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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 diagnosis⁸
- 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 syndrome¹
 - Medication reduction/elimination⁶
 - Improving glycemic control¹
 - Weight reduction⁶
 - Calorie restriction was proven to be more effective in:
 - Patients with sedentary lifestyles
 - Improving glycemic control⁶
 - Weight reduction⁶
- 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 volunteers⁶
- Most studies didn't take multiple variables into consideration

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