

Steps to Your Health:

Healthy Behavior Change of Adults with Mental Retardation

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Introduction

- The Healthy People 2010 report acknowledges that people with disabilities are a health disparity group compared with the general population
- Obesity is a significant problem among adults with mental retardation (MR), though adults with MR are not more likely than those in the general population to be obese
- Research suggests that this condition can be reversed during adulthood

Health Promotion Programs

- The National Heart, Lung, and Blood Institute (1998) provided guidelines for promoting weight loss among adults
 - Calorie reduction in the diet
 - Increased physical activity
 - Behavior modification
- Lifestyle modification programs have been shown to result in short-term weight reduction

Benefits of Lifestyle Modification

- Weight management, increased physical activity, and stress management techniques can delay or prevent cardiovascular disease
- Even small reductions in weight (5% to 10%) can produce important health gains
 - Improved insulin sensitivity
 - Lower blood pressure
 - Lower cholesterol

Relevance to Adults with MR

- There is clearly a need to promote healthy lifestyles for individuals with MR
- The literature does not provide evidence of successful approaches or programs for adults with MR

Purpose

The objective was to identify factors within the health promotion intervention, Steps to Your Health, that contribute to weight loss among individuals with MR

Participants

- Adults were recruited through a network of local disability providers in South Carolina
- Participation was entirely voluntary
- Characteristics of Eligible Adults:
 - Residence in independent or supported settings
 - Ambulatory and communicative
 - Mild to severe mental retardation
- All eligible participants were allowed to participate, but only those who had a body mass index (BMI) or 25 or greater were included in analyses

Steps to Your Health

- The health promotion program emphasizes the benefits of weight loss, exercise, nutritional choices, and stress reduction
- The program consists of eight 90 minute classes taught by trained staff members from disability service providers

Measures of Outcomes

- Participant assessments were completed at the first group contact and at the end of the program
 - Weight
 - Written test of knowledge
 - Nutritional assessment
 - Exercise assessment

Results

- 993 individuals have participated in the program
- 324 participants were classified as having mental retardation and had a BMI>25
- The program was modified so consistent data were only available for 192 participants with MR who were included in this study

Baseline Participant Characteristics

Characteristic	<i>n</i> (%)
Gender	
Female	128 (66.7)
Male	64 (33.3)
Race	
Black	92 (47.9)
White	100 (52.1)
Down Syndrome	14 (7.3)

Baseline Participant Characteristics

Characteristic	<i>n</i> (%)
Residential Type	
Supervised	97 (50.5)
Unsupervised	95 (49.5)
Age ^a	38.6 (11.5)
IQ ^a	50.7 (13.3)

^aMean and *SDs*.

Changes in BMI by Subgroup

- The direction of weight change was negative in every subgroup except for participants with Down syndrome
- Subgroups of participants who failed to report a significant amount of weight loss
 - Males
 - Participants who did not attend all sessions
 - Participants who ate at least two servings of salad per week at baseline
 - Participants with high baseline carrot intake
 - Participants with high baseline grain intake

Changes in BMI, Exercise, and Knowledge from Baseline to Follow-Up

Characteristic	Baseline Mean (<i>SD</i>)	Follow-Up Mean (<i>SD</i>)	Mean Difference
BMI	35.38 (6.85)	35.07 (6.59)	-0.31***
Exercise Frequency	3.24 (3.93)	4.62 (3.27)	1.39***
Knowledge % Correct	0.60 (0.18)	0.76 (0.17)	0.16***

*** $p = .001$.

Changes in Dietary Intake

Food	Baseline Consumption ^a	Follow-Up Consumption ^a
Fruits	72.92	89.58**
Salad	43.98	56.91*
Potatoes	40.86	42.55
Juice	79.89	83.51
Carrots	38.71	43.62
Grain	44.09	61.96**
Other Vegetables	84.57	86.32

^aTwo or more per week. * $p=.01$. ** $p=.001$.

Logistic Regression Predicting Weight Loss of at Least 0.8 BMI

Variable	OR ^a
Female	2.32*
African American	1.28
Age	1.01
IQ	1.00
Down Syndrome	0.34

^aOdds ratio. * $p=.05$.

Logistic Regression Predicting Weight Loss of at Least 0.8 BMI

Variable	OR ^a
Knowledge Change (per 1% improvement)	1.03**
Exercise Frequency Change	1.04
Change in Diet: Improvement vs. Decrement	1.21
Change in Diet: Improvement vs. No Change	1.41

^aOdds ratio. ** $p=.01$.

Conclusions

- Participation in the Steps to Your Health programs resulted in positive health and behavioral outcomes:
 - Increased knowledge
 - Healthier self-reported diet
 - More frequent physical activity
 - Reduction in BMI following program completion
- Program participation was associated with weight reduction of 0.8 BMI (approximately 2.3 kg) or more in 26% of the overweight participants

Conclusions

- BMI and weight loss were most strongly related to knowledge about a healthy lifestyle
- Knowledge was also a strong predictor of self-reported exercise and diet
- Exercise frequency was a predictor of weight loss, but dietary intake was not a significant predictor of weight loss
 - These findings may be caused by imperfect measurement of the diet and exercise habits of individuals with MR

Conclusions

- Diet and exercise change in individuals with mental retardation is possible and should be a priority for service providers and families
- It is necessary to develop precise and valid measures of food consumption and exercise habits for individuals with mental retardation

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