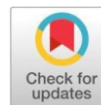


Original Research Article

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Farmers and Stress Management during Covid-19**D. A. Nithya Shree*¹ Prabhu Iliger² and Vaishnavi P³**¹Department of Extension and Communication Management, University of Agricultural Sciences, Dharwad, Karnataka - 580 005, India²Farm Manager, ICAR-KVK, Chamarajnagar, India³Department of Agricultural Extension, School of Agricultural Sciences, Dhanalakshmi Srinivasan University, Trichy - 621 112, India**ABSTRACT**

Farmers in India depend on various factors and climates for a regular income. Due to this, they are prone to many risks which create stress in them. In India, for the last three decades we witnessed many farmers' committing suicide for various reasons. The review of literature shows that not only farmers in India are prone to stress but it is the same in other countries as well. The corona-virus crisis has led to a situation where farmers faced additional stress due to unavailability and non-movement of labour, inter-state transport bottlenecks, shortage of raw materials due to closure of mandis, and unavailability of transport and markets. This has induced more stress and anxiety to the farmers and farm women than the usual conditions leading to suicides. The need of the hour is to conduct stress management practices among farmers and farm women. Yoga is the most perfect health and wellness strategy as it is comprehensive and holistic in nature. Hence, Yogic and meditative strategies are best means according to Indian tradition for the management of stress. Keeping this in view the present study was conducted to assess and develop strategies to overcome stress, anxiety and depression by farmers during COVID-19. The study was conducted in Karnataka state. At the first satge survey was conducted with a sample of 150 farmers and 150 farm women. In the second stage pre-post test experimental design was used to test the effectiveness on 60 farmers and 60 farm women. Yogic and meditative strategies were developed to manage the stress level and tested for its effectiveness by experimenting on selected farmers and farm women. But the challenge was to convince the farmers to understand the importance of yoga and make them attend the one month training session regularly. The researchers thus held few group discussions and convinced the selected farmers and farm women to attend one month yoga training. The results of the study indicate a positive impact of the developed strategies on reducing stress among farmers and farm women. Thus, yogic practices (pranayama, asanas and meditation) can be an effective strategy for managing the stress levels of farmers and farm women.

Keywords: Stress, COVID-19, Farmers, Health, Benefits, Stress Management, Yoga and Meditative strategies

Introduction

Farmers in India depend on various factors and climates for a regular income. Due to this, they are prone to many risks which create stress in them. In India, for the last three decades we witnessed many farmers' committing suicide for various reasons. The review of literature shows that not only farmers in India are prone to stress but it is the same in other countries as well. The corona-virus crisis has led to a situation where farmers faced additional stress due to unavailability and non-movement of labour, inter-state transport bottlenecks, shortage of raw materials due to closure of mandis and unavailability of transport and markets. This has induced more stress and anxiety to the farmers and farm women than the usual conditions leading to suicides.

According to the World Health Organization (WHO), COVID-19 is declared as a pandemic disease caused by the newly discovered coronavirus. There is currently no known cure for COVID-19. It causes a major impact on people's lives around the world. Physical distancing and self-isolation are important measures to reduce the spread of the coronavirus. Lockdowns were implemented in many countries as a way to enforce

physical distancing and self-isolation to help control the spread of the virus. Lockdowns were effective in helping to slow the spread of the virus and save lives. However it has negative effects on mental health, as well as economic and social well-being [10].

Also, the rising numbers of COVID-19 cases and deaths can be an important source of stress and anxiety for many people. The pandemic has created a situation where people are experiencing fear and uncertainty about the future, which can lead to feelings of stress, anxiety, and depression. [4].

In the Agriculture sector, the COVID-19 pandemic has caused significant disruptions to the agricultural industry, with farmers facing numerous challenges that have impacted their mental health and well-being. For example, supply chain disruptions led to increased uncertainty around market demand, which caused financial strain and contributed to stress. Labor shortages had also made it difficult for farmers to maintain their operations, leading to additional stress and pressure. Furthermore, the pandemic has made it more challenging for farmers to access the support and resources they need. Social distancing measures had limited opportunities for farmers to network and connect with others in their community, which also contributed to stress.

Overall, the COVID-19 pandemic added an extra layer of stress and uncertainty for farmers, exacerbating existing challenges and creating new ones. Farmers need to prioritize their mental health and well-being and seek support when needed. Chronic stress can have a range of negative impacts on physical and mental health, including increased risk of heart disease,

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DOI: <https://doi.org/10.21276/AATCCReview.2024.12.04.359>

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depression, and anxiety. Therefore, farmers need to develop effective stress management strategies. Consideration of the mind is a distinction of Ayurveda and Yoga [7]. Yoga including meditation is one of the easy and alternative medicines that implements mind-body practices to promote physical and mental wellness for the prevention and post-recovery management of COVID-19 [5]. Keeping this in view, yogic and meditative modes were developed to overcome stress by the farmers and farm women with the following objectives:

- To assess the stress faced by the farmers and farm women during COVID-19 and lockdown
- To enlist the strategies used by the farmers and farm women to overcome the stress during lockdown
- Developing simple yogic and meditative strategies suitable to the farmers and farm women
- Assessing the suitability of the developed strategies for the farmers and farm women by administering it to small groups

Methodology

The study was conducted in two stages. In the first stage the study was conducted in two districts of Karnataka namely Dharwad and Belgaum during 2022. In each district three talukas and from each taluka five villages were randomly selected for the study. From each village, 10 farmers and 10 farm women were selected for the study. Thus the total sample size constitutes of 150 farmers and 150 farm women. A pre-tested schedule with modified version of the Depression Anxiety Stress Scale (DASS scale) was administered to these selected respondents through personal interviews to assess their stress

level. Based on the analysis of the collected data two each yogic modes were developed to overcome stress by the farmers and farm women.

In the second stage to assess the suitability of the developed modes pre and post-test experimental design was used. In Dharwad taluka four villages were selected for the study. The four yogic modes developed were administered in four selected villages of Dharwad taluka. In two villages 30 farmers each were selected and in two villages 30 farm women each were selected. Thus the total sample was 120 with 60 farmers and 60 farm women. Each mode was administered for 30 days to the selected respondents by yoga experts. The pre and post test on stress was administered to these respondents before administering the mode and after practicing yogic mode for 30 days. The difference in the pre and post-test analysis was used to assess the effectiveness of the modes and suitable modifications in the modes were made based on the feedback and one yogic mode each for farmers and farm women was finalized.

Results and Discussion

The results in Table 1 shows that more than half of the farmers and farm women were having medium to high level stress with 27.33 percent of farmers and 29.33 percent of farm women at medium stress level and 36.67 percent of farmers and 32.67 percent of farm women at high stress level. Whereas 36.00 percent of the farmers and 38.00 percent of the farm women were in low stress level group. As COVID-19 had brought in lot of problems to the people in general and farmers in particular majority of them have medium to high stress level.

Table 1 : Stress level of the farmers and farm women during COVID 19

n=300

Category	Farmers (n=150)		Farm Women (n=150)	
	Frequency	Percentage	Frequency	Percentage
Low	54	36.00	57	38.00
Medium	41	27.33	44	29.33
High	55	36.67	49	32.67
Total	150	100.00	150	100.00

A cursory look at Table 2 shows that the major problem indicated by the majority of the farmers (90.66%) related to agriculture was less demand for the produce followed by lack of storage (80.00%), less price for the produce (65.34 %), lack of transportation facilities (57.33%), lack of labour facilities (38.66%) and only eight percent mentioned about lack of supply of machineries. In case of farm women, 96.67 percent mentioned that less demand for the produce was that main problem and 46.66 percent said that lack of transport facility was the problem. All other problems were mentioned only by few farm women. As people got struck in their houses and reduced roaming outside drastically the demand for produce came down.

Table 2 : Problem faced by the farmers and farm women during COVID 19

n=300

Sl.No.	Type of problems	Farmers (n=150)		Farm women (n=150)	
		F	%	F	%
1	Less price for the produce	98	65.34	16	10.66
2	Less demand for the produce	136	90.66	145	96.67
3	Lack of transport facilities	86	57.33	70	46.66
4	Lack of storage	120	80.00	16	10.66
5	Lack of labours availability	58	38.66	30	20.00
6	Lack of supply of machinaeries	12	8.00	06	4.00

F = Frequency % = Percentage

Yogic modes were developed based on the stress level of farmers. Based on the assessed stress two groups were formed one with average medium stress level and another with average high stress level. Mode 1 was developed for farmers with medium stress level and Mode 2 was developed for farmers with high stress levels. The first mode (method) consists of primary (basic) Standing, Sitting, Supine and prone asanas. Simple standing asanas provide perfect awareness and foundation for sitting & inverted asanas. By performing these simple basic asanas the stability in the farmers was observed. Mode - 2 included asanas such as inverted and twisting postures. Inverted postures like uttitaadweepadasana, halasana help in reducing blood pressure levels & stress level. In both the modes Suryanamaskara was added as the farmers in Mode 1 were with medium stress they were asked to do Suryanamaskara four times and in Mode 2 for farmers with high stress level Suryanamaskara was introduced six times in a day. During pandemic the major issues were related to respiratory and breathing. To enhance and improve the lungs capacity pranayam was compulsorily performed at the second half of each mode (Mode 1 and 2).

Pranayama such as Nadishodhan, Chandra bedha, Surya bedha etc., were practiced. Meditation and Shavasana were introduced equally for both modes as they are very important in bringing down stress levels.

Yogic modes were developed based on the stress level of farm women. Based on the assessed stress two groups were formed one with an average low stress level and another with an average medium stress level. Mode 1 was developed for farm women with low stress levels and Mode 2 was developed for farm women with medium stress level. The first mode (method) consists of primary (basic) Standing, Sitting, Supine and prone asanas. Simple standing asanas provide perfect awareness and foundation for sitting & inverted asanas. Mode - 2 included asanas such as inverted and twisting postures. Inverted postures like halasana and sitting asanas like ardhmathsendrasana help in reducing stress level. During pandemic the major issues were related to respiratory and breathing. To enhance and improve the lungs capacity pranayam was compulsorily performed at the second half of each mode (Mode 1 and 2). Pranayama such as Nadishodhan, Chandra bedha, Surya bedha etc., were practiced. Prayer, Meditation, and Shavasana were introduced equally for both modes as they are very important in bringing down the stress levels.

A cursory look at Table 3 shows that the yogic mode 1 applied in Mangalgatti village and yogic mode 2 applied in Lokur village on two different groups of farmers both had a positive and significant impact on the stress level of the farmers. In case of yogic mode 1 applied in Mangalgatti village the pre test stress level of the farmers was 13.97 whereas it was reduced to 10.20 after practicing yoga for one month. The t-test showed that there is a significant difference between the pre test mean (13.97) and post test mean (10.20) of stress level. With respect to mode 2 applied in village Lokur there was significant difference between the pre test mean (11.70) and post test mean (8.53) of stress level. In both the cases the pre test mean was higher than the post test mean. This clearly indicates that the yoga practiced for one month has helped in reducing the stress level of the farmers. The findings also gets support of the findings reported by Kumar and Tiwary [2] and Shohani *et al.* [6].

Table 3: Impact of Yogic Modes on Stress Level of Farmers during COVID 19

n=60

Sl.No.	Categories	Test	Mean	SD	t-Test
1	Yogic Mode 1 n=30	Pre test	11.7	2.98	11.31**
		Post test	8.53	2.67	
2	Yogic Mode 2 n=30	Pre test	13.97	3.78	11.75**
		Post test	10.20	3.82	

An overview of Table 4 shows that the yogic mode 1 applied in Kurubghatti village and yogic mode 2 applied in Belur village both had a positive and significant impact on stress level of the farm women. In case of yogic mode 1 the pre test stress level of the farm women was 7.63 whereas it was reduced to 5.90 after practicing yoga for one month. The t-test result (11.47**) showed that there is significant difference between the pre test mean (7.63) and post-test mean (5.90) of stress level. With respect to mode 2 applied in village Lokur there was a significant difference between the pre test mean (11.97) and post-test mean (8.97) of stress level as shown by 't' test (11.42**). In both the cases the pretest mean was higher than the post test mean. This clearly indicates that the yoga practiced for one month has helped in reducing the stress level of the farmers. This finding are in line with the findings of Mohan and Rajeshwaran [3].

Table 4: Impact of Yogic Modes on Stress Level of Farm Women during COVID 19

n=60

Sl.No.	Categories	Test	Mean	SD	t-Test
1	Yogic Mode 1 n=30	Pre test	7.63	3.19	11.47**
		Post test	5.90	2.86	
2	Yogic Mode 2 n=30	Pre test	11.97	2.28	11.42**
		Post test	8.97	2.75	

The results in Table 5 shows the Yogic Mode recommended for the farmers to manage stress. Both the modes which were experimented on two groups of farmers with different stress level showed significant effect in reducing the stress, hence the Yogic mode for stress management of farmers was finalized by collecting the opinion of farmers from both the groups about the effect and liking of the aasanas by majority of the farmers after practicing for one month. The total time allocated for the final mode is 69 minutes. In this Pranayama, Kapalabathi, Shavasana and meditation were retained as they directly affect the stress level and also farmers were satisfied by the time allocated to it. In case of Suryanamaskara four times was the recommendation given for the final mode as there was a need to allocate time for other aasanas and also farmers felt that it was sufficient. Trikonasana, veerabhadrasana and Utkatasana in standing position, marjalasana, Vakrasana, Parvathasana in sitting position, Bujanghasana, shalabasana and Naukasana in prone pose and Uttithadweepadasana, halasana and pavanamukthasana in Supine pose were retained for the Yogic mode recommended for farmers. The findings are in line with the findings of Yadav [9].

Table 5: The Yogic Mode Recommended for Farmers during COVID 19

Sl.No.	Final Yogic Mode for Farmers	
	Particulars	Time (minutes)
1	Kapalabathi	
2	Pranayama (Breathing Exercises) a. Chandrabedha b. Suryabedha c. Nadishodana d. Sheetal e. Sitkari f. Bramari	10
3	Suryanamaskara- 4 Times	04
4	Shavasana	10
5	Standing Aasanas a. Trikonasana b. Veerabhadrasana c. Utkatasana	30
6	Sitting Aasanas a. Marjalasana b. Vakrasana c. Parvathasana	
7	Prone pose Aasanas a. Bujangasana b. Shalabasana c. Naukasana	
8	Supine pose Aasanas a. Uttithadweepadasana b. Halasana c. Pavanamukthasana	
9	Meditation	15
	Total Time	69

The cursory look at Table 6 shows the Yogic Mode recommended for the farm women to manage stress. Both the modes which were experimented on two groups of farm women with different stress level showed a significant effect in reducing the stress, hence the Yogic mode for stress management of farm women was finalized by collecting the opinion of farm women from both groups about the effect and liking of the aasanas by the majority of the farm women after practicing for one month. The total time allocated for the final mode is 65 minutes. In this Pranayama, Kapalabathi, Shavasana and meditation were

retained as they directly and significantly impact stress levels. Urdvahastotanasana, Vrukshasana, veerabhadrasana and Utkatasana in standing position, Marjalasana, Vakrasana, Pashchimotanasana, Ardhamatsendrasana in sitting position, Bujanghasana, shalabasana, Dhanurasana and Naukasana in prone pose and Uttithadweepadasana, Sethubandasana, Halasana and Pavanamukthasana in Supine pose were retained for the Yogic mode recommended for farmers. The findings are in line with the findings of Kinser [1].

Table 6 : The Yogic Mode for stress management for Farm Women during COVID 19

Sl.No.	Final Yogic Mode for farm Women	
	Particulars	Time (minutes)
1	Prayer	
2	Kapalabathi	
3	Pranayama (Breathing Exercises)	10
	a. Chandrabedha	
	b. Suryabedha	
	c. Nadishodana	
	d. Sheetali	
	e. Sitkari	
4	Meditation	10
5	Standing Aasanas	30
	a. Urdvahastotanasana	
	b. Vrukshasana	
	c. Veerabhadrasana	
d. Utkatasana		
6	Sitting Aasanas	
	a. Marjalasana	
	b. Vakrasana	
	c. Pashchimotanasana	
7	Supine pose Aasanas	
	a. Uthithadweepadasana	
	b. Sethubandasana	
	c. Halasana	
8	Prone pose Aasanas	
	a. Bujangasana	
	b. Dhanurasana	
	c. Shalabasana	
9	Shavasana	15
	Total Time	65

Conclusion

The yogic mode developed both for farmers and farm women have shown that they are effective in reducing the stress level of farmers and farm women. Apart from COVID-19, the farmers also face stress due to other factors. Hence to reduce the stress of the farmers and farm women the developed yogic modes can be used. The extension functionaries and agencies working towards the development of farmers and farm women can include stress management as a part of their programme and induce yogic practices among farmers and farm women. By improving mental and physical health these practices have the potential to increase productivity and contribute to a more sustainable and resilient farming community.

Acknowledgement

• We are grateful to the Department of Science and Technology, Government of India for funding the research project on Farmers and Stress Management During COVID19-A pilot study.

• We are grateful to all the farmers and farm women who actively participated in the research for one month.

Conflict of Interest

We do not have any conflict of interest

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