

HEM News

web : www.iaemp.org ♦ e-mail : sunilsolar@yahoo.co.in ♦ Mobile : 077398 02112

A monthly newsletter on "Home Energy Management Programme" of IAEMP

Editorial

Exploring Inner energy



K. Jayalakshmi

You are committed to manage and conserve energy. You have been doing whatever you can with your own life and spreading the word. Some people accept what you say and make the change. Some carry on. Some days you feel good about your work, other days you feel depressed. You feel too tired to carry on.

Perhaps it is not all about your external environment that leads to this state of tiredness. All around us electrons are constantly bombarding each other and rising and dropping from higher energy states. This depends on the stimulation they receive. When you look at your energy levels, you are looking at the play between these electrons and stimulus. The stimulus here at a gross level is the food we take in. This is broken down and supplied to the cells that use the energy for the various functions. We often ignore this basic truth, of how the food we take impacts us. You are what you eat, or as Gandhiji said, you become what you eat. The cooked and unnatural foods we stuff ourselves pump up high stress levels and make us joyless beings. Many individuals and organizations have proved that food is at the root of most of our illnesses.

A diet rich in raw and fresh (if possible!) food is highly beneficial in keeping away most diseases and staying young. Raw food is termed as 'live' with its potential to energise you. With its enzymes intact, it takes a load off the digestive system, while its high water content carries out essential detoxification. Raw food also helps maintain the pH balance that has gone awry in most of our bodies. This maintains the right amount of oxygen in blood and gives the feeling of well-being and boundless energy.

How does one get hold of raw food that is fresh? A tough question! Perhaps you begin by hoping that what you get from your vendor is fresh. Next, you begin to check out how best you can grow your own food or at least have some control of its quality. Check out a farmers' cooperative nearby and become associated with it. Start growing vegetables on your terrace. It is not very difficult but requires commitment. There are many already on that track, seek their help.

Look at ways you can stay energetic and energy-independent. Only when the body is taken care of, can you spare your mind for the bigger tasks of energy independence for your community or nation.

Home Energy Audit - An Introduction

By : Ravindra M Datar*

"Here comes the great consultant. Welcome, please come on in." My uncle greeted me in his usual style. "How's the business?" He asked as we settled down in his nice cozy drawing room.

"Going on well; there is new thrust with our prime minister's commitment to cut down energy intensity by 20%."

"I do not understand all this. But for a layman like me, it is hard to believe that a person like you walks in my house, spent some time, gets information from me and tell me how to save energy and walks away with a fat fee. It's like looking at my watch and telling me what time it is." He said sarcastically. "I have been staying in this house; I know ins and outs of the things. How would a person like you can help in bringing down the energy consumption? It's absolutely impossible." He concluded. He has been one of my biggest critics since my younger days.

"Let us start from your home uncle." I said, deciding to take the bull by its horns. "You have been staying here for over ten years, aunty; Atul and Aditi follow your instructions. You pride yourself to be thrifty and energy conscious. So you must have done everything under your control to minimize the consumption. Let me see if I can demonstrate my skills to you, in your own turf."

"Surely kid! You can take that chance. I won't tell anyone if you fail." He said in a serious tone. "But don't expect any fees; you can have a free lunch though." He added in lighter vein.

"Oh! Don't worry I have my ways of getting back to you." I said.

"How much is your consumption? What is the total bill amount?" I got to the work in very professional manner.

"Well, I have to check the bills. I have not seen the bills for quite some time." He looked confused. "Sumitra, can you get us the electricity bills?" He requested his better half.

"Oh! We can surely save good amount. If you don't even know the consumption; you can hardly be energy efficient." I said taking a dig at his ignorance.

"Off course, we can save. He himself never switches of lights and fan, while leaving any room." aunty interjected, not leaving a chance to get even at my uncle. "Anyway, these are the bills for last five years, if you need them." Being a chartered accountant, aunty was very particular about all such things. "But you have to break for teak and breakfast within fifteen minutes." She added.

"May be at times I forget to switch off something, but don't make generalize statement. Your nephew will take full credit for all such improvements and suggest fancy gadgets like occupancy sensors." warned my uncle.

"Here are the bill details for the last one year; just have a look at the numbers." I brought back his attention to energy audit.

| Month | Consumption Units (kWh) | Amount Rs. |
|----------|-------------------------|------------|
| January | 975 | 6435 |
| February | 890 | 5890 |
| March | 1010 | 6900 |
| April | 1320 | 9150 |
| May | 1670 | 11715 |
| June | 1350 | 9365 |

| | | |
|-----------|-------|-------|
| July | 1275 | 8910 |
| August | 1190 | 8215 |
| September | 1210 | 8350 |
| October | 1375 | 9550 |
| November | 1050 | 7050 |
| December | 950 | 6270 |
| Total | 14265 | 97800 |

"Oh my God! You mean I spent almost a lakh of rupees on the electricity alone. It's ridiculous, I just can't believe this." He was really shocked, so are many of us who do not check their bills regularly.

"Well be ready for few more shocks. Here is the list of electrical gadget and their power consumption." Aunty was indeed a good accountant; here is what she gave us.

| Sl. | Description | Quantity No. | Rating Watt |
|--------------------------------|-------------------------|--------------|-------------|
| Drawing cum Dining Room | | | |
| 1 | Tube Light | 2 | 36 |
| 2 | Lamp Shed | 2 | 60 |
| 2 | Fans | 2 | 60 |
| 3 | Television set | 1 | 240 |
| 4 | Music system | 1 | 100 |
| 5 | Cordless Phone | 1 | 10 |
| Kitchen | | | |
| 1 | Tube Light | 1 | 36 |
| 2 | Mandir lamp - Zero Bulb | 1 | 0 |
| 3 | Fan | 1 | 60 |
| 4 | Mixer / Grinder | 1 | 750 |
| 5 | Microwave Oven | 1 | 800 |
| 6 | Refrigerator | 1 | 250 |
| Bed Room-1 | | | |
| 1 | Tube Light | 1 | 36 |
| 2 | Night lamp - Zero Bulb | 1 | 0 |
| 3 | Table lamp | 1 | 11 |
| 4 | Fan | 1 | 60 |
| 5 | Iron | 1 | 1000 |
| 6 | Laptop Computer | 1 | 100 |
| 7 | Air Conditioner | 1 | 1500 |

.....(To be continued in November,2010 issue of 'HEM News')



Mr Ravindra Datar

Ravindra Datar is B Tech from Indian Institute of Technology Mumbai with over 25 years on experience. He is a Director of LCG Energy Consultants Pvt Ltd. He has been carrying out energy audits for past 20 years and has conducted over 500 energy audits in different types of industries in India as well as many other countries.

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For any clarifications please contact
Mr K.D. Bairagi
Mobile no.: 09907270259
E-mail: iaemp@yahoo.com

Nutrients and their functions

Energy

Foods provide us with energy in the form of calories (Kcal). Calories effectively act as the fuel that powers our bodies and enables us to function, in the same way that petrol fuels a car. Some foods provide us with more energy than others, but by eating a wide variety of foods in the correct balance we can meet our requirements.

Foods that provide many nutrients relative to the amount of energy they contain are known as “nutrient rich” foods e.g. milk and dairy foods. Energy requirements vary depending on age, sex, size, metabolic rate and activity level. If we consume more energy/calories than we need, we deposit the excess energy in the form of fat or adipose tissue. Conversely if we use more energy than we consume we use up fat to provide us with more energy.

Carbohydrate

Carbohydrates can be divided into two broad categories: available carbohydrate and unavailable carbohydrate.

Available carbohydrate

Sugars and starch are categorised as available carbohydrate. Sugars are present naturally in fruit, vegetables and milk and are also added to many processed foods such as confectionery, cakes and biscuits. Starch is found in foods such as bread, cereals and potatoes. Both starch and sugars are digested in the body and converted to simple sugars (mainly glucose), which are then used by the body to provide energy.

Unavailable carbohydrate

Unavailable carbohydrate includes dietary fibre or NSP (non starch polysaccharide). The term “unavailable” is used because fibre can’t be digested and therefore doesn’t provide us with energy. However it is helpful in many other ways described below.

Dietary fibre can be divided into two categories: insoluble fibre and soluble fibre.

Insoluble fibre

Insoluble fibre (found in wholegrain cereals and grains, and some fruits and vegetables) adds bulk to the contents of the gut, speeding their transit and it is thought to help protect against constipation and other bowel disorders

Soluble fibre

Soluble fibre (found in pulses such as beans and lentils, fruit, vegetables and also oats, barley and rye) helps to reduce blood

cholesterol levels and to regulate blood sugar levels. Experts recommend that fibre intakes should be as high as 18g/day. Consumption of brown, wholegrain, wholemeal and high fibre varieties of carbohydrate will help to increase fibre intake.

Protein

Proteins are essential for growth and maintenance of body tissues and for the production of substances such as hormones and enzymes which help to control many functions within the body. If insufficient carbohydrate and fat are available in the diet, then protein may also be used to provide the body with energy. Proteins are made from building blocks known as amino acids. There are 20 different amino acids. Some amino acids can be made in the body and others can only be supplied by the diet -these are known as the essential amino acids.

Some foods are better providers of these amino acids than others. Those which contain all the essential amino acids are known as “high biological value” foods e.g. milk and dairy foods, meat, eggs etc. Those which contain fewer of the essential amino acids are known as “low biological value” foods e.g. cereals, beans, lentils and nuts. However if a wide variety of foods are consumed in the correct proportions the different protein sources can work together to provide the ideal levels of the different amino acids.

Fat

Fats are essential for many reasons:

- ◆ They are a provider of energy
- ◆ They are involved in forming cell membranes
- ◆ They are a vehicle for the provision of fat soluble vitamins such as Vitamins A, E, D and K
- ◆ They are involved in making hormones
- ◆ They provide insulation; keeping us warm.
- ◆ They provide us with a shock absorbing, protective layer

Fats are made from building blocks called fatty acids. There are three types of fatty acids - saturated, monounsaturated and polyunsaturated fatty acids. The fat in food contains a mixture of all three fatty acids, in different proportions in different foods.

Saturated fats

Foods that contain the higher proportion of saturated fatty acids include fats and oils

(e.g. butter, hard margarine, some blended cooking oils), meat and its products (e.g. pies, lard, suet), whole milk and its products, coconut and palm oil.

Monounsaturated fats

Olives, olive oil and rapeseed oil are the best providers of monounsaturated fatty acids.

Polyunsaturated fats

Fats and oils containing large amounts of polyunsaturated fatty acids are derived mainly from seeds and nuts and include pure sunflower, safflower, sesame, soya, corn oils, and sunflower and soya margarine.

Two polyunsaturated fatty acids, linoleic and alpha-linolenic acids cannot be made in the body and must be provided in the diet. These are called *essential fatty acids*. These essential fatty acids are known as the “parent” fatty acids of 2 families of unsaturated fatty acids. The parent fatty acids undergo various different chemical reactions to produce the different fatty acids within each family, which have numerous different and important functions within the body.

Linoleic acid is the parent fatty acid of the n-6 family of fatty acids and alpha-linolenic acid is the parent fatty acid of the n-3 family of fatty acids.

Vegetable oils, eggs and poultry are good providers of n-6 fatty acids which are important for the formation of membranes in the body. Unrefined fish oils and oily fish such as salmon, mackerel and sardines are good providers of n-3 or Omega 3 fatty acids which are important for the correct formation of nerves and have been linked to numerous health benefits such as reduced risk of cardiovascular disease and improved brain function.

Experts advise that too much fat, in particular saturated fatty acids, may lead to raised levels of blood cholesterol in some people which, in turn, is a risk factor for coronary heart disease. As a result, government guidelines recommend that fat should provide no more than 35% of daily food energy, with saturates providing no more than 11%, polyunsaturates contributing no more than 6.5% and trans fatty acids no more than 2% of the daily food energy intake. NB: These recommendations for fat intake do not apply to children under five years of age.

Trans fats

Trans fats are formed when the structure of monounsaturated and polyunsaturated

fats are altered during a process called hydrogenation. They are often found in processed foods such as biscuits, cakes and margarines. Trans fatty acids found in industrially produced products have been shown to have a negative effect on risk factors for CVD. In the UK efforts have been made to reduce or remove trans fatty acids from margarines and spreads through the use of new techniques and many now have minimal amounts of trans fatty acids.

Trans fatty acids also occur naturally in small amounts in milk and milk products and have been created in the stomach of ruminant animals (such as cows and sheep).

Vitamins, minerals and trace elements

Vitamins, minerals and trace elements are required for numerous functions within the body and deficiencies can lead to serious health problems. They are required in much smaller amounts than fats, carbohydrates and proteins and are therefore known as micronutrients. There are two types of vitamins, water-soluble and fat soluble.

Water-soluble vitamins

Water soluble vitamins travel around the body in the bloodstream and are picked up by cells when they are needed. Water-soluble vitamins that are not required by the body are excreted in the urine.

Fat soluble vitamins

Fat soluble vitamins are stored in body fat (for a few days or as long as 6 months) until the body needs them.

Water soluble vitamins:

- ◆ Vitamin B₁ (thiamin)
- ◆ Vitamin B₂ (riboflavin)
- ◆ Vitamin B₆
- ◆ Vitamin B₁₂
- ◆ Folate
- ◆ Niacin
- ◆ Biotin
- ◆ Pantothenic acid
- ◆ Vitamin C

Fat soluble vitamins:

- ◆ Vitamin A
- ◆ Vitamin D
- ◆ Vitamin E
- ◆ Vitamin K

Minerals and trace elements

Minerals and trace elements are similar to vitamins and are required in very small or

Energy Values and Kcal per Rupee of common ready to eat / drink items

(Compiled from the information printed on the wrapper/ packaging by Sulin Shood)

| Sl. No. | Energy (Kcal) | Fat (g) | Carbohydrates(g) | Protein(g) | Cost (Rs. per 100g) | Energy (Kcal) per Rupee |
|--|---------------|---------|--------------------------|------------|---------------------|-------------------------|
| Haldiram 'Panchrattan'(per 100 g) | | | | | | |
| 1. | 548 | 36 | 44 | 12 | 29 | 19 |
| Britannia Milk Bikis i.e. Biscuits (per 100 g) | | | | | | |
| 2. | 447 | 13.5 | 74 | 7.5 | 7 | 64 |
| Haldiram's Khatta Meetha(per 100g) | | | | | | |
| 3. | 560 | 40 | 40 | 10 | 16.5 | 34 |
| Chaudhary's Wai Wai 1-2-3 Noodles(per 75g) | | | | | | |
| 4. | 375 | 16.6 | 48.3 | 8 | 13 | 29 |
| Smith & Jones Masala Noodles(per100g) | | | | | | |
| 5. | 417 | 16.9 | 60.1 | 6.9 | 10 | 41 |
| Haldiram's Samosa(per100g) | | | | | | |
| 6. | 513 | 33.3 | 46.7 | 6.7 | 16.5 | 31 |
| Haldiram's Aloo Bhujia(per100g) | | | | | | |
| 7. | 630 | 50 | 40 | 5 | 17.5 | 36 |
| Nuttly Roll Ice Cream(per100g) | | | | | | |
| 8. | 309 | 22.45 | 23.64 | 2.68 | 40.00 | 8 |
| Haldiram's Thandai(per100g) | | | | | | |
| 9. | 332 | 8.4 | 60.51 | 3.6 | 28 | 12 |
| Britannia Bourbon Biscuits(per100g) | | | | | | |
| 10. | 470 | 19 | 69 | 5.8 | 13 | 36 |
| Haldiram's Moong Dal(per100g) | | | | | | |
| 11. | 424 | 21.4 | 30.68 | 25 | 19.5 | 22 |
| Britannia Treat Cream Biscuits(per100g) | | | | | | |
| 12. | 459 | 18.5 | 67.5 | 5.5 | 12.5 | 37 |
| Patanjali Amla Murabba(per100g) | | | | | | |
| 13. | 286.5 | 0.1 | 70.47 + Crude Fiber-2.02 | 0.92 | 10 | 29 |
| Fanta(Cold drink per100ml) | | | | | | |
| 14. | 52 | 0 | 26 | 0 | 4 | 13 |
| Thums Up (Cold drink per100ml) | | | | | | |
| 15. | 40 | 0 | 20 | 0 | 4 | 10 |
| Sprite(Cold drink per100ml) | | | | | | |
| 16. | 48 | 0 | 12 | 0 | 4 | 12 |
| Kit Kat Wafers with Choco layer | | | | | | |
| 17. | 470 | 23.5 | 98.40 | 6.3 | 35 | 30 |
| Amul Butter (per 100g) | | | | | | |
| 18. | 722 | 80 | 0 | 0.5 | 25 | 29 |



trace amounts to maintain good health. Minerals tend to be required in milligram (mg) quantities and trace elements tend to be required in much smaller amounts - microgram (µg) quantities.

Some are found only in a few foods, so it is important that these foods are included in the diet on a regular basis e.g. the main providers of calcium in the diet are milk, cheese and yogurt. Some foods are also fortified with minerals, for example, iron is added to some breakfast cereals.

Minerals:

- ◆ Calcium
- ◆ Fluoride
- ◆ Magnesium
- ◆ Potassium
- ◆ Zinc
- ◆ Chloride
- ◆ Iron
- ◆ Phosphorus
- ◆ Sodium

Trace elements:

- ◆ Copper
- ◆ Iodine
- ◆ Molybdenum
- ◆ Chromium
- ◆ Manganese
- ◆ Selenium

Consumption of a balanced and varied diet should ensure adequate levels of all vitamins, minerals and trace elements are received. It is always better to receive the recommended levels of vitamins, minerals and trace elements through consumption of food sources rather than artificial supplements. However supplements are sometimes useful, particularly if you have an increased requirement for one or several nutrients e.g. pregnant women, infants, older people who don't go out of doors or ethnic groups who wear coverall clothing etc. It is always a good idea to seek advice from a dietitian if you feel that supplements are necessary.

◆ Vitamin C - for formation of healthy connective tissues.

1 glass of milk alone can make a contribution to the daily recommended intake of many important nutrients for all age groups.

Contribution of 1 glass of milk to daily nutrient requirements

| Nutrient | Amount present in a glass (200ml) semi skimmed milk | Contribution to recommended daily amount for females 11-18 years (%) | Contribution to recommended daily amount for males 11-18 years (%) |
|------------------------------|---|--|--|
| Protein (g) | 7.2 | 13 | 16 |
| Calcium (mg) | 247 | 25 | 31 |
| Phosphorus (mg) | 194 | 25 | 31 |
| Magnesium (mg) | 23 | 8 | 8 |
| Sodium (mg) | 89 | 6 | 6 |
| Potassium (mg) | 321 | 9 | 9 |
| Chloride (mg) | 179 | 7 | 7 |
| Iron (mg) | 0.04 | 0.4 | 0.3 |
| Zinc (mg) | 0.8 | 8 | 11 |
| Copper (mg) | Trace | - | - |
| Selenium (µg) | 2 | 3 | 3 |
| Iodine (µg) | 62 | 44 | 44 |
| Vitamin A (µg) | 39 | 6 | 7 |
| Thiamin (mg) | 0 | 0 | 0 |
| Riboflavin (mg) | 0.5 | 38 | 45 |
| Niacin (mg) | 0.2 | 1 | 1.4 |
| Vitamin B ₆ (mg) | 0.12 | 8 | 10 |
| Vitamin B ₁₂ (µg) | 1.9 | 127 | 127 |
| Folate (µg) | 19 | 10 | 10 |
| Vitamin C (mg) | 4 | 10 | 10 |
| Vitamin D (µg) | Trace | - | - |

It is highly recommended to consume milk and dairy foods as part of a healthy balanced diet.

A portion of dairy may be a 200ml glass of milk, 150g or a pot of yogurt and 30g or a matchbox sized piece of hard cheese. Portions sizes will vary for different age groups. The following table gives the portion sizes to meet the daily recommended calcium requirements for different age groups.

Bone Health

Dairy products provide calcium, which is essential for bone growth and development. Bone growth is at its highest during childhood and the teenage years and therefore it is important that teenagers consume dairy products. Optimising bone mass in this age group can help to reduce the risk of osteoporosis (a debilitating, brittle bone disorder) in later life.

Teeth

Dairy products contain calcium and other tooth friendly nutrients, which help teeth grow and keep them healthy.

Obesity

Contrary to popular belief, research has shown that people who consume milk and dairy foods are likely to be slimmer than those who do not. Milk is also not a high fat product. Whole milk contains 4% fat, semi-skimmed milk contains 1.7% fat, 1% fat milk contains 1% fat and skimmed milk contains 0.3% fat. Studies have also found that consuming milk and dairy as part of a calorie controlled diet can help us to lose weight - especially from the abdomen, where fat deposits are associated with the greatest health risks.

Blood Pressure

Dairy helps reduce blood pressure. A diet containing fruit and vegetables, low-fat dairy products and low salt helps reduce blood pressure (Dietary Approaches to Stop Hypertension: DASH diet). The potassium, magnesium and calcium found in dairy products are all linked to healthy blood pressure.

The principles of a healthy balanced diet explained

| Food group | Examples | Quantity | Main nutrients provided | Top tips |
|---|---|---|---|---|
| Bread, other cereals and potatoes | Bread, pasta, rice, breakfast cereals, potatoes, yams, plantain, cous cous etc | These should be the main part of every meal (one third of meal) | Carbohydrate B vitamins Calcium Iron Dietary fibre | Try to eat brown, wholegrain or wholemeal varieties to increase fibre intake |
| Fruit and vegetables (fresh, frozen and canned) | Oranges, apples, bananas, carrots, peas, tomatoes, kiwi, pineapple, cabbage, broccoli, grapes, lemons, aubergine, courgette etc | These should be a main part of every meal and at least five servings should be consumed a day | Vitamin C Carotenes Folate Carbohydrate Fibre | Try to have different fruits and vegetables each day to provide a range of beneficial nutrients |
| Milk and dairy foods | Milk, cheese, yogurt and fromage frais | Three servings a day | Calcium Phosphorous Magnesium Vitamin B ₁₂ Protein Iron | Chose lower fat varieties if you are watching your wasteline! |
| Meat, fish and alternatives | Beef, lamb, pork, chicken, beans, lentils, eggs and fish | One or two servings a day | Protein B vitamins Zinc Magnesium Essential fats | Try to trim the fat from meats before cooking to reduce fat intake |
| Foods and drinks containing fat and/or sugar | Crisps, fizzy drinks, sweets, butter, margarine, cakes and biscuits | Should be consumed only in moderation | Fats Sugars Salt | Try not to drink sugary drinks between meals in order to protect teeth |

Portion sizes and contribution to calcium intake

| Age/Sex | RNI* for calcium (mg/d) | Dairy portion sizes |
|--------------------|---|--|
| 0-12months | 525 | No cows' milk as a drink for babies under 12 months. Breastfeeding is best, followed by cows' milk formula. Soya-based formula should be used only under medical advice. Cheese and yogurt can be given from 6 months. 100ml whole/semi-skimmed milk**, 80g yogurt, 15g cheese. These portion sizes provide approximately 360mg calcium. |
| 1-3years | 350 | 130ml semi-skimmed milk, 100g yogurt, 20g cheese. These portion sizes provide approximately 465mg of calcium. |
| 4-6years | 450 | 150ml semi-skimmed milk, 125g yogurt, 25g cheese. These portion sizes provide approximately 570mg of calcium. |
| 7-10years | 550 | 250ml semi-skimmed milk, 200g pot of yogurt, 45g of low fat cheese. These portion sizes provide approximately 1002mg of calcium. |
| 11-18years, male | 1000 | 200ml semi-skimmed milk, 200g pot of yogurt, 30g of low fat cheese (small matchbox size). These portion sizes provide approximately 842mg of calcium. |
| 11-18years, female | 800 | 200ml semi-skimmed milk, 150g pot of low-fat yogurt, 30g of cheese (small matchbox size). These portion sizes provide approximately 710mg of calcium. |
| 19-50 years | 700 | 200ml semi-skimmed milk, 150g pot of low-fat yogurt, 30g of cheese (small matchbox size). These portion sizes provide approximately 710mg of calcium. |
| 50+ years | 700 | 200ml semi-skimmed milk, 150g pot of low-fat yogurt, 30g of cheese (small matchbox size). These portion sizes provide approximately 710mg of calcium. |
| Pregnancy | 700 | 200ml semi-skimmed milk, 150g pot of low-fat yogurt, 30g of cheese (small matchbox size). These portion sizes provide approximately 710mg of calcium. |
| Lactation | RNI for age group plus another 550mg increment i.e. if lactating teenager then 800+550mg/d, if lactating adult then 700+550mg/d | To achieve the RNI for calcium during lactation, teenage or adult mums will need to consume more than 3-A-Day. |

* RNI – reference nutrient intake. The amount estimated to be sufficient for 97% of a specified population group.

** Semi-skimmed milk may be introduced to children from the age of two if they are good eaters otherwise whole milk may continue to be given.

Consumption of dairy has been associated with numerous health benefits including the following.

A healthy balanced diet should aim to include a wide range of different foods from the four main food groups (bread, other cereals and potatoes, fruits and vegetables, milk and dairy foods, meat, fish and alternatives). The nutrients provided by these foods have specific functions in the body and are outlined below. Foods and drinks in the 'foods and drinks containing fat and/or sugar' food group add interest and enjoyment to our diet but should be eaten sparingly.

The importance of milk and dairy products as part of a healthy balanced diet

Milk and dairy products contain many nutrients and provide a quick and easy way of supplying these nutrients to the diet within relatively few calories. Milk, cheese and yogurt all provide the following beneficial nutrients in varying quantities.

- ◆ Calcium - for healthy bones and teeth
- ◆ Phosphorous - for energy release
- ◆ Magnesium - for muscle function
- ◆ Protein - for growth and repair
- ◆ Vitamin B12 - for production of healthy cells
- ◆ Vitamin A - for good eyesight and immune function
- ◆ Zinc - for immune function
- ◆ Riboflavin - for healthy skin
- ◆ Folate - for production of healthy cells
- ◆ Iodine - for regulation of the body's rate of metabolism (how quickly the body burns energy and the rate of growth).

| Calorie Count Chart | | | | | |
|-------------------------|----------------|-----------------|--------------------------------------|-----------|-----------------|
| Food Categories | Measure | Calories (Kcal) | Food Categories | Measure | Calories (Kcal) |
| FRUITS | | | CEREAL | | |
| Apple | 1 Small | 50-60 | Cornflakes | 1 Cup | 95 |
| Banana | 1 Medium | 110-20 | Jowar | 1 Small | 106 |
| Grapes | 20 Small | 50-60 | Wheat Bread | 1 Slice | 75 |
| Mango | 1 Small | 50-60 | Wheat Chappati | 1 Thn | 40 |
| Orange | 1 Small | 50-60 | Wheat arantha | 1 | 256 |
| STARCHY VEGETABLE | | | MEET/EGG/FSH | | |
| Potato | 1 Medium | 80 | Mutton | 50gms | 150 |
| Dals | 1 Large Katori | 80 | Egg(Hen) | 50gms | 100 |
| Mixed Vegetable | 120gms | 80 | Fish | 50 gms | 55 |
| | | | Fish(Fried) | 85gms | 140 |
| MILK&MLK PRODUCTS | | | BIRYANI/CURY | | |
| Cheese, Cheddar | 1piece | 111 | Biryani(Mutton) | 1 Cup | 225 |
| Cheese, Cottage | 1 Tblspn | 28 | Biryani(veg.) | 1 Cup | 200 |
| Cream light | 2 Tblspn | 56 | Curry(Chicken) | 100gms | 225 |
| Curds, Buffalo Milk | 1 Cup | 182 | Curry(veg.) | 100gms | 130 |
| Milk, Buffalo's | 1 Cup | 206 | Pullav(veg.) | 100gms | 130 |
| Milk, Buffalo's Skimmed | 1 Cup | 78 | SWEET DISH | | |
| Milk, cow's | 1 Cup | 160 | Carrot(Gajar) | 50gms | 300 |
| Mlk, Cow's Skimmed | 1 Cup | 70 | Halwa | | |
| Milk, Condensed | 1 Tblspn | 62 | Jalebi | 50gms | 250 |
| Milk, Goat's | 1 cup | 150 | Kheer | 100gms | 180 |
| Butter | 1 Tblspn | 50 | Rasgulla | 150gms | 150 |
| Ghee | 1 Tblspn | 50 | Ice Cream(Vanilla) | 1 Helping | 200 |
| COOKED FOOD | | | BEVERAGES | | |
| Biscuit(sweet) | 15gms | 70 | Beer | 350ml | 150 |
| Cake(Plain) | 50gms | 135 | Coffee(cow's Milk Sugar 2(Teaspoon)) | 1 Cup | 60 |
| Cake(Chocolate) | 50gms | 225 | Cola | 300ml | 135 |
| Dosa(Plain) | 1 Medium | 120 | Lemonade | 1 Glass | 75 |
| Dosa(Masala) | 1 Medium | 250 | Tea(Cow's Milk sugar 2 Teaspoon) | 1 Cup | 60 |
| Pakorras | 50gms | 175 | Wine | 100ml | 85 |
| Puri | 1 Large | 85 | | | |
| Samosa | 1 Piece | 140 | | | |
| Vada(Medu) | 1 Small | 70 | | | |

Cancer

Studies have discovered that diets containing milk and dairy products may significantly reduce the risk of certain cancers. A study in 40,000 Norwegian women discovered that those who drank milk as children and continued to do so throughout adulthood has a significantly lower chance of developing breast cancer.

Cardiovascular disease

Consumption of milk and dairy has also been associated with a reduced risk of suffering a heart attack.

Type 2 diabetes

Consumption of low fat dairy products has been linked to a reduced risk of developing type 2 diabetes. In fact studies have found that each extra portion of low fat dairy consumed each day is associated with increasingly lower risk!

Hydration

Regular fluid intake throughout the day is essential to be well hydrated. Dietetic experts recommend drinking 6-8 glasses of fluid per day. As milk contains a high percentage of water, it is a useful vehicle for rehydration.

Eating habits

People who consume dairy products have better intake of nutrients than people who do not consume dairy products.

Need Consultant/Suppliers for Calibration Set up and Transformer testing

We are planning for the NABL accredited electrical equipment calibration setup in HUBLI. we propose to take up measuring equipment calibration and also transformer testing (online) and oil analysis too. If you have the experience please let us know, how you will be able to assist/ guide us in setting up one. Equipment suppliers with reliable service back-up are also requested to contact:
Please reply to:

MALLIKARJUNA. KAMBALYAL

SUNSHUBH RENEWABLES & RESEARCH CENTRE.
31, PAGADI STREET, HUBLI - 580020
KARNATAKA. INDIA.

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mobile

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For participation in both the activities please contact:

Dinesh Lamba

ED (Business Promotion)

e-mail: lcgenenergy@yahoo.in

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