Motivational methods focused on weight loss in primary care

Dr. Becker Neto Mullo
Professor of Medicine at the Universidad Regional Autónoma de los Andes (UNIANDES Ambato).
Email: ua.beckerneto@uniandes.edu.ec, https://orcid.org/0000-0002-1716-3477

Dr. Segundo San Lucas Coque
Professor of Medicine at the Universidad Regional Autónoma de los Andes (UNIANDES Ambato).
Email: ua.segundolucas@uniandes.edu.ec, https://orcid.org/0000-0003-1810-0619

Dr. Guillermo Bastidas Tello
Professor of Medicine at the Universidad Regional Autónoma de los Andes (UNIANDES Ambato).
Email: ua.guillermobastidas@uniandes.edu.ec, https://orcid.org/0000-0002-8521-2189

Abstract

Introduction: obesity is an “epidemic” due to its prevalence and related physical and mental health comorbidities, and an appropriate approach could decrease its morbidity.

Objective: to evaluate the effects of Average Weight Loss (AWN) with a weight loss intervention with a supportive component in primary care.

Methods: A prospective study was conducted based on a 3-month treatment program through motivational interviewing in primary care.

Results: The percentage of weight change at the 12-month follow-up was also significant (t (22)= -2.40, *p=0*.025; d'=0.5.

Conclusions: The trial of EM weight loss plus AWN in primary care resulted in statistically significant weight loss after treatment.

Keywords: obesity, nutrition, primary care, weight loss, motivational interviewing. source: DeCS

Resumen

Introducción: la obesidad es una “epidemia”, debido a su prevalencia y las comorbilidades relacionadas con la salud física y mental. Un enfoque adecuado podría disminuir su morbilidad.

Objetivo: evaluar los efectos de AWN con una intervención de pérdida de peso con un componente de soporte en la atención primaria .

Método: Se realizó un estudio prospectivo basado en un programa de tratamiento de 3 meses a través de entrevistas motivacionales en atención primaria.

Resultados: El porcentaje de cambio de peso a los 12 meses de seguimiento también fue significativo (t (22)= −2,40, *p* =0,025; d'=0,5.

Conclusiones: el ensayo de pérdida de peso EM más AWN en atención primaria dio como resultado una pérdida de peso estadísticamente significativa después del tratamiento.

Palabras clave: obesidad, nutrición , atención primaria ,pérdida de peso ,entrevista motivacional.

fuente: DeCS

DOI Number: 10.14704/nq.2022.20.13.NQ88286 Neuro Quantology 2022; 20(13):2294-2299

Introduction

Obesity has been referred to as an "epidemic" due to its prevalence and related physical and mental health comorbidities (e.g., depression[1]. To address the public health crisis of obesity, it is essential to develop treatments that can be widely disseminated. To increase the diffusion of weight loss treatment, motivational interviewing (MI) for weight loss in primary care has attracted much clinical and research attention. MI is an evidence-based, time-limited, person-centered approach to strengthen a person's motivation and commitment to change, and general practitioners can implement MI effectively to treat health-related behavioral problems[2].

Despite the clinical enthusiasm associated with MI for weight loss in primary care, empirical support is mixed and, in particular, lacks long-term follow-up data. Of the numerous trials of MI for weight loss in primary care, only three examined outcomes 12 months after treatment discontinuation. These follow-up evaluations do not suggest a significant average weight loss benefit for participants receiving MI compared to usual care or care management[3]. However, in these longer-term follow-up evaluations, the data suggest that MI interventions were associated with increased walking and decreased cholesterol. Only one of these studies assessed depressive symptoms, and the treatment-related improvements reported at the 3-month follow-up were not sustained at the 12-month follow-up assessment. The latter study was the first to compare MI with a weight loss support component in primary care with usual care *and* a matched control intervention for care with a support component[4]. This attention control (nutrition psychoeducation) intervention (AWN) resulted in superior weight loss compared to usual care, whereas MI did not, after treatment and at a 3-month follow-up. At the 12-month follow-up assessment, the weight loss of AWN participants tended to be significant compared to MI participants.

Based on the long-term benefit signal from Hardcastle and colleagues[5] and the rather surprisingly positive results of the AWN intervention[4], a small weight loss trial evaluated whether combining MI with AWN and a support network could reinforce promising weight loss outcomes in primary care[6]. This trial also addressed important limitations of MI for weight loss in the primary care literature by using clinicians who are typically available in primary care settings, testing intervention materials that are public or easily accessible to primary care settings, and rigorously evaluating the fidelity of MI. Combination treatment with AWN resulted in significant weight loss and decreased depressive symptoms after treatment and at a 3-month follow-up. However, the long-term durability of this intervention is still unknown.

The current study aimed to evaluate the effects of AWN with a weight loss intervention with a supportive component in primary care 12 months after treatment discontinuation. The present study with AWN in primary care would result in significant reductions in weight and related physiological and psychological improvements 12 months after treatment.

Method

A prospective study was conducted based on a 3-month treatment program through motivational interviewing. Participants were 31 adults (body mass index [BMI] between 25 and 55) with overweight or obesity receiving primary care services in Riobamba. Recruitment was intended to improve generalizability by using relatively few exclusion criteria, including over 65 years, psychiatric (schizophrenia) or serious medical problems (heart disease), pregnancy/lactation, uncontrolled liver, thyroid disease, hypertension or diabetes, or very irregular access to the internet and telephone. This study was approved by the Universidad Regional Autónoma de Los Andes (UNIANDES).

Medical assistants provided treatment. All participants were enrolled in AWN , a manualized intervention of five 3-month sessions. All participants received the same treatment; there was no randomization or control condition.

The first session included an initial 60-minute face-to-face individual session. The AWN included guidelines to help medical assistants apply EM flexibly, focused on improving weight loss motivation and treatment adherence, and could include participants setting specific weight-related goals they identified indeAWN dently. Using MS (i.e., a collaborative, nonjudgmental approach, conveying respect, acceptance, and compassion with a stance toward evoking participants' motives for change using oAWN -ended questions and focusing on planning for change while avoiding the use of strategies inconsistent with MS such as confrontation or lecturing), the session also included basic nutritional psychoeducation (e.g., portion sizes).

At subsequent appointments, if desired by participants, each session began with a discussion of participants' specific, measurable behavioral weight loss goals (e.g., walking 30 minutes 3 times a week, tracking food intake from the previous session, personalized feedback in food diaries, and ended with new goal setting, including problem-solving as needed for when goals were not met. Participants were contacted by phone, email, and mail to participate in the 12-month follow-up evaluation.

The Beck Depression Inventory (BDI)(7) is a self-report measure of current depressive symptoms with higher scores reflecting greater severity; the BDI has excellent reliability and validity.

Height was measured at baseline using a wall measurement. Weight was measured using a digital scale. Blood pressure and pulse were measured using automatic blood pressure monitors; the recorded readings were an average of two measurements. Participants were given standardized instructions and a tape measure to measure their waist circumference using the umbilicus as a reference point in the in-person assessments.

For each outcome, linear mixed models were used to model unstructured and composite symmetry covariance patterns over time (baseline and 12-month follow-up). The best-fit model was chosen based on the Schwartz-Bayesian criterion. This approach allowed the incorporation of all available data for each subject. A one-sample t-test was used to assess the percentage of weight reduction. All tests were bilateral and were considered significant at the threshold alpha = 0.05. The database and statistical processing of the data were performed and analyzed in the statistical program SPSS 26 (SPSS Inc., Chicago, IL, USA). Descriptive statistics were used for the results collection, presentation and interpretation.

Results

The participants had a mean age of 48.4 years (SD = 10.6, range 24-63) and a mean BMI of 36.2 kg/m^2 (SD = 6.1). The sample was mostly female (87.1%, *n* =27). Retention was excellent, 83.9% (n=26/31) of participants completed the 12-month follow-up (i.e., 15 months after treatment initiation). Data were excluded for one participant due to pregnancy prior to the 12-month follow-up assessment.

Participants' BMI was significantly lower at the 12-month follow-up than baseline (F (1, 22)=6.19, p=0.021). The percent weight change at the 12-month follow-up was also significant (t (22)= -2.40, p =0.025, d'=0.5), averaged -3.0 % (SD =6.0) and ranged from -15 % lost to 7% gained. Approximately one-third of participants (34.8 %) achieved or maintained a weight loss of 5 % or more at the 12-month follow-up.

Diastolic blood pressure (F (1, 22) = 8.33, p = 0.009) and pulse (F (1, 21) = 11.2, p = 0.003) decreased significantly from baseline to 12 months follow-up. Systolic blood pressure (F (1, 22) = 3.0, p = 0.097) and waist circumference (F (1, 22) = 3.24, p = 0.086) did not change significantly over time. Depressive symptoms (BDI) decreased significantly over time (F (1, 23) = 9.91, p = 0.005) (Table 1).

Table 1. Evaluation of descriptive data.

	Basal			Follow-up at 12 months			Linear mixed models
Variable	N	Media	DE	N	Media	DE	
Body mass index	31	36.2	6.1	23	35.2	7.1	F(1, 22)=6.19, p=.021
Weight (pounds)	31	212.2	34.0	23	205.9	38.0	-
Waist (inches)	31	43.4	5.5	23	41.8	4.4	F(1, 22)=3.24, p=.086

PAS	31	131.5	12.4	23	127.3	12.6	F(1, 22)=3.00, p=.097
PAD	31	85.7	7.8	23	79.9	9.5	F(1, 22)=8.33, p=.009
Pulse	30	78.5	10.8	23	71.1	9.9	F(1, 21)=11.20, p=.003
IDB	31	8.7	6.5	24	5.0	4.9	F(1, 23)=9.91, p=0.005

Source: statistical analysis, p ≤ 0.05 Assessment completed 12 months after completion of treatment (15 months total).

Overall retention was 26 of the 31 participants initially enrolled; one participant's data were excluded due to pregnancy, two completed the in-person measurements but not the online IDB, and one completed the IDB but not the in-person measurements.

Discussion

The current results preliminarily indicate that EM weight loss treatment plus Nutritional Psychoeducation (NPE), delivered in primary care by physician assistants, was associated with improvements in weight, diastolic blood pressure, pulse, and depressive symptoms 12 months after cessation of treatment. Approximately one-third of participants also achieved or maintained a 5% loss of initial body weight. However, there were no significant changes in systolic blood pressure or waist circumference.

On the one hand, 34.8 % of current participants achieved or maintained a loss of 5 % or more of initial body weight (~140 minutes total intervention), a goal associated with attenuating harmful weight-related health consequences(8). Similar 12-month follow-up studies reported that 4.8-7 % and 17.4 % of participants achieved this 5 % weight loss goal for those who received only MS or only Nutritional Psychoeducation, respectively(9,10). On the other hand, however, when the results of the current combination AWN (average weight loss -3 %) are compared descriptively with the results of Nutritional Psychoeducation alone (average weight loss -1.7 %) and MI alone (+1.3 % average weight gain) at 12-month follow-up(11), the resources needed for adequate training, implementation, and supervision of MI in primary care (likely exceeding those needed for basic nutritional psychoeducation) may not be cost-effective(12) Replication with a larger sample, control group, and cost-effectiveness analysis may be warranted.

The improvements in depressive symptoms, diastolic blood pressure, and pulse rate are inconsistent with previous literature. There were no significant improvements in physical measurement or depression at the 12-month follow-up for weight loss in the primary care trials(13). However, improvements in depressive symptoms are not surprising, given that depression and obesity often coexist, and treatment of one condition is known to positively impact the other(14,15). However, it is important to note that the average IDB score fell within the minimum range. Future research with larger samples may examine outcomes for individuals with high IDB scores. Potential improvements should be replicated and considered in future cost-effectiveness analyses(16,17).

It is important to consider the limitations of the present study. This was a small, nonrandom sample, and the results may not generalize to non-treatment-seeking populations. There was no direct comparison condition or comparisons of overweight and obesity because of limited power. According to other similar trials, on average, participants enrolled in usual care do not experience significant weight loss(18,19,21), and this population tends to gain weight over time(20). In addition, waist circumference measurements were completed by the participants (and not by trained raters), which introduces more potential errors in this data point. (22)

Conclusions

The trial of EM weight loss plus Nutritional Psychoeducation in primary care resulted in statistically significant weight loss after treatment, 3-month follow-up and 12 months after treatment discontinuation for overweight or obese individuals.

References

1. Jantaratnotai N, Mosikanon K, Lee Y, McIntyre RS. The interface of depression and obesity. Obes Res Clin Pract [Internet]. febrero de 2017 [citado 28 de agosto de 2022];11(1):1-10. Disponible en: https://pubmed.ncbi.nlm.nih.gov/27498907/
2. Barnes RD, Ivezaj V. A systematic review of motivational interviewing for weight loss among adults in primary care. Obes Rev [Internet]. abril de 2015 [citado 23 de agosto de 2022];16(4):304-18. Disponible en: https://pubmed.ncbi.nlm.nih.gov/25752449/
3. Barnes RD, Ivezaj V, Martino S, Pittman BP, Grilo CM. Back to Basics? No Weight Loss from Motivational Interviewing Compared to Nutrition Psychoeducation at One-Year Follow-Up. Obesity (Silver Spring) [Internet]. diciembre de 2017 [citado 26 de agosto de 2022];25(12):2074-8. Disponible en: https://pubmed.ncbi.nlm.nih.gov/29086484/
4. Barnes RD, White MA, Martino S, Grilo CM. A randomized controlled trial comparing scalable weight loss treatments in primary care. Obesity (Silver Spring) [Internet]. diciembre de 2014 [citado 27 de agosto de 2022];22(12):2508-16. Disponible en: https://pubmed.ncbi.nlm.nih.gov/25298016/
5. Hardcastle SJ, Taylor AH, Bailey MP, Harley RA, Hagger MS. Effectiveness of a motivational interviewing intervention on weight loss, physical activity and cardiovascular disease risk factors: a randomised controlled trial with a 12-month post-intervention follow-up. Int J Behav Nutr Phys Act [Internet]. 28 de marzo de 2013 [citado 21 de agosto de 2022];10:40. Disponible en: https://pubmed.ncbi.nlm.nih.gov/23537492/
6. Barnes RD, Ivezaj V, Martino S, Pittman BP, Paris M, Grilo CM. Examining motivational interviewing plus nutrition psychoeducation for weight loss in primary care. J Psychosom Res [Internet]. enero de 2018 [citado 26 de agosto de 2022];104:101-7. Disponible en: https://pubmed.ncbi.nlm.nih.gov/29275778/
7. Beck AT, Steer RA, Brown GK. Manual for the beck depression inventory-II. San Antonio, TX: Psychological Corporation [Internet]. 1996 [citado 27 de agosto de 2022];1(82):10-1037. Disponible en: https://scholar.google.com/scholar_lookup?title=Manual+for+the+revised+Beck+depression+inventory&author=AT+Beck&author=R+Steer&publication_year=1987&#d=gs_cit&t=1663794584348&u=%2Fscholar%3Fq%3Dinfo%3AVRJ0bfX4fmUJ%3Ascholar.google.com%2F%26output%3Dcite%26scirp%3D0%26hl%3Des
8. Blackburn G. Effect of degree of weight loss on health benefits. Obes Res [Internet]. septiembre de 1995 [citado 20 de agosto de 2022];3 Suppl 2:211s-6s. Disponible en: https://pubmed.ncbi.nlm.nih.gov/8581779/
9. Martin PD, Dutton GR, Rhode PC, Horswell RL, Ryan DH, Brantley PJ. Weight loss maintenance following a primary care intervention for low-income minority women. Obesity (Silver Spring) [Internet]. noviembre de 2008 [citado 21 de agosto de 2022];16(11):2462-7. Disponible en: https://pubmed.ncbi.nlm.nih.gov/18787526/
10. Makin H, Chisholm A, Fallon V, Goodwin L. Use of motivational interviewing in behavioural interventions among adults with obesity: A systematic review and meta-analysis. Clin Obes [Internet]. agosto de 2021 [citado 29 de agosto de 2022];11(4):e12457. Disponible en: https://pubmed.ncbi.nlm.nih.gov/33955152/
11. Söderlund LL, Madson MB, Rubak S, Nilsen P. A systematic review of motivational interviewing training for general health care practitioners. Patient Educ Couns [Internet]. julio de 2011 [citado 21 de agosto de 2022];84(1):16-26. Disponible en: https://pubmed.ncbi.nlm.nih.gov/20667432/
12. Kłósek P, Grosicki S, Całyniuk B. Improving the effectiveness of obesity treatment by combining a diet and motivational techniques. Rocz Panstw Zakl Hig [Internet].

2018 [citado 21 de agosto de 2022];69(3):299-305. Disponible en: https://pubmed.ncbi.nlm.nih.gov/30141582/

13. Ismail K, Stahl D, Bayley A, Twist K, Stewart K, Ridge K, et al. Enhanced motivational interviewing for reducing weight and increasing physical activity in adults with high cardiovascular risk: the MOVE IT three-arm RCT. Health Technol Assess [Internet]. diciembre de 2019 [citado 21 de agosto de 2022];23(69):1-144. Disponible en: https://pubmed.ncbi.nlm.nih.gov/31858966/
14. Michalopoulou M, Ferrey AE, Harmer G, Goddard L, Kebbe M, Theodoulou A, et al. Effectiveness of Motivational Interviewing in Managing Overweight and Obesity : A Systematic Review and Meta-analysis. Ann Intern Med [Internet]. junio de 2022 [citado 20 de agosto de 2022];175(6):838-50. Disponible en: https://pubmed.ncbi.nlm.nih.gov/35344379/
15. Freira S, Fonseca H, Williams G, Ribeiro M, AWN a F, do Céu Machado M, et al. Quality-of-life outcomes of a weight management program for adolescents based on motivational interviewing. Patient Educ Couns [Internet]. abril de 2019 [citado 29 de agosto de 2022];102(4):718-25. Disponible en: https://pubmed.ncbi.nlm.nih.gov/30503052/
16. Amiri P, Mansouri-Tehrani MM, Khalili-Chelik A, Karimi M, Jalali-Farahani S, Amouzegar A, et al. Does Motivational Interviewing Improve the Weight Management Process in Adolescents? A Systematic Review and Meta-analysis. Int J Behav Med [Internet]. febrero de 2022 [citado 20 de agosto de 2022];29(1):78-103. Disponible en: https://pubmed.ncbi.nlm.nih.gov/34268708/
17. Patel ML, Wakayama LN, Bass MB, Breland JY. Motivational interviewing in eHealth and telehealth interventions for weight loss: A systematic review. Prev Med [Internet]. septiembre de 2019 [citado 29 de agosto de 2022];126:105738. Disponible en: https://pubmed.ncbi.nlm.nih.gov/31153917/
18. Bräutigam-Ewe M, Lydell M, Bergh H, Hildingh C, Baigi A, Månsson J. Two-year weight, risk and health factor outcomes of a weight-reduction intervention programme: Primary prevention for overweight in a multicentre primary healthcare setting. Scand J Prim Health Care [Internet]. junio de 2020 [citado 18 de agosto de 2022];38(2):192-200. Disponible en: https://pubmed.ncbi.nlm.nih.gov/32362238/
19. Gálvez Espinoza P, Gómez San Carlos N, Nicoletti Rojas D, Cerda Rioseco R. [Is the individual motivational interviewing effective in overweight and obesity treatment? A systematic review]. Aten Primaria [Internet]. noviembre de 2019 [citado 21 de agosto de 2022];51(9):548-61. Disponible en: https://pubmed.ncbi.nlm.nih.gov/30360916/
20. Ivezaj V, Kalebjian R, Grilo CM, Barnes RD. Comparing weight gain in the year prior to treatment for overweight and obese patients with and without binge eating disorder in primary care. J Psychosom Res [Internet]. agosto de 2014 [citado 21 de agosto de 2022];77(2):151-4. Disponible en: https://pubmed.ncbi.nlm.nih.gov/25077857/
21. Galarza FPC, Arnaiz NVQ, Arias NG. Aproximación a indicadores de calidad en un estudio sobre la revista Mikarimin. Universidad y Sociedad [Internet]. 2022 [cited 2022 Oct 6];14(S2):423–31. Available from: https://rus.ucf.edu.cu/index.php/rus/article/view/2805
22. Salazar CFB, Salazar JCB, Molina ALS, Ojeda SJS. Efectividad del habeas corpus en defensa de los derechos a la libertad, a la vida e integridad física, en tiempos de pandemia. Universidad y Sociedad [Internet]. 2022 [cited 2022 Oct 6];14(S2):432–9. Available from: https://rus.ucf.edu.cu/index.php/rus/article/view/2809