

## RECENT ADVANCES IN ENDOCRINOLOGY

### Pre ketogenic diet counselling

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#### Abstract

This communication describes the aims and aspects of counseling prior to start of a ketogenic diet (KD). It uses a reader-friendly biopsychosocial format to list and structure the various components of pre ketogenic diet counseling. These include strength mapping, risk and benefit explanation, and understanding the patient's self-care responsibilities. This simple, yet practical discussion fills a major void in current literature, which seems to have ignored patient centred counselling strategies for KD in persons with obesity and diabetes.<sup>1</sup>

**Keywords:** Atkins diet, ketogenic diet, medical nutrition therapy, obesity, type 2 diabetes,

#### Introduction

Pre-dietary counseling is an integral part of ketogenic diet (KD) therapy. Quality counseling is essential for long term adherence, and success, of KD. While the burden of counseling usually falls upon the nutrition counselor or coach, it should ideally be a multidisciplinary effort. KD counseling is too important to be left to any single health care professionals, and is too vast to be covered at one clinical encounter. Published discussion on KD counseling relates to its use in infants, children and specific disease states such as chronic kidney disease.<sup>1-5</sup> We note a lack of focus on diabetes and obesity in existing literature, and aim to direct attention to this field. The lack of focus on patient centered outcomes has been highlighted earlier as well.<sup>6</sup>

We utilize a bio psychosocial framework to help plan optimal counseling for KD. The bio psychosocial model of health, used frequently in diabetes care, is an apt means of understanding KD counseling. It provides a simple rubric for the KD care team to manage patient needs, concerns and expectations, while ensuring optimal delivery of services.

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**Table 1:** Pre-ketogenic diet counselling: domains.

#### Strength mapping

- Willingness to adhere to KD
  - Motivation
- Ability to adhere to KD
  - Nutritional literacy/numeracy
  - Affordability/availability of ketogenic food
- Acceptance of ketogenic dietary principles
  - E.g.; increased fat intake
  - E.g.; nonvegetarian/dairy products

#### Aims of counselling

Pre-dietary counseling aims to identify persons with robust indications for KD, and understand the specific attention that a particular person may need during KD. Counselling (Table 1) helps map an individual's strengths and limitations, so that the KD care team is able to preempt and prevent potential complaints and complications. It also allows one to identify relative and absolute contraindications, and inform persons who are unfit for KD to refrain from it.

Another aim of counseling is to identify medical and psychosocial issues which need addressal, and ensure optimization of health prior to starting KD. Pre-dietary counseling informs the person about the do's and don'ts of KD, the expected course of therapy, the responsibilities related to self-care, and realistic expectations. As self-care skills are essential to the success of KD, counseling allows the health care team to assess the person's current skills, and work towards improving them if required. Motivation assessment and enhancement is yet another aspect of keto-dietary counseling. This approach aims to understand how committed an individual will be for maintenance of KD, and how this commitment level can be improved. Discussion also explores potential barriers to adherence to KD, and identifies facilitators to overcome the same. This aspect of counseling extends to the family as well, as the social environment plays an important role in motivation and adherence.

#### Biomedical counselling

Pre-KD counseling includes a medical as well as dietary history, to assess the suitability and fitness of a particular

individual for KD. The aim is to identify medical and surgical conditions which may influence outcomes of KD, or which need to be corrected prior to initiating KD. This may include conditions like uncontrolled hypothyroidism, or infections and infestations. A checklist of basic metabolic and hormonal investigations, including anthropometric, glycaemic, renal, hepatic, lipid and thyroid parameters, must be completed.

Counselling may encourage the patient to delay starting KD until a planned surgery has been carried out, a planned fast (such as Ramadan) or short course of corticosteroids completed, or major upcoming travel, social event or sports competition taken care of. This process also helps instill dietary discipline in the patient.

Biomedical and endocrine screening also helps identify issues which need extra attention during KD usage. This helps in planning an appropriate proactive therapeutic approach, rather than having to depend on fire-fighting measures when complications occur. Examples include institution and stabilization of lipid lowering or hypouricaemic therapy, if indicated, prior to starting KD. A drug history allows the KD care team to practice pharmacovigilance and titrate doses of glucose lowering and blood pressure lowering treatment when necessary. Documentation of some conditions, such as nephrolithiasis, cholelithiasis and constipation, in pre-counselling notes, ensure that causality is not blamed on KD if they are encountered later on by other observers.

### Psychological counseling

KD is a patient-centred, patient-driven therapeutic process, which requires significant motivation and willingness to change an existing (unhealthy) lifestyle. Institution and maintenance of KD requires commitment to follow a new diet. One may face resistance or lack of cooperation from family members and close ones, and may encounter transient symptoms which cause discomfort. Counselling allows the KD care team to assess current motivation levels and coping skills/mechanisms, assess suitability for life with KD, and suggest changes if required. Coping skills training can be included as a theranostic (therapeutic+diagnostic) component of pre-KD counseling.

### Social counselling

Food and nutrition are a part of human life, and have multiple social connotations. Following a restricted KD

**Table-2:** Improving adherence to ketogenic diet.

<b>Patient empowerment</b>
○ Optimal contemplation time
○ Information about planned course of treatment, anticipated side effects and benefits
<b>Health care system</b>
○ Frequent dietary counseling
○ Regular medical endocrine contact
<b>Keto-philosophy</b>
○ Shared decision making
○ Informed decision making
<b>Social milieus</b>
○ Family based dietary strategies
○ Family support
○ Availability of keto-friendly foods

may appear as 'culinary cruelty' or as 'dietary draconism' to family and community members. These persons may counsel against use of KD, and this may adversely impact adherence to therapy, and its outcomes. Pre-KD counseling provides an opportunity to involve family members and other close ones in diet planning. It is especially important to include persons who source, prepare and serve food to the patient in discussion. This is best done by inviting them (e.g., spouse, parent, child) to counseling sessions. Positive language, such as therapeutic diet, therapeutic protein modulation or pro-metabolic diet, can be used to enhance social acceptance of KD.

### Ketogamy

Akin to the words monogamy or polygamy which denote styles of marital status, we propose the concept of ketogamy. Ketogamy conveys a status of adherence to KD. A particular individual may practice ketogamy, or be faithful to KD, for a finite or infinite period of time, with or without anti-ketogenic dietary indiscretion. Thorough pre-KD counseling, coupled with regular contact and support during KD, can help enhance adherence to KD, or successful, sustained ketogamy. A few tips to improve adherence are listed in Table 2.

### Summary

As awareness of its benefits increases, KD is being used more and more frequently in diabetes and obesity practice. Appropriate counseling by multi-professional teams will help in rational and effective use of KD.

### References

1. van der Louw E, van den Hurk D, Neal E, Leiendecker B, Fitzsimmon G, Dority L, Thompson L, Marchiò M, Dudzi? ska M, Dressler A, Klepper J. Ketogenic diet guidelines for infants with refractory epilepsy. *Eur J Paediatr Neurol*. 2016 ; 20:798-809.

2. Aparicio M, Bellizzi V, Chauveau P, Cupisti A, Ecder T, Fouque D, Garneata L, Lin S, Mitch WE, Teplan V, Zakar G. Keto acid therapy in predialysis chronic kidney disease patients: final consensus. *J Ren Nutr.* 2012 ; 22:S22-4.
3. Carroll J, Koenigsberger D. The ketogenic diet: a practical guide for caregivers. *J Am Diet Assoc.* 1998; 98:316-21.
4. Kossoff EH, Zupec-Kania BA, Armark PE, Ballaban-Gil KR, Christina Bergqvist AG, Blackford R, Buchhalter JR, Caraballo RH, Helen Cross J, Dahlin MG, Donner EJ. Optimal clinical management of children receiving the ketogenic diet: recommendations of the International Ketogenic Diet Study Group. *Epilepsia.* 2009 ; 50:304-17.
5. Kossoff EH. International consensus statement on clinical implementation of the ketogenic diet: agreement, flexibility, and controversy. *Epilepsia.* 2008 ; 49:11-3.
6. Jackson JA, Kinn S, Dalgarno P. Patient-centred outcomes in dietary research. *J Hum Nutr Diet.* 2005;18:83-92.

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