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ASPECTS OF HEALTH

The health of our body is dependent on the health of our digestive system. This in turn is dependent on the population of micro-organisms that exist in our intestines. This workshop is an introduction to the preparation of quick and easy fermented drinks which allow you to ingest beneficial probiotics on a regular basis thus helping you to maintain optimal health and wellbeing.

Introduction

90% of our lymphoid tissue exists in our intestine. That means our immune system is 90% dependant on the health of our gut. Our intestines are populated by a plethora of micro-organisms that aid in the digestion and assimilation of the food we eat, some organisms help to create nutrients that are essential to our health such as vitamin K2 and B12.

We often hear the terms “good bacteria” and “bad bacteria” in reference to the population of organisms that make up our micro-biome, there is an optimal balance between the two. When populations of beneficial organisms are killed off, pathogenic (the ones that cause disease and imbalance) are then able to proliferate. There are many things in our modern life that compromise this balance.

We are aware that the effects of medical drugs such as anti-biotics are detrimental to gut flora. The modern diet that consists of processed foods, all sorts of food additives, excess sugar and refined grains also alters the micro-biome of our body. Some species, such as the Lactobacillus group, do not form permanent colonies in our body but have to be ingested on a regular basis to maintain the optimal population.

Our digestive enzymes, although created in the body are also not eternal and our body greatly benefits by ingesting foods containing active enzymes to compliment our own. A deficiency in digestive enzymes results in food not being broken down properly, nutrients not being absorbed optimally and results in chronic disease.

We have seen the advertisements on TV about how many tubs of yoghurt need to be consumed in comparison to one of the probiotics pills advertised. So how can foods help maintain the ideal populations?

There are many, many foods that can be consumed to provide probiotics to our body on a regular basis. The main benefits of home fermented foods are not just that they are a ready source of beneficial micro-organisms but they also provide a ready source of digestive enzymes. While a supplement may help to boost the numbers of beneficial probiotics bacteria, the maintenance of this population needs to be maintained on a daily basis.

The Foods

Natural fermentation techniques have been used for millennia to preserve food. This allowed an abundant harvest to be stored for the off season, providing a more varied diet during less productive seasons. This includes the preserving of vegetables, fruits, meats and drinks.

Vegetables are commonly preserved by a technique called lacto-fermentation, using salt and/or whey along with the natural bacteria present on their surface to generate the fermentation process. Any vegetable may be preserved this way. The most commonly known vegetable to be preserved with natural fermentation is cabbage which then becomes known as sauerkraut.

Another common, naturally fermented food is sour dough bread. The leavening of flour with sour dough starter is a much slower method of making bread, the slow process allows the natural yeasts

to pre-digest the gluten and neutralize other anti-nutrients such as phytates, resulting in a finished product that is much more digestible by our body. This makes the grain used to make the bread less allergic in nature. The need for a gluten free diet has resulted from the unnatural processing of grains in the modern food processing industry, amongst other things.

While we are on allergic foods we will mention dairy as it is another innocent victim of the modern food industry. Raw milk contains many enzymes which allows us to digest the milk properly, one example is lactase which helps to digest lactose or milk sugar. One of the criteria to determine if milk has been pasteurized correctly is the *absence of any* enzymes in the finished product! Is it any wonder many people can't digest what was once thought of as a wonder food? We are able to re-inoculate milk with enzymes and beneficial bacteria by home fermentation techniques.

The Techniques

Lacto-fermentation

This was the first fermentation process I used when I began my journey into real food. It is an anaerobic process where a small amount of whey is introduced to kick start the fermentation process and air is excluded from the food to be preserved. It may also be done with just salt. This produces lactic acid which lowers the pH of the food preventing bad bacteria to grow and thus offering preservation.

This is the process used for vegetables and some simple drinks. It is a good place to start as the inoculant is simply made from draining yoghurt. This produces a clear pale yellow liquid called whey and a thick creamy soft cheese called curd, quark or labaneh. The whey is used to ferment your foods and drinks. The curd is a delicious spread or dip that may be flavoured any way you like, sweet or savoury

Kefir

This is a culture that contains small colonies of organisms (bacteria and yeasts) that grow and multiply in the medium used to feed them - milk or sugar water. They metabolize the sugars and fats and produce many beneficial micro-organisms. The yeasts in kefir kill harmful yeasts such as *Candida albicans*. Milk kefir produces the widest variety of beneficial organisms which in turn digest most of the lactose. One particular strain found in milk kefir is *Lactobacillus rhamnosus* which is of particular benefit in people on the ASD spectrum or who have IBS. Water kefir is popular with many people who stay away from dairy for one reason or another but does not contain the same numbers or variety of organisms as the milk variety.

Kombucha

This culture is called a scoby (symbiotic colony of bacteria and yeast) that floats on top of a solution of black tea and white sugar. The beneficial yeast and bacteria in kombucha compete with and inhibit pathogenic microbes such as *Candida*, *Staphylococcus*, *E. coli*, *salmonella*, *listeria* and *heliobacter pylori*. The bacteria strains include *lactobacilli* and *Saccharomyces* (including *Saccharomyces boulardii*) these help to kill *Candida* and pathogenic bacteria such as *clostridia*. In

addition to producing beneficial probiotics for our body, kombucha also produces an enzyme called glucuronic acid, this is especially beneficial in supporting the liver to detoxify.

How to

Fermented drinks are easy and quick to prepare and offer a convenient way to regularly ingest beneficial micro-organisms and enzymes to enhance your health and well being.

Lacto-fermented Drinks

This is the easiest method as it does not require maintenance of a culture. It also allows you to ferment citrus juice.

- ❖ 1 litre of juice (orange or orange/passionfruit juice), ¼ cup rapadura sugar, ½ cup whey, 1 litre of fresh clean water.

- ❖ If using lemon juice, use ½ litre of juice, ½ cup rapadura sugar, ½ cup whey and 1 ½ litres of water

Place in a large jar and screw lid on tightly. Leave on bench for 2 days then refrigerate for 7 days. It is then ready to drink or may be stored for up to two months.

Kombucha

Make a strong brew of black tea using about 4 teaspoons of black tea leaves and ½ cup of white sugar in approximately 1½ litres of freshly boiling water. Allow to cool completely to room temperature.

Strain the tea into a large glass container, this may be a large bowl or jar. Slide your scoby on top, it will float. Cover the container with a cloth to allow air to circulate but keep dust and insects out. If the bowl is broad, apply masking tape in a cross across the top to support your cloth and prevent it sagging into your solution.

The bowl is then left in a cool, dark place away from strong smells and allowed to ferment for 5 to 10 days. A plastic drinking straw may be used to test the flavour of your kombucha tea by placing one end under the scoby and having a taste. It is ready to bottle when the sweetness has gone but before it turns really sour or vinegary, the exact moment is a matter of personal taste.

To strain your kombucha tea, remove the scoby from the top using wooden spoons or your very clean hands. Place this on a clean plate. Strain the kombucha into a jug. Clean your bowl, add fresh tea and place your scoby back on top.

The strained kombucha tea should be fizzy. It may be drunk straight away like this or you may now add different flavours. The simplest method is to make a brew of your favourite herbal tea, allow it to cool completely then mix the two together adding just a teaspoon of sugar. Bottle and leave on the bench for another 24 hours and then refrigerate.

As you continue to brew your kombucha, you will notice that the scoby grows. It usually does so in layers. If the scoby is allowed to get too big, there are more organisms competing for the same amount of food. This may make your kombucha sour too quickly and become unpalatable. It is best to every now and then thin out the scoby. Remove some of the layers and either offer them to your friends so they may also make a brew or add it to your compost heap.

Many people make kombucha on all sorts of tea including green tea and herbal teas. This is fine but I recommend keeping one brew going on black tea to preserve the integrity of your scoby.

Milk Kefir

By far the easiest to make and the most beneficial cultured food is milk kefir. Simply add kefir grains to room temperature milk, cover with a cloth and leave to ferment for 12 to 24 hours. The kefir is then strained through a plastic sieve and the grains either stored in fresh milk (to cover the grains) in the fridge until next time, or placed directly into more fresh milk. A litre is a good quantity to make at a time but this may be more or less depending on the demand in your home. It is a good idea to culture your grains at least twice a week to keep them really healthy.

If going on holidays, place your grains in fresh milk and place them in the refrigerator while you are away. If the milk is very sour when you return, strain the grains and run them under clear water to rinse them before placing in fresh milk. If you are away for a very long time, the grains may be made dormant by placing them in clear water for up to a few months.

This produces a thin, drinking yoghurt style of cultured milk. It is excellent in smoothies, great for baking whenever sour milk or buttermilk, etc is asked for and may be used to soak flour to neutralize the phytates, etc.

Water Kefir

Make a solution of rapadura sugar and water and add your grains. Unlike the other drinks described, this one is best cultured with a lid screwed on. This helps to create the fizz. Brew for 24 to 48 hours. Strain the grains out using a plastic sieve and place them into a new solution of sugar and water.

Flavours may be added to the grains and sugar water solution but it is best to have some water kefir grains that are brewed on a simple sugar/water solution as your flavouring agent may taint the grains. I add the flavours after straining the grains out.

Water that has passed through a carbon filter adversely affects the grains. If this is the only water you have add a pinch of high quality natural sea salt and a piece of clean egg shell from boiled egg to add back minerals to the water.

Freshly extracted juices may be used to culture water kefir providing the juice is not too acidic. Contraindicated juices are grape juice due to the yeasts on the skins, citrus juices because of their acidity and possibly passionfruit juice again because of acidity. Coconut water may also be used.

Simple Ginger Beer

To the freshly strained water kefir brew (about 800mls), added some chopped fresh ginger, 1 or 2 teaspoons of fresh lemon or lime juice, some grated zest (optional), ¼ teaspoon of sugar and clean water to top up to 1 litre. Bottle and cap. Leave on bench for 24 hours to generate the fizz and then refrigerate. Open carefully!

You only add a very small amount of sugar for the second ferment as this sugar's only function is to generate carbonation. If you put too much you end up with explosive bottles and waste your effort. Sugar added at this time does not add sweetness to the finished product.

Bottles

It is important to choose good quality bottles that can withstand the pressure generated by the carbonation process. Grolsh bottles and similar amber bottles with flip lids, suitable for home brewing beer are the best. Flip top bottles sold in Overflow or Kmart, etc will not provide a seal and the glass is too weak to hold the pressure anyway. These can be sourced on-line or through home brew supply shops (or LETS!)

Bibliography

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About Your Presenter

Jayne has been studying and practicing various aspects of natural medicine since 1993. She has a strong belief in traditional, whole foods as the foundation for health and well being. She holds an Advanced Diploma in Nutritional Medicine and a Diploma in Homeopathy. Contact her for guidance on turning your health around and becoming all that you can be.

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Homeopathy, Nutritional Consultation,
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