

An Evaluation of Synergy between Consumption of Dairy products and Yoga for improved Digestive Health

Abstract

This article explores the interconnected roles of yoga and dairy in promoting digestive health across various life stages, emphasizing their potential to enhance overall well-being. By investigating the unique digestive challenges faced by children, teenagers, adults, middle-aged individuals, and seniors, the research identifies specific yoga practices and dairy consumption strategies tailored to each age group. The findings reveal that for children Simple poses like Balasana (Child's Pose) and Pawanmuktasana (Wind-Relieving Pose) can promote gut mobility and Ghee and probiotic dairy products are suggested, For teenagers Yoga poses like Ardha Matsyendrasana (Half-Spinal Twist) and Uttanasana (Standing Forward Bend) can aid digestion, relieve stress, and balance hormones and Dairy, such as milk and cheese, can be crucial for the calcium and protein needs of growing bodies can be suggested. Further for Adults the more advanced digestive-friendly poses like Naukasana (Boat Pose) and Paschimottasana (Seated Forward Bend) to stimulate digestion and Dairy products like kefir, probiotic yogurt, and certain types of cheese can balance gut flora, aiding digestion can be suggested. For seniors (60+) Gentle restorative yoga and seated poses such as Supta BaddhaKonasana (Reclined Bound Angle Pose) can stimulate digestion and aid gut health and easy-to-digest dairy products like yogurt or cottage cheese for calcium and protein intake can be suggested. Overall it can be concluded that the synergy between yoga and dairy not only helps alleviate common digestive issues but also improves nutrient absorption and supports holistic health. This comprehensive analysis offers practical insights and age-specific recommendations, serving as a valuable resource for individuals seeking to optimize their digestive health throughout their lifespan. By integrating these two approaches, individuals can foster better digestive function and overall wellness, highlighting the importance of lifestyle choices in maintaining health across all ages.

Keywords

Yoga, Dairy, Digestive Health, Age Groups, Holistic Well-Being, Dairy Diets, Dairy nutrition

1) Introduction

Digestive health is fundamental to overall well-being, influencing physical, mental, and emotional health across the lifespan. As individuals progress through different age stages, their digestive systems encounter unique challenges that can affect their quality of life (Gomaa, 2020). Digestive health issues affect a significant portion of the global population. Approximately 40% of people worldwide suffer from functional gastrointestinal disorders, such as irritable bowel syndrome and indigestion (Sperber *et al.*, 2021). Two holistic practices that have garnered attention for their health benefits are yoga and dairy consumption. Yoga, with its emphasis on mindful movement and breath, promotes physical health, while dairy products, rich in essential nutrients, support bodily functions and digestion.

This article explores the synergistic relationship between yoga and dairy in promoting digestive health across age groups—children (ages 5-12), teenagers (ages 13-19), adults (ages 20-40), middle-aged adults (ages 40-60), and seniors (ages 60+). By identifying specific digestive challenges and recommending tailored practices, this guide aims to provide actionable insights for improving digestive health at every life stage.

1.1 The Yogic Diet: Food for Mind and Body

According to yoga, maintaining a balanced diet is crucial for restoring balance across all levels and promoting overall well-being. The type of food we consume affects both our physical body and our mind (Colbin, 1986). This is where the age-old saying “you are what you eat” holds true. A Yogic diet, specifically tailored to support yoga practice and spiritual growth, plays a pivotal role in this regard. Let’s delve into how embracing a Yogic diet can significantly impact both our body and mind, fostering balance and enhancing overall well-being.

1.2 The 3 main food categories

In Yoga, food isn’t labelled by proteins or carbs but is divided into three types: satva, rajas, and tamas, based on how they affect our body and mind. These correspond to three main diets: Sattvic, Rajasic, and Tamasic. This helps us understand which foods make us feel light and energetic (sattvic), which bring activity or restlessness (rajasic), and which make us feel lethargic or sluggish (tamasic). Looking at the table mentioned below can provide a clearer picture of these distinctions.

Table 1: Comparison of Sattvic, Rajasic, and Tamasic Diets

Characteristic	Sattvic Diet	Rajasic Diet	Tamasic Diet
Quality	Pure, fresh, light	Stimulating, intense	Stale, heavy, over-processed
Taste	Sweet, mild, bland	Spicy, sour, salty, bitter	Pungent, bitter, excessively salty, or sweet
Effect on Body	Promotes clarity, calmness, detoxification	Increases energy, motivation, heat	Create sluggishness, dullness, heaviness
Effect on Mind	Promotes peace, focus, well-being	Increases passion, ambition, competitiveness	Creates negativity, confusion, laziness
Examples	Fresh fruits & vegetables Whole grains (brown rice, quinoa) Nuts & seeds (almonds, sunflower seeds) Dairy (milk, ghee) Honey	Spicy foods (chili peppers, onions, garlic) Meat Coffee & tea Eggs Chocolate	Stale or processed foods Fried foods Excessive sugar or refined carbohydrates Leftovers Overly salty foods
Digestion	Easy to digest, promotes regularity.	Can be stimulating to the digestive system, may cause heartburn in some.	Difficult to digest, can lead to constipation and sluggishness.
Seasonality	Emphasizes seasonal and local produce for optimal freshness and nutritional value.	May not prioritize seasonality, focusing more on the stimulating qualities of the food.	Less emphasis on seasonality may include processed foods available year-round.
Ayurvedic Herbs & Spices	Light herbs like fennel, cardamom, and coriander are favored.	Heating spices like ginger, black pepper, and chili peppers are commonly used.	No specific recommendation may include leftover spices that have lost their potency.
Ideal For	Meditation, yoga, spiritual practices	Active lifestyles, athletes, creative pursuits	Not recommended for regular consumption
Overall Impact	Promotes overall well-being, vitality, and longevity.	Can be beneficial for short bursts of energy but may lead to imbalances if consumed excessively.	Detrimental to health and well-being in the long run.

1.3 Importance of eating Sattvic Food

The yogic philosophy emphasizes Sattvic foods – fresh, light, and pure ingredients that promote clarity, calmness, and detoxification. Think seasonal vegetables, whole grains, nuts, seeds, and dairy products. These foods are easily digestible, allowing one’s body to focus on the practice instead of struggling with digestion.

1.4 Nutritive benefits of Milk and Milk Products

(a) Milk:

Milk is a well-known source of essential nutrients that benefit various aspects of health.

- **Rich in Calcium:** Supports strong bones and teeth, reducing the risk of osteoporosis.
- **Protein Source:** High-quality protein (casein and whey) helps with muscle growth, repair, and maintenance.
- **Vitamin D:** Fortified milk contains vitamin D, which enhances calcium absorption and supports immune function.
- **Heart Health:** Potassium in milk helps regulate blood pressure by counteracting the effects of sodium.
- **Hydration:** Milk also serves as a hydrating beverage with electrolytes, particularly after physical activity.

(b) Curd (Yogurt):

Curd is fermented milk, which offers additional health benefits due to the presence of probiotics.

- **Probiotics:** Good bacteria in curd promote gut health, improve digestion, and enhance immune function.
- **Improves Lactose Digestion:** The fermentation process breaks down lactose, making curd easier to digest for people with lactose intolerance.
- **Rich in Calcium and Protein:** Like milk, curd is rich in calcium and protein, contributing to bone health and muscle maintenance.
- **Aids Weight Management:** Curd can enhance satiety, helping in weight control by reducing cravings and overeating.
- **Supports Heart Health:** Curd can lower bad cholesterol (LDL) levels and improve good cholesterol (HDL), promoting cardiovascular health.

(c) Ghee:

Ghee is clarified butter and has been used in traditional Indian diets for centuries. It offers several health benefits when consumed in moderation.

- **Rich in Healthy Fats:** Ghee contains medium-chain fatty acids (MCFAs), which are quickly absorbed and used for energy, improving metabolism.
- **Boosts Digestion:** Ghee stimulates the secretion of digestive enzymes and supports better digestion and nutrient absorption.
- **Anti-Inflammatory:** The butyrate in ghee has anti-inflammatory properties, which can support gut health and reduce inflammation in the body.
- **Promotes Skin Health:** Ghee's healthy fats nourish the skin from within, helping maintain skin moisture and radiance.
- **Supports Brain Function:** The fats in ghee are beneficial for cognitive function, and ghee is often considered a brain-boosting food in Ayurvedic traditions.

(d) General Health Benefits of Dairy Products:

- **Bone Health:** Dairy products are one of the best natural sources of calcium, which is critical for maintaining strong bones and teeth.

- **Muscle Recovery:** The protein content in dairy helps repair muscle tissues, especially important after workouts.
- **Weight Management:** Dairy, particularly yogurt and milk, can aid in weight management by promoting fullness and helping reduce overall calorie intake.
- **Boosts Immunity:** The probiotics in curd and certain dairy products enhance gut health, which is closely linked to immune function.

2) Literature Review

2.1 Yoga and Digestive Health

Numerous studies have highlighted the positive effects of yoga on digestive health. Research by Cramer *et al.* (2013) found that regular yoga practice can reduce symptoms of gastrointestinal disorders such as Irritable Bowel Syndrome (IBS) and functional dyspepsia. Specific yoga poses, such as Twists and Forward Bends, have been shown to stimulate the digestive organs and enhance gut motility (Sharma & Gupta, 2019). Additionally, yoga promotes relaxation, which can help reduce stress-related digestive issues commonly experienced in adulthood (Telles *et al.*, 2015).

2.2 Dairy and Digestive Health

Dairy products are recognized for their nutritional benefits, particularly in providing essential nutrients like calcium, protein, and probiotics. Research by O'Connor *et al.* (2015) emphasized the role of probiotic-rich dairy, such as yogurt and kefir, in promoting gut flora balance and improving digestion. Lactose intolerance, a common issue among adults and seniors, necessitates the consumption of lactose-free options or fermented dairy products that are easier to digest (Falk *et al.*, 2018). Studies indicate that dairy consumption is associated with improved gut health and may help alleviate symptoms of constipation (Liu *et al.*, 2020).

2.3 Age-Specific Digestive Challenges

The literature reveals that digestive challenges differ significantly across age groups. Children often face issues like constipation and lactose sensitivity, which can impact their growth and development (Patel & Mehta, 2021). Adolescents frequently experience bloating and digestive discomfort linked to hormonal changes and dietary habits, particularly during menstruation

(Desai & Roy, 2020). For adults, stress and sedentary lifestyles contribute to conditions such as IBS and indigestion (Singh & Kumar, 2022). Middle-aged individuals may experience slowed digestion and increased lactose intolerance, while seniors commonly deal with constipation and reduced digestive efficiency (Verma & Chaudhary, 2023).

2.4 Synergistic Effects of Yoga and Dairy

The interplay between yoga and dairy in promoting digestive health has garnered limited attention in academic literature. However, the existing studies suggest a complementary relationship where yoga enhances digestion and dairy provides essential nutrients that support gut health. Combining yoga practices with probiotic-rich dairy products can amplify the benefits of both interventions, improving nutrient absorption and digestive function across all age groups (Cramer *et al.*, 2013; O'Connor *et al.*, 2015). This synergy not only aids in physical health but also promotes mental well-being, highlighting the holistic benefits of these practices.

2.5 Research Gap

Despite the growing body of literature on yoga and dairy's individual benefits for digestive health, there remains a notable gap in comprehensive studies that explicitly explore the synergistic effects of these two practices across different age groups. Most existing research focuses on either yoga or dairy in isolation, leaving a lack of understanding regarding how their combined influence can optimize digestive health. Additionally, specific age-related adaptations in yoga practices and dietary recommendations for dairy consumption are under-explored, particularly for vulnerable populations such as children and seniors. This research aims to fill these gaps by providing a holistic perspective on the interplay between yoga and dairy, tailored to the unique digestive needs of each life stage.

2.6 Importance of Research

The importance of this research lies in its potential to contribute significantly to the fields of nutrition, holistic health, and wellness. By highlighting the interconnected roles of yoga and dairy in promoting digestive health, this study can inform health professionals, educators, and caregivers about effective strategies to enhance well-being across the lifespan. Furthermore, understanding the specific digestive challenges faced by different age groups allows for targeted

interventions that can improve quality of life and health outcomes. Additionally, this research may foster a greater appreciation for holistic approaches in health care, emphasizing the integration of physical activity and nutrition. As societies continue to grapple with increasing rates of digestive disorders and lifestyle-related health issues, this research can provide evidence-based recommendations to mitigate these challenges.

2.7 Utility of this Research

The utility of this research is multifaceted:

1. **Practical Guidance for Individuals and Families:** By providing age-specific recommendations for integrating yoga and dairy into daily routines, this research can empower individuals and families to adopt healthier lifestyles that promote digestive health.
2. **Resource for Health Professionals:** Health care providers, nutritionists, and wellness coaches can utilize the findings to develop personalized plans for patients, incorporating yoga and dairy into holistic health strategies.
3. **Educational Tool:** This research can serve as an educational resource for schools and community programs, promoting awareness of the importance of digestive health and encouraging the adoption of yoga and dairy consumption among different age groups.
4. **Foundation for Future Research:** The insights gained from this study can pave the way for further research on the specific mechanisms by which yoga and dairy interact, as well as longitudinal studies examining their long-term effects on digestive health.
5. **Contribution to Public Health Initiatives:** By addressing the significant role of lifestyle factors in digestive health, this research can inform public health campaigns aimed at reducing the prevalence of digestive disorders, particularly in vulnerable populations.

3. Research Objectives

The research objectives of the present study are given below:-

- i. **Identify Digestive Challenges Across Age Groups:** To investigate the specific digestive health issues faced by children, teenagers, adults, middle-aged individuals, and seniors, understanding how these challenges vary with age.

- ii. **To Explore Yoga's Role in Digestive Health:** To examine how specific yoga poses and practices can alleviate digestive problems and enhance gut function in different age demographics.
- iii. **To Assess the Nutritional Benefits of Dairy:** To evaluate the role of various dairy products in promoting digestive health, focusing on their nutritional content and how they support gut health at different life stages.
- iv. **To Investigate the Synergy Between Yoga and Dairy:** To analyze how the combination of yoga practice and dairy consumption can optimize digestive health, highlighting their interactive benefits.
- v. **To Provide Practical Recommendations:** To develop age-appropriate strategies for incorporating yoga and dairy into daily routines to promote digestive health, offering actionable insights for individuals and caregivers.

4. Methodology

This research article qualitatively analyses existing literature on yoga, dairy, and digestive health. Sources include peer-reviewed journals, health and nutrition websites, and expert opinions. Data were gathered to identify common digestive issues across different age groups and to explore the benefits of specific yoga poses and dairy products. The integration of these findings forms a comprehensive guide for promoting digestive health through age-appropriate strategies.

5. Results and Discussion

Explanation about: Interconnected roles of yoga and dairy in promoting overall well-being through all life stages

5.1 Importance of yoga and dairy for Children (Ages 5-12):

The following table shows the vital role of yoga and dairy for Children

Table 2: Synergy aspects of yoga and dairy for Children

Digestive Health Challenges	Yoga for Children	for Dairy products' Role	Synergy between Yoga and Dairy
Growing children often face digestive issues like constipation or lactose sensitivity	Simple poses like <i>Balasana</i> (Child's Pose) and <i>Pawanmuktasana</i> (Wind-Relieving Pose) can promote gut mobility and alleviate discomfort (Carrico, 1997; Shivakumar, S., & Balakrishna, M., 2022)	Milk and yogurt support bone growth and improve digestion with probiotics. Introduce the idea of flavored, kid-friendly options to encourage consumption	Practicing yoga post-meals can help children better absorb the nutrients from dairy, enhancing bone health and gut function. Ghee offers several benefits for teenage girls during their periods. It is rich in healthy fats and fat soluble vitamins. (Kataria & Singh, 2024). Ghee also aids in digestion, reducing bloating and constipation often experienced during menstruation. Additionally, it contains butyric acid, which promotes gut health and helps alleviate inflammation, making it an excellent addition to the diet for digestive balance during this time.

5.2 Importance of yoga and dairy Teenagers (Ages 13-19):

The following table shows the vital role of yoga and dairy for Teenagers.

Table 3: Synergy aspects of yoga and dairy for Teenagers

Digestive Challenges	Health	Yoga Teenagers	for Dairy products' Role	Synergy between Yoga and Dairy
Teenagers often deal with digestive issues like bloating due to diet changes and stress, especially during puberty. Teenage girls often experience digestive issues during their menstrual cycle, such as bloating and constipation, which hormonal fluctuations can exacerbate.	often	Yoga poses like <i>Ardha Matsyendrasana</i> (Half-Spinal Twist) and <i>Uttanasana</i> (Standing Forward Bend) can aid digestion, relieve stress, and balance hormones. Yoga can be particularly helpful in relieving these symptoms through poses that stimulate digestion and ease cramps (Gautam, 2019)	Dairy, such as milk and cheese, can be crucial for the calcium and protein needs of growing bodies. For the lactose intolerant teenage, fermented dairy products are good source of major mineral absorption with easy digestion. Combining the yoga with Dairy products rich in calcium and magnesium, like yogurt, can reduce bloating and support overall menstrual health.	Post-yoga dairy consumption can help in muscle recovery, stress reduction, and maintaining a balanced gut, critical for teenagers' active lives.

5.3 Importance of yoga and dairy Adults (Ages 20-40):

The following table shows the vital role of yoga and dairy for Adults.

Table 4: Synergy aspects of yoga and dairy for Adults

Digestive Challenges	Health	Yoga for Adults	Dairy Products' Role	Synergy between Yoga and Dairy
Adults often experience digestive issues related to diet, work stress, and sedentary lifestyles, leading to indigestion or IBS (Tabibian, 2023)	often	Incorporate more advanced digestive-friendly poses like Naukasana (Boat Pose) and Paschimottanasana (Seated Forward Bend) to stimulate digestion and relieve stress (Shivakumar & Balakrishna, 2022).	Dairy products like kefir, probiotic yogurt, and certain types of cheese can balance gut flora, aiding digestion. For lactose sensitivities, fermented dairy products contains reduce lactose levels due to the fermentation and also have anti-inflammatory properties and can help to prevent gastrointestinal disorders and allow people to enjoy dairy without discomfort	Combining yoga with probiotic-rich dairy post-practice can support digestion, reduce inflammation, and enhance overall well-being for busy adults (Donati <i>et al.</i> , 2019).

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5.4 Importance of yoga and dairy Middle-Aged Adults (Ages 40-60):

The following table shows the vital role of yoga and dairy for Middle-Aged Adults

Table 5: Synergy aspects of yoga and dairy for Middle-Aged Adults

Digestive Health Challenges:	Yoga for Middle-Aged Adults	Dairy Products' Role	Synergy between Yoga and Dairy
Middle-aged adults face metabolic changes, slowed digestion, higher lactose intolerance rates.	Gentle poses like <i>Vajrasana</i> (Thunderbolt Pose) and <i>Bhujangasana</i> (Cobra Pose) can aid digestion and alleviate gastric issues (Gangwal <i>et al.</i> , 2019).	Introduce fermented products like buttermilk and ghee, which are easier to digest and beneficial for joint health.	Practicing yoga can improve nutrient absorption from dairy, while fermented dairy products can soothe digestion and reduce bloating (Watts, 2018).

5.5 Importance of yoga and dairy Seniors (Ages 60+):

The following table shows the vital role of yoga and dairy for Seniors (Ages 60+)

Table 6: Synergy aspects of yoga and dairy for Seniors

Digestive Health Challenges:	Yoga for Seniors (Ages 60+)	Dairy's Role	Synergy between Yoga and Dairy
Seniors often experience indigestion, and constipation, and	Gentle restorative and seated poses such as Supta	Suggest easy-to-digest products like yogurt or cottage	The slow practice of yoga combined with probiotic-rich dairy products can ease digestion, promote

reduced lactose tolerance due to slower metabolism. Seniors also experience insomnia, which can be linked to changes in sleep patterns and digestion (Cochenet al., 2009). BaddhaKonasana (Reclined Bound Angle Pose) can stimulate digestion and aid gut health. cheese for calcium and protein intake to support bone health and digestion. regularity, and prevent digestive discomfort in seniors. Practicing yoga can help improve sleep quality by reducing stress and promoting relaxation. Gentle poses and breathing exercises calm the nervous system and support deeper sleep. Additionally, incorporating **ghee** into their diet can further aid digestion and soothe the digestive tract, potentially alleviating discomfort that disrupts sleep. Ghee's healthy fats and nutrients also have calming effects, which can support better sleep in seniors (Panse et al., 2021)

6. Conclusion

Taking a multidirectional approach, this study explores how age-specific yoga practices combined with tailored dairy consumption can improve digestive health. Each group benefits differently, making this strategy adaptable and effective across life stages. The synergistic relationship between yoga and dairy offers a comprehensive approach to enhancing digestive health across all age groups. By recognizing the specific digestive challenges faced at different life stages, targeted yoga practices and strategic dairy consumption can effectively alleviate discomfort, improve nutrient absorption, and promote holistic well-being. This

guide serves as a valuable resource for individuals seeking to optimize their digestive health through mindful practices that harmonize body and nutrition.

Disclaimer (Artificial intelligence)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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