

Time	Narration
00:00	Welcome to the Spoken Tutorial on pre-pregnancy nutrition.
00:05	In this tutorial, we will learn about nutritional requirements during reproductive age and pre-pregnancy period.
00:14	Let us first begin with Protein .
00:17	Protein is required for growth and maintenance of muscle tissue.
00:21	It aids in cell repair and bone development as well as for joints.
00:27	It helps in improving immunity and maintaining a healthy liver and also provides energy.
00:34	Protein forms chemicals which help in- digestion, break down of toxins in the body,
00:41	maintaining blood sugar and carrying signal to and from the brain.
00:46	Deficiency of Protein leads to - diminished growth of fetus for its age,
00:52	poor height, memory and motor skills in the baby, along with high risk of infection.
01:00	In adults, it leads to - wrinkling of skin, hair fall,
01:05	tiredness and weakness,
01:07	frequent infections and muscle loss.
01:11	Another protein called Keratin is an important part of hair, nails and skin.
01:17	Interestingly, the protein is made up of different substances called Amino acids .
01:24	There are in total 22 Amino acids out of which 9 Amino acids have to be taken from the diet.
01:33	Let us now look at the two types of Protein which are - the Complete Protein and the Incomplete Protein .
01:41	All 9 Amino acids mentioned earlier are present in animal proteins .
01:46	That is why animal proteins are called as complete proteins .
01:51	On the other hand, in plant based proteins , some of these 9 necessary Amino acids are in lesser amounts.
01:59	For example, cereals are low in Lysine while pulses are low in Methionine .
02:07	It is therefore important to consume different plant proteins together in combinations.
02:13	For example, grains and pulses should be consumed in a combination as they both will provide enough quantities of necessary Amino acids .
02:23	Now we will learn about another important nutrient i.e. Fat.
02:28	Good fats from food are important for good health.
02:31	There are some fats that cannot be produced by the body, like Omega-3 fatty acids . Hence they should be taken from the diet.
02:40	These fats maintain heart health,
02:42	reduce inflammation in the body

	and can help to improve the chances of getting pregnant.
02:48	They also reduce the risk of premature birth of the baby and increase intelligence in the baby.
02:56	After learning about protein and fat, we will now learn about vitamin-A .
03:01	Vitamin-A helps to maintain healthy eyes. It regulates cell growth,
03:07	increases the chances of pregnancy and improves immunity during pre-pregnancy period.
03:14	Like Vitamin A , the entire Vitamin B-complex plays a crucial role in strength and health of women in all the stages of life.
03:24	Among all the B-Vitamins , we will first look at Vitamin B-6 i.e. pyridoxine .
03:30	Vitamin B6- Pyridoxine is required for functioning of the nervous system thereby improving the brain development.
03:39	Also, it may provide relief from pregnancy related nausea.
03:44	Yet another nutrient is, Vitamin B12 which along with folate & choline helps to prevent Anemia and Neural tube defects .
03:54	Neural tube defects are birth defects that affect the spine and central nervous system of the baby which are formed during the first month of pregnancy.
04:04	Note that a neural tube is a part of the foetus that develops into the brain and spinal cord.
04:11	Hence, it is important to have enough Folate , Vitamin-B12 and Choline in the body before getting pregnant.
04:19	Deficiency of vitamin B-12 also leads to Anemia , infertility and miscarriage.
04:27	Now, we will learn about another important nutrient i.e. Folate .
04:31	Folate which is also known as Vitamin-B9 , helps the body to make healthy new cells.
04:38	These cells carry oxygen from the lungs to all parts of the body.
04:43	Deficiency of folate in pregnant mothers leads to Anemia and defects of the brain and spine called Neural Tube Defects .
04:52	Note that Neural Tube Defects has been explained earlier in the same tutorial.
04:57	We will now learn about the role of Iron. Iron is required for formation of Hemoglobin in the blood and for fetal growth.
05:07	Low levels of hemoglobin in pregnancy can lead to - high blood pressure during pregnancy,
05:13	preterm delivery,
05:14	low birth weight baby and miscarriages.
05:18	Apart from this, Hemoglobin helps to transport oxygen to other tissues and cells.
05:25	Low levels of Hemoglobin or iron leads to Anemia.

05:30	Moreover, Iron may be low in women due to - monthly menstruation,
05:36	worm infestation,
05:38	diet low in Iron and poor absorption due to Phytic acid and Oxalates in the food.
05:45	In order to decrease Phytic acid and Oxalates and to increase absorption of nutrients -
05:52	use pre-cooking methods like - soaking, sprouting, roasting and fermentation.
06:00	Signs of Iron deficiency Anemia are - tiredness and lack of energy,
06:06	breathlessness, increase in heart rate
06:10	and pale skin.
06:11	Remember, with Iron always consume Vitamin-C rich foods as it will help in iron absorption.
06:19	Vitamin-C also enhances immunity and thus reduces infections.
06:25	Next, we will learn the importance of Calcium & Vitamin D .
06:29	It is suggested to consume Calcium as it helps in development of bones.
06:35	The fetus requires Calcium for bone and teeth development.
06:39	Low levels of Calcium can cause weak bones.
06:43	However, remember that- Vitamin-D is required to absorb calcium in the body.
06:49	The best way to obtain Vitamin-D is exposure to sunlight between 11.00 am to 3.00 pm for 15 to 20 mins.
06:59	Next, we will learn about Choline .
07:02	Choline is important for brain development of the baby as it enhances memory and attention span.
07:09	Deficiency of Choline leads to- fatty liver in adults,
07:13	miscarriages and Neural tube defects in fetus which are mentioned earlier in this tutorial.
07:20	Let's move ahead and learn the importance of Zinc .
07:24	Zinc is important for immunity and cell growth. It helps in making genetic material and protein in the body.
07:31	It helps in healing of wounds. Also, it contributes to ovulation and fertility in women.
07:37	And it is important for growth of the fetus.
07:40	Note that lack of dietary Zinc - can affect the sense of taste and smell,
07:46	delay the growth of placenta which is a cord that transports nutrients from mother to the fetus.
07:53	Lack of Zinc also affects the growth of embryo and results in low birth weight baby.
08:00	Another significant nutrient that we will look at is Iodine .
08:05	Iodine is required by the body to maintain normal levels of thyroid hormone which are produced by the Thyroid gland.
08:13	Deficiency of Iodine in mother leads to increased risk of miscarriage and stillbirth of the baby.
08:20	It can also lead to - birth deformities,

	low birth weight, stunted growth and mental retardation in the baby.
08:30	Magnesium is another nutrient which helps to calm the nervous system.
08:35	It prevents cramps and migraine headaches by relaxing the blood vessel in the brain.
08:41	It also maintains healthy blood pressure and rhythm of the heart.
08:45	It helps in production of genetic material and enhances bone development.
08:50	Apart from a healthy nutrition for a healthy pregnancy, it is important to avoid alcohol as it can lead to miscarriage or weak embryo.
09:00	Other things to be avoided are - Tobacco,
09:03	Cigarettes,
09:03	Drugs,
09:06	self medication,
09:06	excessive use of sugar, Tea and coffee, Junk food and sweetened beverages
09:14	as these substances can affect reproductive health and have adverse effects on pregnancy.
09:20	Note that it is also important to manage weight before becoming pregnant.
09:25	Underweight women give birth to small babies or preterm babies which are born during 7 to 8 months of pregnancy.
09:34	Such babies are at highest risk of premature deaths.
09:37	However, on the other hand, women with increased weight have high risk of gestational diabetes and blood pressure.
09:45	Also, it can lead to neonatal complications.
09:49	Therefore women should consult a healthcare provider to maintain a healthy weight before getting pregnant.
09:55	Along with this, it is very important to consume a healthy, well-balanced diet containing vegetarian and/or non-vegetarian foods.
10:05	Remember that all non-veg foods are rich in - protein, omega-3 fatty acids, vitamin B-12, vitamin B-9, zinc, iron, calcium, choline and Vitamin-D.
10:18	Along with animal derived food, plant derived foods, Pulses, millets, cereals, nuts and seeds will help in formation of -
10:29	immune system, muscles, bones,
10:32	liver, hair, skin, eyes and brain.
10:36	Apart from these, dairy products will also aid in formation of bones and teeth of the baby.
10:42	Alternately, leafy vegetables and seeds are also rich in Calcium and help in formation of bones and teeth of the baby.
10:52	Like leafy vegetables, Fruits are also rich in Vitamin-C and they help in -
10:52	improving immunity, absorption of Iron and prevent infections.
11:04	For fertility of the woman and growth of the baby, beans, nuts and seeds should be consumed along with other non-veg foods.
11:14	Various non-veg food and animal derived foods like Fish, dairy and eggs help to maintain

	normal thyroid hormone, improve growth and prevent physical defects.
11:27	Nuts and seeds are rich in magnesium and are essential for functioning of nervous system and prevention of leg cramps.
11:36	This brings us to the end of this tutorial Thank you for joining.