

A STUDY ON THE USE OF MEDICINAL PLANTS DURING PREGNANCY IN BANDIPORA DISTRICT OF KASHMIR VALLEY

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ABSTRACT

The state of Jammu and Kashmir covered by lofty mountains hang dense forests everywhere consists of three divisions i.e., Jammu division, Kashmir division and Ladakh division, and the state is further divided into 22 districts. Kashmir division consists of 10 districts each whereas Ladakh division consists of 2 districts. In Kashmir valley out of 10 districts Bandipora district located on the banks of Wular Lake, rich in medicinal plants was chosen for our study. In 2011 census, Bandipora had population of 392,232 of which male and female were 207,680 and 184,552 respectively. Plants have been traditionally used for hundreds of years throughout globe as a source of medicine. In the state of Jammu and Kashmir forest resources have played the most significant role in the economy of the state. The present study was conducted to know the attitude of women towards use of medicinal plants during pregnancy. In this paper, a well designed and validated questionnaire was used to collect the information from a sample of 400 women pregnant or having children selected randomly from Bandipora district of Kashmir valley. The results obtained from the data collected reveal that women show positive attitude towards the use of medicinal plants during pregnancy. They further revealed that due to less expenditure and lack of medical facility they are encouraged by elders to use medicinal plants. It is concluded from our study that there is an urgent need of giving mass awareness on importance of forests and medicinal plants to the women of Kashmir valley. Finally, suggestions were given which definitely help in conservation of the fast eroding precious medicinal plants of the Kashmir valley.

Keywords: Bandipora, Attitude, Pregnancy, Medicinal plants, Forests, Kashmir Valley

1. INTRODUCTION

The traditional health practices in Kashmir are as old as by the authorities. Modern science, in the recent years, has validated several medical practices rooted in Unani science's ancient wisdom. Its basics, diagnosis and treatment methods are based on scientific principles and a broad approach, which takes into consideration each person in relation to his/her environment and stresses on the health of the body, soul and mind. Conception and pregnancy are the most complex creative phenomena that are happening on the earth. Millions of women give birth every year, and nearly a third of women will have some kind of pregnancy-related complication who don't get proper prenatal care. The complications won't found or dealt soon can lead to potentially serious problems for both the mother and her baby. It is important to start prenatal care as early as possible, preferably, before a woman even becomes pregnant. Of course, this isn't always practically possible. But the sooner in pregnancy good care begins the better for the health of both mothers and their babies. It is suggested that prenatal care should start before one get pregnant. In case of any illnesses or other conditions that could affect your pregnancy e.g., a women is already being treated for a chronic condition, such as diabetes, asthma, hypertension (high blood pressure), a heart problem, allergies, lupus (an inflammatory disorder that can affect several body systems), depression, or some other condition, should talk to doctor about how it could affect a pregnancy. In some cases, person may need to change or stop certain medicines especially during the first trimester (12 weeks) to reduce risk to the fetus. For example, women with diabetes must take extra care to keep their blood glucose levels under control both before they begin trying to conceive and during pregnancy. Abnormal levels can increase the risk of birth defects and other complications for both mothers and their babies. It's especially important for women who plan to become pregnant to take proper diet and it's never too late to get the care that will help to protect health of women and her baby. Recently, (Sabahat, Bilal et al ., 2018) discussed the problems in conceiving and treatment via Unani medicine. If a women is in good health and has family elders support then there is no need to worry. In case facilities are available she should have routine medical checkup otherwise remain in touch with the experienced elders. For baby's sake and mothers, it's important that women should take good care during pregnancy. The women must be aware that pregnancy can cause a number of uncomfortable (but not necessarily serious) side effects, including: (i) nausea and vomiting, especially early in the pregnancy, (ii) leg swelling (iii) varicose veins in the legs and the area around the vaginal opening (iv) heartburn and constipation (v) bakache (vi) fatigue and (vii) sleep loss. A women facing any one of these problem should consult a doctor or elder expert person. A women might feel embarrassed to ask many questions, but it's important to do so and remember, health care provider has heard them all before. The state of Jammu and Kashmir consists of three divisions i.e., Jammu division having 10 districts, Kashmir division 10 districts and Ladakh division having two districts. In this paper,

we select district Bandipora of Kashmir valley for study. Bandipora is located on the banks of Wular Lake, one of the largest freshwater lakes in Asia and rich in medicinal plants. The district has three tehsils, viz. Gurez, Sonawari and Bandipora. In 2011 census, Bandipora had population of 392,232 of which male and female were 207,680 and 184,552 respectively. Plants have been traditionally used for thousands of years throughout globe as a source of medicine and regarded potentially safe drugs. Plants have been playing a significant role in alleviating human sufferings by contributing herbal medicines in the primary health care systems of rural and remote areas where more than 70% of the population depends on folklore and traditional systems of medicines. The reason for the popularity of medicinal plants is due to the high cost, non availability of immediate medical facilities in remote areas and side effects of allopathic medicines. The present study in view of the literature available (e.g., Ara 1992, Nawchoo 1995, Kaul 1997, Tantray 2009, Bhat 2012, Syed Naseem et al 2017) was conducted in Bandipora district a well known region for the growth of medicinal plants with an aim to know the attitude of women towards use of medicinal plants during pregnancy. Treatment using medicinal plants is less costly as compared to modern medical treatment so poor people especially people living in rural areas prefer this treatment. The various studies (Geelani et al., 2017, Bhat et al., 2018) conducted in Kashmir valley reveal that people in Bandipora district of Kashmir use the medicinal plants for the treatment of various diseases. The table below shows few plants which are used by females and children's for the health benefits and treatment of various diseases.

Some locally available medicinal plants of Bandipora District Kashmir Valley

BOTANICAL NAME/ LOCAL NAME/ FAMILY	PLANT PART USED	AILMENTS	MODE OF ADMINISTRATION
<i>Adiantum venustum</i> D.Don. Kakbai (Pteridaceae)	Whole Plant	Cough, jaundice, stomach ailments, headache, fever, body muscular pains and hair fall.	Black stalks are used as tooth sticks to clean teeth. Dried fronds are crushed to obtain powder. Powder is added to a glass of water and kept as such overnight. The extract is given next day early in the morning for the treatment of cough, jaundice and stomach ailments. The herb forms an important ingredient of a combination of several different herbs such as

			<p>whole plants of <i>Cotula anthemoides</i>, leaves of <i>Ocimum basilicum</i> and leaves and flowers of <i>Prunella vulgaris</i>. This combination, locally called “Lossa Ghasa” is thoroughly boiled in water to prepare hot water extract.</p> <p>Ladies, after their deliveries, are advised to have bath with this hot water extract (after dilution with more water) to cure headache, fever, body muscular pains and hair fall.</p>
<p><i>Brassica oleracea</i> var. <i>haka</i> Linn. Hakh (Brassicaceae)</p>	Leaves	Corns and constipation.	<p>Leaves are taken as vegetable. Fresh leaf is gently placed in warm mustard oil with haldi and salt till it becomes soft. It is then tightly tied with muslin cloth on painful corns of toes and fingers which helps them to ripe, burst and evacuate the pus and hence to alleviate the pain. The petiole of the leaf after peeling off the rind is placed in the rectum of the new born baby as a best home remedy to cure constipation.</p>
<p><i>Calendula officinalis</i> Linn. Hamesh Bahar (Asteraceae)</p>	Leaves and Flowers	Boils, burns, eyelid abscesses and pneumonia.	<p>Leaves and flowers are crushed and paste is made by mixing with cow butter. Paste is then applied on boils, burns and abscesses of eye lids to give relief from pain. Poultice is made by crushing of fresh leaves and flowers which is slightly warmed and then spread on a cloth and tied on chest to cure pneumonia in children.</p>
<p><i>Centaurea iberica</i> Trevir. ex Spreng.</p>	Leaves and Thorns	Burns, skin rashes, eye vision	<p>Thorns are burnt to get ash which is mixed with cow butter</p>

<p>Krech (Asteraceae)</p>		<p>and defective lactation.</p>	<p>to make paste. Paste is applied on burns and skin rashes for their treatment. Fresh leaves after crushing are mixed with egg and then cooked to prepare omlette. Latter is given to improve the eye vision. It is also given to enhance lactation in females.</p>
<p><i>Cichorium intybus</i> Linn. Kasni/Wari Hundh (Asteraceae)</p>	<p>Leaves</p>	<p>Body weakness, loosening of joints, body muscular pains, frequent bleeding, loss of appetite and liver problems.</p>	<p>Leaves are cooked and given to fresh mothers to cure body weakness, loosening of joints, body muscular pains, frequent bleeding and as appetizer and liver tonic.</p>
<p><i>Cydonia oblonga</i> Mill. Bumchuont (Rosaceae)</p>	<p>Seeds, fruits and flowers.</p>	<p>Constipation, birth problems, jaundice, cough, cold, chronic constipation, fever, dysentery, blood purifier, asthma, chest problems, general body weakness and body muscular pains.</p>	<p>Seed infusion is given to pregnant women against constipation and to loosen body parts so as to facilitate the normal delivery. The seeds also form an important ingredient of a combination of different herbs such as seeds of <i>Cucumis sativa</i>, <i>Malva neglecta</i>, <i>Foeniculum vulgare</i>, fruits of <i>Zizyphus jujuba</i>, leaves and flowers of <i>Arnebia benthamii</i> and fronds of <i>Adiantum capillus-veneris</i>. This combination is locally called as “Sharbeth”. The composite decoction of “Sherbeth” is given to cure jaundice, cough, cold, chronic constipation, fever and as a good blood purifier. Fruit slices are sun dried, stored for winter season. Slice decoction is administered orally in case of dysentery. Ripe fruits after being coated externally</p>

			with a thin layer of mud are roasted and then eaten as a best home remedy against asthma, cold, chest problems and general body weakness. Sundried flowers and sugar after mixing are crushed. The same is then kept in air tight jar for about 10-15 days for fermentation. This fermented mixture is locally called “Khambir Bihi”. It is given to cure cough, cold, asthma and body muscular pains.
<i>Daucus carota</i> Linn. Moharmunj Ghasa	Roots	Dysuria, digestive disorders and fatigue.	Roots at juvenile stage are considered highly energetic and are consumed raw by the local livestock grazers while travelling long distances by foot to give relief from painful and difficult urination.
<i>Euryale ferox</i> Salisb. Juwar/Kena bub (Nymphaeaceae)	Seeds	Stomach problems, whooping cough, semen deficiency and weak libido.	Dried seeds are considered highly energetic and are eaten against stomach problems, whooping cough, semen deficiency and to increase libido. Kashmiri Pandiths considered the seeds as ‘sacred’ because they used to break their fast by eating the bread prepared from its flour.
<i>Foeniculum vulgare</i> Mill. Bodiyaan (Apiaceae)	Whole plant	Dyspepsia, acidity, constipation, abdominal pain, Jaundice, cough, cold, chronic constipation, fever, blood purifier and joint pains.	Seeds are eaten to cure dyspepsia, acidity and constipation. In case of abdominal pain and constipation of a small baby, seeds are chewed to make paste which is applied respectively on abdomen and buttocks. Dried seeds form an important ingredient of “Sharbeth”. The

			composite decoction of “Sherbeth” is given to cure jaundice, cough, cold, chronic constipation, fever and also acts as a good blood purifier. Seeds are also eaten to abstain from smoking. Whole plant is burnt to get ash which is mixed with oil to make paste. Paste is then applied on painful joints.
<i>Fumaria indica</i> (Hauskn.) Pugsley Shahtar (Fumariaceae)	Whole plant	Defective eye vision, palpitation of heart, breathing problems, skin diseases, blood purifier, asthma, defective urination with pus, skin rashes, dropsy, menstrual irregularities, male impotency and general body weakness.	Dried plant is grinded and powder is made which is administered orally with water against defective eye vision, palpitation of heart, breathing problems, skin diseases and as good blood purifier. Whole plant decoction is taken to overcome asthma, defective urination with pus, skin rashes, dropsy, menstrual irregularities, male impotency and general body weakness.
<i>Lagenaria siceraria</i> (Molina) Standl. Kashir Aull (Cucurbitaceae)	Fruits	Cough, cold, fever, chest pain, stomach ulcers, stomach heat up, kidney stones, urine problems and yoke gall.	Fresh fruits after peeling off the rind and removing seeds are cut into thin slices. Slices are sun dried and preserved in the form of garlands at home for winter season. In winter, decoction made from them is used in the treatment of cough, cold, fever, chest pain, stomach ulcers, stomach heatup, to dissolve kidney stones and promote urine flow. Dried fruit is burnt to get ash which is mixed with mustard oil to make paste. The paste is slightly warmed and the applied on the neck of bulls to cure yoke gall.

<p><i>Malus domestica</i> Borkh. Maharaji Treil (Rosaceae)</p>	<p>Fruits</p>	<p>Dyspepsia, diabetes, jaundice, urinary problems, loss of appetite, phlegm, thirst, body fats, cough and other chest ailments.</p>	<p>Fruits are harvested and stored at some warm place for 15-20 days so as to ripe completely. Ripe fruits are eaten to cure dyspepsia, diabetes, jaundice, urinary problems, loss of appetite and to remove phlegm from the chest, quench the thirst and dissolve the body fats. Fruit is cut into small circular slices which are sun dried and preserved in the form of garlands at home for winter. These are eaten and considered to be good for the treatment of cough and other chest ailments.</p>
<p><i>Marrubium vulgare</i> Linn. Troper (Lamiaceae)</p>	<p>Whole plant</p>	<p>Arthritic pains, swelling of eyelids, abdominal pain, dysentery, chilblain and muscular pains.</p>	<p>Fresh leaves are soaked in hot water for two minutes and then removed and crushed into poultice. Poultice is spread on a cloth, wrapped in it, and then tied on arthritic joints to alleviate pain. The same poultice is applied on eyelids to cure their swellings. Plant is crushed and paste is made from it by mixing with cow butter. The resultant paste is given orally to children against abdominal pain and to cattle against dysentery. Hot water extract is prepared by boiling the dried herb thoroughly in salt water. Extract is then used to wash feet and legs to cure chilblains and muscular pains respectively.</p>
<p><i>Nelumbo nucifera</i> Gaertn. Nadroo (Nelumbonaceae)</p>	<p>Rhizome and seeds.</p>	<p>Stomach problems, dysentery, constipation, vomiting, urinary</p>	<p>Roasted rhizome is taken in case of stomach problems and dysentery. Fresh rhizome is either eaten raw or sliced, and</p>

		problems and semen deficiency.	cooked as vegetable against constipation. Fresh seeds are given in case of vomiting, urinary problems and semen deficiency.
<i>Nymphaea maxicana</i> Zucc. Bumiposh/Gul-e-nelofar (Nymphaeaceae)	Rhizome, stolons and flowers	Hair fall, boils, diabetes, rheumatism, fever, heart palpitation, urinary problems and liver disorders.	Rhizome powder is mixed with oil to make paste which is applied on hair to check hair fall. Paste is also applied on painful and pus filled boils of head for their treatment. Stolons are collected, dried, cooked and taken against diabetes and rheumatism. Dried stolons after boiling in salt water are tied over painful boils for 3-4 days for their complete removal. Flower decoction is given against fever, heart palpitation, urinary problems and liver disorders.

2. MATERIALS AND METHODS

The present study is a survey design intended to investigate the approach of pregnant women towards the use of medicinal plants in district Bandipora of Kashmir valley. District Bandipora is rich in medicinal plants so we select this district for our study. A well-designed validated questionnaire was used to collect the information from a sample of 400 women, pregnant or having children less than 2 years of age selected randomly from district Bandipora of Kashmir valley. Purposive and random method of sampling was used to collect the data and the respondents were explained the purpose of the study to get their consent. The questionnaire was designed to assess the attitude of women towards the use of medicinal plants in pregnancy. Local knowledgeable persons of the area, herbal healers called “Bhoris”, Tribals (Gujjars and Bakerwals) were also interviewed. The data collected from our study was tabulated and analyzed using standard statistical tools.

3. RESULTS AND DISCUSSION

Life and diseases go collectively, where there is a life, diseases are bound to exist. In the last few decades, there is a resurgence of public interest in use of medicinal plants and their role in primary health care. Medicine using

herbal mixtures is becoming more accepted as these are believed to be safer and natural. Worldwide use of traditional medicine is increasingly and becoming necessary part of the medicinal curriculum. There is a huge potential of medicinal plants in health care not only in remote areas of developing countries but also in industrialized world. According to WHO, about three quarters of the global population relies upon traditional medicines made from herbs for their health care. The results obtained from the data collected from District Bandipora during our survey are presented as under:

Table 1: Distribution of the respondents as per age

S.No.	Age (years)	Frequency	Percentage
1.	<20	9	2.25
2.	21-25	68	17.00
3.	26-30	127	31.75
4.	31-35	161	40.25
5.	36-40	23	5.75
6.	>40	12	3.00

The data presented in Table 1 shows that the respondents were divided in to 6 age groups. The maximum respondents 161 (40.25%) were in 31-35 years group, followed by 127 (31.75%) in the age group 26-30 years, 68(17.00%) in the age group 21-25 years, 23 (5.75%) in the age group 36-40 years, 12(3.00%) in the 40 years above age group and 9(2.25%) in the age group of below 20 years group showing the lowest percentage.

Table 2: Distribution of the respondents as per education status

S.No.	Education	Frequency	Percentage
1.	Illiterate	78	19.50
2.	Primary	92	23.00
3.	Secondary	74	18.50
4.	Higher Secondary	86	21.50
5.	Graduate/Above	70	17.50

The data presented in Table 2 shows that the respondents were divided in to 5 education groups. The majority of respondents 92(23.00%) were primary by education, followed by 86(21.50%), 78(19.50%), 74(18.50%), and 70(17.50%) were higher secondary, illiterate, secondary and graduate/above respectively.

Table 3: Distribution of the respondents as family status

S.No.	Family Status	Frequency	Percentage
1.	Middle Class	306	76.5
2.	Low Class	94	23.5

The data presented in Table 3 shows that most 306 (76.5%) of the respondents were from middle class families and 94 (23.5%) were from low class families.

Table 4: Behaviour of Doctors/Healers towards Pregnant women as per family status

Family Status	Response				
	Very Good (%)	Good (%)	Satisfactory (%)	Not Satisfactory (%)	Not Good (%)
Middle Class	38 (12.42%)	53 (17.32%)	129 (42.16%)	55 (17.97%)	31 (10.13%)
Low Class	26 (27.66%)	25 (26.60%)	17 (18.08%)	15 (15.96%)	11 (11.70%)
Chisquare = 25.365, p-value<0.01					

Table 4 shows that among middle class 129 (42.16%) respondent commented doctor behavior as satisfactory, followed by 55(17.97%) not satisfactory, 53(17.32%) commented as good, 38(12.42%) commented as very good and only10.13% commented as not good showing the lowest percentage. Regarding clinical examination, most (85.9%) of the respondents did not have any clinical examination during their treatment and (14.1%) respondent had clinical examination. It was observed that majority (64.4%) of the respondent got oral advice during their treatment and (35.6%) did not get any oral advice.

Table 5: Association Between Age and use of Unani Medicine

Age	Use of Unani Medicine				Chisquare	P-value
	Yes	%	No	%		
<20	6	66.67	3	33.33	5.680	>0.05
21-25	57	83.82	11	16.18		
26-30	102	80.31	25	19.69		
31-35	123	76.40	38	23.60		
36-40	19	82.61	4	17.39		
>40	7	58.33	5	41.67		

Table 5 shows that ‘use of Unani medicine’ was found high among women in the age group 21-25 years, followed by 36-40 age group then by 26-30 age group, then by 31-35 years age group then by below years age group and at last by above 40 years of age group. Statistically, there is not association between age and use of Unani Medicine (p>0.05).

Table 6: Association Between Education and use of Unani Medicine

Education	Use of Unani Medicine				Chisquare	P-value
	Yes	%	No	%		
Illiterate	45	57.69	33	42.31	11.994	<0.05
Primary	61	66.30	31	33.70		
Secondary	52	70.27	22	29.73		
Higher Secondary	57	66.28	29	33.72		
Graduate/Above	32	45.71	39	54.29		

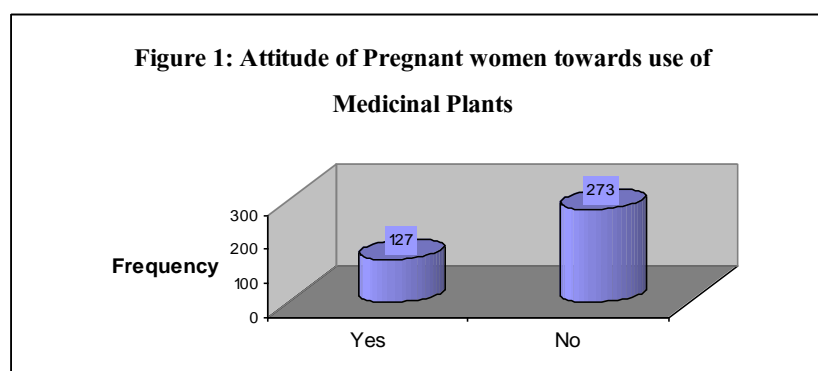
The data presented in Table 6 shows that ‘use of Unani medicine’ was found high among illiterate respondents and it was 70.27% among secondary educated, 66.30 among primary, 66.28 among higher secondary, 57.69% among Illiterate and 45.71% among Graduate/Above womens. Statistically, there is a significant association between education and use of Unani Medicine ($p < 0.05$).

Table 7: Association Between Education and come again for health service if necessary

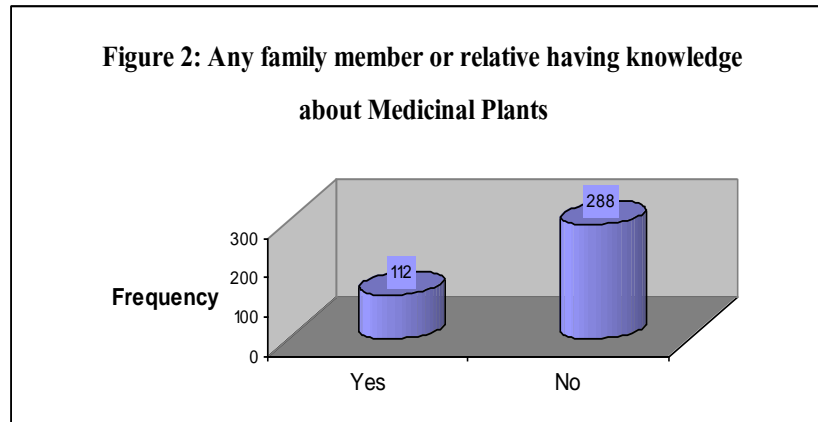
Education	come again for health service if necessary				Chisquare	P-value
	Yes	%	No	%		
Illiterate	31	39.74	47	60.26	15.694	<0.01
Educated	207	64.29	115	35.71		

The data presented in Table 7 reveals that ‘come again for health services if necessary’ was found high among educated respondents and it was 64.29% and 39.74% respondents were illiterate. Statistically, there is a significant association between education and come again for health service if necessary ($p < 0.01$).

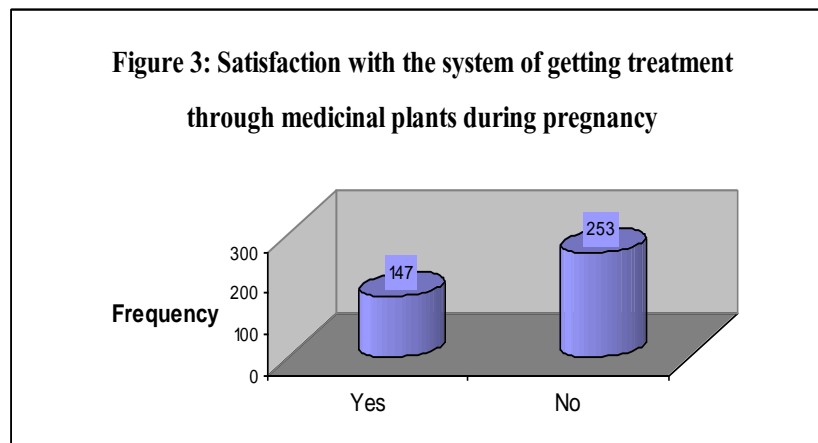
The data presented in Figure 1 reveals that 31.75% revealed that they use medicinal plants during pregnancy.



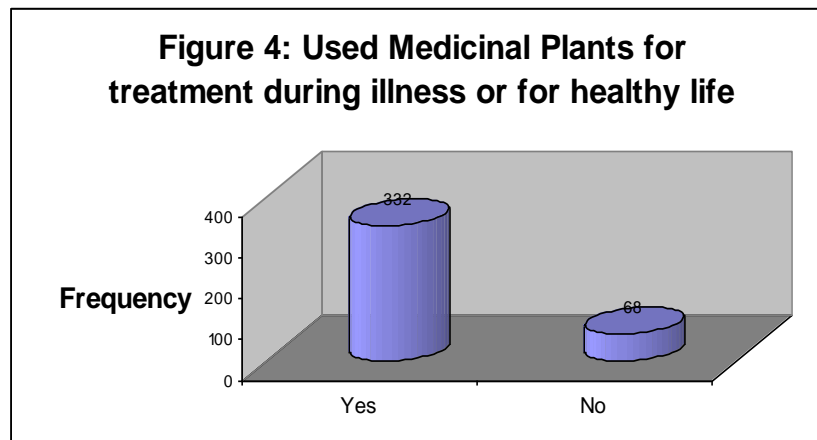
The data presented in Figure 2, reveals that 28% respondents told that they are encouraged by a family member or a relative to take the medicinal plants during pregnancy for smooth delivery.



The data presented in Figure 3 showed that 36.75% responded told that they were satisfied by taking medicinal plants during pregnancy. It was observed that rural women were more satisfied as compared to urban women because they have more than on the use of medicinal plants than urban women.



The data presented in Figure 4, reveals that 83% respondents told that they have used plant medicine for the treatment of any disease or for the healthy life.



It is observed that results obtained in this study are in agreement with the earlier studies (e.g., Gilani et al., 2017 and Bhat et al., 2018)

4. CONCLUSION

The study conducted in district Bandipora of Kashmir valley revealed that in view of the high cost and side effects of allopathic medicine, the use of medicinal plants against different ailments plays an important role in meeting the primary health care needs. The results of our study shows that womens especially from poor families showed positive approach towards the use of herbal medicine during pregnancy. Women in majority were aware of the taking health care during pregnancy. Bandipora district is comparatively rich not only in medicinal plant species but has also deeply rooted traditional knowledge of these medicinal plants among the people. It is important that we understand the benefits of medicinal plants for health as well as for increasing our economy.

Suggestion(s)

- (i) The cultivation of medicinal plants in Bandipora should be encouraged.
- (ii) Local people, religious leaders, teachers should be involved in awareness program
- (iii) Traditional healers using medicinal plants should be encouraged which will help in conservation of the precious medicinal plants.

Recommendation(s)

During period of Pregnancy following medicines are preferred

- (i) Jawarish Anarain is used for vomiting relief

- (ii) Jawarish Shahi is used as Cardiac and Brain tonic
- (iii) Jawarish Tamar Hindi is used to improve appetite gives extra strength to liver and stomach
- (iv) Sharbate Faulad is iron tonic for female and child as it increases red blood cells.
- (v) Khamira Marwareed is used to eradicate weakness of heart
- (vi) Khamira Sadaf is used to increase calcium in women
- (vii) Majun Dabidul Ward is used to treat digestive and liver ailments
- (viii) Arq Hazim is used for proper digestion
- (ix) Peppermint is used for increasing metabolism during pregnancy
- (x) Abreshain is used to control heart palpitation

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