

THE INDIGENOUS AND SCIENTIFIC KNOWLEDGE ABOUT NEEM AMONG THE TRIBAL AND NON-TRIBAL FARMWOMEN

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ABSTRACT

This study was conducted with eighty tribal farmwomen and eighty non-tribal farmwomen having neem tree near by their houses or farms. Neem as an important eco and farmers-friendly natural material, farmwomen can be encouraged to popularize usages of this tree. The results revealed that majority of tribal and non-tribal farmwomen had indigenous and scientific knowledge about different uses of neem tree, leaves and twigs. While majority of them were unaware about different uses of neem oil, neem cake, neem seed kernel and gum.

INTRODUCTION

Neem tree (*Azadirachta indica*, A.Juss) belongs to the family *Meliaceae* and is recognized as '*Kalpavriksha*', as all parts of neem viz. leaves, green twigs, neem seed kernel, neem oil, neem cake, gum, barks, timber and its products are very useful in agriculture, industry, as medicine as well as in many other fields. Because of its versatile usages and availability all around in the fields and near by houses in rural area, neem has taken a place of important tree in the hearts of farm women of the tribal and non-tribal regions. To motivate rural people to make best uses of this tree in agriculture and other work, farm women's role can be aggravated. It is believed that farm women can play significant role in popularizing, maintaining and adopting easily available natural material for various economic profit of family. Neem as an important eco and farmers-friendly natural material, farm women can be encouraged to popularize usages of this tree. Keeping this in view, the study was planned and carried out with the specific objective to measure the indigenous and scientific knowledge about neem of the tribal and non-tribal farm women located around neem.

METHODOLOGY

The present investigation was carried out in 10 villages each of Chhotaudepur and Sankheda taluka of Baroda district of Gujarat on a randomly selected sample of eighty tribal farm women and eighty non-tribal farm women having neem tree near by their-houses or farms. The data were collected with the help of structural schedule by personal interview method. The data so collected were coded, classified, tabulated and analyzed in order to make the findings meaningful.

RESULTS AND DISCUSSION

The data presented in Table 1 indicate that cent per cent of the neem tree owner tribal farm women had knowledge of indigenous and scientific uses of neem like, wood to make farm implements and for rearing of *Gallo* (*Tinospora cordifolid*); neem leaves for storage of grains, animal feed and to prevent mosquito incidence; twigs as tooth brush (*datun*) and as fuel.

It can be seen that majority of the tribal farm women had knowledge of indigenous and scientific uses of neem like neem leaves for cure fever (98.75 per cent) and to cure dermal diseases (96.50 per cent); neem tree

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to prevent soil erosion (96.25 per cent), to make furniture (96.25 per cent), to make best use of fallow land (93.75 per cent), to create conducive atmosphere for good raining (93.75 per cent), as wind breaker (82.50 per cent) and for shadow (82.50 per cent).

It was seen that uses of neem leaves were known for counter acting snake poison (85.00 per cent), counteracting scorpion poison (81.25 per cent), as a fertilizer (73.75 per cent), as an ingredient of soap (71.25 per cent), as an ingredient of toothpaste (66.25 per cent) and as a medicine for worms (55.00 per cent). At the same time uses of neem oil were known as an ingredient of soap by 72.50 per cent and to control sucking pests in cotton by 51.25 per cent. The uses of roots to prevent soil erosion were known by 71.25 per cent and neem cake to improve soil fertility by 61.25 per cent.

In case of non-tribal neem tree owner farm women, cent per cent of them had knowledge of indigenous and scientific uses of neem like, uses of neem leaves for storage of grains, as an animal feed and to cure fever, twigs as a tooth brush (*datun*) and as fuel. At the same time majority of them had knowledge of indigenous and scientific uses of neem like tree to make farm implements (97.50 per cent), to make best use of fallow land (97.50 per cent), to create conducive atmosphere for good raining (97.50 per cent), to prevent soil erosion (96.25 per cent), for furniture (96.25 per cent), as wind breaker (83.75 per cent) and for shadow (83.75 per cent).

It was observed that majority of the non-tribal neem tree owner farm women had knowledge about uses of neem leaves for curing dermal diseases (90.00 per cent), as a fertilizer (86.25 per cent), as an ingredient of soap (80.00 per cent) and tooth paste (76.25 per cent) and to prevent mosquito incidence (72.50 per cent). In the same way,

majority of the non-tribal neem tree owner farm women had knowledge about uses of neem oil as an ingredient of soap (83.75 per cent), to control dandruff (68.75 per cent), to control sucking pests in cotton (66.25 per cent), to prevent mosquito bite (65.00 per cent) and preparation of medicines (56.25 per cent) It can be seen that uses of neem cake were known to improve soil fertility by 72.50 per cent and neem roots to prevent soil erosion by 71.25 per cent.

From the Table 1 it is striking to note that cent per cent of the neem tree owner tribal and non-tribal farm women did not know the uses of neem such as, branches to know the source of underground water; leaves to cure ill health resulted by opium consumption; neem oil to control aphids of mustard, to control diamond back moth of cabbage, to control white grub, neem oil as a contraceptive and as nasal drop to cure sinus; neem cake for control of nematodes and neem root to prepare paste (*Ghanvati*). At the same time, majority of the neem tree owner tribal farm women did not know the uses of neem e.g. gum as a medicine against itching (97.50 per cent) and as a tonic (97.50 per cent); leaves as a medicine for piles (95.00 percent), to control diabetes (70.00 per cent) and to relieve cough (63.75 per cent); oil to control hairy caterpillar (80.00 per cent), to cure gumboil of teeth (78.75 per cent), to control fungus (76.25 per cent), castor semilooper (75.00 per cent), leaf eating caterpillar (72.50 per cent), *Helicoverpa* spp. (70.00 per cent) and larvae of fruits of okra (66.25 per cent), likewise uses of oil were not known as a fuel (63.75 per cent), to prevent mosquito biting (57.50 per cent), to control dandruff (55.00 per cent) and cake for coating of urea (77.50 per cent). In case of non-tribal neem tree owner farm women most of them had no knowledge about uses of neem leaves as a medicine for piles (97.50 per cent) and

Table 1: The respondents according their indigenous and scientific knowledge about various uses of neem
n=160

Sr. No.	Particulars	Knowledge	
		Tribal farm women (n=80) No. (Per cent)	Non-tribal farm women (n=80) No. (Per cent)
I	Knowledge related to usages of tree		
A	Agricultural usages of tree		
1.	As a wind break	66 (82.50)	67 (83.75)
2.	To make best use of the fellow land	75 (93.75)	78 (97.50)
3.	To prevent soil erosion	77 (96.25)	77 (96.25)
4.	To make farm implements	80 (100.00)	78 (97.50)
B	General usages of tree		
1.	For shade	66 (82.50)	67 (83.75)
2.	To create conducive situation for rain	75 (93.75)	78 (97.50)
3.	Wood or furniture	77 (96.25)	77 (96.25)
4.	For rearing of GALO	80 (100.00)	78 (97.50)
II	Knowledge related to usages of neem leaves		
A	Agricultural usages of neem leaves		
1.	For storage of grains	80 (100.00)	80 (100.00)
2.	As an animal feed	80 (100.00)	80 (100.00)
3.	As a fertilizer	59 (73.75)	69 (86.25)
B	Health related usages of neem leaves		
1	To prevent from mosquitoes	80 (100.00)	58 (72.50)
2	Anti venom for bite of scorpion	65 (81.25)	32 (40.00)
3	Anti venom for snakebite	68 (85.00)	32 (40.00)
4	As a medicine for worms	44 (55.00)	26 (32.50)
5	Used in bathing water for prevention of dermal diseases.	77 (96.25)	72 (90.00)
6	As a cure of fever	79 (98.75)	80 (100.00)
7	As an anti-coughing agent	29 (36.25)	27 (33.75)
8	As a medicine for piles	04 (5.00)	02 (2.50)
9	To control diabetes	24 (30.00)	12 (15.00)
10	For curing of ill health due to opium	00 (00.00)	00 (00.00)
C	Industrial usages of neem leaves		
1	As an ingredient of toothpaste	53 (66.25)	61 (76.25)
2	As an ingredient of soap	57 (71.25)	64 (80.00)
III	Knowledge related to usages of neem twigs /branches		
A	Agricultural usages of neem twigs/branches		
1	To know the source of underground water	00 (00.00)	00 (00.00)
B	Health related usages of neem twigs/branches		
1	As a toothbrush (Datun)	80 (100.00)	80 (100.00)
C	Usages of neem twigs /branches for home purpose		
1	As a fuel	80 (100.00)	80 (100.00)
IV	Knowledge related to usages of neem oil		
A	Agricultural usages of neem oil		
1.	For control of sucking pests		
i	For control of aphids (mustard)	00 (00.00)	00 (00.00)
ii	For control of sucking pests in cotton	41 (51.25)	53 (66.25)

1	2	3	4
2.	For control of biting pests		
i	For control of leaf eating caterpillar	22 (27.50)	39 (48.75)
ii	For control of <i>Helicoverpa</i>	24 (30.00)	26 (32.50)
iii	For control of castor semilooper	20 (25.00)	25 (31.25)
iv	For control of diamond back moth (cabbage)	00 (00.00)	00 (00.00)
v	For control of fruit borer (Okra)	27 (33.75)	31 (38.75)
vi	For control of white-grub	00 (00.00)	00 (00.00)
vii	For control of hairy caterpillar	16 (20.00)	27 (33.75)
3	As a fungicide	19 (23.75)	24 (30.00)
B	Health related usages of neem oil		
1	For control of dandruff	35 (43.75)	55 (68.75)
2	For the cure of gum boil	17 (21.25)	29 (36.25)
3	As a contraceptive	00 (00.00)	00 (00.00)
4	To prevent from mosquitoes (apply on body)	34 (42.50)	52 (65.00)
5	As nasal drop for cure of sinus	00 (00.00)	00 (00.00)
C	Industrial usages of neem oil		
1	As an ingredient of soap	58 (72.50)	67 (83.75)
2	In preparation of medicines	36 (45.00)	45 (56.25)
D	Usages of neem oil for home purpose		
1	As a fuel in lamp	29 (36.25)	26 (32.50)
V	Knowledge related to usages of neem cake		
A	Agricultural usages of neem cake		
1	For control of nematodes	00 (00.00)	00 (00.00)
2	To make the soil fertile	49 (61.25)	58 (72.50)
3	For coating of urea	18 (22.50)	33 (41.25)
VI	Knowledge related to usages of neem gum		
A	Health related usages of neem gum		
1	As a medicine against itching	02 (2.50)	05 (6.25)
2	As a tonic	02 (2.50)	09 (11.25)
VII	Knowledge related to usages of neem root		
A	Agricultural usages of neem root		
1	To prevent soil erosion	57 (71.25)	57 (71.25)
B	Health related usages of neem root		
1	For making of the paste (Ghanvati) from bark	00 (00.00)	00 (00.00)

worms (67.50 per cent), to control diabetes (85.00 per cent), to relieve cough (66.25 per cent), for counteracting scorpion poison and snake poison (60.00 per cent); neem oil to control fungus (70.00 per cent), castor semilooper (68.75 per cent), *Helicoverpa* spp. (67.50 per cent), oil as a fuel in lamp (67.50 per cent), to control hairy caterpillar (66.25 per cent), to cure gumboil of teeth (63.75 per cent), to control larvae of okra fruits (61.25 per cent) and to control leaf eating caterpillar (51.25 per cent); neem gum as a medicine against itching (93.75 per cent), as well as a tonic (88.75 per cent) and cake for coating of urea (58.75 per cent).

CONCLUSION

Majority of tribal and non-tribal neem tree owner farm women had indigenous and scientific knowledge about various aspects of uses of neem such as agricultural uses of neem tree, leaves and root, general uses of neem tree, health related uses of neem leaves and twigs, industrial uses of neem leaves and oil and uses of neem twigs for home purpose. But for certain other aspects such as agricultural uses of neem oil and neem cake, health related uses neem oil, gum and root and uses of neem oil for home purpose, majority of them did not have indigenous and scientific knowledge.