

The 3+3 Meal Pattern

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Abstract

This communication reviews the 3 + 3 meal pattern, a pillar of conventional nutritional therapy. It describes the strengths, weaknesses, opportunities and challenges of this type of therapy, and lists indications for its promotion. These can be classified as diagnosis based, disease based, treatment based, temperament based, and responsibility-based indications. The authors call for renewed focus on this mode of medical nutrition management.

Keywords: Diabetes, medical nutrition therapy, metabolic disease, nutrition, obesity, overweight

DOI: <https://doi.org/10.47391/JPMA.25-92>

Introduction

Dietetics and nutrition are scientific disciplines, built upon extensive evidence and experimentation.¹ At the same time, nutrition is part and parcel of our daily lives. This means that we all consider ourselves experts in nutrition. Coupled with ease of communication, this has led to a situation where eminence-based, rather than evidence-based, messaging has become widespread.

One aspect of the multifaceted nutriverse is the focus on meal patterns. Various fad diets and patterns such as one meal a day (OMOD), intermittent fasting and dawn-dusk meals are touted as treatments for all metabolic travails.² Such statements ignore the diversity of metabolic disease, as well as the wide spectrum of science that nutrition has on offer.

Small Frequent Meals

Here, we focus on indications for the 3+3 meal pattern. The 3+3 meal pattern can be defined as consumption of 3 major meals (breakfast, lunch and dinner), along with 3 minor meals (mid-morning, evening and late-night snacks). The concept highlights the need for small, frequent meals, and includes patterns characterized by 4 or 5 snacks as well.

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The focus is on redistribution of calories, while keeping total caloric intake within recommended limits.

Advantages

Such a meal pattern help avoid hyperglycaemic peaks, while preventing hypoglycaemic troughs. Late night snacks prevent nocturnal hypoglycaemia; and reduce glycaemic variability. These factors reduce cardiovascular morbidity, by reducing endothelial insult due to variations in glycaemia. The 3 +3 meal pattern ensures symptomatic well being, and thereby fosters satisfaction and adherence to suggested intervention. Talking about food in a proactive, inclusive manner, rather than a restrictive approach, encourages culinary happiness, and creates a pleasant partnership between the person living with disease, and the health care provider.^{3,4} This facilitates a successful long term relationship, and contributes to optimization of outcomes.

Caveats

The 3 + 3 meal prescription should be coupled with pragmatic information about portion sizes and portion control, as well as healthy food procurement, preparation and plating/ presentation.⁴ The meal pattern does not

Table-1: Indications for 3+3 meal patterns.

Diagnosis based	<ul style="list-style-type: none"> ● Type 1 diabetes mellitus ● Gestational diabetes mellitus ● Pancreatic diabetes ● "Brittle" diabetes ● Reactive hypoglycaemia
Comorbidity based	<ul style="list-style-type: none"> ● Elderly ● Frail, edentulous ● Prone to hypoglycaemia
Treatment based	<ul style="list-style-type: none"> ● Basal bolus insulin ● Human insulin ● Sulfonylurea
Responsibility based	<ul style="list-style-type: none"> ● Caring professions (with responsibility for others) ● Cognitive professions (requiring sapio-cognitive work) ● "Corporeal" (strenuous activity) ● Creative professions (requiring originality & creative ideation)
Temperament based	<ul style="list-style-type: none"> ● Prone to adrenergic symptoms ● Prone to anxiety ● Complaint of hunger pangs

Table-2: SWOC analysis of 3+3 meal pattern.**Strengths**

- Suitable for all gluco phenotypes
- Suitable for all drug therapies
- Reduces glycaemic variability; increases time in range
- Enhances satisfaction and adherence

Weaknesses

- May lead to over consumption
- May be viewed as intrusive
- May burden the care giver

Opportunities

- Advocacy should be clubbed with calls for moderate lifestyle
- Should be advocated as an alternative to extreme, restrictive diets

Challenges

- Understanding of biochemistry and physiology is needed
- Competence in culinary skills is required

represent a license to consume unlimited calories, or eat unhealthy ultra processed foods. Rather, it reinforces the discipline of a regular lifestyle, including fixed times for meals. The pattern does allow flexibility in terms of types of cuisine, and can be tweaked to fit specific preference and requirement.

While there is no specific contra-indication to the 3 + 3 suggestion, one must be mindful of various caveats and cautions. Table 2 lists the strengths, weaknesses, opportunities and challenges associated with this mode of management.

Summary

The 3 + 3 meal pattern, a pillar of conventional nutritional therapy, retains its relevance in modern metabolic management. Its strengths include avoidance of extremes in glycaemic variability, and enhancement of patient satisfaction. While various diagnosis based, disease based, treatment based, temperament based, and responsibility-based indications are listed, the 3+3 advice can be used for almost all persons.

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