According to the World Health Organization, 35.8 million people are obese. Obeseogenic factors reflect a complex interrelationship between social, physiologic, and environmental factors. Behaviorally focused interventions emphasize healthy eating and portion size. Some public health strategies to increase fruit and vegetable intake have reported modest success; however, root understanding of the obesity epidemic remain elusive. Appreciating how individuals differ in response to environmental eating conditions also remains enigmatic. Recent advances in neuroimaging have opened the possibility of a new frontier by understanding the neural responses to food intake. Functional Magnet Resonance Imaging (fMRI) technology allows visualization of the neural responses of individuals to food intake, visual cues, and affective response to encoded memory of diet.

INTRODUCTION

- According to the World Health Organization, 35.8 million people are obese.
- Obeseogenic factors reflect a complex interrelationship between social, physiologic, and environmental factors.
- Behaviorally focused interventions emphasize healthy eating and portion size.
- Some public health strategies to increase fruit and vegetable intake have reported modest success; however, root understanding of the obesity epidemic remain elusive.
- Appreciating how individuals differ in response to environmental eating conditions also remains enigmatic.
- Recent advances in neuroimaging have opened the possibility of a new frontier by understanding the neural responses to food intake.
- Functional Magnet Resonance Imaging (fMRI) technology allows visualization of the neural responses of individuals to food intake, visual cues, and affective response to encoded memory of diet.

METHODS

- A systematic search of PubMed and CINAHL databases
- Search terms/phrases:
  - “diet” and “memory” and fMRI
  - “diet” and “memory” and “visual cues” and fMRI
- Inclusion criteria: studies with human subjects and reported in English
- Exclusion criteria: studies focused solely on specific disease processes

RESULTS

- Twenty-two research articles were located
- Eleven of the twenty-two met the inclusion criteria
- Publication dates ranged from 1994 – 2013
- Of the eleven articles, each was published in a different scientific journal
- None were published in the nursing literature addressing obesity prevention

REFERENCES

- Available upon request joann.long@lcu.edu

CONCLUSIONS

- The body of knowledge being generated through the use of fMRI to understand the relationship between dietary intake, encoded memory, visual cues, food choices, and obesity is growing.
- Advances in fMRI holds promise for contributing to a greater understanding of how individuals differ in neural responses to complex eating behaviors.
- Nursing scientists working in obesity prevention should consider emerging findings from neuroimaging studies and work in partnerships with neuroscientists to advance nursing science in this growing field.

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