

## Editorial

**Mothers, Babies, and Killer Diseases**

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**“A mother is a mother still,  
The holiest thing alive.....”**

*Coleridge*

Thanks to a dedicated community nurse midwife in Hertfordshire County in England, Ethel Margaret Burnside, who despite all the drawbacks tried her best to reduce the infant mortality in the early part of the last century, before the First World War. She was known as the bicycle nurse as she did not have a car to go about. The meticulous records of every birth there, recorded in indelible ink in her best handwriting, gave new insight into the possible triggering factors of major killers like heart attacks, vessel blocks, high blood pressure, and diabetes etc. Of course, you would wonder as to what is the connection between the two! Another equally tenacious researcher, Professor David Barker of the Southampton University, who was born in that County, chanced upon those records when he went in search of his sister's birth details. The records are the property of the archives now. They are not to be disclosed for another fifty years. Because of his sister's birth, David could access the records.

He tried to get all the medical records of those babies, now in their 80s and 90s if alive, and also the death details of those who had already gone to meet their maker. Luckily, all this was possible in that country. Having obtained the details David then went on comparing their medical details with their birth details not knowing that he would stumble upon one of the rare discoveries. Those babies that were born underweight were the ones that had premature heart attacks, diabetes and vascular diseases as also other medical problems in later life.

David went into greater details of these smaller than normal babies only to discover that they were born with very large placentae. He was able to fish out the details of the mother's pregnancy of these babies as well, thanks to the efforts of Ethel mentioned above. Almost all the mothers of the

babies that were born small with very large placentae came from either a very poor background where they did not have proper nutrition during the first trimester of pregnancy when all the foetal organs get formed inside the womb or had a rare disease called hyperemesis gravidarum - pregnancy vomiting, resulting in the mothers not taking sufficient nutritious food. May be nature, in its wisdom, tried to keep these babies alive inside the womb of a poorly fed mother by increasing the size of the placenta two to three fold to see that the baby gets much more blood to somehow keep it going.

David Barker put the pieces of the jigsaw puzzle together and came up with his hypothesis that underweight babies whose mothers were undernourished during pregnancy, especially the first trimester, did not have properly built organs like the heart, blood vessels and the pancreas which, in later life, especially if the hapless offsprings put themselves in the food-plenty environment, could result in premature vascular damage, heart diseases, as also diabetes.

Although the hypothesis was attractive, vested interests would not accept it without proof. David was lucky twice. He found out that a veterinary researcher in New Zealand was studying the same problem in ewes prospectively and had come up with the data that if the mother is deliberately kept undernourished during the time of the formation of foetal organs, the fetus would either die in utero or the surviving fetus is kept alive by nature through extra supply of blood to the growing fetus through a larger than normal placenta. This was the much-needed support that David obtained for his serendipitous discovery of the Hertfordshire county retrospective data. David has helped a similar study in India at the Holdsworth Memorial Hospital, Mysore, where similar records are available. This hospital was founded in the name of a Hertfordshire county nurse whose husband kept the memory of his late wife alive in a city where his wife worked as a missionary nurse.

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This has a great lesson for the developing countries like India where majority of women, especially from the socially deprived classes, would have poor nutrition during pregnancy. Rich ones also might not eat well due to pregnancy vomiting or due to the new fad of thin figure as a beauty symbol. This could be one of the important contributing factors for premature diabetes, heart attacks and high blood pressure in young Indians these days. The truth is more obvious in those individuals who migrate to the western countries or to the Gulf for earning their bread. They inadvertently put themselves into a food-plenty atmosphere there. This kind of food-gene mismatch results in their becoming diabetics early in life. Deformed small blood vessels also lead to premature clogging and raise the pressure early on in life. The additional stress of present day living adds to the burden to result in premature death and disability due to heart attacks. The conventional much touted risk factors have very little to do with this newer disease profile as is very clearly shown by many studies in the west of Asian Immigrants there.

The moral of the story is that pregnant mothers need very good nutritious food all through pregnancy, but more so in the first three months of pregnancy. Our knowledge of pregnancy and childbirth has advanced so much more to the point that we now know that the pre-natal consciousness is influenced by the environment in which the pregnant woman lives. A tranquil home, good relations and good work environment could bring forth a bright child. The child starts to learn right from day one inside the mother's womb. That would be for another article at a later date. Suffice it to say that our lives depend very much on our pre-natal life in our mother's womb. Future mothers must have this knowledge lest they should take their pregnancy nutrition very lightly. We could look forward to a world of good humans if our pregnant mothers are well cared for.

**“One of the essential qualities of the clinician is interest in humanity, for the secret of the care of the patient is in caring for the patient.”**

*Francis Weld Peabody 1881-1927*