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## Assessment Of Human Health Improved Fruits and Vegetables: The Benefits for Growing Children

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### Abstract

The study assessed the benefits of improved fruits and vegetables for growing children. Fruits and vegetables are fundamental components of a balanced diet, and improvements in their nutritional content, flavor, and sustainability can have a significant impact on the well-being of children. Children often have a preference for sweet or familiar flavors. Modified fruits and vegetables can be engineered to have an improved taste, making them more appealing to children. This can help increase their consumption of these nutritious foods and reduce their intake of less healthy options. The study concludes that the assessment of human-enhanced fruits and vegetables reveals a multitude of potential benefits for growing children. These modifications can address nutritional deficiencies, increase the acceptability of healthy foods, promote sustainability, and contribute to food security. However, it is essential to consider the safety, ethical, and regulatory aspects of these enhancements to ensure that they serve the best interests of children's health and well-being. One of the recommendations made was that vegetables are generally low in calories and high in fiber, making them a nutritious choice for maintaining a healthy weight in children. Including a variety of vegetables in the diet can contribute to satiety and overall nutritional balance.

**Keywords:** Human Health, Fruits, Vegetables, and Growing Children

### Introduction

Food nutritionist have made several attempt to ensure Human Health Improved Fruits and Vegetables" aims to promote the consumption of nutrient-rich produce among growing children. By assessing the nutritional content, health impact, accessibility, and awareness, we intend to contribute to the overall well-being of children and foster healthy eating habits that will benefit them throughout their lives. The study explains the basic concepts: the concept of health, the concept of fruits, the concept of vegetables, and the concept of children.

This study delves into the assessment of fruits and vegetables that have been improved or modified for human consumption and explores the potential benefits these enhanced products offer in promoting the healthy growth of children. Fruits and vegetables are fundamental components of a balanced diet, and improvements in their nutritional content, flavor, and sustainability can have a significant impact on the well-being of children. Children often have a preference for sweet or



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familiar flavors. Modified fruits and vegetables can be engineered to have an improved taste, making them more appealing to children. This can help increase their consumption of these nutritious foods and reduce their intake of less healthy options. Enhanced produce can be engineered to resist pests and diseases, reducing the need for chemical pesticides. This not only benefits the environment but also ensures a stable supply of fruits and vegetables, allowing children to have consistent access to these essential foods. Produce with an extended shelf life reduces food waste, ensuring that fresh and healthy fruits and vegetables are available for children over a longer period of time. This can lead to increased consumption of these foods, promoting better health.

Children may profit in the long run from sustainable agriculture techniques including crop changes that use less water, less land, and fewer resources. Children's health benefits from better air and water quality, which is a result of a healthier environment. Improved fruits and vegetables can boost the local economy in farming areas by lowering the cost and increasing the accessibility of nutrient-dense foods for families with young children. A more robust food supply, resulting from improved fruits and vegetables, contributes to overall food security, reducing the risk of malnutrition among children, especially in vulnerable populations.

## Concept of Health

The concept of health is viewed as a main objective (Godlee, 2019). Identifying how health can be described and measured is therefore essential. The various definitions of health established or proposed throughout the years have generated much debate amongst several individuals and organizations (Goodman, 2014). During the 20th century, the medical model was a recognized concept, viewing health merely as a state where disease is absent (Scriven, 2010). The biopsychosocial model goes beyond this view and allows for the integration of the physiological as well as the psychological and social components of disease (Godlee, 2019). The World Health Organization (1948) states that, as a basic principle, "health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity (World Health Organization, Basic Documents 2014). This declaration could be considered by some as too ambitious and absolute in view of its focus on 'complete' well-being (Huber et al. 2011). This might make the statement unsuitable for the more realistically dynamic circumstances where adaptation and self-management might be more feasible; for instance, aging with non-communicable diseases is nowadays considered a common scenario.

The word health refers to a state of complete emotional, mental, and physical well-being. It's not only the absence of disease. A person is said to be healthy when he or she is free of any type of disease (infectious or deficiency), when he or she is mentally happy and healthy, and when his or her social relationships are healthy in society. Hence, to have a healthy life, one has to be physically, mentally, and socially complete.

## Concept of Fruits

Fruits are the mature and ripened ovaries of flowers. Fruit is the fleshy or dry, ripened ovary of a flowering plant, enclosing the seed or seeds. Thus, apricots, bananas, and grapes as well as bean pods, corn grains, tomatoes, cucumbers, and (in their shells) acorns and almonds, are all technically fruits. Popularly, however, the term is restricted to the ripened ovaries that are sweet and either succulent or pulpy. Botanically, a fruit is a mature ovary and its associated parts. It usually contains seeds, which have developed from the enclosed ovule after fertilization, although development without fertilization, called parthenocarpy, is known, for example, in bananas. Fertilization induces



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various changes in a flower: the anthers and stigma wither, the petals drop off, and the sepals may be shed or undergo modifications; the ovary enlarges, and the ovules develop into seeds, each containing an embryo plant. The principal purpose of the fruit is the protection and dissemination of the seed.

One of the main functions of a fruit is to spread the seeds and allow the plant to reproduce. Therefore, all flowering plants produce fruit, regardless of whether the fruit is edible, sweet, or soft (Pabon-Mora and Litt, 2011). This means that, although we call peppers and cucumbers vegetables, they are technically fruits. Acorns, maple keys, and the outside of sunflower seeds are also considered fruits. They too develop from observations of the transformations of the carpel and protect, store, and help scatter the seeds of a flowering plant.

Fruits come in a wide variety of shapes, sizes, and flavors, and they are a crucial part of the human diet, providing essential nutrients, vitamins, and minerals. Some common examples of fruits include apples, bananas, and oranges. Fruits can be classified into different categories, such as fleshy fruits (like peaches) and dry fruits (like nuts), based on their structure and composition. Fruits can be fleshy, like tomatoes or peaches, or they can be dry, like coconuts or peanuts. They can have many seeds in them, like cantaloupe and watermelon, or they can have one single seed in them, like avocados, almonds, and cherries. Fruits may be very large, like pumpkins, or very small, like blueberries. Here are some examples of each type of fruit. Fruits can be eaten raw, frozen, stewed, cooked, or dried. All fruits may be classified into three major groups: simple, aggregate, or multiple. Simple Fruits = one fruit that has developed from the ovary of a single flower. Simple fruits may either be fleshy, like plums and peaches, or dry, such as walnuts and hazelnuts.

Aggregate Fruits = a fruit formed from several ovaries of one flower that produces many tiny fruits clustered tightly together.

Multiple Fruits = a fruit formed from the fusion of the ovaries of many different flowers which develop closely together to form one bigger fruit.

False fruits, or accessory fruits, are another kind of fruit that is not formed from the ovary but from a different part of the flower. These fruits may be simple, aggregated, or multiple fruits. For example, strawberries would be considered an aggregate fruit as well as an accessory fruit since much of the fleshy fruit part does not come from the ovary.

Simple fruits can include fruits like apples, pears, plums, tomatoes, and peaches. Aggregate fruits can include fruits like raspberries, blackberries, and strawberries. Multiple fruits can include fruits like pineapples, figs, breadfruit, and mulberries.

## Concept of Vegetables

The term vegetable pertains specifically to plant parts that are edible, such as leaves, roots, stems, flowers, etc. Plant parts, such as edible fruits and seeds, are not considered vegetables. Rather, they are referred to as their name implies. Nevertheless, there are certain instances when fruits are referred to as vegetables, such as tomatoes, okra, cucumbers, eggplants, bitter gourds, etc. (Boughner, 2018). These edible plant parts contain seeds and are therefore considered fruits. Examples of vegetables are lettuce (leaves and stems), beetroot (tubers), cabbage (leaves), carrot (tubers), and parsnip (tubers).

The term is also used to refer to any plant, in contrast to other living things that are non-plants. Thus, it is not uncommon to find terms such as vegetable kingdom (i.e., plant kingdom) and vegetable matter (i.e., plant matter). Previously, the vegetable kingdom, which includes all plants,



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was classified by botanists into the following subdivisions: phaenogamia (which includes the dicots or exogens and the monocots or endogens) and cryptogamia (which includes the acrogens and thallogens).

Vegetables are edible plants or parts of plants that are a fundamental part of the human diet. They are typically low in fat and calories and are rich in essential nutrients such as vitamins, minerals, fiber, and antioxidants. Vegetables come in a wide variety of types, including leafy greens, root vegetables, legumes, and more. They are often consumed for their nutritional value and can be prepared and cooked in various ways, making them a versatile and important component of a healthy diet (Terry, Leon, 2011).

The concept of vegetables encompasses a diverse group of edible plant foods that play a crucial role in human nutrition and agriculture. Here's a more in-depth view of this concept:

**Botanical Definition:** Vegetables can include the edible parts of plants like leaves (e.g., spinach, lettuce), stems (e.g., celery, asparagus), roots (e.g., carrots, potatoes), flowers (e.g., broccoli, cauliflower), fruits (e.g., tomatoes, bell peppers), and seeds (e.g., peas, corn). In botanical terms, some foods classified as vegetables are actually fruits or other plant parts.

**Nutritional Importance:** Vegetables are rich in essential nutrients, including vitamins (e.g., vitamin C, vitamin K), minerals (e.g., potassium, folate), dietary fiber, and various antioxidants. They provide the body with micronutrients that are vital for overall health, immune function, and disease prevention.

**Dietary Fiber:** Vegetables are a significant source of dietary fiber, which aids in digestion, helps maintain a healthy weight, and lowers the risk of various chronic diseases. Fiber also supports a feeling of fullness, which can assist in weight management.

**Cultural and Culinary Diversity:** Different cultures have their own unique vegetables and ways of preparing them. The concept of vegetables varies globally and can include traditional dishes, cooking methods, and specific vegetables that are regionally significant.

**Health Benefits:** Regular consumption of vegetables is associated with numerous health benefits. These include reduced risk of chronic diseases such as heart disease, diabetes, and certain types of cancer. The phytochemicals and antioxidants in vegetables are believed to contribute to these positive effects.

**Food Groups:** In dietary guidelines, vegetables are often categorized into food groups alongside fruits, grains, protein sources, and dairy. These guidelines help individuals plan balanced and nutritious diets.

**Agricultural Significance:** Vegetables are essential crops in agriculture, contributing to food security and economic livelihoods. They are grown in various climates and are a valuable source of income for many farmers.

**Sustainability:** Growing and consuming vegetables can be more environmentally sustainable than some other food choices. They typically require less land, water, and resources compared to raising livestock, making them an eco-friendly option in many cases.

**Culinary Versatility:** Vegetables can be prepared in countless ways, from raw in salads to cook in various dishes. They add flavor, texture, and color to meals and are essential ingredients in many cuisines worldwide.

**Concept of Children**



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Children refer to human beings in the early stages of their development, typically from birth to adolescence. Children are individuals in the early years of life, characterized by distinct stages of physical and cognitive development. These stages are marked by milestones such as birth, infancy, toddlerhood, childhood, and adolescence. They have a unique legal status in most societies, with laws and regulations designed to protect their rights and well-being. These laws govern issues like custody, guardianship, education, and child labor (Sabar, Bhubaneswar, 2014).

Children go through significant psychological and cognitive growth. This includes the development of language, motor skills, reasoning abilities, and social interactions. Psychologists like Jean Piaget and Erik Erikson have proposed theories explaining these developmental stages. They learn to interact with others, develop emotional bonds, and acquire a sense of self-identity. Their relationships with family, peers, and society play a crucial role in shaping their social and emotional development. Education is a central aspect of childhood. Children attend school to acquire the knowledge and skills necessary for their future. The education system varies across cultures, but it typically includes primary and secondary education. Children's health is a primary concern. Proper nutrition, vaccinations, and healthcare are crucial to their physical and mental well-being. Public health initiatives often target child welfare. Play is an essential part of childhood, helping children explore their creativity, develop social skills, and relax. Play can take various forms, from imaginative games to organized sports. Children have specific rights, such as the right to life, health, and protection from abuse and exploitation. International organizations like UNICEF work to promote and protect these rights (National Academies of Sciences, Engineering, and Medicine, 2015).

The experience of childhood varies across cultures and societies. Different societies have distinct customs, traditions, and expectations regarding child-rearing and education. Parents and caregivers are responsible for nurturing and raising children. Their role includes providing love, guidance, and support as children grow. Children are young individuals, typically between the ages of infancy and adolescence. They are a vital stage of human development, characterized by physical, cognitive, and emotional growth. Children often depend on adults for care, guidance, and education as they learn about the world and develop their own personalities. The concept of childhood varies across cultures and societies, but it universally represents a period of growth and exploration. Children are individuals who have not yet reached the age of adulthood. The specific age at which childhood ends and adulthood begins varies by culture and legal definitions but is generally characterized by a stage of human development marked by physical, emotional, and cognitive growth. Typically, children are considered to be individuals ranging from infancy to adolescence, with the exact age boundaries varying in different contexts.

## Benefits of fruits on growth of children

Fruits and vegetables are low in fat, salt and sugar. They are a good source of dietary fibre, which can make you feel fuller for longer and prevent overconsumption of food. As part of a well-balanced, healthy diet and an active lifestyle, a high intake of fruit and vegetables can help you to reduce obesity and maintain a healthy weight (BetterHealth 2018). Fruits play a crucial role in improving the health and growth of children due to their numerous benefits:

**Nutrient-Rich:** Fruits are packed with essential vitamins, minerals, and antioxidants that are vital for children's growth and development.

**Fiber:** They provide dietary fiber, promoting digestive health and helping to prevent constipation.



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**Energy:** Fruits supply natural sugars and carbohydrates, offering a healthy source of energy for active children.

**Hydration:** Fruits with high water content, like watermelon and oranges, help keep children hydrated.

**Immune Support:** Many fruits, such as citrus fruits, are rich in vitamin C, which helps boost the immune system.

**Healthy Snacking:** Fruits make for convenient and nutritious snacks, reducing the consumption of less healthy options.

**Bone Health:** Fruits like bananas and oranges provide potassium, which is essential for maintaining healthy bones.

**Skin Health:** The antioxidants in fruits can contribute to healthy skin.

**Weight Management:** Incorporating fruits into a child's diet can help maintain a healthy weight and reduce the risk of obesity.

**Cognitive Development:** The nutrients in fruits support brain development and cognitive function in children (Ong, 2021).

## Types of fruits that enhance children growth

### Banana

Banana is the most important fruit for your child to increase height. It is rich in many essential nutrients like potassium, manganese, calcium, soluble fiber, vitamin b6, c, a, and healthy prebiotics. It is one food you can't ignore when it comes to choosing a balanced diet for your child to increase height. Bananas are rich in potassium, bananas aid in muscle and nerve function, promoting healthy growth. They are also a good source of vitamin C, supporting the immune system and collagen formation. Bananas contain essential nutrients that may enhance heart health, help manage blood pressure, and boost a person's mood, among other benefits. While bananas can be good for health, there may be risks in some cases (Kathy 2023).



### Berries (Blueberries, Strawberries, Raspberries)

Berries are packed with antioxidants, vitamins, and fiber; berries contribute to cognitive development and immune function. Strawberries and blueberries are rich in vitamin C, antioxidants and phytochemicals. Berries are loaded with antioxidants, such as anthocyanin's, quercetin, and vitamin C. These compounds protect cells from oxidative stress and inflammation. Antioxidants play a crucial role in neutralizing free radicals, which can otherwise damage cells and impact various bodily functions. By reducing oxidative stress, berries support overall health and may contribute to optimal growth in children. The antioxidants found in berries, particularly anthocyanin's, have been linked to improved cognitive function. Research published in the "Journal of Agricultural and Food Chemistry" suggests that regular consumption of berries may enhance memory and learning



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abilities. These cognitive benefits are crucial for children as they navigate their academic and social development. They protect healthy cells from damage, boosting the immune system. Healthy & yummy way to prepare it: Use berries as toppings for ice cream, yogurt, pancakes and cereal (Lainey 2023).



## Oranges

Oranges are known for their high vitamin C content; oranges support the development of a strong immune system and help in the absorption of iron from other foods. Vitamin C neutralizes free radicals and can prevent this mutation. The vitamin C found in oranges has other health benefits too: Forms blood vessels, muscles, cartilage, and collagen in your bones. Fights inflammation and can reduce the severity of conditions like asthma, rheumatoid arthritis, and cancer. Oranges contain approximately 55 milligrams of calcium, or 6% of your daily requirement. This nutrient is important for building strong bones and maintaining bone health. It's typically associated with dairy products like milk— but whole vegetables and fruits, like oranges, are also a good source (WebMD Editorial Contributors, 2022).



## Apples

Apples are a good source of dietary fiber, promoting digestive health and preventing constipation in children. Additionally, apples contain antioxidants and phytochemicals, which may contribute to overall well-being. Although they are not particularly rich in vitamins and minerals, they're a good source of fibers and antioxidants. Apples may have several benefits, including improved heart health and a lower risk of cancer and diabetes. They may also aid weight loss. If you want to eat healthy, apples are an excellent choice (Atli 2023).





## Types of vegetables that enhance children growth Leafy Greens (Spinach, Kale, and Swiss Chard)

Leafy greens are rich in vitamins A, C, and K, as well as folate and iron. These nutrients are crucial for bone health, blood clotting, and the formation of red blood cells. Spinach, in particular, is a good source of iron, which is essential for preventing anemia in children. Dark leafy greens, like Swiss chard, collard and mustard greens, kale, spinach, and broccoli, are rich in: Folate, a B vitamin needed for energy, RNA, and DNA production, making red and white blood cells, supporting brain health, and preventing neural tube defects in newborns (Plantbasedjuniors.com, 2020).



## Carrots

Carrots are known for their high beta-carotene content, which the body converts into vitamin A. Vitamin A is essential for vision health, immune function, and skin integrity. A deficiency in vitamin A can lead to impaired growth and increased susceptibility to infections. Including carrots in a child's diet supports their overall health and contributes to proper growth. Carrots are rich in dietary fiber, vitamins, and minerals, making them nutritious meal options for kids. Consumption of carrots can aid in improving vision, memory, digestion, skin, and dental health. Additionally, carrots can also help prevent macular degeneration, diarrhea, and eliminate intestinal worms. Carrots have beta-carotene which is a pigment that gives the vegetable its color. Beta carotene also gives your skin a healthy glow, while vitamin A and the antioxidants in the vegetable protect your skin from sun damage. Vitamin A deficiency also results in brittle hair, nails, and dry skin. A healthy diet that includes carrots can also slow down aging, as beta-carotene helps in repairing skin cell damage due to metabolism (Swati 2023).



## Tomatoes

Tomatoes are rich in lycopene, an antioxidant associated with various health benefits. Studies have suggested that lycopene may contribute to cardiovascular health. Including tomatoes in children's meals provides them with essential nutrients; including vitamins A and C. Tomatoes are a great source of hydration due to its high water content. Staying hydrated is very important, especially in hot climate areas. Tomatoes also are packed with antioxidants, which also assist in overall immune and growth support (Kidseatincolor.com 2021).





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## Pumpkin

Pumpkin is a nutrient-dense vegetable containing vitamins A and C, as well as potassium and fiber. The vibrant orange color indicates high beta-carotene content, contributing to vision health and immune function. Supplies essential nutrients: Vitamins and minerals found in pumpkin are essential for the development of babies. For example, calcium and magnesium help in building stronger bones, phosphorus aids in brain functioning, digestion, hormone balance, etc. Pumpkins are an excellent source of fiber, which makes them easy to digest. It can help regulate your baby's bowel movements. Pumpkins contain tryptophan that helps the body produce serotonin. The amino acid helps induce calmness and drowsiness and thus makes your baby relax and sleep better (Swati 2023).



## Benefits of Vegetables on Growth of Children

The benefits of vegetables for kids are numerous as they provide vital nutrients to support their growth and development. Additionally, sufficient intake reduces the risk of major chronic diseases, such as type-2 diabetes and hypertension (Patwal, 2023). Vegetables play a vital role in growing children due to its many benefits which includes:

### **Rich in Essential Nutrients:**

Vegetables are packed with essential nutrients such as vitamins (e.g., vitamin A, vitamin C, folate), minerals (e.g., potassium, magnesium), and dietary fiber. These nutrients are crucial for various aspects of a child's growth and development.

### **Supports Immune Function:**

The vitamins and antioxidants found in vegetables contribute to a strong immune system. Nutrients like vitamin C and beta-carotene play a role in supporting the body's defense against infections and illnesses.



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## **Bone Health:**

Certain vegetables, such as leafy greens, broccoli, and kale, provide calcium and vitamin K, which are important for bone health and development in children.

## **Healthy Digestion:**

The fiber content in vegetables promotes healthy digestion and regular bowel movements, helping prevent constipation. A well-functioning digestive system is essential for nutrient absorption.

## **Weight Management:**

Vegetables are generally low in calories and high in fiber, making them a nutritious choice for maintaining a healthy weight in children. Including a variety of vegetables in the diet can contribute to satiety and overall nutritional balance.

## **Cardiovascular Health:**

Vegetables, particularly those rich in potassium and antioxidants, can contribute to cardiovascular health by helping regulate blood pressure and reducing oxidative stress.

## **Eye Health:**

Vegetables like carrots, spinach, and sweet potatoes contain nutrients such as beta-carotene and lutein, which are beneficial for eye health and may contribute to the prevention of vision problems.

## **Brain Development and Function:**

Certain vegetables, especially those rich in folate, contribute to healthy brain development. Folate is essential for the synthesis of DNA and other genetic material.

## **Hydration:**

Some vegetables, such as cucumbers and celery, have high water content, contributing to overall hydration. Proper hydration is important for various bodily functions, including concentration and cognitive performance.

## **Establishing Healthy Eating Habits:**

Introducing a variety of vegetables to children early on can help establish lifelong healthy eating habits. Exposure to a diverse range of flavors and textures may make children more likely to accept and enjoy a wide array of foods.

## **Improving the nutritional quality of fruits and vegetables can have several benefits for growing children's health these include:**

**Enhanced Nutrient Content:** Growing children require a wide range of nutrients for proper development. By cultivating fruits and vegetables with higher nutrient content, such as vitamins, minerals, and antioxidants, you can better support their growth and overall health.

**Better Immune System:** Nutrient-rich fruits and vegetables can boost a child's immune system, helping them fend off illnesses and infections more effectively.

**Cognitive Development:** Some nutrients, like omega-3 fatty acids, found in certain vegetables, can support brain development and cognitive function in children.

**Reduced Risk of Chronic Diseases:** Consuming a diet rich in fruits and vegetables has been associated with a lower risk of chronic diseases in adulthood. Starting healthy eating habits in childhood can set the foundation for a lifetime of well-being.

**Improved Digestive Health:** Fiber-rich fruits and vegetables can aid in digestion and prevent constipation, which is a common issue in children.

**Healthy Weight Management:** Nutrient-dense fruits and vegetables can help children maintain a healthy weight, reducing the risk of childhood obesity.



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**Taste and Food Preferences:** Exposing children to a variety of flavorful, high-quality fruits and vegetables from an early age can help develop their taste preferences for nutritious foods.

**Development of Healthy Eating Habits:** Encouraging the consumption of improved fruits and vegetables can instill lifelong healthy eating habits in children.

To achieve these benefits, it's essential to focus on breeding or cultivating fruits and vegetables with higher nutrient density and fewer contaminants, ensuring that they are accessible and affordable to families, and promoting their consumption through education and awareness campaigns

## Conclusion

The study concludes that the assessment of human-enhanced fruits and vegetables reveals a multitude of potential benefits for growing children. These modifications can address nutritional deficiencies, increase the acceptability of healthy foods, promote sustainability, and contribute to food security. However, it is essential to consider the safety, ethical, and regulatory aspects of these enhancements to ensure that they serve the best interests of children's health and well-being. Further research and public discourse are crucial in determining the most responsible and beneficial ways to harness the potential of improved fruits and vegetables for the benefit of children.

## Recommendations

1. Vegetables are generally low in calories and high in fiber, making them a nutritious choice for maintaining a healthy weight in children. Including a variety of vegetables in the diet can contribute to satiety and overall nutritional balance.
2. Introducing a variety of vegetables to children early on can help establish lifelong healthy eating habits. Exposure to a diverse range of flavors and textures may make children more likely to accept and enjoy a wide array of foods.

## References

1. Atli, C. (2023). Apples 101: Nutrition Facts and Health Benefits. Available at: <https://www.healthline.com/nutrition/foods/apples>
2. Betterhealth (2018). Fruit and vegetables. Available at: <https://www.betterhealth.vic.gov.au/health/healthyliving/fruit-and-vegetables>
3. Bharadwaj, P., J. Eberhard, and C. Neilson. 2013 (unpublished). Health at birth, parental investments and academic outcomes. San Diego: University of California, San Diego.
4. Boughner, Julia (2018). "Bad molars? The origins of wisdom teeth". The Conversation. Retrieved 2022-04-16.
5. Godlee F. (2019). What is health? BMJ 2019;343:d4163.
6. Goodman C. FK. (2014). Introduction. Pathology: Implications for the Physical Therapist. 4th ed: Elsevier Health Sciences; p. 1-15.
7. Huber M, Knottnerus JA, Green L, van der Horst H, Jadad AR, Kromhout D, et al. (2011). How should we define health? 343:d4163.
8. Kathy W. Warwick (2023). Benefits and health risks of bananas. Available at: <https://www.medicalnewstoday.com/articles/271157>



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9. Kidseatincolor.com (2021). The Benefits of Tomatoes for Kids. Available at: <https://kidseatincolor.com/tomatoes/#:~:text=The%20Benefits%20of%20Tomatoes%20of%20Kids,-Tomatoes%20come%20in&text=Also%2C%20tomatoes%20are%20a%20great,overall%20immune%20and%20growth%20support.>
10. Lainey, Y. (2023). The Top 10 Healthiest Foods for Kids. Available at: <https://www.eatingwell.com/article/291139/the-top-10-healthiest-foods-for-kids/#:~:text=Blueberries%2C%20blackberries%20and%20strawberries%20are,overnight%20oats%20or%20a%20smoothie.>
11. National Academies of Sciences, Engineering, and Medicine(2015). Transforming the Workforce for Children Birth Through Age 8: A Unifying Foundation. Washington, DC: The National Academies Press. <https://doi.org/10.17226/19401>.
12. Ong J. (2021). Food for Children: Why Fruits and Vegetables are Important. Available at: <https://www.healthxchange.sg/children/food-nutrition/food-children-fruits-vegetables-important>
13. Pabon-Mora, N., and Litt, A. (2011). Comparative anatomical and developmental analysis of dry and fleshy fruits of Solanceae.
14. Patwal S. (2023). Fruits And Vegetables For Kids: Importance, Benefits And Tips. Available at: [https://www.momjunction.com/articles/benefits-of-fruits-and-vegetables-for-kids\\_00359392/](https://www.momjunction.com/articles/benefits-of-fruits-and-vegetables-for-kids_00359392/)
15. Plantbasedjuniors.com (2020). Adding Greens to Your Baby's Diet. Available at: <https://plantbasedjuniors.com/introducing-green-vegetables-to-babies/#:~:text=Health%20Benefits%20of%20Green%20Vegetables&text=Dark%20leafy%20greens%2C%20like%20Swiss,neural%20tube%20defects%20in%20newborns.>
16. Sabar, Bhubaneswar. (2014). A Neglected Tribe of Orissa, India. *Antrocom Online Journal of Anthropology*, 10 (1), 99-109. Retrieved from [www. Antrocom.net/upload/sub/antrocom/100114/11- Antrocom.pdf](http://www.antrocom.net/upload/sub/antrocom/100114/11-Antrocom.pdf) on 12.02.2016.
17. Scriven A.(2010). Promoting Health: A Practical Guide. 6th ed: Elsevier Health Sciences; 2010. p. 3-57.
18. Swati, P. (2023). Carrots for Kids: Health Benefits and Interesting Facts. Available at: [https://www.momjunction.com/articles/benefits-of-carrots-for-kids\\_00355279/#:~:text=Carrots%20are%20rich%20in%20dietary,diarrhea%2C%20and%20eliminate%20intestinal%20worms.](https://www.momjunction.com/articles/benefits-of-carrots-for-kids_00355279/#:~:text=Carrots%20are%20rich%20in%20dietary,diarrhea%2C%20and%20eliminate%20intestinal%20worms.)
19. Swati, P. (2023). Pumpkin for Babies: Health Benefits, Puree and Other Recipes. Available at: [https://www.momjunction.com/articles/pumpkin-for-babies\\_00367356/#:~:text=Supplies%20essential%20nutrients%3A%20Vitamins%20and,digestion%2C%20hormone%20balance%2C%20etc.](https://www.momjunction.com/articles/pumpkin-for-babies_00367356/#:~:text=Supplies%20essential%20nutrients%3A%20Vitamins%20and,digestion%2C%20hormone%20balance%2C%20etc.)
20. Terry, Leon (2011). Health-Promoting Properties of Fruits and Vegetables. CABI. pp. 2-4. ISBN
21. WebMD Editorial Contributors (2022). Health Benefits of Oranges. Available at: <https://www.webmd.com/diet/health-benefits-oranges.>



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22. World Health Organization, BASIC DOCUMENTS (2014). Available from:  
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