

**Taboos in Food Practices during Pre and Post-natal Period: A Comparative Study
between Tribal and Non- Tribal Women in Odisha**

A Dissertation
Submitted to the
Department of Humanities and Social Sciences,
National Institute of Technology, Rourkela
In partial fulfillment of the requirement of
The Award of the Degree of

MASTER OF ARTS IN DEVELOPMENT STUDIES

Submitted by
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May, 2015

DECLARATION

I, hereby declare that I have completed my final year project on **“Taboos in food practices during pre and post-natal period: A comparative study between tribal and non- tribal women in Odisha”** at National Institute of Technology Rourkela, Odisha in the academic year 2015 under the supervision of Prof. Nihar Ranjan Mishra. The information submitted by me here is true and original to the best of my knowledge.

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CERTIFICATE

This is to certify that the dissertation entitled, "Taboos in food practices during pre and post-natal period: A comparative study between tribal and non-tribal women in Odisha" submitted by Sushree Shomya in partial fulfillment of requirement for the degree of Master in Arts in Development Studies of the Department of Humanities and Social Sciences, National Institute of Technology, Rourkela, is an authentic work carried out by her under my supervision. To the best of my knowledge, the matter embodied in the dissertation has not been submitted to any other university/ institute for the award of any degree or diploma.

Dr. Nihar Ranjan Mishra
(Research Supervisor)

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to my supervisor Dr. Nihar Ranjan Mishra for the useful comments and remarks through learning process of my master thesis. Without his guidance this dissertation would not have been possible. I would also like to show appreciation to all faculty members and the batch mates of my department for their support. I am greatly obliged to the participants in my survey, who have willingly shared their time during the interview process without which it would not be possible for me for the data collection within a particular time period.

SUSHREE SHOMYA

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ABSTRACT

The food we eat on a daily basis affects how our body works, how we heal and grow, and how we maintain energy and strength and a proper nutrition process is most essential in the pre and post-natal period of pregnancy. Taking into account dynamically changing nutrition practices, the study is aimed to document and elucidate ethno cultural food practices during the pre and post-natal period of pregnancy. The study is based on the food restrictions that people follow because of religious and cultural prohibition. Though there has been few studies done in this area but the major part is lacking yet. Till date, in-depth study on the food taboos has not been done and this study is based on a comparative analysis between tribal women of Sundargarh District and non-tribal women of Bhadrak District. Sundargarh district for non-tribal sampling has been chosen as it is highly tribal dominated district as per the fifth schedule and on the other hand Bhadrak district is non-tribal dominated and historically prospering in culture. 100 sample households were selected from both the study area. 50 for tribal women and 50 for Non-tribal women through random sampling. Data was collected from both the sources. Primary data was collected using household schedules, interviews and observation method. The secondary data was collected from various literatures, published books etc. The study may help in creating awareness regarding the dietary practices that people follow during their pre and post-natal period.

Key words: nutrition, food taboos, pre and post-natal period.

CHAPTER 1

INTRODUCTION

"We are what we eat" is a famous quote among dietitians. This quote holds more relevance than being just a quote (Hunter, 2008).

Since times immemorial the beneficial property of certain eatable items has been accepted. Dietary recommendations are being given by health organizations worldwide these days. Importance of diet and nourishment has been scientifically recognized by experts (Caplan, 1997).

For example in the United States, the American Cancer Society estimates that 35% of cancers that are not genetically predetermined can be prevented simply by eating right. While discussing on nutrition Dr. Bernadine Healy, former director of the U.S. National Institutes of Health, in her book *A New Prescription for Women's Health* said that we must shift our national focus from avoiding nutritional deficiencies to understand the preventive miracles proper nutrition offers". The validity of nutrition as a legitimate scientific discipline can no longer be questioned. The growing knowledge of health and nutrition focuses on eating to achieve proper health. But people have known the health benefits of foods for centuries, as evidenced by a well-quoted line from 17th century French playwright Molière: "One should eat to live, not live to eat."

Good nutrition is important, but it assumes greater importance for women during their pre and post pregnancy period. During pregnancy nutritional needs are higher and meeting those needs will have a positive effect on the health of both the mother and her unborn baby. A pregnancy without negative effects of poor nutrition on the health is the best possible nutritional state. Nutrition deserves special attention during pregnancy and breastfeeding because of the high nutrient needs and the critical role of appropriate nutrition for the fetus and infant's poor maternal diet could be a barrier to women's health so, it must be maintained properly.

In under-nourished women, or adolescent mothers who are still growing, nutrients are preferentially partitioned to the mother, effectively protecting nutrient stores from fetal

demand, so that fetal growth is compromised to a greater extent than maternal growth (Wallace et al. 2001). There are variable changes in BMR (Basal Metabolic Rate) that may be, at least partially, related to pre-pregnancy body mass index (BMI). Women with the least increase in BMR tend to be thinner (Prentice 1994), whereas fatter women tend to experience an increase in BMR (Prentice and Goldberg 2000). Maternal activity tends to decrease in pregnancy, particularly in the third trimester, so energy is conserved, although in sedentary women the energy saving consequences of decreased activity is probably minimal. The recommended energy intake for pregnant women is no extra energy requirement in the first trimester, 1400 kilojoules (kJ) or 340 kilocalories (kcal) extra energy per day for the second trimester and 1900 kJ (452 kcal) extra energy per day for the third trimester (NHMRC 2006). These recommendations for energy intakes are derived from the sum of the energy requirement of non-pregnant women, plus increments for average changes in energy expenditure, and for the energy content of the gain in fat mass in pregnancy (NHMRC 2006)

Food culture taboos

The word taboo can be defined as restriction or prohibition of something. It may differ from culture to culture.

Example- Giving an even number of flowers is a taboo in Russia because it is for the dead. (Glantz et al. 1997).

The restrictions imposed on people forces them to abstain from certain food and drinking items as these things are embedded into the cultural and religious threads. These taboos are a set of rules and regulations which allows us to eat or avoid certain kind of eatable or drinking items (Mintz & Du Bois, 2002)

Any kind of taboo may be seen being pursued by any kind of culture, a group of tribe, community or a complete nation even. In many cases, it has been observed that age old dietary customs being pursued by a specific group of people belonging to similar age. It is also seen that, due to some or the other kind of health problems people tend to follow certain rules, which are more like restrictions on food intake and its types (Buruiana, 2003). The roots of these kind of customs and taboos are rational at times and some real origins cannot be traced.

Any country's social or cultural element highly bears an effect on its citizens, in context of food habits. In spite of the fact that the way of life of nourishment practices are infrequently considered as an imperative instance of health, numerous practices are particularly intended to secure and advance wellbeing. It is genuine; however some food practices and taboos in a few social orders may lead to healthful insufficiencies among specific group of people. Some dietary standards are connected with an exceptional period in women's' life, for example, pregnancy. Despite the fact that this practices and taboos have been rehearsed following genealogical period, there is no single hypothesis as evidence. All individuals whether rural or urban have their own cultural practices. Pregnant women require the need of extensive additional calorie and supplement prerequisites. Taboos are in fact characterized as a practice which are approved or considered legitimate by a society (Hofstede, 1998)

Examples:

1. Papua New Guinea Taboos

In Papua New Guinea, it is mandatory for the tribal women to follow some food taboos in the middle of their menstrual cycles. Women are prohibited from eating fresh meat, juicy bananas or any fruits which are red in color. The reason being, these fruits or meat is believed to be unhealthy. It is also believed that a person shall fall sick, particularly a husband if a menstruating women cook, then that item is not eatable. Aged women during their pregnancy days are restricted from eating food items like fish and eggs (Meyer-Rochow, 2009).

2. Brazilian Taboos

Fishes and seafood are the Brazilians' staple diet. They believe that if any sick individual eats predators like piranhas, then they would be cursed to death. Therefore, they are only allowed to eat omnivorous fishes (Begossi, 1992).

3. Chinese Taboos

.Chinese people make food offerings to their dead ancestors at their family specific memorials by leaving their chopsticks sticking up on the bowls where there is a little rice left as a custom. So if they do these acts in a restaurant, then it is considered inauspicious for the restaurant's owner. They avoid such practices (Mintz & Du Bois, 2002).

4. Indian Taboos

Indian food taboos are mostly religion based. Due to the diversity in religion in the Indian continent, the taboos are many. Cow slaughter and beef consumption are strictly prohibited in most part of the country. Hindus worship the cow. Cow is a source of dairy products and for other complementary products. Whereas in contrast to this, Muslims and people belonging to Islamic culture prohibit pork consumption for religious reasons (Sundararaj & Pereira, 1975).

5. Nigerian Taboos

It is a famous belief among the Nigerian people that children will transform into thieves if they are fed with eggs and coconut milk. According to them, children will be less intelligent if they consume these food items. Even Jamaican people have similar beliefs (Odebiyi, 1989).

Every society has food taboos which exhibit many distinctions that exist among groups and thus reinforce their cultural individuality. Hence, the difference between permanent and temporary types of food taboos or similar avoidances can be seen in order to recognize the variety of food taboos (Buruiana, 2003).

A. Permanent Food Taboos

The taboos relating to food which are very strictly followed are known as permanent food taboos. Anthropologists believe that the foods which are considered as inedible due to the permanent taboos are due to the different societal structure which don't permit their consumption (Lizot & Ross, 1979).

B. Temporary Food Taboos

Some types of foods are restricted for a particular span of time and the reason for such time factor has its own reasons. Some foods are avoided for a certain period of time and for specific reason as well. These kinds of avoidances are in context to the specific phase of the human life cycle which comprise of:

1. Pregnancy
2. Birth

3. Lactation

4. Periods of illness or sickness

The temporary food avoidances are more concerned of vulnerable groups, including the pre and post pregnancy. Some of these restrictions may appear to be odd from an experimental perspective, however, there is regularly an unnoticed logic behind it. Women must be aware of their nutritional intake during pregnancy period and must understand what should be done to ensure the successful delivery of a healthy child. The temporary food avoidance also includes the principles of fasting during the pre-natal period.

Prohibited acts are present in every society. Every religion represents its own perspectives on specific foods that are viewed as taboos. Every religion characterizes the avoidance of particular food for particular reason relating to their judgement and accordingly people follow such taboos according to their religion (Ferro-Luzzi, 1974).

Prohibited acts are present in every society. Every religion represents its own perspectives on specific foods that are viewed as taboos. Every religion characterizes the avoidance of particular food for particular reason relating to their judgement and accordingly people follow such taboos according to their religion (Blackham 1966).

Review of Literature

While examining the taboos associated with pregnancy, Laxmi (2013) found that tribal women in Srikakulam district were restricted to consume raw papaya, sesame, coconut water and fermented rice as they had misconception regarding those food preferences, that consumption of these foods would cause abortion.

Park and Kapoor (2011) have discussed that pregnant women that belong to the area of Khodu of Surendranagar were forced to abstain from nutrients as a part of their traditional food habit. The study reveals that taboos were associated largely with old aged people i.e.<44 and commonly noticed with illiterate people. Food avoided was papaya, groundnut, citrus food and the reason was abortion and placental disruption.

While examining nutrition practices in Papua New Guinea, Kuzma et al. (2013).found that most foods enlisted as taboos for pregnant women were rich source of protein like fish, pumpkin, "yellowmarita"(pandanuscooidus) and rice

The above findings confirm similar outcomes from other parts of the world. Traditional society such as Australian aboriginal (Speilmann, 1998) Nigerian (Ogbicade,1974), Tamils (EichengerFerro-Luzze,1973) Malay (Wilson,1973) and PNG (Karel,1999) restrict proteins and fat foods.

Again, similar kind of practices and superstitions were found among the "Yorubha" by Omebola in southwest of Nigeria (2009).

While studying among rural population of Pondicherry, Patil et al. (2011) reveals that most common reason for avoidance of specific food was abortion and the most common factor responsible for it was illiteracy.

While studying, Health educators in Nigeria Onifade et al (2006) revealed that food taboos and fallacies tremendously affect the Health status of Nigerians. They claimed that Christian and muslim health educators did not share the same taboos and fallacies' on food

For eg-The Muslims forbid the eating of pork, crab and duck have content of biological value, which are essential for brain development in human.

The above findings, is in the line with Christian respondents but contrary to Muslim respondents. Lucille (1989), John (1995) and Hodder (1995) who found that meat contain protein that is good for baby growth, development and repair of body, the tissue and supply of body needed heat.

Again, the major themes identified by Jamilu, Olurinde (2012) were 1.knowledge about nutrition. In pregnancy such food affects the maternal and child health. 2. Relationship between pregnancy; antenatal care and birth weight.3.Frequency of meals during pregnancy 4.Observance of food taboos and reasons for food adherence. The study reveals that pregnant women were more likely to adhere food taboos, if they were teenagers had low (<22.9 kg/m², BMI) did not have any normal education, had low monthly family income.

Alpina et al (2004) states that amongst the people of Amazon basin and surrounding coastlines, fish taboos were higher and were related to piscivorous species. In addition two major detritivorous (eating decaying matter) fish, the black prochilodus catfish are tabooed (Begossse et al. 2004). This shows a fascinating understanding of animal toxicity on a part of the Amazonian people. Toxins tend to accumulate at the top of the food chain.

SEWA, a Non-Government Organization while examining the food taboos in Gujarat India, discovered that local cultural beliefs influenced the food habits of women (1994). They found two opposing views about the food taboos-

1. Some member of the community assumes that food shares the same space as fetus in the mothers' abdomen, thus limiting the space for fetus to grow and eventually causing it to waste away.
2. For the other people, eating a lot of food, is thought to make the fetus grow fat thus, causing problems for mother at delivery. Either scenario produces a fear of eating too much during pregnancy.

Hartini (2004) while examining on pregnant women in Sweden discovered that more than 80% had inadequate energy and 40% had inadequate protein, calcium and iron intake. The rural poor women with access to rice fields kept their food taboos also during the crisis. Rich women were able to maintain a good nutrient intake during the crisis although fat intake decreased.

Sahoo and Panda (2005) while studying in the Balasore District of Odisha found that some sort of food restrictions during pregnancy. The general concept was that the restricted food items would cause cold and cough to the mother or would lead to abortion. The respondents' food intake was observed to be stereotype. Their results and findings show that the diet was not able to meet the requirements of expectant mothers' inadequate amount. Similar observations' were reported by Nath and Geervani(1978).

Mira Triyani (2009) while conducting her study in several cities in West Java found that "avoiding seeing a moon eclipse". It is revealed that some pregnant women were forbidden to see moon eclipse. Other responses from participant as food taboos was "restriction to eat

some kind of fruits and vegetables". Those are pineapple, avocado, pomegranate, guava, orange, squash, jackfruit, papaya, sugarcane and eggplant.

Sueel Raj and Mishra (2008) examined the food consumption pattern and associated habits of the Bhil tribe of Dhar district of Madhya Pradesh. They found that no special foods are being consumed during pregnancy. However few foods such as fishes, chillies, fullliquor, papaya and tabooed associated are considered to be fat and may abort the fetus. Some foods like amla and dhania are prohibited with a belief of having twins. Butter milk is preferentially given to lactating mothers as it enhances the flow if resources permit.

The study conducted in Hadiyazone of Southern Ethipia, reveals that many people avoided one type of particular food. Milk and cheese were regularly avoided by nearly half of the women followed by linseed and fatty meat. There as on for avoiding foods includes fear of difficulty in delivery, discoloration of fetus and fear of abortion (2009).

Hitnal (2012) through a cross sectional study revealed that 299 young women believed in that hot and cold food seems to influence the choice of food during pregnancy. Thirty nine percent of them avoided heat food and twenty eight percent of them avoided cooling foods. Eating Non-veg was considered harmful during pregnancy. Other reasons for abstaining from animals' food were 1. A version to sight/or smell of such food. 2. Poor digestibility 3.Fear of harming the fetus.

Again, a study conducted Maduforo (2010) on traditional belief and taboos on the feeding practices and nutritional status of pregnant women in Nwangele Local Government Area. The result of the survey showed that fifty four percent of pregnant women adhere to traditional belief and food taboos; thirty eight percent of women were malnourished and sixty two percent were whether the range of expected body weight.

Similar findings on the dietary practices were examined by Karim at el. (2005), the Chinese women in Kualalampur. According to the study, hot and cold foods were avoided. Rice, Chicken and Pork were consumed in large amounts, most vegetables and fruits were considered "cold" and were prohibited during confinement.

Kristin (2013) While examining upon the dietary rules and practices the Okhaldhunga District of Nepal found that majority of women interviewed told that wide variety of nutritious foods and fluids were eaten preferentially and other were abstained from, during pregnancy some of the subjects believed that chili and sour food should be avoided. The findings are not consistent with the hot and cold model of explanation as eggs, meat and honey, which should be eaten in pregnancy are considered hot, even though alcohol is considered a hot substance and main reason for avoiding alcohol in pregnancy is the experience of alcohols toxic influence on the fetus.

In a controlled study to assess the influence of a health education project in rural areas of Tamilnadu with varying extent of MCH services, Mathews and Benjamin AE found that in areas with no or very little services thirty eight to ninety three percent of women thought that baby's health would not be affected if they did not eat enough food during pregnancy. Over three quarters of women in those areas did not take any additional food during pregnancy. In areas with better and longer services seventy one to eighty three percent of women thought that baby's health would be affected if they did not eat enough during pregnancy (2005)

Two other studies indicated wide prevalence of the practice of reducing or not increasing the amount of food during pregnancy. One of them conducted in 12 villages of Andhra Pradesh found that pregnant mother's diet was no different from usual family diet and that most of the pregnant mothers except a few who attended, the nearby antenatal clinic did not think that pregnant and lactating mothers required additional food.(1994)

Similar findings of another study conducted in an unspecified locality of India, sixty four percent of pregnant women restricted their intake of all foods during first six months of pregnancy mainly because they believed that small babies are easier to deliver (Hutter1996).Other reasons given were avoidance of indigestion and advice of mothers-in-law or traditional birth attendants.

Statement of the problem

There are very few studies done on the food practices focusing upon both pre and post-natal period, most of the studies are focused on the pregnancy period only.

No comparative analysis between Tribal and Non-tribal women has been done so far in-depth. The present study will make a comparative analysis between Tribal and Non-tribal women.

Objective of the study

1. To explore how the dietary belief affect the women food choices during pre and post-natal period.
2. To examine the role of various socio and economic factors that influences their food habits during pre and post-natal periods among tribals and non- tribals.

Research questions

1. To explore, how the cultural and social norms impact their perception?
2. To compare how the food beliefs of tribals is different from that of non-tribals?

Research Methodology

Universe of study

As the present study has tried to make a comparative analysis on food taboos between tribal and Non-tribal women during pre and post-natal period a village dominated by tribal communities and another village dominated by non-tribal communities were selected for the final study. Dalposh village of Sundargarh district was selected as tribal village and Randia and Sabrang villages of Bhadrak district were chosen as non-tribal villages.

Rationale behind selection of universe

Sundargarh District is highly tribal dominated district according to the 5th schedule, so this district was chosen for tribal sampling and Bhadrak District is historically rich in culture as well as non-tribal dominated, this was chosen for non-tribal sampling.

Sampling procedure

As a whole 100 sample households were selected from both the study area. Using the circular random sampling method around 50 tribal women from Dalposh village of Sundargarh district and 50 non-tribal women from Bhadrak district was selected for final study.

Data collection

Data was collected from both the primary and secondary sources. Primary data was collected using household schedules, Interview and observation method. The Secondary data was collected from various literatures, published books etc.

Data analysis

Both qualitative and quantitative data was analyzed. Quantitative data was tabulated and statistically tabulated and analyzed using SPSS. Qualitative data was interpreted using based on the information collected from field.

Significance of the study

The study aims in creating awareness regarding the dietary practices that people follow during pre and post-natal period. The study may help in better policy making.

CHAPTER 2

DEMOGRAPHIC PROFILE OF THE DISTRICTS

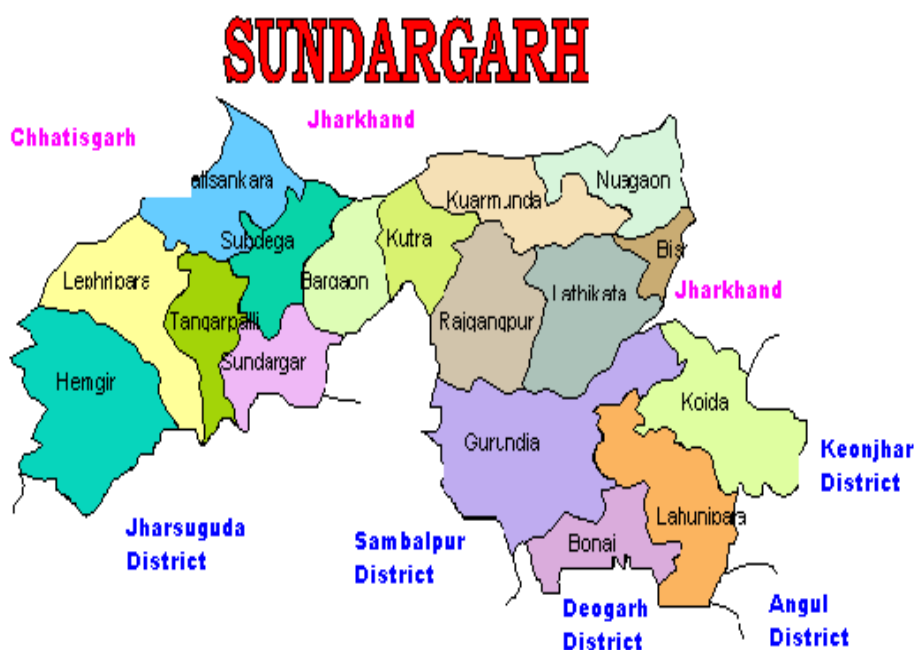
Sundargarh district overview

According to the Sundargarh district portal,2014 “Sundergarh district was constituted on the 1st January, 1948 out of the two ex-States of Gangpur and Bonai, which merged with Odisha on that day. True to its name, this “beautiful “district of Sundargarh with about 43% of its total area under forest cover and numerous colourful tribes dotting its landscape and with abundant mining potential is bounded by Ranchi District of Jharkhand on the North, Raigarh district of Chhatisgarh on the west and North-West, Jharsuguda, Sambalpur and Angul District of Odisha on the South and South-East and Singhbhum District of Jharkhand and Keonjhar District of Odisha on the east” (Census, 2011).

The district’s geographical expansion is dotted with vast forest cover which is inaccessible. There are mountains which are covered with large number of trees and lined with expanded river valleys. The topographical expansion of the district is covered with flora and fauna. The rivers IB and Brahmani and many other hill tributaries are seen on the district’s landscape. The general slope of the district is from North to South.

Looking at the evidences of stone tools near water sources, it can be said that the district has been a place of human habitation since pre-historic era. The hand tools of early Stone Age are found at Bishalbury, Jangra and Satkuta which are the proof of early human habitation in the district. The stone tools like flakes of middle stone age are also found at Bishalbury, Bhanjgarh, Bhaludungri, Bonaigarh, Bisra, Jagannathposh, Jhirpani etc. Polished stone of Neolithic era is also found in many places of the district. The pre-historic paintings found on a rock shelter at Manikmunda and similar paintings in Kalahandi, Sambalpur and Madhya Pradesh signifies that a cultural inter-relationship was prevailing during pre-historic period. It may also be deduced that the region formed a single political unit during the early historic period and was known as the South Kosala.

Map No: 2.1: Sundergarh District Map



District Demography:

As indicated by the 2011 census the population of the district was 20, 93,437 which constitutes 4.99% tribal mass of the State. The populace spread is over 1764 towns and 4 urban zones. The ST and SC populace of the area is almost about 50% and 9% compatibly. Essential tribes in this locale are Munda, Kharia, Kisan, Bhuyan, Oram and Gond. In this locale 13, 55,340 is the rural population and likewise 7, 38,097 (2011) in the urban are. The proportion of populace of this district between rural and urban regions is 2:1. Urban settlements are quick expanding in this area and this region has a high rate 35.26% increment in the urban regions against a state level statistic of 16.69%.. Several religions are staying in this locale. Out of all religions, Hindus are significantly 78.21% and the minimum percentage has been counted for Buddhist [0.01%].

As per the census evaluation 2011, the rate of region populace to state populace has expanded from 4.97% to 4.99%. While regarding geographical data, the area is positioned 2nd at the state level with the land range of 9712 sq. km, the region is positioned 6th at the state level in populace parameter according the census of 2001. The decadal development rate of region populace checked declining in the year 2011(-1.99). From 1991 to 2001, the decadal populace development rate was 16.34% which declined to 14.35% during the period of 2001 to 2011. One of the causes for the declining in the rate of populace development is out-

movement of a generous populace from the area for different purposes like work and job, instruction and so on. Child populace of the region in between the age of 0-6 is 2, 63,160 with a male kid populace of 1, 35,204 (51.38% of the aggregate populace) and female kid populace of 1, 27,956 (48.62% of aggregate youngster populace). While comparing the portion of adult and child population the result of 2001 and 2011 shows that, the child population has decreased so far.

In both child section of male and female, the district records a decrease in the population of child in the age group of 0-6 years. During 2001, the increment of male child to the aggregate populace was 14.38% which have decreased to 12.74% in 2011. According to the 2011 census data of Sundargarh, the increase of female child to the populace was 14.57 which declined radically to 12.40 during 2011.

1. Sundargarh District Population Growth Rate

There was change of 14.35 percent in the population compared to population as per 2001. In the previous census of India 2001, Sundargarh District recorded increase of 16.34 percent to its population compared to 1991 (Census 2011).

2. Sundargarh District Density 2011

Density of Sundargarh district for 2011 is 216 people per sq. km. In 2001, Sundargarh district density was at 188 people per sq. km. Sundargarh district administers 9,712 square kilometers of areas (Census 2011).

3. Sundargarh Literacy Rate

Average literacy rate of Sundargarh in 2011 were 73.34 compared to 64.86 of 2001. Gender wise, male and female literacy were 81.01 and 65.48 respectively. For 2001 census, same figures stood at 75.34 and 53.88 in Sundargarh District. Total literate in Sundargarh District were 1,342,322 of which male and female were 750,147 and 592,175 respectively (Census 2011).

4. Sundargarh Child Population 2011

Child Sex Ratio as per census 2011 was 946. In 2011, Children under 0-6 formed 12.57 percent of Sundargarh District compared to 14.47 percent of 2001 (census 2011).

Bhadrak district overview

According to Bhadrak District portal “Bhadrak District is an administrative District of Odisha state in eastern India. The District is named after the town of Bhadrak, which is the District, headquarters. It came into existence on 1st April 1993. This District has a rich heritage and history according to legends, it also derives its name from the Goddess Bhadrakali, whose temple stands on the banks of the river Salandi. This District is bounded by Balasore District on the north, Jajpur District and river Baitarani on the south, Keonjhar District on the west and Bay of Bengal and Kendrapada District on the east” (Census 2011).

It is situated at 21.0667 Latitude and 86.5000 Longitude. The Bhadrak District covers a region of 1721 Sq. Km with topographical region of 2,46,529 Hectare. The aggregate populace of the District is 1334000 with aggregate male populace as 676000 and female populace as 658000. Total SC Population of the District is 286723 while the aggregate ST populace is 25141.

The Bhadrak District has got one sub division only. There are 7 tahasils and 7 squares working in the District. One Municipality, one NAC, 12 Police stations, 193 Gram Panchayats are there in the Bhadrak District. The atmosphere of this District is hot and humid. Agriculture is the primary source of income of the District. Paddy is developed as the primary yield in Kharif, covering roughly 94 Percent of the aggregate cultivable territory. However, people in the sea coast area (Dhamara, Chudamani of Basudevpur and Chandabali range of Chandabali Block) additionally rely on looking for their job. Bhadrak is an old area noted in legends dating from the age of the puranas, adding to Odisha's oceanic & agrarian thriving, exchange and trade down the ages and recorded ever (Bhadrak District Portal, 2012)

Map No: 2.2: Bhadrak District Map



Demography of Bhadrak District

The Bhadrak District was formed on 1st April 1993 by carving out as a separate District from Balasore District. It lies between 20°43'' to 21°13'' North Latitude and 86°16'' to 87°0'' East Longitude. It shares its borders with Balasore in the north, Jajpur in the south, Keonjhar in the west and by Bay of Bengal in the east. It covers 2505 sq.kms, which is 1.61 percent of the total land mass of the State. However, the District accommodates a proportionately larger, 3.62 percent of the total population of the state. Bhadrak is one of the most populous Districts of the state. It occupies only 1.61 percent of the total land mass of the state but accommodates 3.63 percent of total population. The population density of the District (532) is very high, almost double that of State average (236). Out of 7 CD Blocks, population density is highest in Dhamnagar Block. Further, the growth rate of population in the District is very high (20.61 percent) during 1991–2001 as against 16.25 percent for the State.

1. Bhadrak District Population 2011

Bhadrak had population of 1,506,337 of which male and female were 760,260 and 746,077 respectively (census 2011). Bhadrak District population constituted 3.59 percent of total Maharashtra population. In 2001 census, this figure for Bhadrak District was at 3.62 percent of Maharashtra population.

2. Bhadrak District Population Growth Rate

There was change of 12.94 percent in the population compared to population as per 2001. In the previous census of India 2001, Bhadrak District recorded increase of 20.61 percent to its population compared to 1991 (Census 2011).

3. Bhadrak District Density

The initial provisional data (census India 2011), shows that density of Bhadrak district for 2011 is 601 people per sq. km. Bhadrak district administers 2,505 square kilometers of areas.

4. Bhadrak Literacy Rate

82.78 is the average literacy rate of Bhadrak in 2011 .Gender wise, male and female literacy were 89.64 and 75.83 respectively. Total literate in Bhadrak District were 1,094,140 of which male and female were 596,269 and 497,871 respectively (census 2011).

5. Bhadrak Sex Ratio

The average national sex ratio in India is 940 as per latest reports of Census 2011. Child sex ratio is 942 girls per 1000 boys (Census 2011).

6. Bhadrak Child Population

The total child population under the age of 0-6 is 184,560. There are 95,048 males and 89,512 respectively. Child Sex Ratio (Census 2011) was 942. Bhadrak district comprises of 12.25 percent of Children under 0-6. There was net change of -2.19 percent as compared to previous census of India.

Chapter: 3

FINDING AND ANALYSIS

The analysis shows that age, caste, educational status, family structure and income level plays a major role in selecting the food habits and following the food taboos among all communities.

Irrespective of communities the sample women interviewed reveal that all most all of them are following food taboos during pre and post-natal periods. However, the degree and type of following the food taboos vary from age to age, community to community and literate to illiterate. The data collected from both tribal and non-tribal areas reflected that the young age (20-25 years) women irrespective of communities are strictly following the food taboos during pregnancy. (Figure 3.1) around 42% of tribal women fall under the age categorization of 20 to 25, around 36% non-tribal women fall in this age group and with their growing age they avoid food taboos as shown in the table, where only 6% of tribal women above the age of 35 and above and 14% of non-tribal women follow food taboos (Table3.1). During interaction it was observed that the women who are going for first delivery are more adherent to the traditional food taboos. Though they are quite energetic and belong to modern age they are strictly following the societal taboos in food consumption because of the fear of losing their child.

Figure No. 3.1: Age wise distribution of tribal non-tribal and tribal women

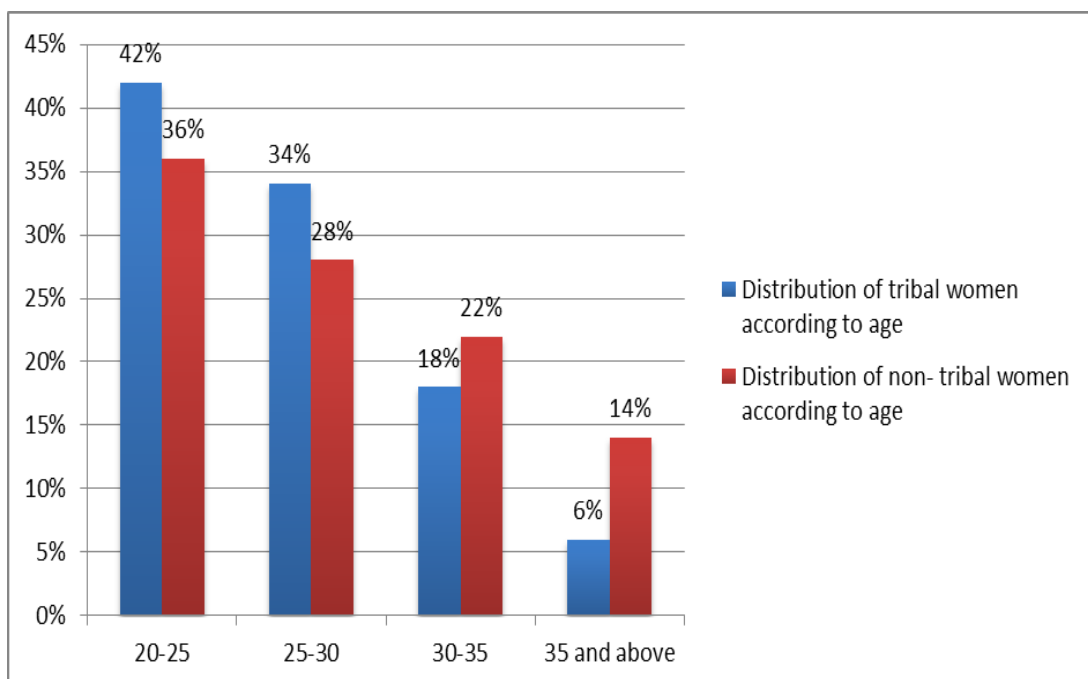


Table No 3.1 : Age wise distribution of tribal non-tribal women following food taboos during pre and post-natal period

Age wise distribution	Following strictly all food taboos in both pre and post-natal period	Following all food taboos only in pre-natal period	Following all food taboos only in post-natal period	Occasionally following taboos in both pre and post-natal period	Occasionally following taboos only in pre-natal period	Occasionally following taboos only in post-natal period	Not following any taboos	Total
TRIBAL								
20-25	10	7			4			21
25-30	13	4						17
30-35	2	5			2			9
35 and above					3			3
Total	25	16			9			50
NON-TRIBAL								
20-25	14	4						18
25-30	7	7						14
30-35	9	2						11
35 and above	3	2			2			7
Total	33	15			2			50

Education of the respondent plays a major role in deciding food habits during pre and post-natal period. The data collected from the field shows that most of the respondents are following the food taboos during pre-natal period. It is very rare to see that respondents following taboos only in post-natal period either strictly or occasionally. Around 30%

respondents are following strictly all food taboos in both pre and post-natal period, while 40% are following only in pre-natal period. In tribal sampling, mostly the primary and secondary group of women was following all taboos during their pre-natal period. Increase in education level had decreased in the restrictions of food taboos and women those who belong to higher secondary and graduate and above level are occasionally following the food taboos. The education level of tribal women is found to be very low when compared with the education level of non-tribal women. The data shows with increase in the educational level, the following of the food culture taboo is decreasing.

Table-3.2: Education-wise distribution of tribal women following food taboos during pre and post-natal period

Education al Status	Followin g strictly all food taboos in both pre and post-natal period	Followin g all food taboos only in pre-natal period	Followin g all food taboos only in post-natal period	Occasionall y following taboos in both pre and post-natal period	Occasionall y following taboos only in pre-natal period	Occasionall y following taboos only in post-natal period	Not followin g any taboos	Tota l
Illiterate	5							5
Primary	5	10						15
Secondary	5	10			6	5		26
Higher secondary					4			4
Graduate and above								
Total	15	20			10	5		50

Table-3.3: Education- wise distribution of non-tribal women following food taboos during pre and post-natal period

Education al Status	Followin g strictly all food taboos in both pre and post-natal period	Followin g all food taboos only in pre-natal period	Followin g all food taboos only in post-natal period	Occasionall y following taboos in both pre and post-natal period	Occasionall y following taboos only in pre-natal period	Occasionall y following taboos only in post-natal period	Not followin g any taboos	Tota l
Illiterate	2							2
Primary		5			4			9
Secondary	3				1			4
Higher secondary		8			11			19
Graduate and above	4	5			7			16
Total	9	18			23			50

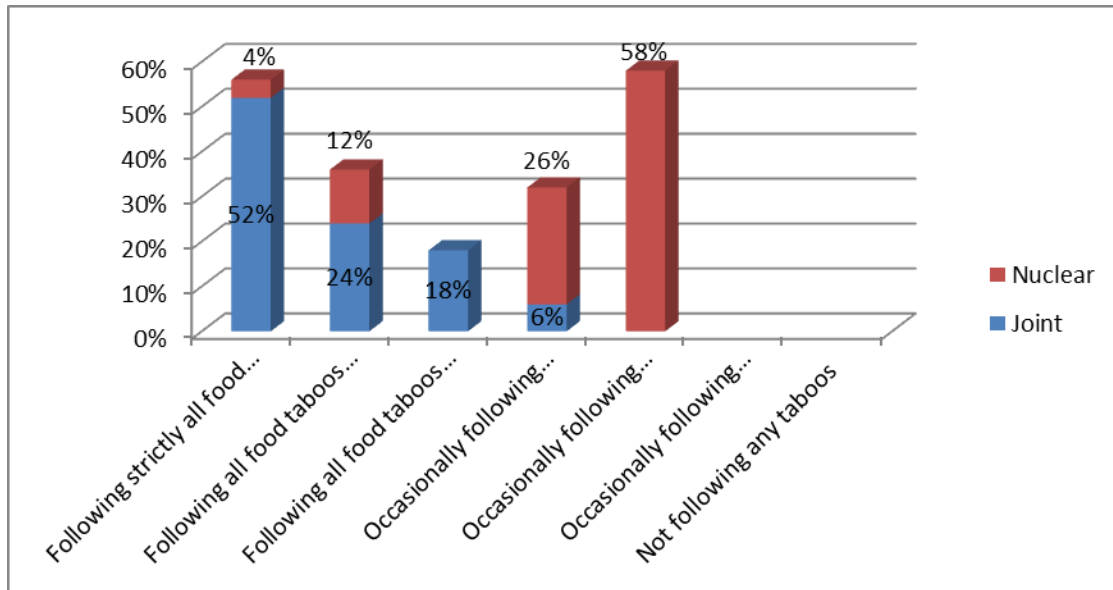
Caste diversification plays a major role in the society in adherence to the food culture taboos. In case of tribal sampling only a single tribe “oram” was found in the study. However 42% of tribal women in the village strictly follow food taboos both in pre and post -natal period and 36% of women follow such taboos only during their pre-natal period and the remaining 22% of tribal women are occasionally following taboos only in pre-natal period or only in post-natal period or both. (Table 3.4). Similarly the non-tribal women were divided into three categories according to their caste. The general caste, OBC’s and SC’S. The finding reveals that 24% of women of OBC category strictly follow the food taboos and do not have much difference from the women of general caste i.e. 20%. None of the women in both the groups are occasionally following taboos only in post-natal period.

Table No 3.4: caste and community-wise distribution of tribal and non-tribal women following food taboos during pre and post-natal period

Caste wise distribution	Following strictly all food taboos in both pre and post-natal period	Following all food taboos only in pre-natal period	Following all food taboos only in post-natal period	Occasionally following taboos in both pre and post-natal period	Occasionally following taboos only in pre-natal period	Occasionally following taboos only in post-natal period	Not following any taboos	Total
TRIBAL								
Oram	21	18		4	4	3		
Total								50
NON-TRIBAL								
General	10	4		5	2			21
OBC	12	5						17
SC	7	3		2				12
Total	29	12		7	2			50

If we analyze the data collected about the family structure from field it reflects that around 52% of the households who are joint in nature are mostly following all most all the taboos in both pre and post-natal period. Living with other family members has forced the newly married women to follow the food taboos during pregnancy. Whereas the households living in nuclear family mostly (58 %) follow the food taboos occasionally that to only during pre-natal period. None of them follow the taboos during post-natal period. During interaction some of them claimed that as they are staying in a nuclear family no body compel them to follow any food taboos.

Figure No 3.2: Family Structure of tribal and non-tribal women



As per the observation of the study, women of lower income category do not have a choice as what to eat and what to not, they used to eat whatever they could avail. However none of them followed any taboos occasionally. Either they followed strictly or they did not follow due to lack of availability. 24% of tribal women strictly follow all the food taboos in both pre and post-natal period having annual income of Rs8000 and above (Figure 3.3).women having lower income level follow fewer taboos, and 14% of them are occasionally following taboos in both pre and post- natal period. The non-tribal women having higher income level follow more taboos.

Figure No 3.3: Annual income-wise distribution of tribal women and its relation with food culture and taboos

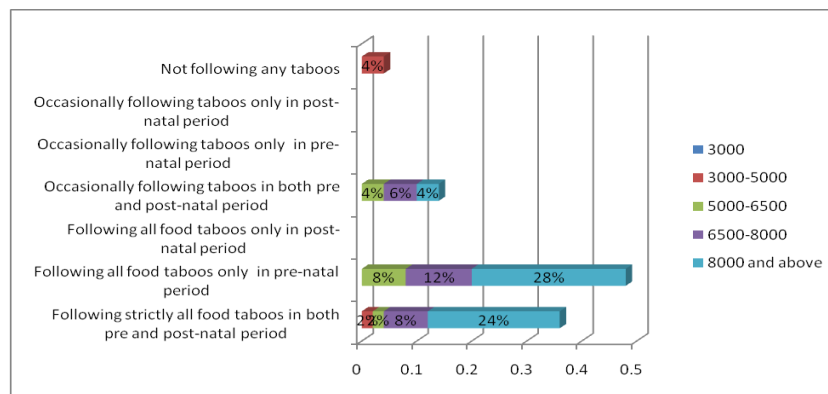
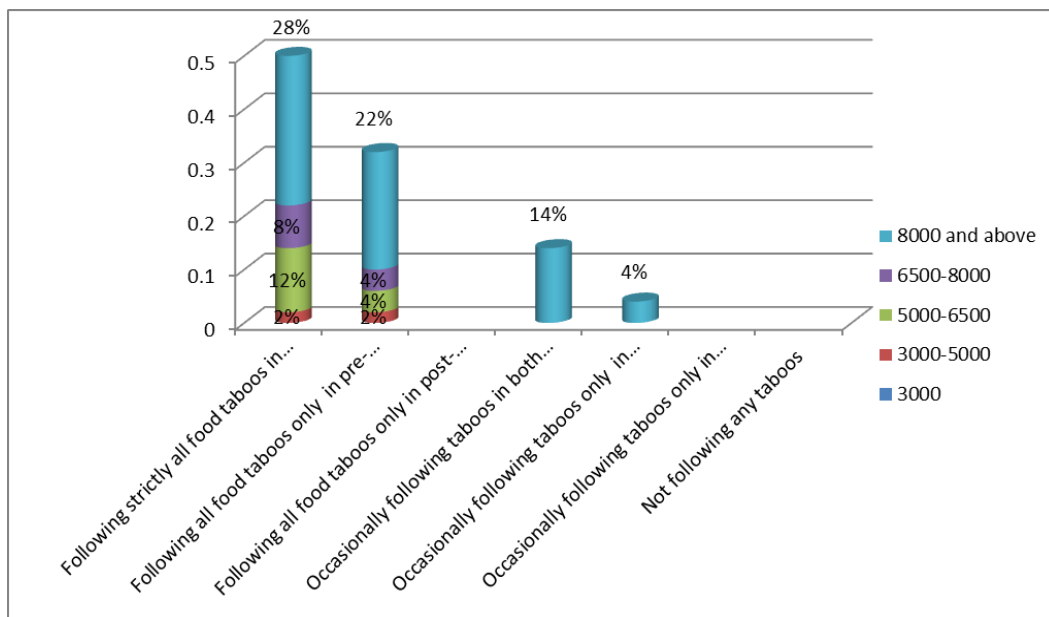


Figure No 3.4: Annual income-wise distribution of non-tribal women and its relation with the food culture taboos



Occupation depends upon the level of education. Figure 3.5 demonstrates that none of the tribal women are working which implies there is a very low standard of education in the village and not a single women is educated enough to get employment. In case of tribal women the food culture taboo is no where linked with the occupation as none of the tribal women work. But 16% of non-tribal women are working and 84% of women are non-working. However figure 3.6 shows us that most of the non-working women i.e. 52% are strictly following the food taboos in both the pre and post-natal period. 8% of working women are following taboos only in pre-natal period and 4% of working women are not following any taboos. 6% of non-working women are occasionally following only in the pre-natal period.

Figure No 3.5: Distribution of Tribal and Non-tribal women according to the occupation

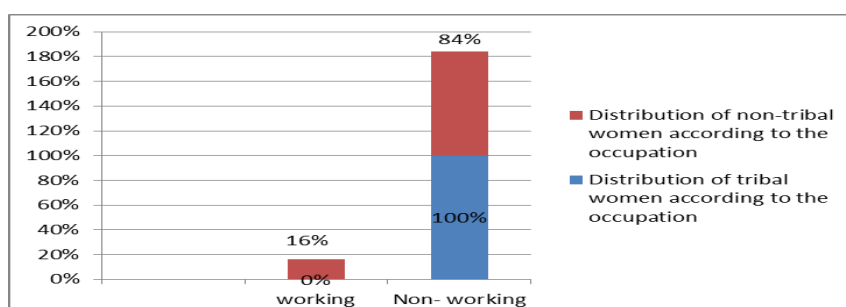
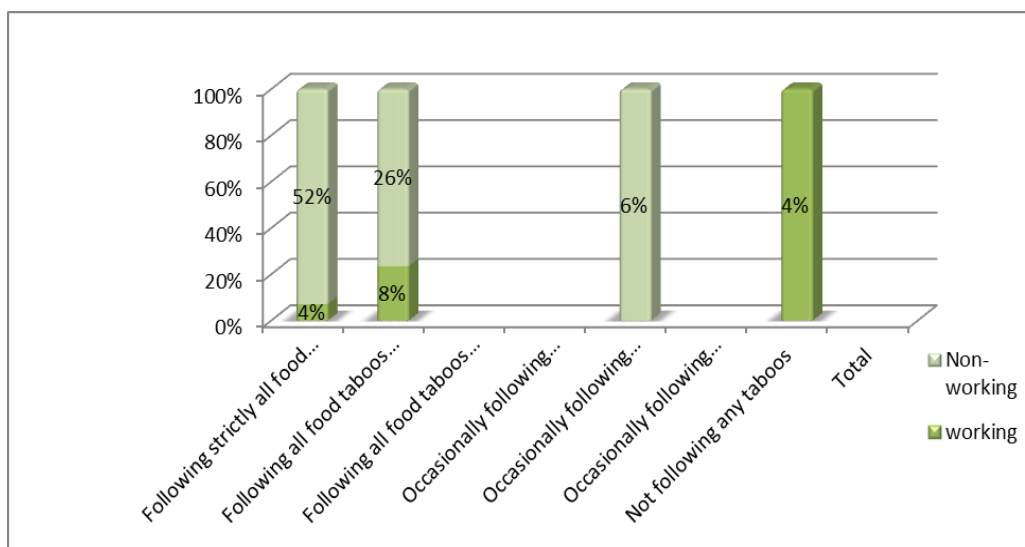


Figure No 3.6: Occupation wise response of the non-tribal women towards food taboos

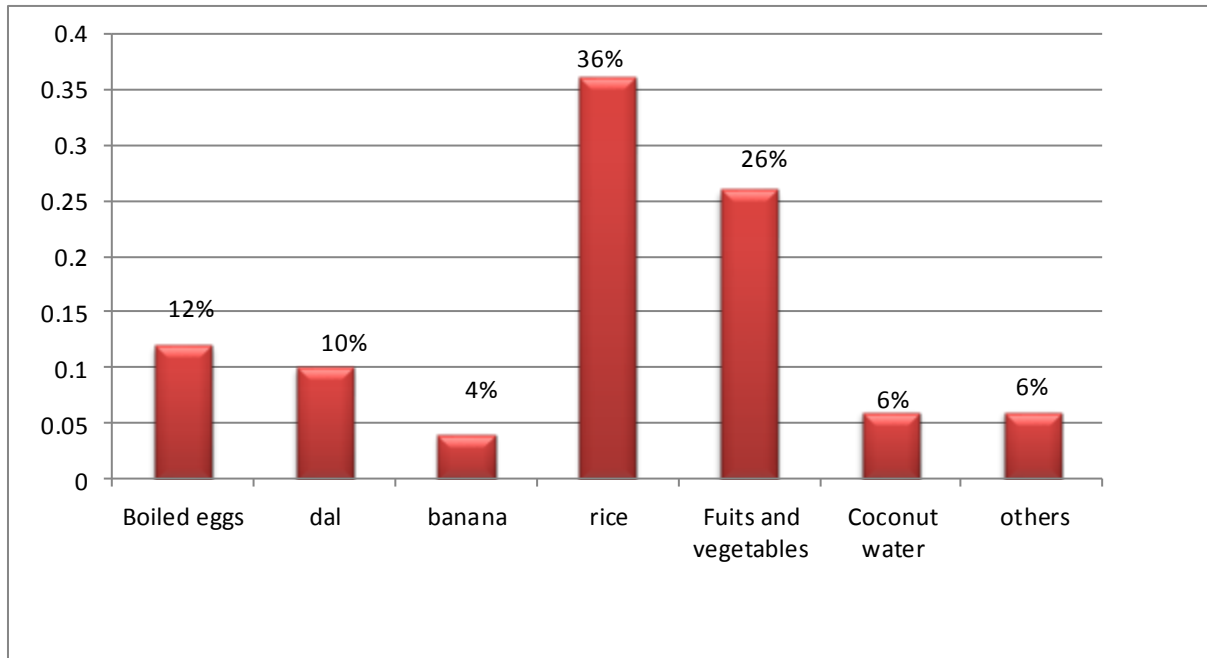


The consumption pattern of tribal women, basically includes rice, dal, boiled eggs, fruits and vegetables, coconut water and banana. The standard of living of the tribal people was poor, so most of them consumed rice and dal as the regular food. Rice was consumed by 36% (Fig No:3.7). Women who were access to a better standard of living consumed fruits and vegetables, boiled eggs and other food as well. Again they had less idea behind their consumption pattern, when asked a very general idea was communicated by the women like these foods are good for health and these foods are suggested by their elder ones. The women are not aware of their food intake.

. Table No 3.5: Food consumed during pre and post- natal period by Tribal women

Sl. no	Food items	Reason for consumption
1.	Boiled eggs	Protein and calorie
2.	dal	Highly nutritious
3.	banana	Vitamin B and C
4.	rice	Nutrients
5.	Fruits and vegetables	Needed for Baby's cell in tissue development
6.	Coconut water	Provides essential electrolytes
7.	others	Multiple answers

Figure No 3. 7 : Percentage of food consumed during pre and post-natal period by Tribal women

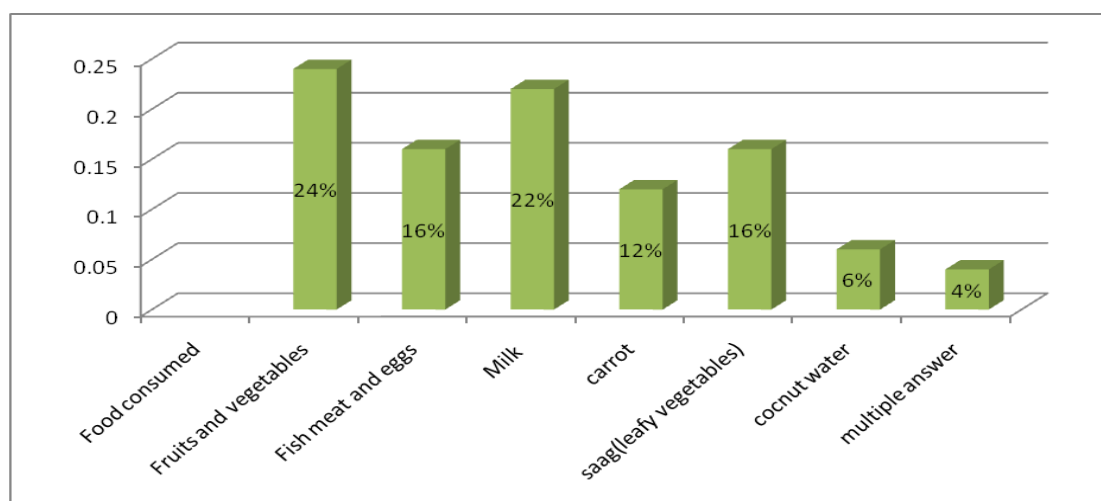


The food consumed by the non-tribal women of Bhadrak district includes various fruits and vegetables. The non-vegetarian food includes fish, meat and eggs. Figure 3.8: shows that the highest categories of food consumed by the non-tribal women are fruits and vegetables by 24%. Fruits and vegetables are rich in vitamin and calcium. 22% of milk is consumed by the non-tribal women. The earlier literature review stated that coconut water was avoided by pregnant women and the reason behind avoidance was placental disruption, but the study reveals that women of Bhadrak district do not follow such taboo and 6% of women consume coconut water. When the women are asked for the reason of the particular food consumption most of them did not know the specific reason behind each food consumed and very few were answerable.

Table No 3.6: Food consumed during pre and post-natal period by Non-Tribal women

SL no	Food items	Reason for consumption
1.	Fruits and vegetables	Needed for Baby's cell in tissue development
2.	Fish, meat and eggs	Protein and vitamin D
3.	milk	Calcium, protein and vitamin D
4.	carrot	Vitamin C, A and reduce chance of jaundice in baby
5.	Saag(leafy vegetables)	Folic acid, calcium and iron
6.	Coconut water	Provides essential electrolytes
7.	Others	Multiple answers

Figure No 3.8: Percentage of food consumed during pre and post-natal period by Non-Tribal women



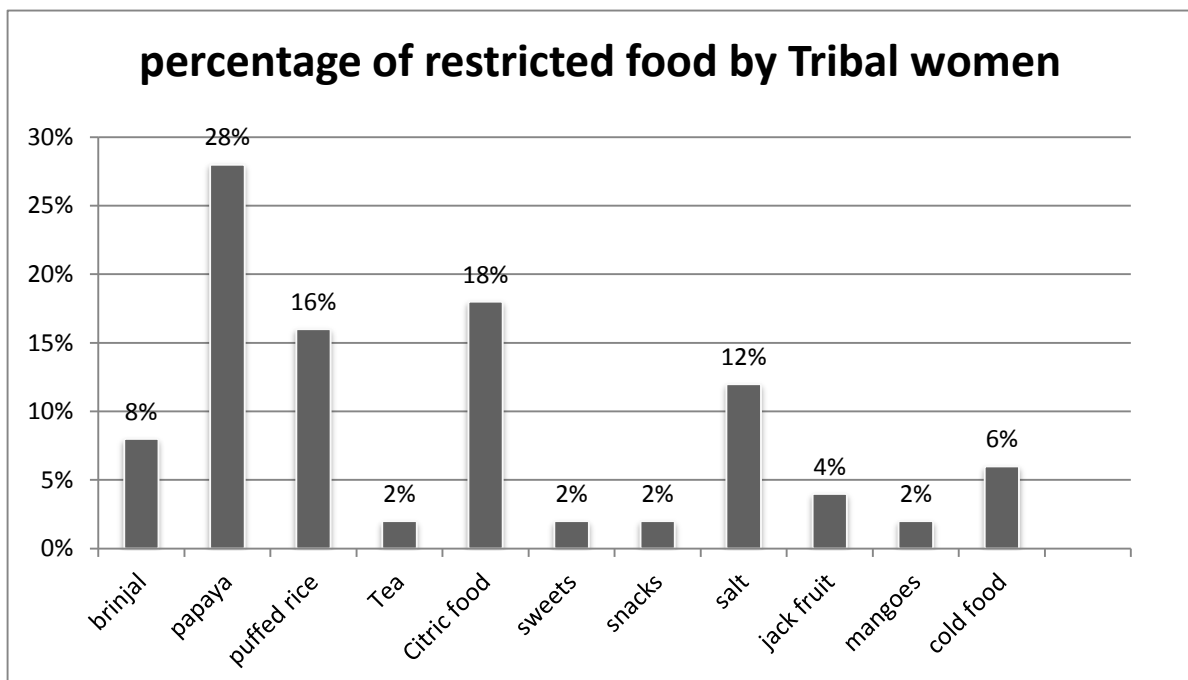
Food restrictions followed by tribal women includes many fruits and vegetables including brinjal, papaya, puffed rice, tea, citric food, sweets, snacks, salt, jackfruit, pumpkin, mangoes and cold food like cucumber and apple (Table No 3.9). The most common reason as stated by the women for the avoidance of such foods were abortion, indigestion and weakness. Figure No. 3.7: shows that 28% of tribal women restrict themselves from consuming papaya due to fear of abortion. Citric food is avoided by 18% of the tribal women and the reason stated by the women during interaction was naval infection. The most common finding in the tribal village of Dalposh reveals that almost all women in the village follow same kind of food restriction on particular food items like puffed rice, citric food and salt. Due to lack of

education in the tribal women of the village they follow such taboos blindly without knowing the actual reason behind the avoidance.

Table No 3.7: Food restricted during pre and post-natal period by Tribal women

SL no	Food items	Reason for non-consumption
1.	brinjal	indigestion
2.	papaya	abortion
3.	Puffed rice	indigestion
4.	Tea	Darkening in lip color
5.	Citric food	Naval infection
6.	sweets	indigestion
7.	Snacks(Biscuit and mixture)	To avoid white marks on baby's body.
8.	salt	Swelling of feet and palm
9.	Jackfruit and pumpkin	Stomach ache
10.	Mangoes	weakness
11	Cold food(cucumber apple)	Child would suffer from cough and cold

Figure No 3.9 : Percentage of food restricted during pre and post -natal period by Tribal women

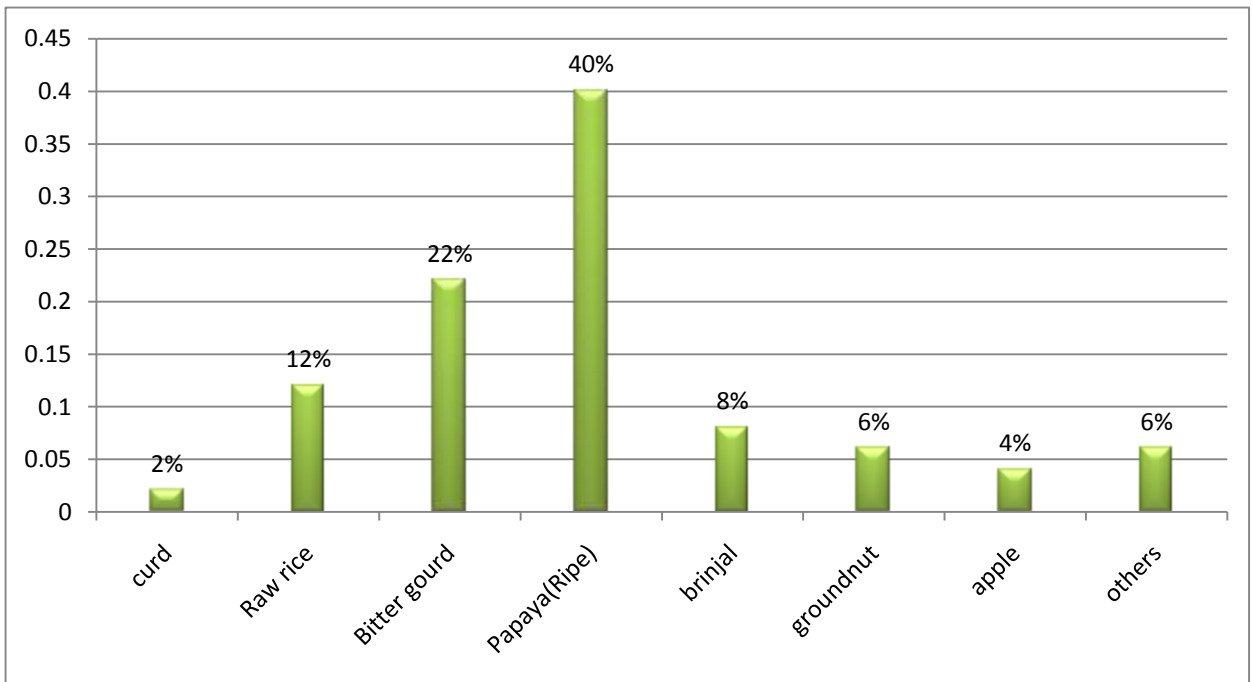


Food restricted by the non-tribal women of Bhadrak District are papaya, raw rice, curd, brinjal, bitter gourd, groundnut apples and many more. When they are asked for the reason the common answer was abortion (Fig No:3.8).40% of the women are avoiding papaya during pregnancy due to fear of abortion ,around 22% avoid the consumption of bitter gourd citing the reason that it may lead to miscarriage of child. However the only common taboo in both the tribal and non-tribal women is papaya, which has the highest percentage of restriction in both the women samples and are restricted the most during their pre-natal period and the reason is abortion. But, food restricted during this period is completely a taboo which is followed by the women in the society as these food restrictions really do not have a valid point of avoidance, in fact the foods like curd, raw rice, brinjal, groundnut, apple and bitter gourd are rich in protein and calcium and must be consumed in both pre and post-natal period.

Table No 3.8 : Food restricted during pre and post-natal period by Non-Tribal women

SL no	Food items	Reason for non-consumption
1.	curd	Excess pregnancy weight gain
2.	Raw rice	miscarriage
3.	Bitter gourd	Can stimulate miscarriage n affect the liver
4.	Papaya(Ripe)	Abortion
5.	brinjal	Acidity
6.	groundnut	Placental disruption
7.	apple	Risk of chicken pox
8.	others	Multiple answers

Figure No 3.10: percentage of restricted food by Non-Tribal women



Chapter 4

CONCLUSION

Society plays an important role in the food habits followed by the women in Odisha. The present study shows the influence of low level of education and standard of living being a major reason for food restrictions during pre and post-natal period of pregnancy. The present study has shown the comparison of food habits followed by the tribal women of Sundargarh District with the non-tribal women of Bhadrak District of Odisha. The study reveals that non-tribal women's food habits are totally different from the tribal women during their pre and post-natal period. The non-tribal women have better educational level, follow less taboos as compared to the non-educated tribal women but food culture taboos is rampant in Odisha. When we compare the standard of living of both the group of people, the non-tribal people do have a better standard of living. The findings clearly represents that innocence, illiteracy and their belief in food practices are major reason for their food avoidance in the crucial period of a women. Those cultural beliefs and food restrictions of tribal society have much negative impact on the pregnant women belonging to that particular society. It is obvious that some mothers avoid the consumption of fruits and vegetables that are rich in protein, nutrients and vitamins as well due to lack of proper information regarding the nutritional benefits.

However the low education level, income level and lack of proper nutritional information is a barricade. The food culture taboos followed in Odisha as a whole cannot be discounted from the society neither can be modified in a stipulated period of time. No doubt lack of education is barrier but the study reveals that women having proper educational level and standard of living still believes in old unscientific taboos. In the rural village of Dalposh of Sundargarh District, almost all women have same view regarding food habits they follow and when asked for the reason they were unable to answer. Even when they were asked, why do they follow all these food restrictions, they claim as others follow it, they also follow as they were scared of losing their child. It has been a culture for that particular tribal society and people are bound to follow. The restrictions to various food habits rich in vitamins minerals and nutrients are a major constraint to maternal health of an expecting mother. People follow certain restrictions without knowing the cause behind such restriction. They blindly accept the taboos that are followed in their families since generations or the food habits that are restricted by the society itself. The overall scenario in both tribal and non-tribal areas shows that the food taboos during post-natal period is all most disappearing.

Evacuation of taboos in a whole and food culture taboo in particular is a hindrance to social innovation in Odisha but this can be eradicated through proper awareness among the women by health intervention programmers and action oriented research. There is a need of consciousness about proper nutrition intake and generating awareness among women.

References

- Ademuyiwa, M.O. and Sanni, S. A. (2013). Consumption Pattern and Dietary Practices of Pregnant Women in Odeda Local Government Area of Ogun State. *International Journal of Biological, Food, Veterinary and Agricultural Engineering*, 7(11), 258–262.
- Anderson, A. S. (2001). Symposium on “Nutritional adaptation to pregnancy and lactation” pregnancy as a time for dietary change? Proceedings of the Nutrition Society, 60, 497–504.
- Antonsson, K. (2009). What is the Function of Food Taboos? Retrieved December 23, 2014, from http://writing50.weebly.com/uploads/3/3/6/5/3365789/student_sample_paper_food_taboos.pdf
- Article, O. (2013). Food preferences and taboos during ante-natal period among the tribal women of north coastal andhra pradesh. *Journal of Community Nutrition & Health*, 2(2), 32–37.
- Bhate, V., Deshpande, S., Bhat, D., Joshi, N., Ladkat, R., Watve, S., ... Yajnik, C. S. (2008). Vitamin B12 status of pregnant Indian women and cognitive function in their 9-year-old children. *Food and Nutrition Bulletin*, 29(4), 249–254.
- Chauhan, P., Chauhan, V. K. S., & Shrivastava, P. (2012). Maternal Mortality among Tribal Women at a Tertiary Level of Care in Bastar, Chhattisgarh. *Global Journal of Health Science*.
- Ferro Luzzi, G. E. (1973). Food avoidances of pregnant women in Tamilnad. *Ecology of Food and Nutrition*, 2(4), 259–266. doi:10.1080/03670244.1973.9990346
- Hutter, I. (1996). Reduction of food intake during pregnancy in rural south India. *Tropical Medicine & International Health*: TM & IH, 1(3), 399–405.
- Kim, H. W. (2009). Development of the pregnancy nutrition knowledge scale and its relationship with eating habits in pregnant women visiting community health center. *Journal of Korean Academy of Nursing*, 39(1), 33–43.

- Kuzma, J., Paofa, D., Kaugla, N., Catherina, T., Samiak, S., & Kumei, E. (2013). Food taboos and traditional customs among pregnant women in Papua New Guinea: Missed opportunity for education in antenatal clinics, *19*, 1. Retrieved from <http://search.informit.com.au/documentSummary;dn=846982897061954;res=IELIND>
- Meyer-Rochow, V. B. (2009). Food taboos: their origins and purposes. *Journal of Ethnobiology and Ethnomedicine*, *5*, 18.
- Nag, M. (2009). Beliefs and Practices about Food during Pregnancy: Implications for Maternal Nutrition. *Economic And Political Weekly*, *29*(37), 2427–2438.
- Odebiyi, A. I. (1989). Food taboos in maternal and child health: The views of traditional healers in Ile-Ife, Nigeria. *Social Science & Medicine*, *28*(9), 985–996.
doi:10.1016/0277-9536(89)90328-6
- Odisha, G. of. (n.d.-a). District Portal of Bhadrak. Retrieved December 15, 2014, from http://www.ordistricts.nic.in/district_home.php?did=bhk
- Odisha, G. of. (n.d.-b). District Portal of Sundergarh. Retrieved December 19, 2014, from http://www.ordistricts.nic.in/district_home.php?did=sun
- Ogbeide, O. (1974). Nutritional hazards of food taboos and preferences in Mid-West Nigeria. *American Journal of Clinical Nutrition*, *27*(2), 213–216.
- Omobola, O. C. (2013, May 1). An Overview of Taboo and Superstition among the Yoruba of Southwest of Nigeria. *Mediterranean Journal of Social Sciences*. Retrieved from <http://mcser-org.ervinhatibi.com/journal/index.php/mjss/article/view/209>
- Oni, O. A., & Tukur, J. (2012). Identifying pregnant women who would adhere to food taboos in a rural community: a community-based study. *African Journal of Reproductive Health*. Women's Health and Action Research Center. doi:10.4314/ajrh.v16i3.
- Ortega, R. M. (2001). Food, pregnancy and lactation. *Public Health Nutrition*, *4*, 1343–1346
- Patil, Mittal, DR, Khan and Raghavia(2010),” Taboos and misconceptions about food during pregnancy among rural population of Pondicherry” *Calicut Medical Journal* 2010;8(2):e4

- Rao, R. S. P., Lena, A., Nair, N. S., Kamath, V., & Kamath, A. (2008). Effectiveness of reproductive health education among rural adolescent girls: a school based intervention study in Udupi Taluk, Karnataka. *Indian Journal of Medical Sciences*, 62(11), 439–443.
- S, P. S. K. (2006). Taboos and myths associated with women's health among rural and urban adolescent girls in Punjab. *Indian Journal of Community Medicine*, 31(4), [4]p. Retrieved from <http://www.indmedica.com/journals.php?journalid=7&issueid=83&articleid=1126&action=article>
- Sahoo, S., & Panda, B. (2006). A study of nutritional status of pregnant women of some villages in Balasore District, Orissa. *Journal of Human Ecology*, 20(3), 227–232. Retrieved from http://search.proquest.com/docview/36593228?accountid=13042\nhttp://oxfordfx.hosted.exlibrisgroup.com/oxford?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:journal&genre=article&sid=ProQ:ProQ:ibssshell&atitle=A+study+of+nutritional+status+of+pregnant
- Section, N., & Armstrong, H. (1997). *The Care Initiative: Assessment, Analysis and Action to Improve Care for Nutrition*. New York.
- Tietjen, A. M. (2010, August 31). Symposium†: Infant care and feeding practices and the beginnings of socialization among the Maisin of Papua new guinea‡. Taylor & Francis Group. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/03670244.1984.9990808#.VUoS46eDGc>
- Verbeke, W., & De Bourdeaudhuij, I. (2007). Dietary behaviour of pregnant versus non-pregnant women. *Appetite*, 48(1), 78–86.