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Health Maintenance Regarding Carbohydrate Counting and Calorie Restricted Diets in Diabetes Mellitus Type 2 Patients

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PATIENT CARE ISSUE

Background & Significance of Diabetes Mellitus:

- Rapidly growing epidemic in today's society
- In 2000, 2.8% (171 million) of the world had this diagnosis[8]
- In 2030, it is expected to increase to 4.4% (366 million)[8]
- There is an increased need for research and implementation in the nursing field to manage diabetic symptoms.
- Diabetes mellitus type 2 is a cellular change causing insulin to be resistant to the cells which leads to a build up of glucose.
- Multiple medical complications can result from the diagnosis of diabetes mellitus type 2.

EVIDENCE-BASED PRACTICE QUESTION

Question: Which diabetic diet is more effective in reducing the symptoms of diabetes mellitus type 2 patients: carbohydrate counting or calorie restricted?	**P-** Population is adults with the diagnosis of diabetes mellitus type 2
	I- Intervention to educate and implement the most effective of the two diets
	C- Comparison of interventions reveals: an inconclusive standard unless
	O- Outcome desired is to take into consideration multiple variables and implement the most relevant diet to manage diabetic symptoms

REGISTERED NURSE INTERVIEW

Miami Valley Hospital nutritionist and registered nurse:

- Outpatient teaching- the same as inpatient protocol.
- Inpatient protocol- a combination of both diets by the nurse depending on the patients personal health criteria
- Carbohydrate counting is more effective in patients who are physically active and maintain a healthy dietary intake.
- Calorie restriction is more commonly used with patients who lead more sedentary lifestyles and have an increased BMI.

METHODS

Databases Searched:	Google Scholar, National Guideline Clearinghouse, Cochrane Library, PubMed, Medline
Keywords:	Type 2 diabetes, diabetic diets, low carbohydrate type 2 diabetic diet, calorie restriction in diabetes evidence based articles, and carbohydrate counting in diabetes evidence based articles
Inclusion Criteria:	Adult patients with diabetes type 2 diagnosis, current evidence, written in English
Exclusion Criteria:	Studies conducted on diabetes type 1 patients, subjects of 18 years or younger

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RESULTS

Articles Examined:	21
Articles Used:	8
Levels of Evidence:	Two metanalysis (level 1) One qualitative study (level 6) One well designed RCT (level 2) Three systematic reviews (level 5) One report from experts (level 7)

SYNTHESIS OF EVIDENCE

- There are advantages to both diets.
  - Carbohydrate counting was proven to be more effective in:
    - Decreasing symptoms of metabolic syndrome[1]
    - Medication reduction/elimination[6]
    - Improving glycemic control[1]
    - Weight reduction[6]
  - Calorie restriction was proven to be more effective in:
    - Patients with sedentary lifestyles
    - Improving glycemic control[6]
    - Weight reduction[6]
- Diet recommendations should be specific to each individual patient.
  - Multiple factors need to be accounted for:
    - Other dietary intake
    - Patient preference
    - Activity level
    - Lifestyle
    - BMI

EVIDENCE-BASED PRACTICE RECOMMENDATIONS

1. Protocol should not be amended based on resulting evidence
2. Multiple variables need to be taken into consideration
3. More research needs to be conducted

LIMITATIONS

- Few studies investigated long term effects of the diets
- Insufficient data on baseline glucose and lipid levels
- Lack of focus on African American or Asian patients
- Participants were predominately women volunteers[6]
- Most studies didn't take multiple variables into consideration

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