Analysis of Changes in Decision Making Behaviour of Turmeric Farm Women during COVID-19 Pandemic Situation

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Women farmers are engaged in both production and processing of turmeric. Majority of the women have been involved in decision-making process. During COVID–19 pandemic situation women were more affected than men by means of economical aspects. During COVID-19 pandemic situation, farm women's decision making process has been changed hence the study "Analysis of Changes in Decision Making Behaviour of Turmeric Farm Women during COVID-19 Pandemic Situation" has been taken up. The study was conducted in Kodumudi block of Erode district. Based on proportionate random sampling method, six villages were selected with the sample of 120 farm women. From the result it was observed that before COVID-19, majority of the farm women had not been involved in decision making process like crop production, fertilizer application, pest management, disease management, Nematode management, harvesting and post harvest activities while during COVID-19 farm women took decision either with the family members or with the help of their spouse in turmeric farming. To overcome this situation there must be more number of training programmes conducted to the farm women in turmeric farming techniques which inturn help them to take right decision by their own.

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1. INTRODUCTION

Women execute a wide range of tasks in both farm and in household. From land preparation to marketing, women play a critical part in all farm-related activities [1]. Often during peak periods of agricultural operation, farm women experience an almost insurmountable difficulty in accomplishing task satisfactorily. It is estimated that about 84 per cent of the women in India rely on agriculture. According to aggregate data [2], women make up roughly 43 per cent of the agricultural labour force globally. Women are projected to perform 70 per cent of actual farm work and account for up to 60 per cent of the farming population [3]. Even though women are strongly involved in cultivation, their role is seldom fully acknowledged or appreciated.

Decision making is an integral element of human life process [4]. The process of recognising and selecting a course of action to resolve a given problem is known as decision making. Setting goals and acquiring information are the necessary steps in the decision-making process. For rapid economic development of the country decision making is essential. Abhilash Sharma et al. [5] stated that little less than three fifth (58.33%) of farm women were in low categories of decision making. Mareeswaran [6] enacted that two third (66.50%) low (22%) high and 11.50 per cent were under medium decision making category. Kalirajan [7] inferred that nearly three fourth (72.50) of the farm women had medium level of decision making followed by 19.17 and 8.33 per cent with low and high categories respectively. Kothainayaki [8] revealed that nearly half (48.10%) of the respondents have took decision along with family members, more than one fourth (29.50%) took individual decision and more than one fifth (22.50%) took decision by discussing with persons other than family members.

With COVID-19 crises, the world has undergone a dramatic change. There is also an ever increasing challenge to the global economy. The majority of the issues that the farmers are concerned during COVID-19 pandemic situation are distribution in food supply, labour shortage, transportation, marketing of the perishable items and fresh farm produce [9]. COVID-19 had also caused severe problems in health and family of human being [10]. To prevent covid-19, consumption of curcumin products has been increased. Erode turmeric has 2.5% to 4.5% of curcumin content [11]. It has been shown to have antiviral properties against a wide range of viruses, hence turmeric crop had been selected. [12]

In this pandemic situation people had more personal experience living with it and their decision making pattern have been changed. Hence it is necessary to study their decision making pattern. By keeping these entire things in mind the present study "Analysis of Changes in Decision Making Behaviour of Turmeric Farm Women during COVID-19 Pandemic Situation" has been taken up.

2. METHODOLOGY

For this study, an ex-post-facto research design was used. Erode district was purposively selected for conducting the study as it has the highest area under turmeric cultivation and Erode turmeric has geographical indication tag. Out of 14 blocks in Erode district Kodumudi block had been selected for the study. Further in Kodumudi block top six villages had been selected based on the area under cultivation. The villages selected were Venkambur, Unjalur, Sivagiri, Punjai Kolanalli, Nanjai Kolanalli and Kodumudi A. By using proportionate random sampling method total of 120 respondents were selected for the study. Respondents in the villages were interviewed under four dimensions to determine their decision making namely self, consulting with spouse, consulting with family, do not take decision. The score given was as follows self decision-4, consulting with spouse-3, consulting with family-2, do not take decision-1. Based upon the scoring a well-structured interview schedule was designed with keeping the objectives and scope in mind and it was pre-tested in a non-sampling area. The information was gathered and then collated for statistical analysis. The statistical tools used were frequency and percentage analysis.

3. RESULTS AND DISCUSSION

Table 1 Decision making behaviour of farm women before and during COVID-19.

3.1 Crop Production

Table 1. Decision making behaviour of farm women in crop production before and during COVID-19 (n=120)

S.No.	Decision on Crop production	Before COVID-19				During COVID-19			
		S	CS	CF	DND	S	CS	CF	DND
1)	**Main field preparation**								
	Main field is ploughed four times with chisel and disc plough each one time and cultivator twice	22 (18.3)	12 (10)	21 (17.5)	65 (54.2)	24 (20)	24 (20)	43 (35.8)	29 (24.2)
	Raised beds of 120 cm width are formed at an interval of 30 cm and the laterals are placed at the centre of each bed.	25 (20.8)	12 (10)	22 (18.3)	61 (50.8)	26 (21.7)	25 (20.8)	37 (30.8)	32 (26.7)
	The beds are wetted for 8-12 hours depending upon soil moisture level.	26 (21.7)	12 (10)	16 (13.3)	66 (55)	26 (21.7)	25 (20.8)	37 (30.8)	32 (26.7)
2)	**Varieties**								
	Co 1/ BSR 1/ BSR 2/ Erode local	34 (28.3)	12 (10)	18 (15)	56 (46.7)	25 (20.8)	28 (23.3)	36 (30)	31 (25.9)
3)	**Seed material**								
	Mother rhizome / Finger rhizome	24 (20)	11 (9.2)	24 (20)	61 (50.8)	30 (25)	39 (32.5)	29 (24.2)	22 (18.3)
4)	**Seed rate**								
	2000kg of rhizomes	25 (20.8)	8 (6.7)	21 (17.5)	66 (55)	37 (30.8)	34 (28.3)	24 (20)	25 (20.8)
5)	**Seed treatment fertilizers and biofertilizers**								
	Seed rhizomes dipped in phosalone 35 EC 2ml/lit or monocrotophos 36 WSC 1.5 ml/lit. 0.3% Copper oxychloride for 30 min	21 (17.5)	8 (6.7)	16 (13.3)	75 (62.5) (62.5)	21 (17.5)	34 (28.3)	37 (30.8)	28 (23.3)
	Seed treatment with *P. fluorescens* 10 g/kg and *T. viride* as 4 g/ Kg.	21 (17.5)	8 (6.7)	16 (13.3)	75 (62.5)	21 (17.5)	34 (28.3)	37 (30.8)	28 (23.3)
6)	**Spacing**								
	45 x 15 cm	22 (18.3)	8 (6.7)	16 (13.3)	74 (61.7)	28 (23.3)	38 (31.7)	33 (27.5)	21 (17.5)
7)	**Depth of sowing**								
	4cm	22 (18.3)	8 (6.7)	16 (13.3)	74 (61.7)	33 (27.5)	33 (27.5)	33 (27.5)	21 (17.5)

figures in parentheses are the percentages to total
S: Self, CS: Consulting with spouse, CF: Consulting with family, DND: Do not take decision

Main Field Preparation: From Table 1 it can be inferred that before COVID-19 little more than half (54.2%) of the farm women did not involve in decision making with regard to main field is ploughed four times. It may be due to the lack of involvement of farm women in crop production activities. During COVID-19 more than one third (35.8%) of the farm women took decision by consulting with their family members. It might be due to the migrant workers had return home, hence they felt in pandemic situation consulting with family members will be the right decision, to involve them in active decision making. In raised bed formation half (50.8%) of the respondents did not involve in decision making where as 30.8 per cent took decision by consulting with their family members during COVID-19. With regard to wetting of beds more than half (55%) farm

women did not involve in decision making before COVID-19, 30.8 per cent took decision making by consulting with their family members during COVID 19.

Varieties and Seed Material: Considering the selection of varieties before COVID-19 majority (46.7%) of the farm women did not involve in decision making but during COVID-19, 30 per cent took decision with the help of their family members. In seed material selection half (50.8%) of the farm women did not involve in decision making process before COVID-19 but during COVID-19, 32.5 per cent took decision by consulting with their spouse.

Seed Rate and Seed Treatment: With regard to seed rate more than half (55%) of the farm women did not involve in making decision before COVID-19, during COVID-19 nearly one third (30.8%) took self decision. Self decision was taken as 2000 kg of seed rate is used constantly year after year hence during COVID-19 women were more aware of it and they took decision by themselves. In seed treatment more than three fifth (62.5%) of the respondents did not involve in decision making before COVID-19, while 30.8 per cent took decision by consulting with their family members during COVID-19.

Spacing and Depth of Sowing: Table 1 revealed that before COVID-19, 61.7 per cent of the respondents did not involve in decision making but during COVID-19, 31.7 per cent took decision by consulting with their spouse. With

regard to depth of sowing more than three fifth (61.7%) of the respondents did not involve in decision making whereas during COVID-19, 27.5 per cent were found be take decision by self, consulting with spouse and consulting with family. It is due to the availability of family members and spouse at home.

3.2 Inter Cultivation

In weeding 62.5 per cent of the farm women take decision by self during COVID-19 the decision was taken with the help of spouse (28.3%). It is because there was a shortage of labour during COVID-19 hence spouse has involved in weeding operation hence, decision by consulting with spouse was taken. With regard to mulching half (50.5%) of the farm women did not involve in making decision before COVID-19, during COVID-19, 31.7 per cent have took decision by consulting with their spouse. In inter cropping before COVID-19 more than one fourth (28.3%) took decision with the help of spouse but during COVID-19, 12.3 per cent of the respondents had not involve in making decision because during pandemic situation there was labour scarcity and hence many of the farmers did not do intercropping. With regard to irrigation exactly half (50%) of the respondents reported that they have not involved in decision making before COVID-19 and during COVID-19, 28.3 per cent took self decision because during COVID-19 there was labour shortage hence turmeric farmers had put drip irrigation in their farm.

Table 2. Decision making behaviour of farm women in inter cultivation activity before and during COVID-19 (n=120)

S.No.	Decision on inter cultivation activities	Before COVID-19				During COVID-19			
		S	CS	CF	DND	S	CS	CF	DND
1)	**Weeding** Weeding on 60, 90 and 120 days after planting	75 (62.5)	8 (6.7)	16 (13.3)	21 (17.5)	32 (26.7)	34 (28.3)	33 (27.5)	21 (17.5)
2)	**Mulching** Crop is to be mulched immediately after planting with green leaves @12- 15 t/ha	26 (21.7)	8 (6.7)	25 (20.8)	61 (50.5)	17 (14.2)	38 (31.7)	33 (27.5)	32 (26.7)
3)	**Inter cropping** Onion/ Coriander / Tapioca	21 (17.5)	34 (28.3)	36 (30)	29 (24.2)	10 (8.3)	14 (11.7)	9 (7.5)	15 (12.3)
4)	**Irrigation** Surface/ Sub surface/ Drip irrigation	24 (20)	8 (6.7)	22 (18.3)	66 (50)	34 (28.3)	12 (10)	20 (16.7)	54 (45)

figures in parentheses are the percentages to total
S: Self, CS: Consulting with spouse, CF: Consulting with family, DND: Do not take decision

3.3 Soil Test and Fertilizer Application

From Table 3 its clear that exactly half (50%) did not take decision before COVID-19, during COVID-19 more than one fourth (26.7%) took decision with consulting with family members, as family members were more aware of soil testing and it will increased the yield during pandemic situation. In basal fertilizer application majority (61.7%) of the respondents did not take decision in application of Farm Yard Manure, neem cake, N, P, K, Feso$_4$, ZnSo$_4$, azospirillum and phosphobacteria. During COVID-19, 28.3 per cent of the respondents took decision on application of Farm Yard Manure and neem cake with consulting with spouse. 31.7 per cent of the farm women took decision on application of N, P,K, Feso$_4$, ZnSo$_4$, azospirillum and phosphobacteria on consulting with spouse. The decision was taken by consulting with their spouse as most of the spouse were affected by COVID-19. Hence they were unable to involve in decision making so women were forced to take decision by consulting with their spouse. With regard to top dressing of fertilizers majority (61.7%) of the farm women did not involve in decision making before COVID-19. During COVID-19, 30.8 per cent of the farm women took decision with the help of family members. In micronutrient application of Boron most of the respondents (61.7%) did not involve in decision making before COVID-19. During COVID-19, 30.8 per cent took decision by consulting with their family members. In spraying of micronutrient 57.5 per cent of the farm women do not involve in decision making before COVID-19 and 28.3 per cent of the respondents took decision by consulting with their spouse during COVID-19.

Table 3. Decision making behaviour of farm women in soil test and fertilizer application before and during COVID-19 (n=120)

S.No.	Decision on soil test and fertilizer application	Before COVID-19				During COVID-19			
		S	CS	CF	DND	S	CS	CF	DND
	Soil test								
1.	Based soil test / Blanket application	22 (18.3)	11 (9.2)	21 (17.5)	66 (50)	26 (21.7)	31 (25.8)	32 (26.7)	31 (25.8)
	Basal fertilizer application								
2.	FYM-25 Tons/ha	22 (18.3)	8 (6.7)	16 (13.3)	74 (61.7)	26 (21.7)	34 (28.3)	32 (26.7)	28 (23.3)
3.	Neem cake or groundnut cake 200 kg/Hectare	22 (18.3)	8 (6.7)	16 (13.3)	74 (61.7)	21 (17.5)	34 (28.3)	37 (30.8)	28 (23.3)
4.	25 Kg of N/ha	22 (18.3)	8 (6.7)	16 (13.3)	74 (61.7)	17 (14.2)	38 (31.7)	37 (30.8)	28 (23.3)
5.	60 Kg of P/ha	22 (18.3)	8 (6.7)	16 (13.3)	74 (61.7)	17 (14.2)	38 (31.7)	37 (30.8)	28 (23.3)
6.	18 Kg of K/ha	22 (18.3)	8 (6.7)	16 (13.3)	74 (61.7)	17 (14.2)	38 (31.7)	37 (30.8)	28 (23.3)
7.	30 kg of FeSo$_4$/ha	22 (18.3)	8 (6.7)	16 (13.3)	74 (61.7)	17 (14.2)	38 (31.7)	37 (30.8)	28 (23.3)
8.	15 kg of ZnSo4/ha	21 (17.5)	8 (6.7)	17 (14.2)	74 (61.7)	17 (14.2)	38 (31.7)	37 (30.8)	28 (23.3)
9.	10 kg of Azospirillum /ha	22 (18.3)	8 (6.7)	16 (13.3)	74 (61.7)	17 (14.2)	38 (31.7)	37 (30.8)	28 (23.3)
10.	10 kg of Phosphobacteria /ha	22 (18.3)	8 (6.7)	16 (13.3)	74 (61.7)	17 (14.2)	38 (31.7)	37 (30.8)	28 (23.3)
	Top dressing								
11.	Application of N, K at 25 and 18 kg/ha applied on 30, 60, 90, 120 and 150 days after planting	22 (18.3)	8 (6.7)	16 (13.3)	74 (61.7)	15 (12.5)	32 (26.7)	37 (30.8)	36 (30)
	Micronutrient application								
12.	Application of 375 g each of Boron, Iron and Zinc, at rhizome development	22 (18.3)	8 (6.7)	16 (13.3)	74 (61.7)	22 (18.3)	36 (30)	37 (30.8)	25 (20.9)

S.No.	Decision on soil test and fertilizer application	Before COVID-19				During COVID-19			
		S	CS	CF	DND	S	CS	CF	DND
	stage, as Borax. Ferrous sulphate, Zinc sulphate 375g of Urea in 250 lit of water/ha. These micronutrients are dissolved in Super phosphate slurry In this solution, the micronutrients are added.								
13.	Spraying twice micronutrient at 25 days interval	22 (18.3)	8 (6.7)	21 (17.5)	69 (57.5)	25 (20.8)	34 (28.3)	30 (25)	31 (25.8)

figures in parentheses are the percentages to total
S: Self, CS: Consulting with spouse, CF: Consulting with family, DND: Do not take decision

3.4 Pest Management

With regard to pest management like thrips, rhizome scale, leaf roller 57.5 per cent of the respondents did not involve in decision making before COVID-19. During COVID-19 period more than one fourth (29.2%) took decision with help of their spouse and family members in thrips management. 25 per cent took joint decision with spouse and family members in rhizome scale management. In management of leaf roller 28.3 per cent took decision by consulting with their family members. In shoot borer management 25.8 per cent took decision with help of their family members.

Table 4. Decision making behaviour of farm women in pest management before and during COVID-19 (n=120)

S.No.	Decision on pest management	Before COVID-19				During COVID-19			
		S	CS	CF	DND	S	CS	CF	DND
1)	**Thrips:** Spraying Dimethoate 30 EC or Methyl demeton 25 EC 2 ml/lit	22 (18.3)	8 (6.7)	21 (17.5)	69 (57.5)	24 (20)	35 (29.2)	35 (29.2)	26 (21.7)
2)	**Rhizome Scale:** Applying well rotten sheep manure @ 10 /ha in two splits (once basally and other at earthing up) or Poultry manure in 2 splits followed by drenching Dimethoate 30 EC 2 ml/lit or Phosalone 35 EC 2 ml/lit	22 (18.3)	8 (6.7)	21 (17.5)	69 (57.5)	29 (24.2)	30 (25)	30 (25)	31 (25.8)
3)	**Leaf Roller:** Spraying carbaryl (0.1%) or Dimethoate (0.05%)	22 (18.3)	8 (6.7)	21 (17.5)	69 (57.5)	23 (19.2)	33 (27.5)	34 (28.3)	30 (25)
4)	**Shoot Borer:** Spraying malathion (0.1%) at 21 days intervals during July to October is effective in controlling the pest infestation	22 (18.3)	8 (6.7)	21 (17.5)	69 (57.5)	29 (24.3)	30 (25)	31 (25.8)	30 (25)

figures in parentheses are the percentages to total
S: Self, CS: Consulting with spouse, CF: Consulting with family, DND: Do not take decision

3.5 Disease and Nematode Management

Disease Management: With regard to disease management like rhizome rot and leaf blotch more than half (57.5%) of the farm women did not involve in decision making before COVID-19. During COVID-19, 26.7 per cent of the respondents took decision by consulting with their spouse and 26.7 per cent of the respondents do not take decision.

Nematode Management: From Table 5 we can interpret that before COVID-19 nearly three fifth (57.5) of the farm women did not involve in decision making, during COVID-19 more than one fourth took decision by consulting with their spouse.

3.6 Harvesting

With regard to harvesting time 57.5 per cent of the respondents did not involve in decision making before COVID-19 but during COVID-19 little less than one third (30.8%) took decision with help of their spouse. With regard to method of harvest before COVID-19 nearly three fifth (57.5%) of the respondents did not involve in decision making while during COVID-19 32.5 per cent took decision by consulting with their spouse. With regard to collection and carrying of harvested crops before COVID-19, 57.5 per cent of the respondents did not involve in decision making but during COVID-19 nearly one third (31.7%) took decision by consulting with their spouse.

3.7 Post Harvest Activities

3.7.1 Post harvesting

With regard to post harvest activities, in cooking of turmeric, drying turmeric, polishing, grading, bagging and storage for grain purpose 61.7 per cent took self decision before COVID-19. During COVID-19 27.5 per cent took decision by consulting with spouse in cooking of turmeric, drying turmeric, polishing and bagging. Self decision was made by 38 per cent and 34 per cent of the farm women in grading and storage for seed purpose respectively.

Table 5. Decision making behaviour of farm women in disease and nematode management before and during COVID-19

(n=120)

S.No.	Decision on disease and nematode management	Before COVID-19				During COVID-19			
		S	CS	CF	DND	S	CS	CF	DND
A.	**Disease Management** Rhizome Rot: Drench with Bordeaux mixture 1% or Copper oxychloride 0.25 % or Ridomil 0.1%	22 (18.3)	8 (6.7)	21 (17.5)	69 (57.5)	28 (23.3)	32 (26.7)	28 (23.3)	32 (26.7)
	Leaf Blotch: Spraying Carbendazim 500 g/ha or Mancozeb 1kg/ha or Copper oxy chloride 1.25 kg/ha. Mix sticker solution @ 5ml/10 litres of spray solution	22 (18.3)	8 (6.7)	21 (17.5)	69 (57.5)	28 (23.3)	32 (26.7)	28 (23.3)	32 (26.7)
B.	**Nematode Management** Apply Carbofuran 4 kg /ha twice on the third and fifth month after planting the rhizomes.	21 (17.5)	8 (6.7)	22 (18.3)	69 (57.5)	26 (21.7)	34 (28.3)	32 (26.7)	28 (23.3)

figures in parentheses are the percentages to total
S: Self, CS: Consulting with spouse, CF: Consulting with family, DND: Do not take decision

Table 6. Decision Making Behaviour of Farm Women in harvesting before and during COVID-19 (n=120)

S.No.	Decision on harvesting	Before COVID-19				During COVID-19			
		S	CS	CF	DND	S	CS	CF	DND
1)	**Harvesting time** Harvesting should be done when leaves start yellowing and ultimately the stem dries down	21 (17.5)	9 (7.5)	21 (17.5)	69 (57.5)	23 (19.2)	37 (30.8)	32 (26.7)	28 (23.3)
1)	**Method of harvest** By hand picking/ By spade/ By turmeric harvester	21 (17.5)	8 (6.7)	21 (17.5)	70 (58.3)	26 (21.7)	39 (32.5)	33 (27.5)	22 (18.3)
2)	**Collection and carrying** Collection of harvested crops	22 (18.3)	8 (6.7)	21 (17.5)	69 (57.5)	29 (24.2)	38 (31.7)	32 (26.7)	21 (17.5)
	Carrying to the yard	22 (18.3)	8 (6.7)	21 (17.5)	69 (57.5)	29 (24.2)	38 (31.7)	32 (26.7)	21 (17.5)

figures in parentheses are the percentages to total
S: Self, CS: Consulting with spouse, CF: Consulting with family, DND: Do not take decision

Table 7 Decision Making Behaviour of Farm Women in post harvesting before and during COVID-19 (n=120)

S.No.	Decision on post harvesting activities	Before COVID-19				During COVID-19			
		S	CS	CF	DND	S	CS	CF	DND
1.	Cooking Turmeric/ Roots	74 (61.7)	8 (6.7)	17 (14.2)	21 (17.5)	27 (22.5)	33 (27.5)	32 (26.7)	28 (23.3)
2.	Drying Turmeric	74 (61.7)	8 (6.7)	17 (14.2)	21 (17.5)	27 (22.5)	33 (27.5)	32 (26.7)	28 (23.3)
3.	Polishing	74 (61.7)	8 (6.7)	17 (14.2)	21 (17.5)	34 (28.3)	33 (27.5)	32 (26.7)	21 (17.5)
4.	Grading of products	74 (61.7)	8 (6.7)	16 (13.3)	22 (18.3)	38 (31.7)	29 (24.2)	32 (26.7)	21 (17.5)
5.	Bagging	74 (61.7)	8 (6.7)	16 (13.3)	22 (18.3)	27 (22.5)	33 (27.5)	32 (26.7)	28 (23.3)
6.	Storage for seed purpose	74 (61.7)	8 (6.7)	17 (14.2)	21 (17.5)	34 (28.3)	33 (27.5)	32 (26.7)	21 (17.5)

figures in parentheses are the percentages to total
S: Self, CS: Consulting with spouse, CF: Consulting with family, DND: Do not take decision

3.8 Marketing

In mode of sale, more than half (53.3%) of the farm women did not involve in decision making before COVID-19, 34.1 per cent took decision by self during COVID-19. Self decision is made to analyse and to select the mode of sale in which huge profit is involved in mode of sale especially during COVID-19 regulated market was preferred as the profit will be more in regulated market which will be more helpful during pandemic situation. In place of sale 54.2 per cent of the respondents did not involve in decision making before COVID-19. During COVID-19 29.1, per cent of the respondents took self decision. With regard to condition of sale before COVID-19, 57.5 per cent of the respondents did not take decision during COVID-19, 27.5 per cent took self decision and joint decision with their spouse.

3.9 Pricing and Transportation

From Table 9 it can be inferred that more than half (57.5%) of the farm women did not take decision in pricing and transportation before COVID-19, same result was observed during COVID-19. There was no change observed as in pricing and transportation male members of the family are playing vital role and women are less dominant in it.

Table 8. Decision making behaviour of farm women in marketing of the produce before and during COVID-19 (n=120)

S.No.	Decision on marketing	Before COVID-19				During COVID-19			
		S	CS	CF	DND	S	CS	CF	DND
1)	**Mode of sale** Local merchants / Contractors/ Wholesalers / Regulated market	26 (21.7)	13 (10.8)	17 (14.2)	64 (53.3)	41 (34.1)	26 (21.7)	24 (20)	29 (24.2)
2)	**Place of sale** Field itself/ In the village/ Nearby town / Other State	26 (21.7)	13 (10.8)	16 (13.3)	65 (54.2)	35 (29.1)	30 (25)	23 (19.2)	32 (26.7)
3)	**Conditions of sale** Auction / Credit sales/ On contract/ Immediate Payment	31 (25.8)	8 (6.7)	12 (10)	69 (57.5)	33 (27.5)	33 (27.5)	30 (25)	24 (20)

figures in parentheses are the percentages to total
S: Self, CS: Consulting with spouse, CF: Consulting with family, DND: Do not take decision

Table 9 Decision making behaviour of farm women in pricing and transportation of produce before and during COVID-19 (n=120)

S.No.	Decision on pricing and transportation	Before COVID-19				During COVID-19			
		S	CS	CF	DND	S	CS	CF	DND
1.	Price of product	31 (25.8)	8 (6.7)	12 (10)	69 (57.5)	31 (25.8)	8 (6.7)	12 (10)	69 (57.5)
2.	Transporting to the market	30 (25)	8 (6.7)	13 (10.8)	69 (57.5)	30 (25)	8 (6.7)	13 (10.8)	69 (57.5)

figures in parentheses are the percentages to total
S: Self, CS: Consulting with spouse, CF: Consulting with family, DND: Do not take decision

4. CONCLUSION

The findings implied that the farm women were not greatly involved in decision making before COVID-19 however during COVID-19 farm women involvement was more. So it can be concluded that in case of forced situation women are ready to take decision on their own. To overcome the forced situation there must be many training programmes conducted by the government and Non Governmental Organizations. The training must be focused to ensure a constant flow of knowledge to farm women in order to overcome the obstacles in turmeric farming techniques and to increase the productivity which inturn help to take right decision by their own. Women should also learn to avail themselves obvious opportunity to improve their knowledge in the technicalities of the production activities they are involved in for better decision making.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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