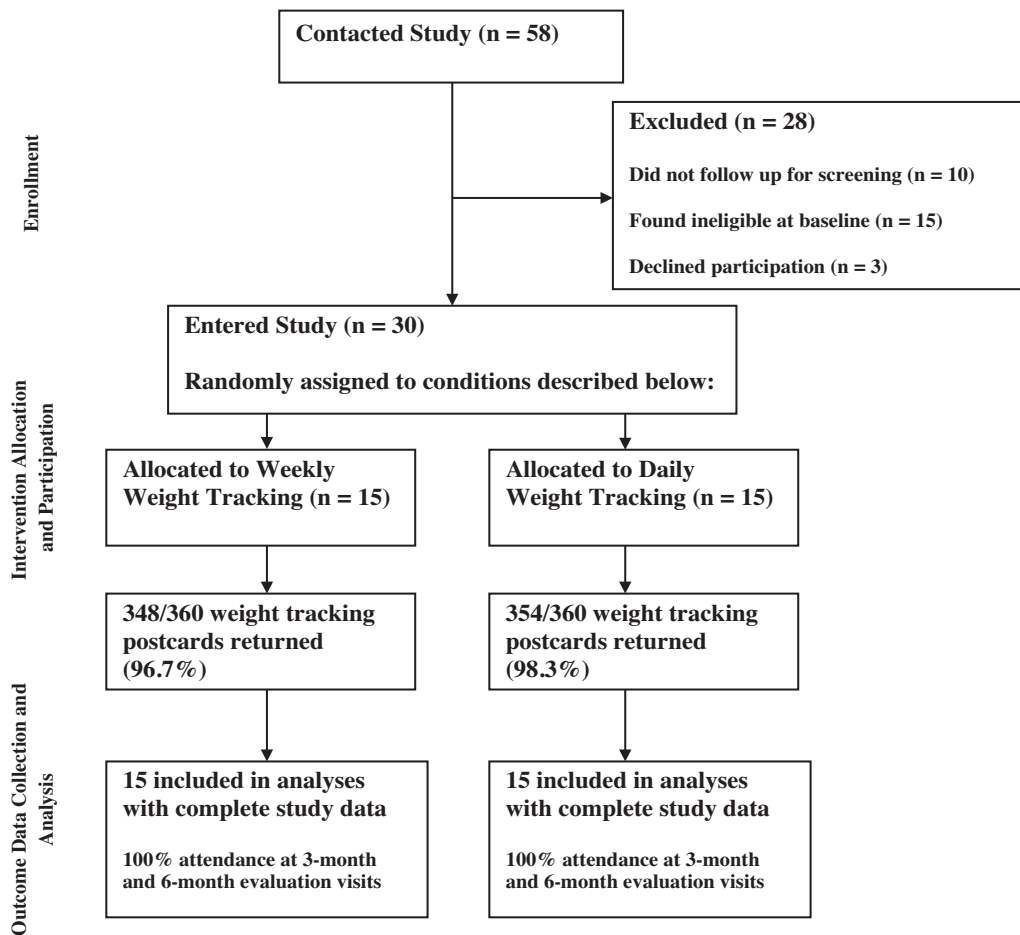


Figure 1 Study recruitment flow diagram.

[6]. Weight tracking barriers were assessed using 18 items modified from previous use ($\alpha = .85-.91$, retest $r = .54$, range 5–90) [7]. Weight tracking perceptions (usefulness, ease of remembering and understanding, awareness, interest, reward, satisfaction, and motivation) were assessed at 3 and 6 months, using eight items developed for the study ($\alpha = .93-.94$, retest $r = .79$, range 0–64).

Mean age was 45.7 ± 11.7 years (range 24–63). All were non-Hispanic. Ethnicity was 83.3% white, 10% black/African-American, 3.3% Asian, and 3.3% American Indian. Forty percent were not married, 43% were married or cohabiting, and 17% were separated or divorced. Most (83.3%) held a college or graduate/professional degree. Mean baseline BMI was 31.0 ± 3.1 kg/m² (range 25.3–36.9). BMI was stable over time [$F(1,28) = 0.44$, $p = .51$, Wilks' $\Lambda = 0.99$], with no significant time by study condition interaction [$F(1,28) = 2.81$, $p = .11$, Wilks' $\Lambda = 0.91$].

At baseline, only 20% reported weighing weekly or daily. Six-month weight tracking adherence

was 97.5%. Participants returned 23.4 postcards on average (range: 20–24), with no differences between groups [98.3% daily vs. 96.7% weekly, $\chi^2(1) = 2.05$, $p = .15$].

Average baseline BDI and BAI scores were 4.9 ± 4.1 (range 0–18) and 4.0 ± 4.4 (range 0–16), respectively, indicating minimal symptoms [4,5]. Mean body image was 19.3 ± 7.4 at baseline (range 7–31), suggesting neutral to slightly unfavorable opinions of physical appearance [6]. Depression, anxiety, and body image remained stable over time [BDI: $F(2,27) = 0.91$, $p = .41$, Wilks' $\Lambda = 0.94$; BAI: $F(2,27) = 0.20$, $p = .82$, Wilks' $\Lambda = 0.99$; body image: $F(2,27) = 0.27$, $p = .77$, Wilks' $\Lambda = 0.98$], with no significant interactions showing differential effects by study condition [BDI: $F(2,27) = 0.51$, $p = .61$, Wilks' $\Lambda = 0.96$; BAI: $F(2,27) = 0.71$, $p = .50$, Wilks' $\Lambda = 0.95$; body image: $F(1,28) = 2.03$, $p = .15$, Wilks' $\Lambda = 0.87$] (see Fig. 2a–c).

Daily trackers reported fewer barriers at 3 months compared to weekly trackers (mean = 27.1 daily vs. 37.3 weekly, $p < .01$), though this

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