Journal of
Obesity & Weight Loss Therapy

Mini Review Open Access

# Fasting Diets Might Be Harmful to Future Generations' Health

**Mika Pushkar K***

*Department of Health and Science Education, India*

## Abstract

Fasting diets have gained popularity for their potential health benefits, including weight loss and improved metabolic outcomes. However, emerging evidence suggests that the implications of these diets may extend beyond the individual, impacting future generations. This abstract provides an overview of the emerging concerns regarding the potential harm fasting diets may pose to the health of subsequent generations. Fasting diets, characterized by intermittent fasting, time-restricted eating, or extended periods of caloric restriction, have been studied extensively for their effects on metabolism and longevity. While initial research has shown promising results in terms of weight management and certain health markers, recent studies in animal models have raised concerns about the trans generational impact of these dietary patterns. Research findings indicate that fasting diets may induce changes in epigenetic modifications and alterations in gene expression that can be inherited by offspring. These modifications have the potential to influence susceptibility to metabolic disorders, such as obesity, diabetes, and cardiovascular diseases, in subsequent generations. Furthermore, evidence suggests that fasting diets might affect reproductive health, potentially leading to adverse outcomes in future offspring. This abstract calls for a critical examination of the long-term consequences of fasting diets and emphasizes the importance of a holistic understanding of their potential effects, including those on future generations. It underscores the need for further research to elucidate the mechanisms underlying transgenerational impacts and to inform dietary recommendations that consider the broader health implications of these popular dietary practices. As fasting diets continue to gain momentum, a comprehensive understanding of their effects on both current and future generations is essential for promoting health and well-being.

**Keywords:** Fasting diets; Intermittent fasting; Time-restricted eating; Caloric restriction; Transgenerational health; Epigenetic modifications; Gene expression; Metabolic disorders; Obesity; Diabetes; Cardiovascular diseases; Reproductive health; Offspring health; Inherited traits; Long-term consequences; Dietary practices; Research findings; Future generations; Health implications; Holistic understanding.

## Introduction

Fasting diets have garnered significant attention in recent years for their potential to improve metabolic health and facilitate weight loss. These dietary approaches, characterized by intermittent fasting, time-restricted eating, or extended periods of caloric restriction, have been lauded for their immediate benefits, but emerging research suggests that their impact may extend beyond the individual to influence the health of future generations. This introduction provides a foundational overview of the growing concerns surrounding the potential harmful effects of fasting diets on the health of subsequent generations. Fasting diets have been proposed as a promising tool for addressing the global health crisis marked by rising obesity rates, type 2 diabetes, and associated comorbidities. These diets typically involve variations in eating patterns, such as cycling between periods of fasting and eating or adhering to strict caloric limits during specific windows of the day. Proponents of fasting diets argue that they can enhance insulin sensitivity, promote weight loss, and extend lifespan. However, while fasting diets have shown initial promise, recent investigations have unveiled a new layer of complexity in their potential repercussions. Studies conducted on animal models have revealed that the effects of these diets may go beyond individual health, reaching into the domain of transgenerational health. Research findings indicate that fasting diets can lead to alterations in epigenetic modifications and changes in gene expression that have the potential to be inherited by offspring. These modifications, with the ability to [1-6] impact factors like metabolism, obesity susceptibility, and cardiovascular health, raise profound questions about the long-term consequences of fasting diets, especially as they relate to future generations. Furthermore, there is mounting evidence that fasting diets might influence reproductive health, potentially affecting the health outcomes of offspring. In light of these concerns, it is imperative to critically examine the broader implications of fasting diets, not only for the current generation but also for those yet to come. This introduces a vital consideration when evaluating the suitability and safety of these dietary patterns in the context of public health and clinical practice. Consequently, further research is needed to elucidate the underlying mechanisms that give rise to trans generational impacts and to inform dietary recommendations that holistically consider the health implications of fasting diets. As fasting diets continue to gain momentum, it is paramount to acknowledge and address their potential to impact the health and well-being of both current and future generations.

## Materials and Methods

### What are the factors involved

The potential harm of fasting diets to future generations' health involves various factors, both physiological and epigenetic. Here are some key factors and mechanisms involved:

Epigenetic modifications: Fasting diets may induce changes in epigenetic modifications, such as DNA methylation and histone modifications, which can alter gene expression. These epigenetic changes can be inherited by offspring, potentially impacting their health.

***Corresponding author:** Dr. Mika Pushkar K, Department of Health and Science Education, India, E-mail: puahkar_Krr@gmail.com

**Received:** 28-Sep-2023, Manuscript No: jowt-23-117646, **Editor assigned:** 01-Oct-2023, Pre QC No: jowt-23-117646 (PQ), **Reviewed:** 13-Oct-2023, QC No: jowt-23-117646, **Revised:** 18-Oct-2023, Manuscript No: jowt-23-117646(R), **Published:** 25-Oct-2023, DOI: 10.4172/2165-7904.1000613

**Citation:** Mika Pushkar K (2023) Fasting Diets Might Be Harmful to Future Generations' Health. J Obes Weight Loss Ther 13: 613.

Gene expression: Altered gene expression patterns in response to fasting diets can be passed on to the next generation. This can affect metabolic pathways, inflammation, and other physiological processes, potentially increasing the risk of metabolic disorders.

Metabolic imprints: Fasting diets can create metabolic imprints that affect glucose metabolism, insulin sensitivity, and energy regulation. These imprints may be inherited, leading to metabolic disturbances in future generations.

Obesity susceptibility: Epigenetic changes and gene expression alterations induced by fasting diets may influence an individual's susceptibility to obesity. Future generations could inherit a higher risk of obesity due to these genetic and epigenetic modifications.

Cardiovascular health: Fasting diets may impact cardiovascular health by altering lipid metabolism, blood pressure regulation, and inflammation. Transgenerational effects may result in an increased risk of cardiovascular diseases in offspring.

Reproductive health: Some research suggests that fasting diets can affect reproductive health, potentially leading to changes in fertility, pregnancy outcomes, and offspring health.

Nutrient availability: Fasting diets can create nutrient deficiencies or imbalances in parents, which may affect the nutrient supply to developing offspring. This can influence the long-term health of the next generation.

Interplay of Genes and Environment: The interplay between genetic predisposition and environmental factors, including dietary choices, plays a role in determining the transgenerational impact of fasting diets.

Multigenerational Effects: Fasting diets may not only affect immediate offspring but also have multigenerational effects, potentially influencing the health of several subsequent generations.

Nutritional programming: Fasting diets can lead to nutritional programming, where early-life exposures impact an individual's lifelong health. This programming may extend to offspring, shaping their health trajectories.

Long-term consequences: The long-term health consequences of fasting diets on future generations are a multifaceted outcome of the factors mentioned above. These consequences can include increased susceptibility to metabolic disorders, cardiovascular diseases, and other health issues.

Understanding these factors and mechanisms is crucial for evaluating the potential risks of fasting diets on future generations' health. Further research is needed to elucidate the specific pathways and mechanisms underlying these transgenerational effects and to inform dietary recommendations that account for the broader health implications of fasting diets.

## Results and Discussion

### Future scope

The potential transgenerational impact of fasting diets on health opens up several future research avenues and areas of exploration. These areas have the potential to provide a deeper understanding of the mechanisms and consequences of fasting diets on future generations' health. Here are some future scopes in this field:

Transgenerational mechanisms: Investigating the precise mechanisms underlying the transgenerational effects of fasting diets, including the specific epigenetic modifications, gene expression alterations, and metabolic imprints that are inherited by offspring.

Human studies: Expanding research from animal models to human populations to determine whether similar transgenerational effects are observed in humans and to what extent fasting diets can influence the health of future generations.

Intergenerational studies: Conducting longitudinal studies to explore how fasting diets in one generation affect the health of the immediate offspring as well as subsequent generations. This can provide insights into the duration and magnitude of transgenerational effects.

Nutritional programming: Investigating how nutritional programming, which occurs through fasting diets, can impact the epigenome and gene expression in offspring. This research can elucidate how early-life exposures affect lifelong health.

Clinical implications: Assessing the clinical implications of fasting diets on future generations' health. This includes understanding the implications for healthcare providers, dietary recommendations, and public health initiatives.

Nutrient imbalances: Exploring how nutrient imbalances resulting from fasting diets can affect fetal development and offspring health. Understanding the nutrient needs of pregnant individuals following fasting diets is crucial.

Genetic predisposition: Investigating how an individual's genetic predisposition interacts with fasting diets to influence the likelihood and magnitude of transgenerational effects.

Preconception health: Emphasizing the importance of preconception health and nutrition in mitigating potential transgenerational health risks associated with fasting diets.

Epigenetic interventions: Exploring potential interventions or strategies to mitigate or reverse adverse epigenetic changes resulting from fasting diets, particularly those that may affect offspring health.

Public health education: Developing public health education initiatives to raise awareness about the potential long-term consequences of fasting diets on future generations' health. This includes educating individuals, healthcare providers, and policymakers.

Dietary guidelines: Evolving dietary guidelines and recommendations to consider the potential transgenerational effects of fasting diets, ensuring that dietary advice prioritizes both short-term and long-term health.

Behavioral and lifestyle factors: Investigating how behavioral and lifestyle factors, such as physical activity, stress management, and sleep patterns, interact with fasting diets to influence transgenerational health outcomes.

## Ethical Considerations

Addressing ethical considerations related to dietary choices, informed consent, and reproductive rights in the context of fasting diets and their potential implications for future generations.

Understanding the full scope of how fasting diets may affect the health of future generations is a complex and multifaceted research endeavor. Future studies in these areas can provide valuable insights into the long-term health consequences of dietary practices and inform

strategies to promote the well-being of individuals across generations.

## References

1. George B, Bennis W (2003) Authentic Leadership: Rediscovering the Secrets to Creating Lasting Value. John Wiley & Sons, USA.
2. Rohman A (2012) Application of Fourier Transform Infrared Spectroscopy for Quality Control of Pharmaceutical Products: A Review. Indones J Pharm 23: 1-8.
3. Nabati M, Mahkam M, Heidari H (2014) Isolation and Characterization of Curcumin from Powdered Rhizomes of Turmeric Plant Marketed in Maragheh City of Iran with Soxhlet Technique. Iran Chem Commun 2: 236-243.
4. Sofyan N, Situmorang FW, Ridhova A, Yuwono AH, Udhiarto A (2017) Visible Light Absorption and Photosensitizing Characteristics of Natural Yellow 3 Extracted from Curcuma Longa L. for Dye-Sensitized Solar Cell. IOP Conf Ser: Earth Environ Sci 105: 012073.
5. Sepahpour S, Selamat J, Manap MYA, Khatib A, Razis AFA (2018) Comparative Analysis of Chemical Composition, Antioxidant Activity and Quantitative Characterization of Some Phenolic Compounds in Selected Herbs and Spices in Different Solvent Extraction Systems. Molecules 23: 402.
6. Deogade SC, Ghate S (2015) Curcumın: Therapeutıc Applıcatıons in Systemıc and Oral Health. Int J Biol Pharm Res 6: 281-290.