

**A comparative study of diet and nutritional  
status of pregnant mothers in Kelaniya  
MOH area**

**By**

**Nandani Darshika Kodithuwakku**

**M.Sc.**

**2008**

**The Thesis is submitted in Partial fulfilment of the M.Sc.  
degree in food science and technology at University of Sri  
Jayawardenepura in Gangodawila, Nugegoda on 2008.**

## **DECLARATION**

The work described in this thesis was carried out by me at the university of Sri Jayawardanapura under the supervision of Dr. K.K.D.S. Ranaweera, Dr. Dayani Siriwardana and Mr. M.A.J. Wansapala. Report on this thesis has not been submitted in whole or in part to any university or any other institution for another Degree / Diploma.



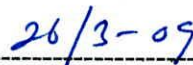
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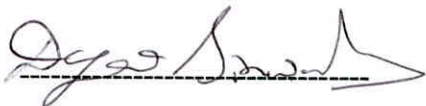
**Supervision :-** Dr. K.K.D.S. Ranaweera,

Head.,

Department of food science and Technology,

University of Sri Jayawardanapura,

Sri Lanka



Signature



Date

Dr. S.A.D. Siriwardana,

Head,

Department of Prasuthi thanthra Kaumarabhrithya,

Institute of Indigenous Medicine,

University of Colombo.



Signature



Date

Mr. M.A.J. Wansapala,

Department of food science and Technology,

University of Sri Jayawardanapura,

Sri Lanka

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## **ACKNOWLEDGEMENT**

I wish to express my sincere gratitude to Dr. K.K.D.S. Ranweera, University of Sri Jayawardanapura, Dr. S.A.D. Siriwardana, Institute of Indigenous Medicine, University of Colombo, Mr. M.A.J. Wansapala, University of Sri Jayawardanapura for there valuable guidance given to me for doing this piece of work.

I would also like to acknowledge the devotion of Mrs. Deepika at Open University of Sri Lanka.

I should acknowledge my obligations to the MOH of Kelaniya area and the all staff members who help to me in many ways.

I'm sincerely grateful to my family members who devoted themselves for me always in this regard.

## ABSTRACT

The Gestational period is the most important period in woman's life. If there is any deficiency of nutrients, the pregnant mother and the foetus show the features of deficiency, consequently the mother may have lots of complications which can result in developing an unhealthy infant. Nutritional levels could be measured using direct measurement such as weight, body height, previous weight and the present weight. The haemoglobin contents and the sugar availability in the urine can be other measurements.

It was revealed that pregnant mothers who were registered in Kelaniya MOH area had poor nutritional status. Therefore objective of the survey was to find out the relationship between diet and the nutritional status, and the diet related diseases of pregnant mothers in the Kelaniya MOH area. In order to collect the data, a questionnaire was propound and distributed to among 60 pregnant mothers and collect the dietary intake data for 7 consecutive days and measure the weight, weight gain, haemoglobin levels and collected the data through clinical examination.

The simple random sampling method was used to select the midwifery areas and then 2<sup>nd</sup> pregnant mother who were in 2<sup>nd</sup> trimester were randomly selected.

Results were analysed using statistical analysis such as, descriptive analysis regression method, two sample t-test method and also scatter plots and histograms. The analysis revealed that haemoglobin level is significantly correlated with iron intake, and also weight gain is significantly correlated with protein, fat, carbohydrate, and haemoglobin levels.

Therefore dietary intake and the nutritional status of pregnant mothers are significantly correlated, but BMI levels are not significantly correlated with the present dietary intake.

On the other hand, though their dietary intake is not in the sufficient levels of the RDA, except, anaemia, joint pain and dental problems, there couldn't find any nutritional disorders.

## **CHAPTER 01**

### **INTRODUCTION**

Pregnancy is one of the most nutritionally demanding periods of a woman's life. Gestation involves rapid cell division and organ development. The physiological changes of pregnancy call for extra nutrients and energy to meet demands of an expanding blood supply, the growth of maternal tissues, a developing fetus, loss of maternal tissues at birth and preparation for lactation. An adequate supply of nutrients is essential to support this tremendous fetal and maternal growth. Therefore nutrition plays a significant role in optimizing the health of women and the growth of babies.

Low birth weight infants are often born to undernourished mothers. The incidence of spontaneous abortions, still births, neonatal deaths, and congenital malformations has increased during times of starvation. Surviving infants had significantly low birth weights and lengths. As living conditions and access to nutrition improved, mean birth weights rose. They also appear to be related to chronic illnesses later in life, such as cardiovascular disease, obesity, diabetes, and metabolic syndromes

Nutritional deficiencies of both macro- and micronutrients are common in women of reproductive age in developing countries and epidemiological and biological evidence suggest that acute or chronic specific nutritional deficiencies can contribute to severe maternal morbidity. For example, an inverse relationship exists between calcium intake and the incidence of hypertensive disorders of pregnancy and the prostacyclin-thromboxane imbalance reported in pre-eclampsia. Hypertensive disorders of pregnancy, haemorrhage, severe anaemia, sepsis, obstructed labour and unsafe abortion and its complications are the main direct causes of maternal death.

Severe anaemia due to iron and folate deficiencies can increase the risk of maternal death from heart failure and augment the damage caused by antepartum or postpartum haemorrhage. Evidence implicating vitamin A deficiency in the pathogenesis of nutritional anaemia is increasing.

In most developing countries nutritional deficiencies and infections coexist, affecting women of childbearing age; an epidemiological association has been reported between lower genital tract and periodontal infections and preterm birth. Malaria, also prevalent in some tropical countries, is associated with severe anaemia, preterm birth and impaired fetal growth. Whether specific nutritional deficiencies in an otherwise healthy woman can cause preterm birth is not clear, although many nutritional factors, such as fish oil, magnesium and calcium, could theoretically affect the mechanisms controlling the initiation of labour.

A large body of epidemiological evidence supports the association between several nutritional deficiencies before or during pregnancy and maternal morbidity, length of pregnancy or fetal growth.

Preliminary study carried out at the antenatal clinic at Kiribathgoda hospital which belongs to Kelaniya MOH area, showed that a larger proportion of pregnant mothers who were from different social-economic backgrounds were characterized by underweight, anaemic and they had poor nutritional conditions.

Inquires made from the PHMS and the MOH of the Kiribathgoda hospital , that there were some pregnant mothers who were having the above condition, which has been common problem.

Therefore the objective of the study is to find out a relationship between these nutritional statuses and there dietary intake.

The Kelaniya MOH area is a suburban area that has very high population density. People in the area belong to different socio, economic backgrounds, different ethnic and religious group furthermore it was revealed that some divisions of that area didn't have proper sanitary and water supplying facilities.