

Report Summary

Breastfeeding

Alcohol Metabolism Rate (Pg.3)



Normal Sensitivity

Caffeine Metabolism Rate (Pg.4)



Higher Sensitivity

Arachidonic Acid Level (Pg.5)



Moderate Needs

Nutrition

Calcium Deficiency (Pg.7)



Normal Risk

Iron Deficiency (Pg.8)



Higher Risk

Vitamin C Deficiency (Pg.9)



Normal Risk

Vitamin D Deficiency (Pg.10)



Normal Risk

Vitamin E Deficiency (Pg.11)



Higher Risk

Postpartum Wellness

Postpartum Depression (Pg.13)



Normal Risk

Postpartum Obesity (Pg.14)



Normal Risk

Scarring (Pg.15)



Normal Risk

Stretch Mark (Pg.16)



Normal Risk

Breastfeeding Alcohol Metabolism

Your Result:



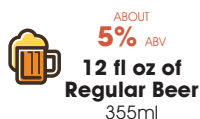
Your results suggest that you respond normally to alcohol. You have a better tolerance to alcohol and are less likely to blush. Don't drink more than you can handle. You can enjoy drinking alcohol in moderation.

Both the enzymes aldehyde dehydrogenase (ALDH) and alcohol dehydrogenase (ADH) are the most commonly found enzymes involved in alcohol metabolism in the liver. These enzymes metabolize alcohol to acetaldehyde, carcinogen and a toxin before reaching the final product of acetate. Multiple genes encode both the enzymes while the variants of the enzymes are encoded by the multiple alleles found on the genes. Non-identical versions of both the ADH and ALDH are encoded by two highly prevalent Single-Nucleotide Polymorphisms (SNPs) namely rs671 (ALDH2, 12q24.12) and rs1229984 (ADH1B, 4q23). To determine your overall alcohol metabolism rate, each of these genes carry the "fast" or "slow" version, respectively.

Alcohol can then pass freely into a mother's milk together with her system. Alcohol can affect an infants' dietary and sleeping patterns as proven by studies done. After a mother consumes alcohol, breastfed infants sleep for a reduced amount of time as they will become drowsy and immediately fall asleep. An infant's development will also be affected by the alcohol contained in breastmilk. There is no apparent advantage to babies due to maternal alcohol consumption. Nevertheless, the woman's body is believed to be in the 'cold' state during the postpartum period and 'hot' food is widely recommended for instance wine and ginger. During lactation, it is therefore important to plan and monitor ahead your consumption of alcohol to reduce the alcohol exposure of the infant. Having said that, lactating mothers should only breastfeed their babies at specific hours after consuming wine or alcoholic food. This is to make sure that the infant's health risk is reduced with the alcohol-free milk. Hence, it is best to follow the recommendations from your genotypes since nobody can explain the actual effects of alcohol on breastfed babies.

List of genes tested: ALDH2, ADH1B, ADH1C

A STANDARD DRINK



Recommendation

During Pregnancy:

1. Even though you are fast alcohol metabolizer, it's safest to avoid drinking alcohol during pregnancy.

During Breastfeeding:

1. The effects of alcohol on the breastfeeding baby are directly related to the amount the mother consumes. It's best to avoid drinking alcohol during breastfeeding.
2. If you need to consume alcohol during breastfeeding. Please follow the recommendations:
 - Breastfeed before you have a drink.
 - Pump extra milk ahead of time so that you can feed your baby with expressed milk or feed baby using formula milk before your body clear the alcohol.
 - Time your drink just right after a feeding, and best during one of your baby's longer stretches of sleep.

Breastfeeding Caffeine Metabolism

Your Result:

Normal Sensitivity Moderate Sensitivity Higher Sensitivity

Your results suggest that you are sensitive to caffeine. Anxiety and sleep problems are more likely to show up even with low caffeine intake. Try cutting down your caffeine consumption. Limit your daily caffeine intake to 100-150 mg, which is equivalent to 1 cup of coffee a day. You can choose coffee beverages with lower caffeine content such as espresso or cappuccino. You may substitute your coffee intake with other beverages such as herbal tea, which contains less amount of caffeine.

By drinking tea, coffee and taking other caffeine-containing products, the caffeine content will enter your breastmilk. The actual content of caffeine in the breastmilk of females who take in caffeine differs. The amount of caffeine found in food and drinks varies greatly among women, the same goes to the absorption and elimination rate of caffeine, which are determined by its metabolism pathway that depends on the individual's set of genes. The enzyme Cytochrome P450 1A2 (CYP1A2) metabolises caffeine in our body. Roughly half of the general population inherits at least a single copy of the variant gene which is due to a DNA sequence change in the CYP1A2 gene. This variant causes the ingested caffeine to remain in the body system longer due to the slower metabolism of caffeine.

The infant will receive about 1.5% of the caffeine amount that the mother obtains, as the caffeine does pass into breast milk. Breastfeeding mother's caffeine consumption leads to an accumulation of caffeine and brings about symptoms such as wakefulness and irritability since infants are not able to metabolize or excrete caffeine very well. This is according to a research by Ruth Lawrence, who is a medical doctor in the Journal of Caffeine Research. The composition of your breastmilk is affected by the uptake of caffeine. Non-coffee drinker women have more than a third of iron content in the breast milk than the women who drink 3 cups of coffee regularly in a day during breastfeeding and pregnancy. Newborn infant has 3-4 days of caffeine's half-life as compared to 2.5 hours for a 6-month old whereas it's about 1.5 hours for an adult. The caffeine's half-life is 3-4 hours in most healthy adults. The half-life refers to how long it requires for 50% of the ingested caffeine to be metabolised and excreted out from the body. In addition to that, several factors affect the half-life of the caffeine, including the amount of caffeine intake, function of liver, pregnancy, concurrent drugs/medications, the levels of enzymes, health status and age.

List of genes tested: CYP1A2

CAFFEINE CONTENT IN DRINKS

 Iced Tea (Starbucks) 30-35mg / 355ml	 Hot Chocolate (Starbucks) 15mg / 355ml	 Coke 32mg / 355ml	 Green Tea (Starbucks) 40mg / 355ml	 Cappuccino (Starbucks) 75mg / 355ml	 Espresso (Starbucks) 75mg / 355ml	 Energy Drink 77mg / 355ml	 Brewed Coffee (Starbucks) 260mg / 355ml
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Recommendation

During Pregnancy:

1. You are a slow caffeine metabolizer. It's safest to limit your daily coffee intake to an upper limit of 100mg (1 cup) during pregnancy.
2. As a slow caffeine metabolizer, consuming more than 2 cups of coffee per day increases risk of pregnancy loss and reduced fertility.
3. Consider caffeine-free beverages, such as decaf coffee and safe caffeine-free teas.

During Breastfeeding:

1. Avoid consuming coffee when baby is less than 1 month old.
2. Reduce caffeinated beverages intake throughout the breastfeeding period. Consider caffeine-free beverages, such as decaf coffee and safe caffeine-free teas.
3. If you need to drink caffeinated beverages, keep intake limit of 100mg (1 cup) of caffeine per day, and feed baby before drinking, then waiting >4 hours before next breastfeeding session.

Breastfeeding

Arachidonic Acid Level

Your Result:



Your results suggest that you need moderate AA intake.

During exclusive breastfeeding, breast milk is the sole nutrition while in infant physical and cognitive development, polyunsaturated fatty acids (FAs) are the important micronutrients. Therefore, to ensure the infant gets the correct balance of both the macronutrients and micronutrients, the breastmilk's composition is crucial especially the important arachidonic (AA, 20:4n6) and docosahexaenoic (DHA, 22:6 n-3) acids. Maternal genetics play an important role in influencing breastmilk's FA composition besides body composition and diet. The identification of FA fractions which are influenced by genetic variation based on the first genome-wide association studies (GWAS) on breastmilk composition. In fact, AA is the main FA in breastmilk influenced by genetic variation at the FADS1/2/3 locus.

Growth and immune function at the earliest ages are directly influenced by AA levels, and AA is an important structural component of neuronal and brain tissue. With that, it poses significant consequences for an individual's survival and fitness through adulthood.

List of genes tested: FADS1, FADS2

Recommendation

During Pregnancy:

1. Take balance diet to maintain healthy AA level in your body.
2. AA food including chicken, eggs, beef, fish, pork, pasta.
3. You are also recommended to maintain your DHA level by eating 2 servings of low-mercury fish each week, eg. salmon, oyster, tilapia, hake, sardine, anchovies, pollock, herring, catfish.

During Breastfeeding:

1. Take balance diet to maintain healthy AA level in your body.
2. AA food including chicken, eggs, beef, fish, pork, pasta.
3. You are also recommended to maintain your DHA level by eating 2 servings of low-mercury fish each week, eg. salmon, oyster, tilapia, hake, sardine, anchovies, pollock, herring, catfish.

Calcium Deficiency

Your Result:



Your results suggest that you have normal calcium needs. Try to maintain your calcium intake at 1000-1200 mg/day. Consume calcium-rich foods together with phosphorus, magnesium and vitamin D in your diet to help absorption and usage of calcium in the body. If meeting dietary requirement from food source is difficult, try getting from calcium supplement such as calcium carbonate, calcium citrate, calcium gluconate and calcium lactate.

While nursing their infants, women are said to lose 3-5% of the bone mass. This occurs owing to the infant's growing needs for calcium. A developing baby requires calcium to build strong teeth and bones, to develop a healthy heart, nerves and muscles. Not only that, calcium is also needed to develop a normal heart rhythm and to ensure normal blood clotting. When you are in the pregnancy stage, a deficiency in calcium in your dietary intake will lead to your baby drawing it from your bones instead and impair your own health later on. When breastfeeding, the hormone needed to protect the bones, i.e. oestrogen will also reduce, thereby further weaken the bones. Hence, the calcium intake during breastfeeding is necessary and indeed crucial. Genetic variants of calcium-sensing receptors (CASR) on 3q13 modulates calcium level as shown by recent studies. A deficiency in calcium in the body will lead to osteoporosis and hence an adequate level of this mineral during nursing is needed to avoid it.

List of genes tested: CASR, CYP24A1, DGKD, GCKR, CARS, RPS28P8, LINC00709, CASR

CALCIUM RICH FOOD



Anchovy
500mg / 100g



Sardine
234mg / 100g



Almond
222mg / 100g



Watercress
200mg / 100g



Tofu
135mg / 100g



Milk
109mg / 100g

Recommendation

During Pregnancy:

1. Take balance diet to maintain healthy calcium level in your body.
2. Milk and other dairy products, such as cheese and yogurt, are the best sources of calcium. If you have trouble digesting milk products, you can get calcium from other sources, such as broccoli; dark, leafy greens; sardines.

During Breastfeeding:

1. Take balance diet to maintain healthy calcium level in your body.
2. Milk and other dairy products, such as cheese and yogurt, are the best sources of calcium. If you have trouble digesting milk products, you can get calcium from other sources, such as broccoli; dark, leafy greens; sardines.

Nutrition

Iron Deficiency

Your Result:



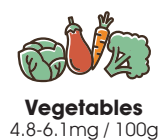
Your results suggest that you have higher iron needs. Consider to increase iron intake to over 18 mg/day to allow red blood cells carry oxygen around your body. Ensure that you do not exceed the intake more than 45 mg/day. Consume red meat (iron-rich), chicken, turkey and fish to get enough dietary iron. Iron from cereals, beans and some vegetables are poorly absorbed, but can be absorbed better in the presence foods rich in vitamin C (citrus fruits and fresh vegetables). Consider taking iron supplements if you are pregnant or have periods, vegetarians and frequent blood donors.

Haemoglobin involved in transporting oxygen in red blood cells and iron forms an integral part of its component. A total of 27mg of iron is recommended for daily iron intake for pregnant women instead of the normal intake for adults of 8mg. This is due to its higher body demand for extra iron to assist in the foetus and placenta development and to replenish the maternal blood volume. Inadequate iron intake may lead to the production of the unusually tiny and pale red blood cells which in turn brings about a decreased efficiency in oxygen transport known as iron deficiency anaemia (IDA). Such individuals will experience fatigue, weakness, altered cognition and depressive symptoms. With these symptoms, the mother's interaction with the infant will be affected and impact the baby's behaviour and development negatively. In addition to that, an anaemic mother may transport even less iron to the infant leading to an increased risk of iron-deficiency anaemia in the infant although the iron levels in normal breastmilk is only 0.2 -0.4 mg/l of iron.

During the crucial moment of brain development in an infant, iron deficiency is often linked to long-term irreversible neurocognitive problems even with subsequent iron supplementation. IDA during pregnancy is linked to preterm delivery, low birth weight and infant mortality. Scientists discovered polymorphisms at the Tmprss6 gene which encodes for matriptase-2 which involves the body's iron level regulation that can influence the risk of developing iron deficiency in both the mother and baby. A reduction in the amount of matriptase-2 in the body by some polymorphisms will lead to an excessive production of hepcidin hormone which in turn inhibits the iron absorption rate by the intestine. A higher iron consumption (without overdosing to avoid toxicity) than the normal recommended daily intake is encouraged for mothers who carry such polymorphisms.

List of genes tested: Tmprss6, HFE, TF, TFR2, Tmprss6_1, Tmprss6_2

TOP IRON RICH FOOD



Recommendation

During Pregnancy:

1. Take balance diet to maintain healthy iron level in your body.
2. You can find iron in meat, poultry, and dark, leafy greens such as spinach, collard greens.

During Breastfeeding:

1. Take balance diet to maintain healthy iron level in your body.
2. You can find iron in meat, poultry, and dark, leafy greens such as spinach, collard greens

Vitamin C Deficiency

Your Result:



Your results suggest that you have normal vitamin C metabolism. Vitamin C is important for your skin and immune system. Consume at least 70 mg of vitamin C per day. Include vitamin C rich foods in your diet. You can get 70 mg vitamin C from eating 1 orange, 3/4 cup of broccoli or 1 kiwi.

Vitamin C can shield cells from oxidative stress due to its role as an antioxidant. It donates an electron to the free radical so that it will not attack other body cells and remain stable. Unfortunately, we do not have the ability to produce vitamin C by ourselves. Fruits such as kiwis are an essential source of vitamin C for humans. Certain players are linked to plasma ascorbate levels and are likely to impact tissue cellular vitamin C status, which includes genetic variations that encodes Na-dependent vitamin C transport proteins, proteins that suppress oxidative stress or detoxify biomolecules that are oxidatively damaged which includes haptoglobin, glutathione-S-transferases, and possibly manganese superoxide dismutase.

During pregnancy, inadequate vitamin C may cause brain damage to the infants. A lack of vitamin C will inhibit the development of the foetal hippocampus (part of the brain dealing with memory) according to a study by the University of Copenhagen. Unfortunately, feeding the infant with vitamin C after birth is unable to fix the damage during the development in the womb according to subsequent studies. Mothers with certain changes in DNA sequence in NA-dependent vitamin C transporters (SVCTs) genes will have babies who are more prone to Vitamin C deficiency which will result in causing problems in their future learning. A mother's diet will influence the amount of vitamin C in breastmilk. Generally, 5mg of vitamin C is found in 100g of breastmilk. Vitamin C is important for newborn infants' development as it produces collagen that is required for the rapid growth of ligaments, tendons, blood vessels and bone during infancy. Nevertheless, vitamin C can prevent scurvy that possess diabetes-like symptoms, such as anorexia, poor wound healing and loss of teeth. Vitamin C is vital for the development of newborn babies as it synthesizes collagen needed for the rapid growth of tendons, ligaments, bone, and blood vessels during infancy. Maternal diet rich in natural vitamin C sources during breastfeeding could also reduce the risk of atopy in infants according to a study.

List of genes tested: NBPF3

VITAMIN C RICH FRUITS



Green Capcicum
158mg / 100g



Guava
152mg / 100g



Kiwifruit
86.7mg / 100g



Broccoli
85mg / 100g



Orange
53.2mg / 100g



Strawberry
52mg / 100g

Recommendation

During Pregnancy:

1. Take balance diet to maintain healthy vitamin C level in your body.
2. You can find vitamin C in fresh fruits and vegetables.

During Breastfeeding:

1. Take balance diet to maintain healthy vitamin C level in your body.
2. You can find vitamin C in fresh fruits and vegetables.

Nutrition

Vitamin D Deficiency

Your Result:



Your results suggest that you have normal vitamin D metabolism. Vitamin D is important for strong bones and muscles. Follow standard recommended guidelines for vitamin D of 600 IU (15 ug)/day. You can achieve your daily requirement by exposing your skin to sunlight for 10-15 minutes. Consider taking vitamin D supplements if you find it difficult to get it from food and/or if you lack of exposure to sunlight.

Vitamin D remains a worldwide health issue that affects around 1 billion people globally even though 50-90% of vitamin D can be obtained through the skin via sunlight while the rest can be obtained through diet. Vitamin D deficiency can lead to serious problems, especially rickets in children and osteoporosis in adults owing to its importance in bone development and increasing magnesium, calcium and phosphate absorption. Vitamin D deficiency in newborn infants will have a higher risk in developing rickets since their body is immature enough to use the calcium from their own bones. But a low calcium level in blood or hypocalcaemia often result in seizures that are deteriorative to the infants' neurons. Besides that, it seems to have a link between vitamin D deficiency and cancer, cardiovascular disease, diabetes, autoimmune diseases, and depression based on several recent studies. According to Elina Hypponen, a scientist in University College London Institute of Child Health who is involved in this study, the presence of variants in the 3 genes that are involved in vitamin D transport, vitamin D metabolism and cholesterol synthesis will double the risk of vitamin D deficiency in an individual. As a rule of thumb, vitamin D deficiency is less than 20ng/ml, while vitamin D insufficiency ranges from 20-30 ng/ml as compared to its normal concentration which is more than 30ng/ml.

Since during pregnancy and lactation stage, vitamin D is required to be shared between mothers and the infants, therefore individuals with such variations should be precautious. Supply of vitamin D from breastmilk is indeed limited based on the observation of its level in solely breastfed babies during the 9 months of lactation according to a follow-up study. It only shows that the infants obtained below 20% of the daily dose recommended by the Institute of Medicine for infants during the first year of life. Therefore, to make sure sufficient delivery of vitamin D to the infant, lactating mothers should receive enough natural vitamin D via dietary intake together with sunlight exposure.

List of genes tested: NADSYN1, GC, CYP2R1, VDR, CYP2R1_1, NADSYN1_1, PDE3B, GC_1

TOP 5 FOODS HIGHEST IN VITAMIN D



Cod Liver Oil
10,000IU / 100g



Mushrooms
1,046IU / 100g



Salmon
679IU / 100g



Sardine
193IU / 100g



Fortified Cereals
164IU / 100g

Recommendation

During Pregnancy:

1. Take balance diet to maintain healthy vitamin D level in your body.
2. Vitamin D foods include fortified milk or juice, fish oils.

During Breastfeeding:

1. Take balance diet to maintain healthy vitamin D level in your body.
2. Vitamin D foods include fortified milk or juice, fish oils.

Vitamin E Deficiency

Your Result:









Your results suggest that you have higher vitamin E needs. Consider to increase vitamin E intake to over 15 mg/day for proper function of nerves and muscles. Ensure that you do not exceed the intake more than 1000 mg/day. Consume vitamin E-rich foods such as vegetable oils, whole-grain cereals and green leafy vegetables. If meeting dietary requirement from food source is difficult, try getting from vitamin E supplement with proper recommendation from your doctor, as overdose might pose health risks.

The regulation of vitamin E secretion from the liver cells by polymorphisms in an alpha-TTP gene can result in mild to severe deficiency of vitamin E in humans. Symptoms such as vision problems, weakness in muscles and compromised immunity are caused by inadequate dietary intake of vitamin E which further make the situation worse. Such symptoms complicate the way mothers have to take care of their infants. A lack of vitamin E will result in blindness, heart disease and permanent nerve damage if this condition is left not treated. Hence, mothers should meet the needed dosage amount of vitamin E (15mg/day during pregnancy and 19mg/day during lactation). Consistent and sufficient intake of vitamin E is crucial as it gives huge benefits to both the mothers and the infants. Complications linked to oxidative stress for instance low birth weight, preterm delivery, preeclampsia and pregnancy-associated hypertension can be prevented by vitamin E. In addition to that, the release of prostacyclin, a metabolite of arachidonic acid can be enhanced by vitamin E to increase vasodilation, blood flow and nutrient supply from the mother to the foetus.

Vitamin E also possesses immunomodulation function to enhance lymphocyte proliferation which comprises of white blood cells that connect the dots between innate and adaptive immunities. Accumulation of vitamin E is needed through breast milk after birth since babies are born with low tissue stores of this vitamin. Due to the absence of the third trimester of pregnancy in which vitamin E accumulation in the foetus takes place, preterm infants are most likely to experience vitamin E deficiency. This highlights the importance of breastmilk rich in vitamin E to preterm infants.

List of genes tested: ZPR1, CYP4F2, SCARB1

VITAMIN E FOOD TABLE (TOCOPHEROLS CLASS)

					
Soybean Oil 94.6mg / 100g	Sunflower Seeds 27.5mg / 100g	Almonds 26.6mg / 100g	Hazelnuts 15.28mg / 100g	Peanuts 12.2mg / 100g	Rice Bran 4.9mg / 100g

Recommendation

During Pregnancy:

1. You are predisposed to low levels of vitamin E. Ensure you receive 15 mg of vitamin E daily by eating plenty of fruits, vegetables and whole grains.
2. You should take vitamin E supplements after consulting doctor.

During Breastfeeding

1. You are predisposed to low levels of vitamin E. Ensure you receive 15mg of vitamin E daily by eating plenty of fruits, vegetables and whole grains.
2. You should take vitamin E supplements after consulting doctor.

Postpartum Wellness Depression

Your Result:



Your results suggest that you have normal postpartum depression risk.

A condition of major depression with onset within 4 weeks after childbirth is defined as postpartum depression. Nonetheless, most cases of postpartum depression can occur anytime within the first year after delivery as shown in common evidence. At least 1 in 10 postnatal women is affected by this highly prevalent psychopathology. The adverse impacts are far-reaching, it affects not only the mothers but disrupts bonding between mother and infant and also between family members. Furthermore, growth and development of the infant in cognitive, language and emotional processing are affected by the persistent symptoms shown.

Postpartum depression is not solely caused by environmental factors as shown in recent findings. The increase in risk of a mother in postpartum depression is reported to be caused by polymorphisms in the promoter of the serotonin transporter (5-HTTLPR), monoamineoxidase type A (MAOA) and catechol-O-methyltransferase (COMT) genes. These genes encode proteins that play important roles in the removal of monoamine neurotransmitters such as serotonin, dopamine and noradrenaline that regulates mood in the central nervous system. The growing tendency of depression development is a result of reduced activity in such proteins.

Both postpartum depression and major depression have symptoms that are alike, such as sleep and appetite disturbance, depressed mood, feelings of worthlessness, impaired concentration and suicidal ideation. However, postpartum depression is distinguishable from major depression by the extra symptoms like notable psychomotor agitation, lack of energy, exaggerated mood change, and preoccupation with infant well-being. Anxiety is also linked with postpartum depression. Prevention, care and support are therefore crucial to ensure emotional wellbeing of mothers owing to the severity of postpartum depression.

List of genes tested: COMT, COMT_1, NR3C2, MIR4761

Recommendation

During Pregnancy:

1. Connect with other mums through online community and share your own feelings.
2. Do something you enjoy. Whether it is listening to music, reading a book, or watching a favourite movie, take a bit of time each day to do something you enjoy.
3. Don't be afraid to ask for help from family and friends, whether it's just chatting or doing household chores.
4. Make a good preparation before delivery. Pre-plan to get helps and supports from your partner, mother, friends, helper or confinement nanny for baby-sitting, grocery shopping, household chores, cooking.

During Postpartum:

1. Make time for yourself. Do something for you, like getting out of the house, or taking a hot bath without interruption. If you can, have your partner, a family member, or babysitter watch the baby regularly and go visit a friend or run an errand.
2. Find a strong emotional support to share your post-delivery difficulties. They can be other mummies surround you or a mummy group in online community.

Postpartum Wellness

Obesity

Your Result:



Your results suggest that you have normal postpartum obesity risk. However, it is still important to consume a healthy balanced diet and be physically active. Consume a balanced healthy diet with fresh food and try to be physically active. Limit the intake of unhealthy foods such as fast food as they are usually high in refined sugar and fat. Have regular meals and snacks throughout the day and avoid skipping meals or eating late.

Nowadays, with over 60% of women above 20 years old are either obese or overweight, the issue of obesity is indeed one of the most common health concern. Obesity leads to a reduction in fertility, elevates maternal and foetal risks during childbearing and results in long term risks for instance coronary artery disease, ischemic stroke, type 2 diabetes mellitus, osteoarthritis, hypertension and even cancer.

As new adjustments to adapt the baby's care routine is required, women may develop obesity easily during the postpartum period. A majority of postnatal mothers relieve unpleasant emotions through eating as reported by a qualitative study. Yet, if such eating behaviour continues, mothers may develop postpartum obesity. As compared to other individuals, individuals with polymorphisms in genes that are involved in appetite and weight regulation are more susceptible to postpartum obesity. One of the few genes that is linked to postpartum obesity is the leptin gene, which is a type 1 cytokine released by adipocytes. When the body energy is high to reduce or inhibit eating behaviour, leptin hints at the brain hypothalamus. Obesity happens when there are alterations in its DNA sequence that leads to excessive eating behaviour. This condition is inherited in the autosomal recessive manner.

There is also a link in elevated risk of postpartum depression and breastfeeding difficulty with postpartum obesity. Increased depression and life stress during the first year of postpartum leads to postpartum weight retention as shown in studies. Hence, besides regular exercise, emotional support from family members is crucial in reducing postpartum weight and to prevent postpartum depression. In addition, due to the physical size of breast and lactogenesis delay, women who are obese have lower rates of breastfeeding initiation and reduced breastfeeding duration. Women who tend to develop postpartum obesity may require additional breastfeeding support to help in weight loss during the postpartum period as lactation uses up the energy of mothers.

List of genes tested: FTO, MC4R

Recommendation

During Pregnancy:

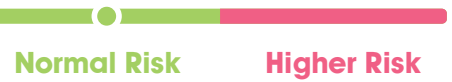
1. Focus on small, frequent meals that are high in lean proteins, fruits, and vegetables.
2. Moderate exercise help burn extra calories. Walking and swimming are generally safe, effective exercises for pregnant women.
3. Refer to a dietician for assistance.

During Postpartum:

1. Focus on small, frequent meals that are high in lean proteins, fruits, and vegetables.
2. Breastfeed if you can, it burns 500 calories daily.
3. Begin with simple exercises that strengthen major muscle groups, including your abdominal and back muscles. Gradually add exercises of moderate intensity according to your body recovery condition. Consult your doctor when you can start exercise.
4. Refer to a dietician for assistance.

Postpartum Wellness Scarring

Your Result:



Your results suggest that you have normal risk of postpartum scarring.

A surgical procedure used to deliver an infant through incisions in the abdomen and uterus is known as Cesarean delivery (C-section). C sections can include planned, unexpected or emergency surgery procedures. Certain C-sections are important for the health of both the mother and the baby.

After a cesarean delivery, a C-section scar forms part of the normal recovery process as it is the usual and unavoidable outcome of mammalian tissue repair. Scarring also forms part of the natural healing process. Every wound, for example after an accident, disease or surgery leads to some degree of scarring except the very minor lesions. But, skin scarring encompasses a range of clinical phenotypes from normal fine lines to unusual widespread, atrophic, hypertrophic, keloid scars and scar contractures. Protein MG53 involves wound healing promotion and scar formation reduction by facilitating cell membrane repair and myofibroblast differentiation control. It has been shown that this protein travels throughout the bloodstream and is responsible to assist the body to fix skin, heart, lungs, kidneys and other organs without causing scars.

List of genes tested: TP53

Recommendation

During Pregnancy:

1. Keep well-balanced diet to maintain your vitamin level to boost your health.

During Postpartum:

1. C-section scar will take about 6 weeks to recover. Sooner if your doctor says okay, you may gently massage on your scar with massage oil or moisturizing cream for 5-10 minutes each day. Silicone gel, vaseline, and Vitamin E cream are products known to reduce C- section scar. Consult your doctor before applying them.
2. Add protein-rich and vitamin-rich foods into your diet. Proteins are essential in aiding the growth of new tissues. Vitamins contain vital antioxidants which help speed up the repair process and the production of collagen.

Postpartum Wellness

Stretch Marks

Your Result:



Your results suggest that you have normal risk of getting stretch marks.

Common skin conditions that appear initially as red and after that white lines on the skin are known as stretch marks or striae distensae. Scars of the dermis are represented by these lines, which are characterised by linear bundles of collagens situated parallel to the skin surface and the eventual loss of both elastin and collagen. Excessive skin distension (such as that which occurs during pregnancy, growth spurts in puberty, or rapid weight gain), prolonged exposure to cortisol (such as in individuals with Cushing syndrome), and genetic factors are some of the causes of stretch marks.

Marfan syndrome and congenital contractural arachnodactyly are some of the monogenic connective tissue diseases known to be linked with stretch marks. These syndromes are caused by gene mutations that encode extracellular matrix proteins (fibrillin-1 and 2) that form part of the elastic microfibrils found in skin and other tissues. The risks of developing stretch marks are also closely linked with various genetic factors which include variants such as ELN, SRPX, HMCN1 and TMEM18 genes. Abdomen and breasts are 2 areas that are susceptible to developing stretch marks particularly during the pregnancy stage. The prevalence of stretch marks ranges from an estimated 43-88% in pregnant women. Even mild stretch marks can lead to stress to the bearer even though stretch marks only cause harms in extreme cases.

List of genes tested: ELN, SRPX, HMCN1, TMEM18

Recommendation

During Pregnancy:

1. Keep well-balanced diet to maintain your vitamin C, D and E level to boost skin health.
2. Control your weight in a healthy range to prevent stretch marks.
3. Drinking enough water may help keep your skin hydrated and soft. Soft skin doesn't tend to develop stretch marks as much as dry skin does.
4. Drinking caffeinated beverages, like coffee, may actually increase your risk of developing stretch marks. If you drink coffee, make sure you're balancing out your fluid intake with plenty of water, herbal tea, and other caffeine-free fluids.

During Postpartum:

1. If you notice stretch mark, apply stretch mark recovery cream or lotion to minimize its appearance.
2. Keep a healthy diet helps to keep your skin healthy, includes repairing stretch marks caused during pregnancy.

References

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