

Vegetarian Diets and Pregnant Teens

Patricia Johnston, Ella Haddad

The usual concerns regarding dietary adequacy in pregnancy are increased if the pregnancy occurs during adolescence. When the teen happens to be a vegetarian, those concerns are often magnified; however, well-planned vegetarian diets can meet the nutrient needs of pregnant adolescents.¹

THE WHAT AND WHY OF VEGETARIAN DIETARY PRACTICES

The term “vegetarian” encompasses varied dietary practices. (The term vegetarian as used in this discussion encompasses the broad spectrum of vegetarian dietary practices unless otherwise specified. Lacto-ovovegetarian is indicated by LOV.) Table 1 shows the foods most frequently excluded in several vegetarian dietary patterns.

- Considerable individual variability may be found within these patterns, especially among adolescents, and there is no guarantee that foods not specifically excluded will be consumed.
- It is essential to determine actual dietary intake before making judgments regarding the nutritional adequacy of a particular person’s diet, regardless of what it is called.² In general, the more restrictive the diet, the greater the risk for nutrient deficiencies and

the greater care that must be taken to assure nutritional adequacy.

- Teens may be more likely to become vegetarians because of concern for animal rights or the environment compared to adults who are more likely to state health as the primary reason they adopt vegetarian diets. A recent study of adolescent lacto-ovovegetarian (LOV) females found 78% of the subsample of Seventh-day Adventist (SDA) teens said they followed a vegetarian diet for health reasons, while only 15% of the non-SDA teens gave health as their primary reason. Among the latter, the majority cited ethical and/or environmental concerns.³ The response among the SDAs is not surprising since they have long emphasized healthful dietary practices.
- Teens conscious of their body image may also adopt a vegetarian diet as a means to control their weight.⁴
- When a vegetarian diet is adopted by a teen in an otherwise omnivorous household, conflict may result. Concerns are heightened if pregnancy is also present. Such occasions provide the health professional an especially important opportunity to provide information as well as support to both the teen and her parents.

TABLE 1
Types of Vegetarian Diets and Foods Excluded

Type of Vegetarian Diet	Foods Excluded
Semi- or partial-vegetarian	Red meat
Lacto-ovo-vegetarian	Meat, poultry, fish, seafood
Lacto-vegetarian	Meat, poultry, fish, seafood, eggs
Vegan (total vegetarian)	Meat, poultry, fish, seafood, eggs, dairy products (may exclude honey)
Macrobiotic	Meat, poultry, eggs, dairy, seafood, fish (fish may be included in the diets of some macrobiotic vegetarians)

RELATED ISSUES

Because the outcome of pregnancy reflects events prior to conception as well as those occurring during the pregnancy and because there are no studies specifically of pregnant vegetarian teens, it is prudent to consider some related studies.

Growth and Development

Studies in preadolescent LOV girls have found they:⁵

- are shorter than their omnivorous counterparts
- experience a 6 month delay in menarche
- reach final height similar to or greater than female omnivores

It was suggested that the apparent chronological delay in physical maturation may be beneficial for long term health, particularly for breast cancer.⁵ Thus, vegetarian adolescent females may be expected to have reached menarche at a later age, be leaner than nonvegetarians and by late adolescence be at least as tall as omnivore teens.

Dieting and Weight Status

Vegetarian diets are often associated with lower weight status and individuals concerned with how much they weigh may adopt a vegetarian diet as a means of achieving their weight loss goals.

Females with anorexia nervosa may follow vegetarian dietary practices; however, in such cases the vegetarian

diets appear not to be motivated by concerns for animal rights, or ecologic, environmental or philosophic issues.⁴ Rather, they are a means for demonstrating self-denial and control and are a generally socially acceptable way to achieve weight-loss goals.⁶

A vegetarian diet may have been adopted by an individual who already had an eating disorder. In one study, only 6% of anorexia nervosa patients classified as vegetarians had been so prior to their eating disorder.⁶

A recent school-based survey of adolescents found <1% reported following a vegetarian diet.⁷ The vegetarians were slightly older than the non-vegetarians and most (81%) were females. When compared with a matched group of students, the vegetarians were:

- almost twice as likely to report frequent dieting
- four times as likely to report intentional vomiting
- eight times as likely to report laxative use

Although it is not appropriate to conclude that vegetarians are more prone to eating disorders than the general population, vegetarian diets may serve as a marker in adolescents for disordered eating and unhealthy weight control behavior and should be investigated carefully.⁷ This is especially true when the vegetarian teen is pregnant.

DIETARY INTAKE

Although there have been few reports in the literature of investigations specifically looking at dietary intake and nutritional status in vegetarian adolescents, increasing interest in this dietary pattern has resulted

in new investigations and several reviews.^{3-5, 7-12} Because of the paucity of direct evidence, dietary recommendations for vegetarian adolescents are often based on studies of adults. The accumulating evidence provides information upon which to develop more specific guidelines for vegetarian adolescents; however, it is still necessary to utilize information drawn from studies of adults, especially in pregnancy.

In general, vegetarian adolescents, compared to omnivores:

- consume more fruits and vegetables, legumes, nuts, starchy foods, and vegetable protein products
- consume fewer dairy products and eggs, “junk” foods, and meat products^{3, 7, 11}
- have higher intake of fiber
- have lower intakes of saturated fat and cholesterol and a higher polyunsaturated to saturated fatty acid ratio
- generally, but not always, have a lower intake of total fat¹²
- have slightly lower protein intakes, however they still consume 10-12% of calories as protein

Benefits of Vegetarian Diets in Pregnancy

The dietary intake just described may have advantages during pregnancy. The usually greater intake by vegetarians of whole grains, legumes, and fruits and vegetables may result in:

- improved carbohydrate tolerance
- decreased incidence of constipation
- increased intake of protective nutrients

In addition, because of the lower energy density of vegetarian diets, there may be less likelihood of excessive weight gain, which can be a problem for some teens.

Nutritional Concerns

The same nutrients are required for a successful vegetarian pregnancy as for any other. The questions relate to the adequacy of dietary choices to meet those needs.

- Persons who choose vegetarian diets because of health concerns may be better informed regarding nutrition issues and thus, may be expected to make better food choices.

- Adolescents, however, who choose vegetarian diets for non health reasons, may be less knowledgeable and hence at greater risk for nutritional inadequacy.
- Nutrient deficiencies are most likely to occur with more restrictive diets.¹
- Pregnant women following lacto-ovo- or lacto-vegetarian diets are not expected to present with nutritional problems any more frequently than those consuming nonvegetarian diets.
- A vegan diet can provide the nutrients needed in pregnancy, but careful planning is essential to assure an adequate intake of those nutrients most likely to be at risk in a diet excluding all animal food products.¹

Energy

Although excessive weight gain may be a problem for many pregnant adolescents, inadequate gain may be a greater concern in vegetarians. This is most likely to occur when the caloric density is low, as often occurs in diets excluding all animal foods, or when vegetarian diets are part of purposeful efforts to limit energy intake. In both cases, the adolescent may not only enter pregnancy with marginal nutrient stores, but continue to ingest an inadequate diet. To assure adequate energy intake:

- Determine acceptable foods.
- Understand rationale for dietary practices.
- Monitor weight gain (see Chapter 9).
- Suggest additional energy dense foods as appropriate.

Protein

Insufficient protein is generally not a problem in vegetarian diets.

Complementary proteins do not need to be eaten within the same meal, nor in precise combinations. The need for essential amino acids will be met, even if no animal foods are included, if:¹

- energy needs are met
- a variety of plant foods are consumed over the course of the day

Protein is widely distributed in most plant foods but legumes are a particularly rich source and should be consumed on a regular basis by all vegetarians.

- In addition to contributing essential amino acids, legumes are good sources of B vitamins, minerals and dietary fiber.
- Additional plant sources of protein include grains, nuts, seeds, and vegetables.
- Commercial meat analogs are increasingly available and may be included in the diet as desired, but are not essential to achieve nutritional adequacy.

Iron

Adequacy of iron status in pregnant vegetarian adolescents is of interest because:

- Iron deficiency is common among adolescent females.
- Iron needs increase throughout pregnancy.
- Iron in vegetarian diets is in the nonheme form which is much less available than the heme iron found in meat products.

Studies have found that compared to omnivores, vegetarians:^{1, 4, 8, 12, 13}

- may consume more dietary iron (especially vegans)
- often consume more ascorbic acid which improves availability of nonheme iron
- generally do not have a greater incidence of iron deficiency anemia
- do have lower iron stores

Iron deficiency anemia has been reported in Asian vegetarians who rely on rice rather than wheat.¹⁴ It is also found in macrobiotic vegetarians.¹⁴ Shorter duration of pregnancy, lower birthweight, and lower head circumference and length have been reported, however this may not be true of LOV or vegan women in the U.S.¹⁴

- Because of the increased likelihood of low iron stores in adolescent vegetarian females and because low iron status in the first trimester may increase the risk for a low birthweight or premature baby, it is important to assess iron status and assure an adequate intake.¹⁴

- Health professionals should not expect to find a greater incidence of iron deficiency anemia in vegetarians compared to omnivores.
- In addition to the daily supplement of 30 mg ferrous iron that is routinely recommended, a generous intake of iron-rich foods should be encouraged, as well as concurrent ingestion of vitamin C containing foods.

Zinc

Zinc is necessary for normal growth and development in adolescence, yet its intake tends to be lower than recommendations in both omnivores and vegetarians. The amount consumed is often reported to be lower in vegetarians.^{1, 8, 11-13}

- Vegetarians consume more phytate and fiber-containing foods which can decrease zinc availability.⁸
- Lower intake and lower availability of zinc may cause vegetarians to be at risk for compromised zinc status.
- Some studies found lower plasma zinc levels in vegetarians compared to omnivores even though their intakes were similar to or greater than the omnivores.¹⁴
- Dietary zinc intake was found to be significantly lower among vegetarian adolescents, however this did not appear to compromise their growth.
- Low energy intakes make it difficult to obtain adequate zinc or iron regardless of the type of diet.⁸
- More than two-thirds of the zinc in American diets comes from animal foods.¹⁰
- Cereals are the primary source of zinc for vegetarians, followed by legumes, nuts, eggs, soy foods, and dairy products for LOVs.⁴
- Low zinc intake has been reported in vegan females who relied heavily on fruits, salads, and vegetables.⁴
- Adequacy of zinc intake should be considered in all pregnant adolescents.
- Vegetarians should strive to meet current recommendations for zinc intake.¹

Calcium and Vitamin D

The adolescent years are especially important for the development of peak bone mass and calcium is essential to this process. During pregnancy calcium is necessary for the development of the fetal skeleton and may be related to maintenance of optimal blood pressure in the pregnant woman.¹⁵ In recognition of the complex physiologic adjustments in calcium metabolism during pregnancy, current dietary recommendations do not increase over those appropriate for age.¹⁶

However, most adolescent females consume far less than the recommended amount of calcium.

- The major sources of calcium in North American diets are milk and dairy products. Perhaps surprisingly, LOV adolescents have been reported to consume fewer dairy products than omnivores.^{3, 7, 11}
- Reports of calcium intake in adolescent LOV females compared to omnivores are variable, but differences are not often significant.^{3, 8, 11-13}
- Calcium intake in vegans is generally much lower than in either LOVs or omnivores.^{1, 12, 13, 17}

Points to consider if your client is a vegan:

- Increased intake of non-dairy animal protein causes increased urinary calcium, therefore vegans may need less calcium because they consume less animal protein.^{1, 12}
- Vegans may also have low intakes of vitamin D since fortified dairy foods are the most common food source.¹
- Calcium is well-absorbed from some plant foods, particularly green leafy vegetables.¹⁸ It is unlikely, however, that adolescents would consume 1-2 cups of cooked greens daily.⁴
- Foods supplemented with vitamin D and acceptable to vegans are available, as are calcium-fortified foods.
- To meet calcium requirements, vegans must assure an adequate intake of vitamin D and regularly consume calcium-rich foods.¹

Vitamin B₁₂

Vitamin B₁₂ is of particular interest to vegetarians, especially vegans, because the only non-fortified practical

food sources are of animal origin. It is of special interest to dietitians, nutritionists and clinicians because the effects of a deficiency may be irreversible and because cases of infants with a deficiency continue to be reported.^{19, 20} The affected infants were all born to mothers who had used no animal products for some time and they were exclusively breast fed. These babies appear to have very limited stores of this vitamin at birth and receive inadequate amounts from the breast milk if their mothers have not had a reliable intake.

- Adequate intake of vitamin B₁₂, whether from food sources or a supplement, will prevent adverse outcomes in otherwise healthy individuals.
- There is usually no overt evidence of deficiency in the mother.
- Neurologic problems may develop in an infant before any hematologic evidence of a deficiency.
- There is ongoing need for educational efforts regarding this vitamin. Such efforts are absolutely essential among pregnant adolescents who exclude all animal products.
- There is some confusion about sources of vitamin B₁₂. Some analytical methods used to evaluate the vitamin B₁₂ content of foods do not differentiate between inactive analogs and the active form. Thus, the content listed on some food items may not be correct. Newer radioassays show that seaweed, spirulina, and fermented products such as tempeh do not contribute significant amounts of the active form of vitamin B₁₂.

Vitamin B₁₂ deficient infants share the following characteristics:

- Irritability
- Developmental regression and loss of gross motor skills
- Apathy, lethargy
- Loss of socialization
- Anorexia, refusal of solid food
- Failure to thrive
- Involuntary movements

Pregnancy is an opportune time to educate the pregnant teen on many topics, including the development of her infant. She needs to be aware of developmental milestones and the need to investigate deviations.

Fat

Vegetarian diets may differ considerably from omnivore diets in their fatty acid content and this could affect pregnancy outcome. Two fatty acids are considered essential to humans' diets: linoleic and α -linolenic. It is imperative that adequate intakes of these two fatty acids be consumed during pregnancy.

Points to consider about the two essential fatty acids and their metabolites:

Linoleic acid (18:2n-6)

- metabolized in the body to arachidonic acid (20:4n-6, AA)
- found in most vegetable oils and in smaller amounts in grains, legumes, and vegetables
- a precursor to prostaglandins
- an important component of cell membranes

α -Linolenic (18:3n-3)

- metabolized to eicosapentaenoic acid (20:5n-3, EPA) and docosahexaenoic acid (22:6n3, DHA)
- found in full-fat soy products, flax seed, walnuts, and canola oil.
- EPA and DHA are found in fish oils; DHA is found in eggs.
- DHA is essential for visual, brain, and possibly reproductive, function.
- DHA is absent from vegan diets and absent or low in lacto-ovo-vegetarian diets.
- Lower levels of DHA have been found in the milk of vegans compared to omnivores.¹⁴
- Erythrocyte lipids of infants born to and breast-fed by vegan mothers have lower DHA compared to infants who are breast-fed by omnivore mothers.¹⁴ The significance of these differences is not yet known. However, there is growing evidence that infants receiving DHA in breast milk have higher levels of DHA and better neuronal functioning and visual acuity than infants fed infant formulas which in the U.S. do not yet include this fatty acid.²¹
- Although humans can make DHA from α -linolenic acid, the conversion is not very efficient. In addition, high intakes of linoleic acid interfere with that conversion, as do trans fatty acids. Thus, diets that are high in vegetable oils and processed foods can inhibit the production of DHA.

- Diets that are very low in fat may not supply enough α -linolenic acid. It is suggested that the ratio of linoleic acid to α -linolenic acid should be no more than 10:1 and preferably around 5:1. Good sources of α -linolenic acid are listed in Table 2.

TABLE 2
Plant Sources of α -Linolenic Acid

Food Source	α -Linolenic Acid (g)
Flax seed, 2 Tb	4.3
Walnuts, 1 oz	1.9
Walnut oil, 1 Tb	1.5
Canola oil, 1 Tb	1.6
Soybean oil, 1 Tb	0.9
Soybeans, 1/2 c cooked	0.5
Tofu, 1/2 c	0.4

Guidelines to achieve an optimal ratio of essential fatty acids in the diet:

- Do not overly restrict fat in the diet.
- Consume a good source of α -linolenic acid every day.
- Limit intake of foods very high in linoleic acid, such as safflower, sunflower, and corn oils.
- Replace oils rich in linoleic acid with canola, soy, and flaxseed oils which are rich in α -linolenic acid and with monounsaturated-rich oils like olive oil.
- Replace hard margarine with soft margarine and limit intake of processed foods.

Counseling for Optimal Pregnancy Outcome

The goal for every pregnancy, regardless of the age of the mother or the type of diet she follows, is to produce a healthy infant. The few reports noted above of adverse pregnancy outcomes were associated with restrictive vegetarian diets. As more foods are eliminated, greater care must be taken to achieve nutritional adequacy. However, careful planning can overcome the potential deficiencies of a diet that does not include any foods of animal origin. Nutrient needs can be met in a variety of ways, some of which may be quite different from our own personal dietary preferences. Adaptability and creativity may be especially necessary to meet the needs of the pregnant adolescent who is also a vegetarian.

DIETARY GUIDANCE

- An assessment of the adolescent's food and dietary patterns is the foundation for appropriate nutrition guidance and intervention.
- Food intake data may be obtained by one or more of the commonly used diet recall and history methods and questionnaires (see Chapter 8).
- There are differences among vegetarians in personal dietary beliefs and values which impact dietary practices, and these need to be explored.
- Information about usual intake and foods avoided is critical in identifying potential nutritional deficits and unsound practices.
- Pregnant adolescents who have made a commitment to the vegetarian lifestyle are often conscientious and concerned about the well-being of their baby. However, teens tend to care about the here and now, not about the possibility of problems later in life. The health professional's support and encouragement can have implications for the teen's future health and well-being as well as that of her child.

Important Considerations and Suggestions for Guiding the Vegetarian Teen

The caloric intake of the pregnant adolescent is critical to achieving adequate weight gain.

The diet of the expectant teen must support the growth of the teenager herself and her baby.

- Growth requires energy and getting enough calories is of primary importance.
- The primary goal of nutrition during pregnancy is to support adequate weight gain, which is critical to achieving healthy birthweight outcomes.
- Teens are also more likely to meet their overall nutritional needs if they consume adequate calories.

The "Vegetarian Food Guide" (Table 3) provides guidance as to what and how much should be consumed. For teens not gaining sufficient weight, suggestions may be given for foods to eat that require little preparation such as crackers, nuts and breads.

A variety of foods must be eaten to supply the many different nutrients.

A varied vegetarian diet is more likely to meet nutritional needs than one which is limited to just a few foods or food groups.

- Encourage teens to eat a variety of foods from all the food groups.
- Encourage teens to limit foods that provide few nutrients such as soda, candy, cake, donuts, chips, punch and sweetened drinks.

Beans, lentils, peas, soybeans or soy foods must be eaten daily.

- Adequate protein is critical during periods of rapid physical growth and development such as during pregnancy.
- It has been estimated that the pregnant teen needs 76-78 g of protein per day.²²
- It is not reasonable to expect that sufficient protein can be obtained by just eating grains, salad vegetables and fruits.
- Cooked dried beans or peas and soybeans provide a more concentrated amount of protein and complement that in grains.
- Soy products such as meat analogs, tofu, and soy drinks add to the daily protein intake. In addition to providing protein, beans and peas are important sources of trace minerals and B vitamins.
- Foods from the dairy group such as milk, yogurt and cheese contribute to the daily protein intake.
- For strict vegetarians who avoid dairy products, milk alternatives that provide at least 5-6 grams of protein per serving should be selected.

Teens who don't get enough calcium are putting their bones at risk later in life.

Calcium retention in bones is at an all-time high during teen growth.

- During pregnancy, dietary calcium is needed to support adequate bone density of the teen mother, the baby's bones and for breast-feeding.

TABLE 3
Vegetarian Food Guide for the Pregnant or Lactating Adolescent

Food Group	Servings per Day	Serving Size	Comments
Bread, cereal, rice and pasta	6-7 or more	1 slice bread or 1/2 bagel 1 ounce ready to eat cereal 1/2 c rice, pasta or grain 4 graham crackers 8 crackers	Choose whole grain breads and cereals Choose fortified breads and cereals
Legumes, eggs and meat substitutes	2 or more	1/2 c beans, peas, lentils 1/2 c tofu, tempeh, textured vegetable protein, soy protein or meat analogs	These provide iron, zinc and other nutrients as well as protein, if well chosen Eggs provide vitamin B ₁₂
Fruits and vegetables	5 or more	1/2 c cooked or canned fruit or vegetable 1 c raw vegetable 1 piece of fruit 1/2-3/4 c fruit juice	Eat a variety of fruits and vegetables Juices don't provide fiber as whole foods do Include leafy greens daily
Nuts and seeds	1 or more	1/4 c nuts or seeds 2 T peanut butter or tahini	Flax seed (ground) and walnuts provide α -linolenic acid
Fats and oils	6 or more	1 tsp oil or margarine 2 tsp salad dressing	Soybean, canola, walnut and flaxseed oils are high in α -linolenic acid
Milk or milk alternatives	4 or more	1 c milk or yogurt 1 c fortified soy or rice milk 1-1/2 oz (1/3 c) cheese 1 c pudding 1-1/2 c ice milk or frozen yogurt	Choose lowfat or non-fat dairy products Choose milk substitutes fortified with calcium, vitamin D, and vitamin B ₁₂

- At least 3 servings of milk, yogurt, or an appropriate alternative should be consumed daily.
- Milk provides about 250 mg of calcium per cup and vegan alternates such as soy drinks must provide at least the same amount of calcium per serving.

The diets of vegetarian teens can be low in trace minerals.

Expectant adolescents need iron for their expanding blood volume and developing muscle and zinc for optimal growth and development.

- Flesh foods contribute larger amounts of iron and zinc that are more readily absorbed and thus these

foods are considered to be potentially advantageous during pregnancy. However, iron-deficiency anemia and clinical deficiencies of zinc and other trace minerals are not more common among vegetarians in the U.S.

- Cooked dried beans and peas, nuts, and seeds are the richest plant sources of iron, zinc and other trace elements such as copper, manganese, etc. It is important that these foods be consumed daily or more than once a day.

Vegetarian diets that include legumes, nuts, seeds and whole grains provide reasonable amounts of most trace elements. The sample menus (Table 4) meet the Recommended Dietary Allowances (NRC 1989) and

TABLE 4
Sample Menus for Pregnant or Lactating Vegetarian Adolescents

Lacto-ovo-vegetarian

Breakfast

1/2 c granola
 1 c 1% milk
 2 slices whole wheat toast
 1 Tb peanut butter
 1 Tb honey
 1 banana

Lunch

Veggie pita pocket
 1 whole wheat pita pocket bread
 1 hard boiled egg, sliced
 1/2 c canned, drained garbanzos
 1/3 cucumber, sliced
 1/2 tomato, sliced
 1 thin slice of onion
 1 Tb ranch dressing
 1 c low fat yogurt
 1/2 c fruit

Supper

1-1/2 c of cooked spiral pasta
 1/2 c tomato sauce
 Vegetable medley
 (sautéed in nonstick pan)
 1 c mustard greens, chopped
 1/2 c summer squash, sliced
 1 small clove garlic, sliced
 1 oz (1/3 c) almonds, sliced
 1 tsp oil
 salt to taste
 1 whole wheat dinner roll
 1 tsp margarine
 1 c 1% milk
 1 orange
 1 almond biscotti

Analysis (selected nutrients)

Energy (Kcals)	2400
Protein, g	90
Folate, mcg	650
Calcium, mg	1485
Iron, mg	18
Zinc, mg	12

Vegan

Breakfast

1-1/2 c raisin bran cereal
 1 c fortified soy milk
 1 slice whole wheat toast
 2 Tb peanut butter
 1 Tb jam
 1 banana
 3/4 c orange juice

Lunch

Vegan burger
 1 vegan burger
 1 whole grain hamburger bun
 2 slices tomato
 2 slices dill pickle
 1/4 c alfalfa sprouts
 1 onion slice
 2 tsp soy mayonnaise
 ketchup and mustard to taste
 1 sliced potato, oven fried
 2 tsp margarine
 3/4 c grapes

Supper

1 c vegetarian chili
 topped with 1 Tb nutritional yeast
 1/2 c cooked brown rice
 2 stalks broccoli, steamed
 1/2 c carrot raisin salad
 1 whole wheat dinner roll
 2 tsp margarine
 1 c tofu yogurt
 1 piece apple crisp

Analysis (selected nutrients)

Energy (Kcals)	2400
Protein, g	80
Folate, mcg	800
Calcium, mg	1400
Iron, mg	20
Zinc, mg	11

the Reference Dietary Intakes (NCR 1998). Table 5 provides an overview of some counseling tips to use with pregnant adolescents who consume vegetarian diets.

Practical food ideas for vegetarian adolescents are also listed in Table 5.

TABLE 5
Getting Enough Protein and Minerals: Tips for Pregnant Vegetarians

- Eat a variety of foods every day.
- Eat at least the lowest number of foods from each category of the Food Guide for Vegetarians each day. Pregnant teens who are still growing may need more than the minimum number of recommended servings.
- Eat small, frequent meals and snacks—don't skip meals or snacks.
- Carry snack foods with you. Some easy to carry snacks include trail mix, dried fruits, nuts, fresh fruit, whole wheat crackers, fortified ready to eat cereals, juice boxes.
- Don't rely on only one source of protein from plant sources (e.g., garbanzo beans).
- Choose tofu or tofu products made with calcium sulphate.
- Include dairy products or eggs whenever possible.
- If eggs and dairy are not included in the diet make sure breads, cereals and meat or dairy substitutes are fortified with vitamin B₁₂.
- Choose cereals, breads and grain products fortified with iron, zinc, vitamin B₁₂ and folic acid.
- Choose juices and milk alternatives fortified with calcium, vitamin D, and vitamin B₁₂.
- Choose whole grain breads and cereals whenever possible.

Food Ideas:

Bean or cheese dips with baked tortilla chips

Pudding, frozen yogurt or ice milk

Bean or cheese burritos

Three bean, carrot raisin or marinated vegetable salads

Bean or lentil soup, stew or chili served with whole grain bread

Garden burger, nut burger or Boca burger

Quesadilla or grilled cheese sandwich

Cheese and vegetable pizza or lasagna

Meatless chef salad with garbanzo beans, sunflower seeds and cheese

Scrambled tofu with green onions and seasonings

Baked potatoes topped with cheese and broccoli

Parfaits or smoothies made with fruit and yogurt

Asian pasta with peanut or tahini sauce

Stir-fried vegetables with tofu, tempeh or meat analogs

Peanut butter and jelly sandwiches

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