

Traditional Dietary Practices Followed by Gaddi Tribe of Himachal Pradesh To Manage Major discomforts and Complications Associated with Pregnancy

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ABSTRACT:

Pregnancy is such a condition which poses great stress in the physiology of a woman leading to various complications and discomforts. This is such a stage where medicines need to be avoided as far as possible. Hence, traditional practices play a major role, especially in the case of tribal people as they live in far away and remote places where reaching medical care requires time. This study was conducted on Gaddi tribe of Bhawarana block in Kangra District of Himachal Pradesh. The objective of the study was to document the traditional dietary practices followed to manage discomforts and complications faced by pregnant women. For this study, 100 tribal women of 40 years and above from four villages were interviewed with the belief that these women would have vast experience and knowledge of the ancient traditions as compared to those who delivered babies recently (Past 1 or 2 years). The documented practices were further validated scientifically by the experts from the fields of Nutrition, Gynecology and Ayurveda on three-point continuum as scientific, unscientific, and uncertain. The information from experts was collected using questionnaire technique. The traditional practices were also validated through Ayurvedic documents. The dietary practices followed to manage discomforts and complications during pregnancy among tribal people were followed based on the hot and cold nature of foods.

Keywords: *Indigenous People, Traditional Medicine Policies, Social Inequality*

Background

Pregnancy which begins with conception, is a natural physiological phenomenon of human beings to continue their off springs. A woman's body houses the fetus maintaining the ideal environment for its growth, protecting it from injury and providing it with nutrients. Childbearing also imposes a great strain on the would-be

mother as she must fulfill her own requirements and that of her child too. During pregnancy various alterations in pregnant women's body chemistry and function takes place as the heart has to work harder, the body temperature gets slightly higher, body secretions increase, joints and ligaments become more flexible and there is hormonal alteration too. This all leads to certain complications to pregnant women. Majority of the women faces the problem of morning sickness during their 1st trimester of pregnancy. They also suffer with constipation, anemia, swelling on limbs, backache etc. Although the medical field has attained great technological advancements to manage any disease but during pregnancy women are advised by the physicians not to take medicines as far as possible, hence traditional practices play a major role for curing these problems at household level by either modification in the diet or by the use of some medicinal plants.

Since Himachal Pradesh is a house of numerous tribes like Kinnaur Tribe, Gujjar Tribe, Lahauli Tribe, Gaddi Tribe, Swangla Tribe, Pangwal, and Khampa Tribes and these people reside in such remote areas where reaching to medical facilities is a big issue. Out of all the tribes Gaddi tribe constitutes 45.4 per cent of the Scheduled tribe of the state as per census record 2011. These tribal people have a nomadic style of living and keep on moving to higher hills and lower hills of the state as per season with their sheep flocks. During their movements to different forests, they come across various medicinal plants which are used to cure their common ailments. Thus, it is very true to say that these tribal people have vast indigenous technical knowledge due to the reasons that they are not able to reach the medical facilities easily and timely, they have nomadic style of living, and they are living in an area full of flora having medicinal value. Thus, the present study was conducted to document the traditional dietary practices followed by Gaddi tribal women to manage common problems during pregnancy with logics and to scientifically validate these practices with the help of experts and using ayurvedic literature.

Method

For exploring the management of discomforts / complications like morning sickness, constipation, swelling of limbs and backache during pregnancy an effort has been made to document Traditional dietary practices followed by the women. For this 100 Gaddi married women aged 40 years and above were interviewed with the belief that these women have vast experience and knowledge of the ancient traditions as compared to those who delivered babies recently (Past 1 or 2 years). The sample was selected from 4 tribal dominant villages, viz, Bundla, Rakh, Bindraban and Mehnja of Bhawarana Panchayat samities of Kangra district of Himachal Pradesh.

These documented practices were further validated scientifically by two ways

1. Through the opinion of 12 experts from the fields of Nutrition, Gynecology and Ayurveda on three point continuum as scientific, unscientific and uncertain using questionnaire technique.
2. With the help of Ayurvedic literature by studying the properties of the foods mentioned by the Gaddi women.

Result and Discussion

Pregnancy brings a lot of changes in women's body which is felt and visible by various types of complications being faced by pregnant women during 3 trimesters of pregnancy. During the first trimester of pregnancy, it has been reported in various studies that 70 percent of women suffers from morning sickness. It starts as early as the sixth week of pregnancy, but the exact timing varies. Most people experience signs of morning sickness before nine weeks of pregnancy. Common signs and symptoms of morning sickness include an upset stomach (nausea), loss of appetite and vomiting. Some people describe morning sickness as feeling like [Heartburn](#) or reflux, Seasickness or [motion sickness](#), Something is stuck in their throat and Hunger pangs. Pregnancy when entered in the third trimester also brings special problems to the pregnant women's life. During this trimester the fetus develops fully. The pressure of the developing fetus on the digestive tract makes the elimination of waste product from the body difficult at times. Thus this calls for a common problem of constipation among pregnant women. During pregnancy many women suffers from the problem of Swelling of limbs. It is caused due to body holding more water than usual during pregnancy. The pressure of pregnant women's growing womb can also affect the blood flow in legs which leads to building up of fluid in pregnant women's legs, ankles and feet. Gaddi women manages it by three ways one by feeding hot food as they believe that it is the result of coldness inside the body, secondly by avoiding certain food items and third through massaging. Backache is also experienced by pregnant women usually during the second half of pregnancy. During pregnancy, the ligaments in the body naturally become softer and stretch to prepare for labour. This can put a strain on the joints of lower back and pelvis of pregnant women, which can cause back pain. Traditional management for all these complications along with scientific validation by experts as well as ayurvedic literature was reported in Table 1 and the parts of plants and other traditional food items used during these complications were illustrated in Fig1-5.





Table 1. Traditional dietary practices followed by Gaddi tribe to manage pregnancy related complications and discomforts alongwith scientific validation





S.No.	Traditional foods Quantity and Ingredients	F/% (N=100)	Logics	Experts Opinion (12)	Ayurvedic Literature	Information related to practice
Morning Sickness						
1.	Cooked rice water (lugdi/maand) as per desire -rice, water and salt	21	Believed to be cool and gives a felling of cool heartedness. Salt is added to have a better taste.	6 (50)	1(8.33) 5(41.66)	S Drinks like these were given as they were not ejected by the ladies
2.	Lemon water (as per desire)	15	Cool, thus gives a better felling.	10 (83.33)	2(16.66)	S Ayurveda mentions the giving of such cold drinks
3.	Tamarind juice (1/4 glass/day)	11	Sore, salty and sweet in taste gives a better feeling.	6(50)	5(41.66) 1(8.33)	UA
4.	Onion and ,mint juice (as per desire)	10	Gives a cool hearted Felling.	12 (100)		S Ayurveda mentions giving of fruits during the problem
5.	Orange (as per desire)	8	It's cool in nature and provides better felling.	7(58.33)	3(25) 2(16.66)	S It helps in digestion &increases appetite
6.	Churan (1 tsp per day) -kooja ki mishri (1 piece), saunf (50gm) and ajwain (10gm)	7	Kooja ki mishri is cool whereas saunf and ajwain helps in proper digestion of food.	9 (75)	1(8.3) 2(16.66)	S Saunf &mishri are cool in nature and increases appetite. Ajwain to be added in small amounts as although it helps in

									digestion but in excess, it may leads to abortion.
Constipation									
1.	Harad (piece)	(^{1/4})	35		12			S	Helps in digestion and functioning of liver
					(100)				
2.	Ajwain (glass/ day or 1 tsp/day)	(^{1/2})	30		5	7		NS	It may lead to abortion and is constipatious in nature
					(41.66)	(58.33)			
3.	Saag (As per desire) Palak and few leaves of <i>dudhli</i>		15	Helps in proper digestion	12			S	It helps in digestion, pushes down the excreta and stimulates the liver and the intestine
					(100)				
4.	Kadha (glass/day) of <i>Mullathi</i> (1 piece) and <i>Chotti elachi</i> (2)	(^{1/2})	17	Helps to remove indigestion/ dyspepsia	9	3		NS	Constipation removing properties are not present in both the items
					(75)	(25)			
5.	Moong dal (as per desire)		13	Helps in better digestion	12			S	Helps in digestion and functioning of liver
					(100)				
6.	<i>Sanai leaves</i> (3-4)		13	Logic not known					
Swelling on limbs									
1)	Food Given:								
	Kadha (glass/day) chotti elachi(2-3), cloves((4-5), sugar as per taste	(^{1/2})	26	Swelling is due to coolness and these foods were hot in nature.	4	3	5	NS	No such properties are present in the material which helps in reducing swelling
					(33.33)	(25)	(41.66)		

	Akashbel, a climber (as per desire)	16		3	4	5	S	It is demulcent (soothens skin) and emollient (soften the skin)
			These were given at night as there is no contact with outside air.	(25)	(33.33)	(41.66)		
2)	Foods Avoided:							
	Potato	10	It cause obesity	4	8		UA	
				(33.33)	(66.66)			
	Raddish	47	It's of cold nature and thus aggravates the problem	5	7		UA	
				(41.66)	(58.33)			
	Rice	43						
3)	Other Practices:							
	Massaging with alsil oil, banah and ghandla(as per required)		Reason not known	4		8	S	Its of hot nature and act as demulcent and emollient
				(33.33)		(58.33)		
Backache								
1)	Roasted sonth (1/2 bowl/day)	45		7	3	2	S	Provides strength and hot in nature thus reduces pain.
	-Sonth (small piece), deshi ghee (in good amount)		Provides strength if backache is due to weakness	(58.33)	(25)	(16.66)		
2)	Methi Doodh (as per desire)	28		6	1	5	S	Reduce pains and stimulates the nervous system.
	-* Methi (2 tsp), milk (1 glass)			(50)	(8.33)	(41.6)		
3)	* Chora, a herb (1/4 to 1/2 glass/day)		Hot in nature and thus avoids backache due to coolness.	1	1	10	S	Provides strength, hot in nature and reduces pains.
				(8.33)	(8.33)	(83.33)		

Source: S-Scientific, US- Unscientific, UC- Uncertain & S- Supporting NS-Not supporting ,UA- Unavailable

	
<p>Fig 1 Kooja ki mishri</p>	<p>Fig2 Sanai leaves (<i>Sepala obtuse V. acutiusula</i>)</p>
	
<p>Fig 3:Dhudli</p>	<p>Fig: 4Gandhla (<i>Murraya koenigii spreng.</i>)</p>

	
<p>Fig 5:Banah (<i>Vitix negundo</i>)</p>	<p>Fig 6Sonth (<i>Zingiber officinale L.</i>)</p>
	
<p>Fig 7 Chora (<i>Angelica glauca</i>)</p>	<p>Fig 8Akashbel (<i>Cuscuta reflexa</i>)</p>

In a study of dietary management of morning sickness among Gaddi tribal women it was observed that it is considered as an usual problem during pregnancy and only very few respondents(1-21%) reported the giving of something special food to cure the problem. Table 1 depicts that the Gaddi women reported giving of foods like cooked rice water (*lugdi*) with salt(21%), lemon water with salt and sugar (15%), onion and mint juice with salt(10%) and orange (8%). The Gaddi women believed that morning sickness is the result of heat in the body and all the foods mentioned above were of cool nature and gave a cool hearted feeling to the pregnant women and thus

relieves her from morning sickness. Giving of tamarind juice with salt and sugar was reported by 11 percent of the respondents with a logic that because of its sour, sweet and salty taste it overcomes morning sickness. Churan made of *saunf*, *ajwain* and *Kooja ki mishri* was reported by 7 percent of the women with the reason that *ajwain* and *saunf* helps in proper digestion and *kooja ki mishri* is of cold nature. All the practices were judged as scientific both by the experts and ayurvedic literature with the reason depicted in the ayurvedic literature that fluids are less ejected by the pregnant women, it provides coolness in the body, enhances digestion and appetite of the pregnant women. Giving of tamarind juice is also considered as scientific by experts but there is no ayurvedic literary evidence w.r.t such practice hence this dietary practice needs to be further explored. Levy *et. al* 2013 in a study on Influence of gender roles and rising food prices on poor, pregnant women's eating and food provisioning in Dhaka, Bangladesh mentioned that the classification of foods as either "hot" or "cold" in some Asian countries has an impact on pregnant women because pregnancy is understood as a hot condition, and thus they avoid "hot" foods.

Regarding the issue of constipation Table 1 indicates that approximately one-third of the respondents (35 and 30%) reported the giving of *harad* (*Terminalia chebula*) as $\frac{1}{4}$ piece for sucking and boiled *ajwain* water as half glass per day or *ajwain* with sugar as 1 tsp per day. Approximately one-sixth of the respondents reported that *kadha* of *mullathi* (*Glycyrrhiza glabra*) and *chotii elachi* (*Elettaria cardamomum*) was also given to cure the problem. Followed by this about 15 percent respondents reported that to cure this problem a green leafy vegetable (*saag*), that is palak with the addition of few leaves of *dudhli* (*Euphorbia Hirta*) was given as per desire of the pregnant lady. Moong dal as per desire and 3-4 leaves of *Sanai* (*Sepala obtuse V. acutiusula*) was reported to be given by 13 percent of the respondents. Gaddi tribal women reported that all the mentioned dietary management practices helps in proper digestion of food, except the *Sanai* leaves whose logic was unknown to them. Trotter *et.al.*2012 suggested that an increase in dietary fibre and fluids, as well as daily exercise can help overcome the problem of constipation among pregnant women. In a study by Hassan *et.al.*2019 on 300 pregnant women from six maternal and child health centers in El-Mahalla Elkobra 14.3per cent, 11.3per cent and 5.0percent of the study subjects used to eat more fresh vegetables, chicory, and fruits, increased fluid intake and took yogurt, respectively to avoid the problem of constipation. About the scientific validation of the dietary practices followed in case of constipation during pregnancy it was seen from Table 1 that the practices of giving *saag*, *harad* and moong dal were considered as scientific both by the experts and ayurvedic literary evidence with the reason that these foods help in digestion, functioning of liver and intestine and this all is necessary for pushing the excreta down. However regarding feeding of

Kadha made of mullathi and chotti elachi 75 percent of the experts recognize it as a scientific practice but the ayurvedic literature was not supporting it as none of the ingredients used in *kadha* have constipation removing properties. Ayurveda did not support giving of *ajwain* to pregnant women as it may lead to abortion regarding useful practices, 14.3%, 11.3% & 5.0% of the study subjects used to eat more fresh vegetables, chicory, and fruits, increased fluid intake and took yogurt respectively.

For the management of swelling of limbs during pregnancy, Gaddi tribal women use to give some decoctions, avoid certain foods and do massaging practices. Table 1 reports that 26 percent respondents used to give hot foods like *Kadha of chotii elachi (Elettaria cardamomum)* and *cloves (Syzygium aromaticum)* and few respondents (16%) reported the giving of *akashbel (Cassytha filiformis)* a climber used by boiling. Some time it was also used for massaging. Similar to it 11 percent respondents also reported that *heated alsi oil with banah (Vitex negundo)* and *gandhla* (local herbs) was massaged on affected parts to get relief. These practices were followed at night. Apart from giving such foods the Gaddi tribe women also prefer to avoid food stuffs like raddish (47%), rice (43%) and potato (10%) to pregnant women in such condition. The reason was that raddish and rice were believed to be cool in nature and aggravates the problem whereas potatoes were found to be a causative factor for obesity. Catherin *et.al.* 2015 in a study on Beliefs and practices regarding nutrition during pregnancy and lactation in a rural area in Karnataka, India: a qualitative study found that all mothers believed that certain foods like potatoes, spices, fish, sesame, etc. were avoided to various extents in the diet by pregnant women. Regarding the scientific validation of the practices used to manage / cure swelling, however 41.66 per cent of the experts were uncertain about the use of *Akashbel* decoction but the ayurvedic literature supports the practice as *akashbel* has demulcent and emollient properties. Regarding feeding of *Kadha of chotti elachi, cloves and sugar* 41.66 per cent of the experts were uncertain and ayurveda did not support it too. The practice of not taking potato, rice and radish was considered as unscientific by more than half of the experts and regarding this no ayurvedic literature was available. Massaging with oil was considered as scientific practice as it has been worth mentioned in ayurvedic literature that the items like *banah* and *gandhla* used in oil is of hot nature and act as demulcent and emollient

Visualization of Table 1 further reports that to overcome the problem of backache during pregnancy 45 percent of the Gaddi tribal women used to give roasted sonth as $\frac{1}{2}$ bowl/day. The giving of methi doodh to the sufferer pregnant lady was reported by 28 percent respondents with the logic that methi doodh and roasted sonth provides strength and removes pain due to weakness. Nearly one-fifth

respondents reported to gave *chora*, a herb (*Angelica glauca*) by boiling as $\frac{1}{4}$ to $\frac{1}{2}$ glass a day. The practice of giving roasted sonth / methi doodh / chora was quantified as scientific by 58.33 and 50 per cent of the experts respectively . This practice was also supported by ayurvedic literature as these foods were strength providing, hot in nature and reduces pain. While (83.33%) experts were uncertain about the practice of giving *chora*

Conclusion

Tribal people resides in a very different terrain and topography where the approachability to basic infrastructural facilities is difficult. These people have abundance of forest areas which are a store house of various types of medicinal plants. These two factors make tribal people to build their own powerhouse to solve their problems with the available resources and that's why they are rich reservoirs of traditional knowledge and practices. These people try to solve their minor illnesses using their local wisdom. In case of pregnancy where doctors avoid to recommend medicines these people solve them by modifying their dietary practices and making use of some herbs to overcome their problems. Pregnancy covers three trimesters and brings lots of changes in the would be mothers life which may result in various complications/ discomforts like morning sickness, constipation, swelling on limbs , backache etc. The tribal women associates all these discomforts with the heat and coldness in the body. The tribal women use to serve decoctions of local herbs to keep the body warm and to reduce warmth from the body fluids, and churans made of items having cool *taseer* were given to pregnant women.

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