

The Efficacy of Using Self-Monitoring Diaries in a Weight Loss Program for Chronically Ill Obese Adults in a Rural Area

Chi-Jane Wang¹ • Susan J. Fetzer² • Yi-Ching Yang³ • Wen-Ling Wang^{4*}

¹RN, EdD, Assistant Professor, Department of Nursing, College of Medicine, National Cheng-Kung University, Tainan, Taiwan, ROC • ²RN, PhD, Professor, Department of Nursing, University of New Hampshire, Durham, New Hampshire, USA • ³MD, MPH, Associate Professor, Department of Family Medicine, College of Medicine, National Cheng-Kung University and Hospital, Tainan, Taiwan, ROC • ⁴RN, PhD, CNS, Former Associate Professor, Department of Nursing, College of Medicine, National Cheng-Kung University, Tainan, Taiwan, ROC.

ABSTRACT

Background: Self-monitoring is part of many weight-loss programs and is widely accepted as effective. However, there is a lack of research related to the efficacy of various self-monitoring instruments in meeting the needs of individuals with limited mobility or access to healthcare providers, especially those with limited education living in rural settings.

Purpose: This study examined the efficacy of using self-monitoring diaries in a weight loss program targeting chronically ill and obese rural-dwelling adults.

Methods: A community-based intervention program using a pretest and posttest design examined the effect of using self-monitoring diaries on weight loss. Fifty participants were enrolled from the chronic disease clinic of a district health center with limited medical resources in a remote village in southwestern Taiwan. All participants were diagnosed with diabetes and/or hypertension, had body mass indices between 27 and 32 kg/m², and had a minimum educational level of junior high school. Mean participant age was 43.7 years. Participants were randomly assigned to the intervention or control group. All attended a mandatory 12-week weight loss program. The intervention group received instructions on how to record diet and exercise details in a structured, graphics-based diary provided by the researchers. Body weight and percentage of body fat were measured before and after the program, and data were analyzed by chi-square and ANCOVA.

Results: The intervention group significantly lost more weight than the control group (5.7 kg vs. 2.1 kg; $p < .05$). The participants of 88% in the intervention group lost 5% or more of their baseline weight greater than the 23% in the control group. Both groups achieved the mean of body fat reductions by comparing pretest and posttest.

Conclusions/Implications for Practice: Self-monitoring diaries can have a significant impact on weight loss in individuals living in rural communities. Healthcare providers and health promotion agencies can use the suggested checklist method to improve weight loss promotion programs in isolated rural communities with limited medical resources.

KEY WORDS:

obesity, weight loss, self-monitoring, diary, rural area.

Introduction

The prevalence of obesity and obesity-related diseases has increased dramatically in recent years; these issues are now widely recognized as serious public health problems (World Health Organization, 2012). Being overweight or obese is associated with increased rates of multiple comorbidities, including Type II diabetes and cardiovascular diseases such as hypertension and coronary heart disease (Guh et al., 2009), which can lead to further morbidity and mortality (McTigue, Hess, & Ziouras, 2006; Pi-Sunyer, 1999). Studies show that moderate weight loss (5%–10% of initial body weight) has a beneficial effect on cardiovascular risk factors associated with obesity (Eilat-Adar, Eldar, & Goldbourt, 2005; Goldstein, 1992) and that maintenance of a healthy weight can be important in the prevention of conditions such as hypertension and Type II diabetes (Guh et al., 2009).

The etiology of obesity is multidimensional and includes genetic, metabolic, cultural, locational, and psychosocial factors (Bouchard, 2008). Patterson, Moore, Probst, and Shinogle (2004) found higher rates of obesity in people living in rural settings. Demographics may play some role in this difference, as people living in rural areas tend to be older and less educated and have lower incomes than urban residents. Age, education, and income level have all been shown to influence the level of obesity.

Accepted for publication: April 10, 2012

*Address correspondence to: Wen-Ling Wang, No. 55, Lane 4, Alley 234, Ho Wei Rd. Sec. 5, Tainan City 70455, Taiwan, ROC.

Tel: +886 (6) 235-3535 ext. 5848;

E-mail: wenling551@gmail.com

doi:10.1097/jnr.0b013e318263d89b