



Review Article

# Review of Healthy and Safe Dietary Options for Infants aged 4-6 Months

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## I N F O

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## A B S T R A C T

During the first year of an infant, it is preferable to avoid providing solid foods, and to achieve the desired goal, many articles, research, and reviews were collected based on the keywords related to the topic of the article and then all the required data and information were collected from various websites such as Google Scholar, Research Gate and PubMed between the period from 23 July to 28 July 2021, and then carefully read for the healthiest and safest food groups (grains, grains, fruits, and vegetables) their details are arranged according to their importance and quality for infants in the form of subtopics. Rice, oats, avocados, apples, bananas, sweet potatoes, green beans, and carrots are the healthiest and safest food options for infants between the ages of 4-6 months provided that all hygiene conditions.

**Keywords:** Dietary Options, Infants, Food Groups, Solid Foods

## Introduction

Complementary foods are foods provided to the infant other than milk, whether from the breast or other infant formula, in order to provide the infant with the necessary nutrients.<sup>1</sup> The world health organization has agreed that the period around 6 months is optimal to start supplementation.<sup>2</sup> However, there are many mothers in different countries of the world offering a variety of foods to their infants aged 4-6 months, which in turn may make the child more willing to try new foods as they age, also reducing the chances of food allergies.<sup>3,4</sup> Introducing the food before or after the period of 4-6 months can cause a growth problem.<sup>5</sup> Mothers should not start supplementary foods for infants who continue to breastfeed exclusively and start the sixth month of life as directed and recommended by the World Health Organization.<sup>6</sup> The mother should follow all instructions and tips on choosing and giving the first food under safe health conditions.<sup>7</sup> When nutrition is adequate and good in terms of quality and quantity, and at the right time, the child will

have the possibility of surviving, growing, and developing healthy and also learning well even in times of illness and health crisis.<sup>8,9</sup> Working to encourage the infant to taste the various flavours of complementary food in addition to the flavour of breast milk has a noticeable positive effect on the infant's acceptance of food.<sup>5</sup> To ensure the desired taste, the complementary food must be healthy, safe and rich in energy sources, and important micronutrients including iron, zinc, folic acid, and vitamin C, while free of pathogens and chemicals and contains less salt and spices so that food is more acceptable to the infant<sup>10</sup>, these things will help the children develop their eating habits.<sup>9</sup> Globally, only 2 out of 3 babies are breastfed exclusively, according to WHO standards.<sup>11</sup> It is recommended to continue for up to six months because it does not affect the level of infant growth and body composition.<sup>12</sup>

Approximately one-third of infants eat solid foods between the ages of 4-5 months regardless of their milk feeding type<sup>2</sup>, so the mother should consider that there are healthy



dietary options for infants and others harmful to their health and development.

## Method

To prepare a review to achieve the desired goal, many articles, pieces of research, and reviews have been collected based on keywords, including complementary foods, infant dietary choices, healthy infant foods, infant micronutrients, infant growth, and development. All the required data and information were collected from various websites such as Google Scholar, ResearchGate, and PubMed between the period from 23 July to 28 July 2021 and then, they were read carefully to extract everything related to the subject of the review. The criteria for plagiarism were also taken into account using the plagiarism checker on this website: <https://copyleaks.com>.<sup>13</sup> As for the provision of the healthiest and safest food groups (cereals and grains, fruits and vegetables), their details have been arranged according to their importance and quality for infants in the form of sub-topics.

## Healthiest and Safest Food Groups for Infants Aged 4-6 Months

If it is observed that the child needs food besides nutrition, the healthiest and safest food groups should be chosen, including some cereals, fruits, and vegetables in small amounts and for limited periods during the day while avoiding protein foods and dairy products if the child is 4-6 months old.<sup>14,15</sup> Commercial foods are also not suitable for infants under six months, according to the World Health Organization.<sup>16</sup> The mother should start by giving the child a teaspoon of prepared food and then increase the quantity according to the child's appetite,<sup>17</sup> and each new food for one time a day<sup>1</sup>, with taking into account all the hygiene requirements of food, water, bowl and spoon before food introduction.<sup>18</sup>

### Cereals and Grains

Cereals are a good source of iron and are available everywhere, and they are consumed by 65% of infants aged 4-6 months.<sup>4</sup> Because it is a good food choice as the first food to feed the baby for several reasons, including easy digesting, less likely to cause allergies, containing essential nutrients that contribute to the growth and development of the child.<sup>4</sup> When the mother gives one type of cereals and intends to try a new one, it is best to wait at least one week from the date of the first type of cereals to avoid the deterioration of the infant's health condition.<sup>19</sup>

### Rice

Rice cereals are a rich food source of iron needed to protect the child from anaemia and one of the most common foods that the mother begins to provide to the child because it is easy to digest and the baby quickly accepts it because of

its soft texture, which in turn increases the development of the skill of eating.<sup>14</sup> It is started to be given to the infant during the completion of the fourth month of life and is diluted with either breast milk or formula<sup>17</sup>, and for once a day, in the amount of 1-2 tablespoonfuls without adding sugar or salt, in addition, keep in mind that the serving size should not exceed 1-2 tablespoons of cereals.<sup>19</sup>

### Oat

Oatmeal is an alternative to rice because it is also rich in iron, easy to digest, and accepted by a child.<sup>14,20</sup> Oats should be diluted either with breast milk or formula, and mothers are advised to start introducing them to a five-month-old baby,<sup>17</sup> with the need to give a small amount of 1-3 tablespoons once a day.<sup>21</sup>

### Fruits

Some fruits are considered healthy and safe as the baby's supplemental food and should be soft and cooked, such as apples, ripe bananas and ripe avocados.<sup>20</sup> It is best not to consume the fruits directly and it is advisable to wait a few weeks after starting the cereals, once a day for infants 4-6 months old.<sup>19</sup> Solids mashed into liquid such as fruits are a natural dietary choice for a child aged 4-6 months.<sup>22</sup>

### Avocado

Avocado fruit is characterised by its softness and ease of providing the child without cooking in a small amount and is important for the infant 4-6 months because it contains many vitamins, the most important vitamins A and C in addition to many minerals necessary for the child such as iron, phosphorus, calcium, and potassium.<sup>23</sup>

Apples are another type of fruit that can serve as a healthy and safe supplement at the age of 4-6 months due to the ease of digestion and acceptance of the child in addition to containing the necessary nutrients and vitamins, including vitamin A, C, and folic acid.<sup>24</sup> Apples should be served to the child as a grated, cooked, or mashed meal, taking into account all health conditions when preparing this meal.<sup>20</sup> It can start with a small amount of apple sauce after the baby has completed four months of age.<sup>19</sup>

### Banana

Bananas are also a healthy food for the baby because it contains nutrients and some essential vitamins, and it is not recommended to provide it to a child less than 5 months to avoid allergies, preferably a small piece of bananas in the form of sauce and once during the first six months of life.<sup>25</sup> A few peeled apple pieces can be mixed with the right amount of bananas and served directly to the baby.<sup>25</sup>

### Vegetables

Mothers of infants aged 4-6 months can use vegetables as a good food choice for the baby along with fruits to be

fresh and pureed.<sup>26</sup> One of the safest vegetables that are effortlessly consumed by infants is sweet potatoes and a little well-mashed green beans.<sup>20,21,23</sup>

### Sweet Potatoes

Sweet potatoes are one of the most important foods available in every home, enriched with vitamin C and easy to prepare as a nutritious meal for the child besides other foods.<sup>26,27</sup> It is preferable to introduce sweet potatoes to the diet of the child who has completed the six months of age, taking care not to add sugar.<sup>17</sup>

### Green Beans

Green beans are rich in fibre and easy to prepare for a 4-6-month-old baby, provided that the infant is able to sit with props and is also able to open his/ her mouth for a spoon.<sup>28</sup> The mother can give the infant during this age period approximately 4-8 tablespoons for 1-2 meals during the day.<sup>28</sup>

### Carrots

Carrots are one of the wonderful vegetables that can be introduced to the infant as a solid food because of their naturally sweet taste, attractive colour, and pleasant texture, from a health and nutritional point of view, carrots are a rich supply of vitamin A and antioxidants beta-carotene.<sup>29</sup>

### Conclusion

Rice, oats, avocados, apples, bananas, sweet potatoes, green beans, and carrots are the healthiest and safest food options for infants between the ages of 4-6 months provided that all hygiene conditions, quantity and recommended period are observed during the day before starting any food mentioned above.

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### Ethics Approval and Consent to Participate

This article is a review, hence does not need approval of the ethics committee or consent of participants.

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