

# Knowledge, Attitude and Practices on Pregnancy and Post-partum Care among Rural and Tribal Women

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## Abstract

One neglected area of research is the role of traditional beliefs in pregnant and post-partum practices in women reproductive care which is addressed through this study. Seventy five pregnant and seventy five post-partum women from five villages of Madukkarai block in Coimbatore were randomly selected for this study. Data collection was done by interview schedule method using a pre tested questionnaire. The results revealed their ethnic traditional knowledge treasure which they possessed. In spite of their traditional knowledge 50 percent and 57.14 percent of women were not aware of the scientific role and importance of iron and folic acid during pregnancy and about regular vaccines respectively. Around 66.67 percent of women feed the babies as long as it needs and 35.71 percent were not aware of the impact of not breast feeding the baby. Their daily nutritional requirements do not seem to meet their RDA due to lack of awareness or due to unavailability of affordable foods to meet their nutritional needs especially fruits and milk. Identifying the factors associated with traditional pregnant and postpartum practices is critical to develop better targeting health education programs.

**Keywords:** Attitude, Knowledge, Nutrition, Practices, Pregnancy, Post-partum Care

## 1. Introduction

Very minimum data is available on the dietary intake of pregnant and postpartum nutritional practices in India among rural and tribal women. More cross-sectional studies to describe the qualitative and quantitative aspects of mothers' diet, with the scientific knowledge behind their practices and beliefs to identify factors associated with mother and child nutritional status is the need of the hour.

Nutrition knowledge among Indian rural and tribal women is limited to familiar practices in their actual diet. Attitudes towards complications of pregnancy and illness tend to be fatalistic. Awareness of the importance of maternal nutrition and the harmful effects of insanitary

living conditions is evident. Beliefs regarding protein-calorie malnutrition in infants are based on superstitions. Diets of rural women lack in dairy products and fresh produce, especially green leafy vegetables [1].

Despite the measures taken to control anaemia in pregnancy and lactation in the last two decades, the severity of nutritional anaemia continues to remain a public health issue of great magnitude, suggesting that these measures have been largely ineffective. There exists interstate differences particularly in fertility, women education, nutrition status and occupation; availability of antenatal services and iron folate tablets as possible factors responsible for differences in prevalence of anaemia [2].

Significant association between signs and symptoms of malnutrition with perinatal, neonatal deaths may have

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been masked by high prevalence of malnutrition in the mothers. However, maternal malnutrition, may contribute indirectly through its effects on other pregnancy-related as well as delivery-related complications leading to adverse outcome of pregnancy [3].

According to WHO, in developing countries, the prevalence of anaemia among pregnant women is 56 percent [4]. Prevalence of anaemia in India is 60 -70 percent. In India, anaemia is the 2<sup>nd</sup> most common cause of maternal deaths accounting for 19 percent of total maternal deaths [5].

Tribal and rural women in spite of possessing a rich traditional knowledge on dietary care for pregnant and postpartum mothers parallelly has a shallow understanding of the modern concepts of medicine, their nutritional needs, personal hygiene, lifestyle to be led and awareness on resulting health risks.

According to Kavitha et al. [6] it was revealed that among the selected pregnant women who were in their third trimester, majority (60 percent ) had normal eyes, 35 percent of them had slight discolorations in their eyes, and only 5percent had severe discoloration. It might be due to the poor intake of diet deficient in Vitamin A, protein, fat and energy. The haemoglobin level in blood of majority of the samples was below normal.

## 2. Materials and Methods

Most of the rural or tribal pregnant women are unaware of the various factors that affect the infant growth. They are not exposed to alternatives that can help provide a better health status not only to their infant but also to their own selves.

The main objective of this study was to assess women's Knowledge, Attitudes and Practice (KAP) on pre and post partum care in various real-life settings in selected 5 villages including 2 tribal villages in and around Madukkarai block. The schematic representation of the selection process for the present study is given in Figure 1.

A two-stage sampling strategy was used to select pregnant women and mothers with children 0–24 months old. A total of 75 pregnant women (40 Rural and 35 Tribal) and 75 post-partum women (48 Rural and 27 Tribal) belonging to the rural and tribal villages who have given birth to child very recently within 2 years and attending

the outpatient departments of obstetrics and gynecology in the nearby Primary Health Centers were recruited for this study. The sampling frame included 5 villages in Madukkarai block of Coimbatore district. The selected women were invited to the survey site for informed consent and survey administration. The questionnaires were administered by trained local enumerators. The survey team, composed of six enumerators and one supervisor. These women were monitored thoroughly for a period of one and a half years. The data collection and educational counseling was done by a single group of observers. The data was collected by a pre-evaluated questionnaire printed in English and local language by interview schedule method. Information regarding the demographic profile, food consumption pattern, dietary and personal habits, lifestyle habits and knowledge, attitude and other practices followed by them during pre and post pregnancy were collected and analyzed using Microsoft excel and statistical software SPSS.

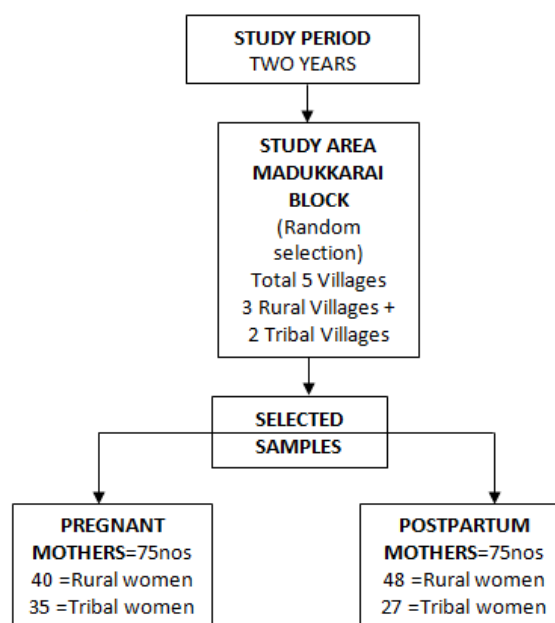


Figure 1. Study Design.

## 3. Result and Discussion

The study showed that 88 women both pregnant and post partum belonged to rural community and 62 women belonged to tribal population. The pregnancy status of the selected women revealed that majority (N=42) of the

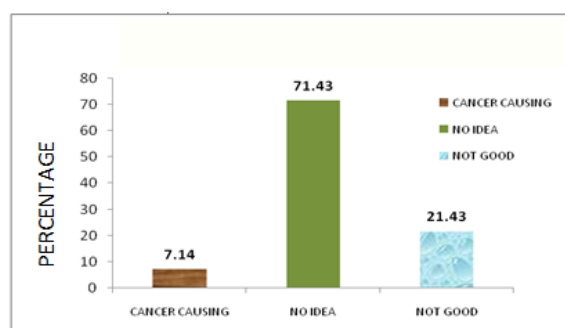
rural women were in the primi para status and among the selected tribal women 27 women were in the primi para status (Table 1).

**Table 1.** Demographic profile of the selected women

Category	Rural (No.)	Tribal (No.)
<b>Age in Years</b>		
17-20	52	41
21-23	36	21
<b>Pregnant</b>	40	35
<b>Post Partum</b>	48	27
<b>Pregnancy Status</b>		
Primi	42	27
Second	28	19
Third	18	16
<b>Education Status</b>		
Elementary	51	36
High School	27	21
Graduates	10	05
<b>Occupation Status</b>		
Daily Labour	12	43
Industrial workers	36	02
Business	06	00
House wife	34	17
<b>Type of Family</b>		
Nuclear	67	37
Joint	21	25

### 3.1 Knowledge on Effects of Alcoholism and Smoking During Pregnancy

Pregnant women were asked to avoid alcohol or smoke during pregnancy. These substances can cause many complications during pregnancy, have damaging effects on developing foetuses like FAS (Fetal Alcohol Syndrome) and may contribute to other medical problems as the child grows. Figure 2 depicts the view on effects of alcoholism and smoking of the pregnant women.



**Figure 2.** Views on the effect of alcoholism and smoking during pregnancy.

In the survey conducted, 7.14 percent of women knew the cancer-causing effects of smoking. While, 71.43

percent had no idea about the effects of smoking and alcoholism, 21.43 percent were aware that it wasn't good for health.

### 3.2 Practices on Breast Feeding

Breast milk is uniquely suited to the human infant's nutritional needs and is a live substance with unparalleled immunological and anti-inflammatory properties that protect against a host of illnesses and diseases for both mothers and children [7]. Figure 3 shows the knowledge of pregnant and postpartum women about the breast feeding practices.

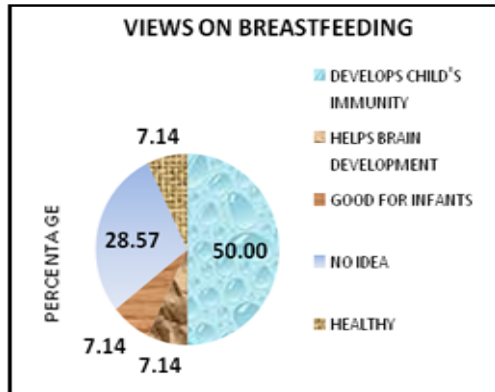
The present study revealed that 50 percent of the pregnant and postpartum women surveyed felt that breast feeding developed the child's immunity, 7.14 percent felt that it helps the infant's brain development, another 7.14 percent only knew that it was good for infants, 28.57 percent had no idea about the benefits of breast feeding and 7.14 percent expressed nothing but that it was healthy (Figure 3). With regard to the duration of breast feeding 66.67 percent of the women felt that breast milk should be fed to the baby as long as the baby wanted. While 16.67 percent of them felt that the baby should be fed every half an hour, 16.67 percent of the women felt that the baby should be fed every one hour.

The study results showed that 64.29 percent of the surveyed women had knowledge on the impacts of not breast feeding, whereas the rest 35.71 percent of them were unaware. The preponderance of evidence, using well-controlled studies, would demonstrate that there are long-term benefits to breast feeding, particularly when we look at exclusive breast feeding for about six months, and longer duration of breast feeding. And, there are maternal benefits as well: lower risk of breast cancer, ovarian cancer, obesity, diabetes, possibly — the evidence is still preliminary — even of arthritis [8].

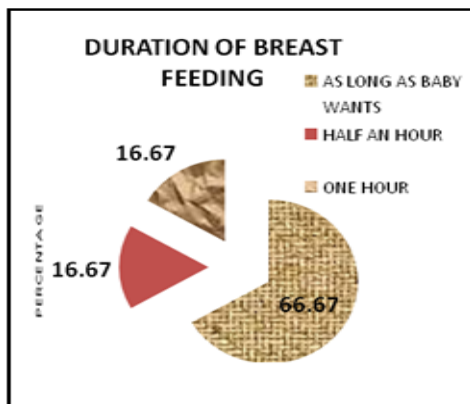
### 3.3 Exposure to Smoking

Smoking while pregnancy and after delivery exposes a woman, her unborn and born child to an increased risk of health problems including ectopic pregnancy, miscarriage, premature labour, and sudden unexpected death in infancy (SUDI), which includes sudden infant death syndrome (SIDS). Passive smoking can also affect a pregnant woman and her unborn child [9]. Figure 4 reveals the percentage of women exposed to smoking while pregnant. The results of the present study revealed that 57.14 percent of the surveyed women were exposed

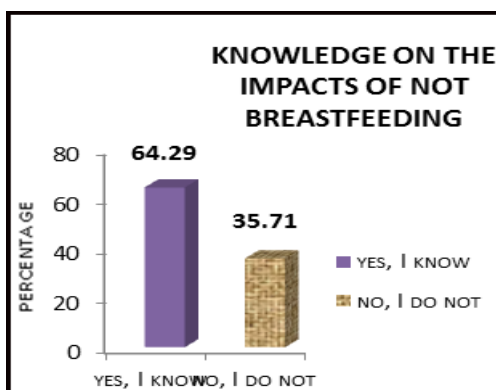
to the effect of smoking because of their neighbours, whereas 7.14 percent of them were exposed due to their husbands and 35.71 percent of them were not exposed to the smoking environment (Figure 4).



(a)

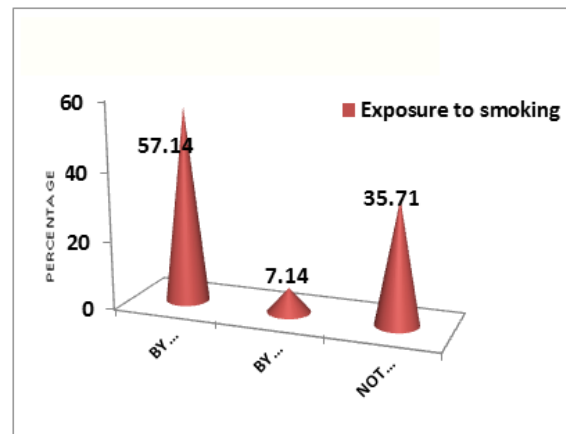


(b)



(c)

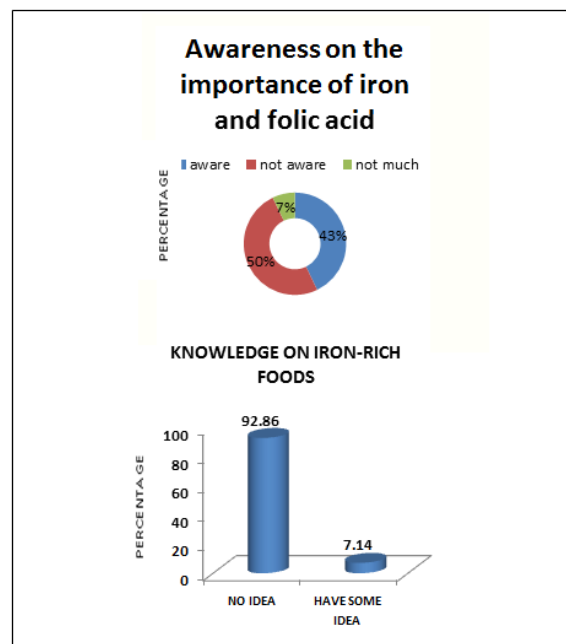
**Figure 3.** (a)-(c) Knowledge of pregnant and postpartum women about the breast feeding practices.



**Figure 4.** Percentage of selected women exposed to smoking.

### 3.4 Knowledge on Anemia

Pregnant women require additional iron and folic acid to meet their own nutritional needs as well as those of the developing fetus. Deficiencies in iron and folic acid during pregnancy can potentially negatively impact the health of the mother, her pregnancy, as well as fetal development.



**Figure 5.** Awareness on Importance of Iron and Iron Rich Foods.

The conducted survey showed that 50 percent of the surveyed women were not aware of the importance

of iron and folic acid during pregnancy, 7.14 percent of them had some knowledge whereas 42.86 percent of them were aware of it (Figure 5). Overall knowledge regarding periconceptional use of folic acid among a rural study population in Southern India was poor. A significant difference between poor knowledge and lower level of education of the pregnant mother and low socio economic status were also identified. Similar finding had been observed in different studies worldwide in developing as well as developed countries [10]. The study also revealed that only 33.3 percent could correctly state the effect of folic acid when used periconceptionally.

The present study showed that 92.86 percent of the surveyed women had no knowledge about the iron rich foods to be taken during pregnancy whereas the rest had some idea about it.

### 3.5 Knowledge on the Importance of Vaccine during Pregnancy

Immunization programs are among the most cost-beneficial health interventions. As women who are considering pregnancy or who are already pregnant present for health care consistently, obstetrical care providers are well placed to review their immunization status and recommend vaccination strategies [11].

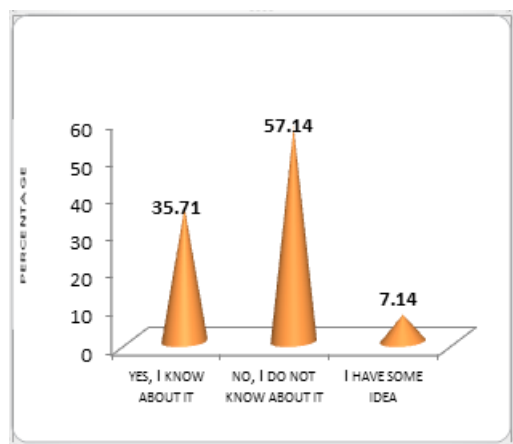


Figure 6. Knowledge regarding the TT vaccine.

Figure 6 depicts the knowledge of the selected pregnant women with regard to the vaccination during pregnancy and its importance. It was clear to state that 35.71 percent of the women surveyed had knowledge regarding the TT (Tetanus Toxoid) vaccine, 57.14 percent of them did not know about it and 7.14 percent of them had just some idea about it.

### 3.6 Food Consumption Pattern of Selected Pregnant Women

Nutrient intake among women of reproductive age are important determinants of maternal, neonatal and child health outcomes. Figure 7 depicts the Food consumption pattern of the selected women.

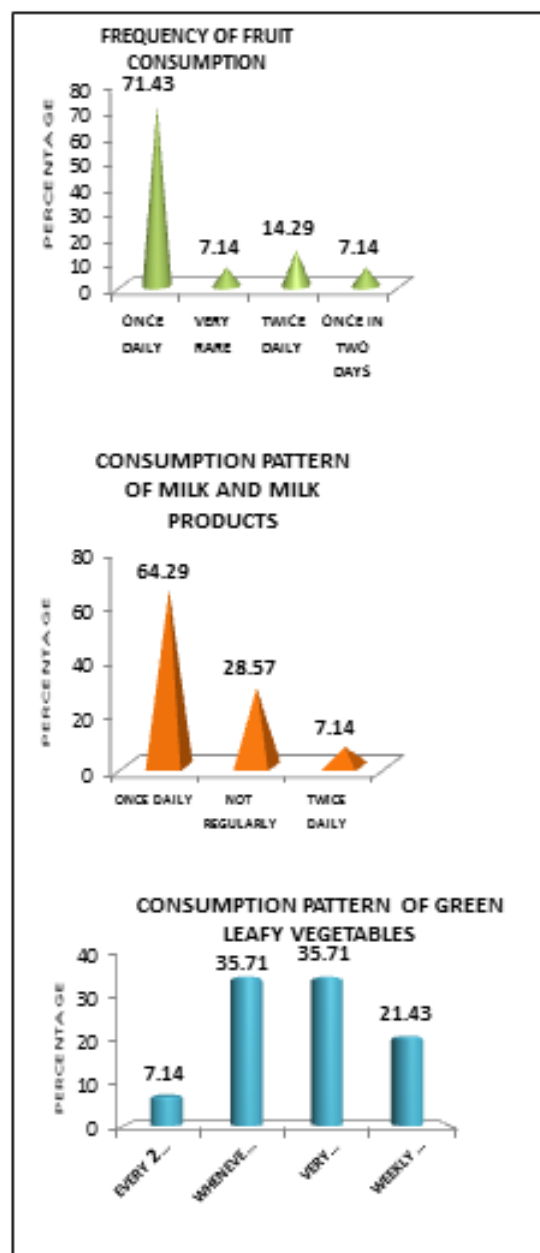


Figure 7. Food consumption pattern of the selected women.

The results of the present study reveal ED that 7.14 percent of the surveyed pregnant women consumed fruits once in two days, 14.29 percent of them consumed them

twice a day, 7.14 percent of them very rarely and 71.43 percent of them consumed fruits once a day.

With regard to the milk and milk products consumption it was found that 64.29 percent of women consumed milk and milk products daily once, 28.57 percent of them did not consume them on a regular basis and 7.14 percent of them consumed them twice a day. Higher consumption of total dairy product, milk, cheese, calcium, and vitamin D during pregnancy might reduce the risk of infantile wheeze. Also, higher maternal vitamin D intake during pregnancy might be protective against eczema [12].

The data regarding the consumption of green leafy vegetable reveals that 7.14 percent of women consumed green leafy vegetables every two days, 35.71 percent of them consumed whenever it was available, another 35.71 percent of them consumed very often and 21.43 percent of them consumed weekly once or twice.

### 3.7 Beliefs and Practices among Selected Postpartum Women

Selected postpartum mothers as respondents reported that traditional practices were commonly practiced in rural families to help the mother regain her strength and protect her future health. Respondents reported that the main reasons for adhering to the traditional practices were respect for tradition and elders. They also reported that some traditional practices are beneficial, including eating more, eating protein rich food, avoiding housework, and vulval and perinatal hygiene, including herbs for their gynecological care which possess no side effects. A few are potentially harmful, including giving honeysuckle herb, and avoiding dental hygiene. Some women reported giving infants supplementary feeds immediately after three months.

#### 3.7.1 Foods Included

A brief data regarding the foods that are included during these vulnerable stages were also recorded and presented below in Table 2.

**Table 2.** Foods included by the postpartum women (rural / tribal)

Foods included (Rural/tribal)	Beliefs
<b>DURING PREGNANCY</b>	
<b>Dairy Products:</b> Milk (Rural and Tribal)	Provides calcium
<b>Vegetables:</b> Kovaikeerai (Tribal) Radish, Banana stem (Rural) Moringa Leaves (Rural and Tribal) Betel Leaves (Rural and Tribal)	Helps prevent odema Helps prevent odema Provides Iron and Calcium Provides Calcium
<b>Animal foods:</b> Goat Leg soup, Egg, (Rural and Tribal)	Helps in Strengthening of bones, and muscles and regaining strength
<b>Herbs:</b> Aloe vera (Rural and Tribal)	For Wound healing
<b>DURING LACTATION</b>	
Paal Sura Fish, Ash Gourd, Cabbage - (Rural)	As a Galactogogue
<b>Dairy Products:</b> Colostrum, Ghee (Rural)	As a Galactogogue, helps to strengthen bones
<b>Vegetables:</b> Ash Gourd, Cabbage - (Rural), Tapioca, Agathi leaves, Moringa Leaves, Garlic Bottle gourd (Rural and Tribal)	As a galactogogue as a source of fiber and other special nutrients like and calcium.
<b>Animal foods:</b> Fleshy foods, fish (Paal sura fish)- Rural Dried fish (Tribal)	As a galactogogue, protein supplement to repair the worn out tissues and as an energy yielder
Jaggery (Rural And Tribal)	Cleanses the uterus
<b>Herbs:</b> Sathavari (Tribal)	As a Galactogogue

#### 3.7.2 Foods Avoided

In Indian communities food items perceived as 'hot' are often believed to be harmful for pregnant women and those perceived as 'cold,' are believed to be beneficial, although in few communities the harmful or beneficial effects believed vary in different stages of pregnancy and also on individual physical constitution.

Certain foods are considered to be as cold foods such as banana, pineapple, papaya, jackfruit, and all unripe fruits are perceived as hot. Buttermilk, curd, ragi, watermelon cucumber, rice, etc are considered as cold foods and egg, wheat, etc as hot foods by both the rural and tribal population. Some foods which were avoided by the selected subjects were listed down in Table 3.

**Table 3.** Foods avoided by the postpartum women (rural / tribal)

Foods avoided (rural/tribal)	Beliefs
<b>DURING PREGNANCY</b>	
Brinjal and Jackfruit (Rural and Tribal)	Predisposes to infection
Water (Tribal)	Cause increased frequency of micturition and forces the mother to get up and move around
Papaya (Rural and Tribal)	Possesses uterine stimulants
Banana, Cucumber and tender coconut water, Butter milk, curd and watermelon (Rural and Tribal)	Causes cold for both mother and child
<b>DURING POST PARTUM PERIOD</b>	
Mango (Rural and Tribal)	Peel will not get digested, causes cough and cold in the child
Spinach and Jackfruit (Rural)	Causes cold and abdominal pain
Peanuts (Tribal)	Causes dysentery
Curd, Milk, tender coconut water and fresh juices	Causes cold for both mother and child
Egg, Wheat (Rural)	Causes stomach problems to the child and constipation to the mother

## 4. Conclusion

Poverty and ignorance seem to be the main matter of concern in the rural and tribal women surveyed. Therefore, a lot of awareness needs to be spread in areas regarding the basic nutritional requirements of a pregnant and postpartum women and the environmental quality that has to be specially maintained when there are pregnant and post partum women and infants around. Only this will help improve the health status of pregnant women, new mothers and their infants. The importance of including iron-rich foods in the diet of pregnant and post pregnant women has to be stressed upon and the importance of folic acid has to be highlighted as these values were hardly seen to be understood by the women surveyed. A lot of efforts must be taken by the members of the neighbourhood in order to keep pregnant women and infants healthy.

Traditional postpartum practices are still dominant in rural culture and perpetuated by close female family relatives. These practices are embedded by the cultural and social factors.

## 5. References

1. Meera R., "Knowledge, attitude and practice regarding nutrition among pregnant women in rural Dharwad, Karnataka, India", *Ecology of Food And Nutrition*, vol. 18, p. 197–208, 2010.
2. Agarwal K. N., Agarwal D. K., Sharma A., Sharma K., Prasad K., Kalita M. C., Khetarpaul N., Kapoor A. C., Vijayalekshmi L., Govilla A. K., Panda S. M., and Kumari P., "Prevalence of anaemia in pregnant & lactating women in India", *Ind J Med Res.*, vol. 124, p. 173–184, 2006.
3. Bamji M. S., "Maternal nutritional status & practices & perinatal, neonatal mortality in rural Andhra Pradesh, India", *Indian J Med Res.*, vol. 12, p. 44–51, 2008.
4. Kawaljit K., "Anaemia 'a silent killer' among women in India: Present scenario", *European Journal of Zoological Research*, vol. 3(1), p. 32–36, 2014.
5. Madhavi L. H., and Singh H. K. G., "Nutritional Status of Rural Pregnant Women", *People's Journal of Scientific Research*, vol. 4(2), p. 20–23, 2011.
6. Kavitha K. S., Sumayaa S., Ravikumar., and Tajunisha Z., "A study on nutritional status of pregnant women of rural area in Ramanathapuram district, Tamil Nadu", *International Journal of Current Research*, vol. 3(11), p. 122–125, 2011.
7. Lawrence R. A., and Lawrence R. M., *Breastfeeding: a guide for the medical profession*, 7th ed, Philadelphia: Saunders; 2010.
8. Goldberg C., *Sibling Study Finds No Long-Term Breastfeeding Benefits For Kids*, 2014.
9. Better Health Channel, *Pregnancy and smoking*, 2013.
10. Deepti K., Anila H., Arup C., and Vinohar B., "Determinants of knowledge regarding folic acid in periconceptional use among pregnant mothers in Southern India", *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, vol. 4(3), p. 25–29, 2013.
11. Miller J. K., "The prevention of neonatal tetanus by maternal immunization", *J Trop. Pediatr Environ Child Health*, vol. 18(2), p. 159–167, 1972.
12. Patchannee B., and Wanda P., "Dairy Food calcium and vitamin D intake in pregnancy and wheeze and eczema in infants", *Pediatrics*, vol. 128, p. S118, 2011.