INNOVATIVE STRATEGIES FOR THE PREVENTION OF ALZHEIMER’S DISEASE

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Presentation Outline

• Risk factors for Alzheimer’s disease and other dementias
  • Family history
  • Lifestyle/environment risk factors

• Current strategies for preventing Alzheimer’s disease
  • Mental stimulation
  • Diet, exercise

• New strategies
  • Life span approach
  • Genetic based health promotion
National Impact of Alzheimer’s disease

- 5.3 million adults currently diagnosed with Alzheimer’s disease.
- 5.4 million adults with mild cognitive impairment
- 11 to 16 million adults with Alzheimer’s disease by 2050
- Significant social, economic, and political implications
Risk Factors for Alzheimer’s Disease

- Family history
  - 60% more likely to develop AD
  - Genetics plays a significant role.
  - APOE gene
  - Shared environments and learned behaviors

- Lifestyle and environmental risk factors
  - Head injury
  - Low mental stimulation
  - Poor diet
  - Chronic diseases
WE ARE NOT DEFINED BY OUR FAMILY HISTORY!
Current Strategies for Preventing and Managing Alzheimer’s Disease.

- **Medications**
  - Eight FDA approved medications
  - Manage symptoms

- **Mentally stimulating activities**
  - Puzzles, board games
  - New experiences
  - Socializing with friends and family

- **Diet and exercise**
  - Mediterranean diet
  - Cardiovascular exercises
APPLYING A LIFESPAN APPROACH TO ALZHEIMER’S DISEASE PREVENTION
Life Span Approach to Alzheimer’s Disease Prevention

• Examine the effect of social and physical exposures during different life stages on health

• Does the exposure have a cumulative effect over time?

• Does the exposure have a greater effect during a critical period in the life span?
Midlife Risk Factors

• Midlife is 35-55 years of age.
  • High cholesterol
  • Diabetes
  • High blood pressure

• Important time for interventions to be implemented.
  • Clear knowledge of family history
  • Identify high risk individuals before disease begins
  • Change health behaviors and habits
Genetic Based Health Promotion

- Family based health promotion
  - Cancer prevention
  - Prevention and management of chronic diseases

- Personalized medicine
  - Medical treatments based on genetic information

- Genetic based health promotion
  - Use genetic information to determine which health behavior is going to be the most effective for a specific person

- Alcohol consumption and memory
ALCOHOL CONSUMPTION AND MEMORY
Background Information

• 1 to 2 drinks per day during midlife and old age may be beneficial for memory.

• Variation in APOE gene associated with increased risk for Alzheimer’s disease.
Purpose

• Does the average amount of alcohol consumed per week from midlife to old age effect memory?

• Is this effect different among adults with a genetic risk for Alzheimer’s disease?
Results

• Adults with low genetic risk who consumed an average of 1 to 2 drinks per day from midlife to old age performed higher on tests for memory compared to adults who consumed less than 1 drink per day.

• Adults with high genetic risk who consumed 1 to 2 drinks per week DID NOT perform higher on tests for memory.
THIS IS NOT AN ENDORSEMENT FOR ALCOHOL CONSUMPTION
Things to Consider

• Family history of alcoholism

• You can have too much of a good thing

• Potential interactions with medications

• Is it really the alcohol or is it something else?
Take Home Messages

• We are not defined by our genes

• There are ways to prevent and manage Alzheimer’s disease

• A life span approach can improve health during all stages of life

• Genetic based health promotion
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