- **How fats are digested and broken down in the body**

When fats and oils are eaten, it is broken into tiny droplets in the mouth. When it is swallowed and passes through the other parts of the digestive system, they are broken into fatty acids. However, because oil and water don't mix, it is difficult for these fatty acids to pass through the watery membranes of the small intestine and get absorbed into the blood. They must combine with cholesterol produced by the liver, phospholipids and proteins to form lipoproteins. These lipoproteins will bind with proteins and are carried through the small intestines into the blood stream. These lipoproteins are also responsible for carrying fatty acids and cholesterol in the blood to other parts of the body where they are needed.

Depending on the amount of cholesterol and proteins There are two main types of lipoproteins. These are:

- **Chylomicrons** which contain high amounts of fat and they are the carriers of the fats and cholesterol between the intestines, muscles, liver and fat cells.
- **Very low-density lipoproteins (VLDL)** which also contain a high amount of fats and are usually changed to low density lipoproteins (LDL).
- **Low density lipoproteins (LDL)** which have more amount of fats and cholesterol compared to proteins. They carry cholesterol and fatty acids from the liver to the tissues. This is the reason why they are associated with
- **High density lipoproteins (HDL)** which have low amount of fats and cholesterol and high amounts of proteins. They carry cholesterol from the tissues to the liver so they keep the amount of fats and oils in the bloodstream low.

Chylomicrons, very low density lipoproteins and low density lipoproteins are strongly linked to diseases of the heart and blood vessels. This is because when they deliver the fatty acids to these organs, the cholesterol remains as the residue or waste. It forms a waxy substance called plaque that lines and blocks the blood vessels. They prevent the blood vessels from opening very well and cause damages in the long run.

High density lipoproteins on the other hand are associated with good health for the heart and blood vessels because they carry cholesterol and fatty acids away from the organs to the liver. So they help in getting rid of high amounts of fatty acids and cholesterol from the blood. This prevents clogging of the blood vessels and fat accumulation in tissues.