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A Study of Stress, Spiritual Belief and Mental Health of Farmers in Vidarbha Region

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ABSTRACT

Greater use of automation technology and implication of new complicated legislations have made the life of farmers more stressful. Due to more use of organic production, and as the prices of agricultural products are decreasing, in past two decades lot of changes are observed in agricultural sector and it also found to be one of the potential areas for stress.

Farmers put their hard efforts in the field for a very long time to care for their land, crop, and well being of livestock. Farming and ranching are very stressful occupations. Highest rate of suicide is observed in this occupation, around 85 individuals each year. Suicide rate is all the time high in farming community making mental health a priority because unfortunately they do not devote the same care to their own physical and mental health. There are a few key signs to look for in an over-stressed individual i.e. farmers carry the burden of spiritual belief, financial stress, government policy, herd health and disease, crop losses, budgeting, climate change and long hours devoted in field, just to name a few. Farmers are very reluctant to seek any kind of help from strangers, which makes treating mental health in farmers more difficult.

In this study an attempt is made to find out the relation between stress, spiritual belief and mental health of farming community. The study has been conducted in Amravati district of Maharashtra. 200 farmers (100 male & 100 female) are selected randomly from the 68 villages of the district. Statistical analysis is done to test the effect of stress and spiritual belief on mental health of farmers.

I. INTRODUCTION

Today, India ranks second worldwide in farm output. Agriculture and allied sectors like forestry and fisheries accounted for 13.7% of the GDP in 2017. The economic contribution of agriculture to India's GDP is steadily declining with the country's broad-based economic growth. Still, agriculture is demographically the broadest economic sector and plays a significant role in the overall socio-economic fabric of India.

The main cash crops of Vidarbha region are cotton, oranges and soya beans. Amravati is the largest Orange growing district. Recently Vidarbha region has become infamous for occurrence a large number of farmer suicides.

There have been more than 200,000 farmers who committed suicide in Maharashtra in the last decade, out of which more than 70% farmers belong to the 11 districts of Vidarbha region. This is mainly because of the lack of ample amount of water resources

and lack of new technologies. Such stresses pushed many into a corner where suicide became an option for them. Stress is an ongoing issue for farmers

There are various economic, social, individual and environmental causes of farmers' condition in Maharashtra. The causes of this crisis are complex and manifold; they are dominantly related to public policy and economic strategy. They are mainly : Crop failure, Indebtedness and low income, Indebtedness and low income, Natural Calamities, Increase in cost of production, Illiteracy, Traditions & Culture etc. Due to these causes the farmers are facing the stress.

1.1 Stress, Spiritual belief and Mental health

The term "stress", is defined as "the non-specific response of the body to any demand for change". Positive stress helps to improve performance. It also plays a factor in motivation, adaptation, and reaction to the environment. Excessive amounts of stress, however, may lead to bodily harm.

The term "spirituality" represents both the things on which a person focuses his faith and the things he does to try to make a connection with those things In other words, spirituality represents the *paths a person's faith travels* as it seeks meaning, purpose, and significance.

Mental health is a level of well-being, or an absence of a mental disorder; it is the state of someone who is functioning at a satisfactory level of emotional and behavioral adjustment.

II. IMPORTANCE OF THE STUDY

Stress is linked with numerous illnesses and diseases. With farming ranking as one of the nation's most stressful industries, farming community is found to have high stress level. This research explores the ways in which stress affects farming communities and analyzes the relation between spiritual belief and mental health of farm people.

So it is necessary to study the stress among farmers. At the same time it is also important to study the impact of stress on their work and mental health, so that the steps can be defined to bring out them from stressful life.

III. REVIEW OF LITERATURE

Deepali B. Ghatul (2013), studied to find out the constraints of farmers, to find out the stress level of farmers & to compare constraints and stress level of farmers.

N. M. Kale, S. R. Khonde & D. M. Mankar (2014), studied for identification of various causes of suicides of farmers in highly suicide prone six districts of Vidarbha with exploratory design of social research. It covered 178 villages and 34 tahsils of six districts of Vidarbha.

A. Kuruvilla & K.S. Jacob (2007), conclude that while there is increasing evidence of an association between poor mental health and the experience of poverty and deprivation, the relationship is complex.

K. M. Gunn, L. J. Kettler, GLA Skaczkowski, & D. A. Turnbull ***(2012),*** carried out research was to ascertain whether members of a particular gender or age group in farming populations are at elevated risk of experiencing psychological distress in a time of drought. The limited research available has generally concluded that levels of distress are highest among younger farmers and farm women.

Huat Bin (1995), studied review of the literature notes that farmers are experiencing high level of stress due to the impact of various uncontrollable factors in the work environment.

Fragar L, Henderson A, Morton C, & Pollock K (2008), prepared a chartbook provides available relevant data relating to the mental health and wellbeing of the people in agriculture – the changing structure of family farms, the ageing profile of farmers and farm managers, common pressures reported by farmers that are difficult to cope with, available data relating to prevalence of mental health disorders, and suicide data relating to the farming population in Australia.

Joseph D. Hovey, Laura d. Seligman (2012), found that because of the difficulties intrinsic to agricultural work, it might be conjectured that agricultural workers are at risk for mental health problems.

IV. METHODOLOGY

Sample of the study consists of 200 farmers, drawn randomly from 28 villages of Amravati districts. 100 male and 100 female farmers are taken into consideration. The respondents belongs to farming community. Here we assume **Independent Variable as** Stress and spiritual belief and **Dependent Variable** as Mental health

The objective of the present study is to find out the relationship between stress, spiritual belief & mental health of the farmers.

4.1 Study of inter-correlation between stress, spiritual belief & mental health of farmers

For this, 200 scores of stress, spiritual belief & mental health of the farmers are used to find out the correlations between them. The results are mentioned in the following tables.

Table 1: Correlation between Stress and Mental Health of Farmers

Sr. No.	Variables	r	df	Significance level
1	Stress & Mental Health	-0.238	198	0.01

Table 1 shows that the coefficient of correlation between stress and mental health is found to be -0.238, which is low, negative and significant at 0.01 level. It suggests that there is negative correlation between stress and mental health of farmers. The high stress is associated with low mental health. Similarly low stress is associated with high mental health. Thus it shows that There is significant relationship between stress and mental health of farmers.

Table 2: Correlation between stress & spiritual belief of farmers

Sr. No.	Variables	r	df	Signifi-cance level
1	Stress & Spiri-tual Belief	- 0.127	198	NS

Table 2 shows that the coefficient of correlation between stress and spiritual belief is -0.127, which is negative and not significant at 0.05 level. It indicates that there is negative correlation between stress and spiritual belief of farmers.

Table 3: Correlation between spiritual belief and mental health of farmers

Sr. No.	Variables	r	N	Significance level
1	Spiritual Belief & Mental Health	0.054	200	NS

Table 3 shows that the coefficient of correlation between spiritual belief and mental health is 0.054 which indicate that

there is very weak correlation between two factors and thus it is not significant at 0.05 level. It indicates that there is no correlation between spiritual belief and mental health of farmers.

4.2 Study of effect of stress & spiritual belief on mental health of farmers

The second objective of the present study is to find out the independent and interaction effect of stress and spiritual belief on mental health of farmers. For this purpose, 2x2 factorial design is used. The 200 cases were distributed into four classified groups, by using p25 and p75 cutting points of stress and spiritual belief. The effective sample of study is 60 only.

Analysis of Variance (ANOVA), is used to study the effects of independent variables on dependent variable.

Taking into consideration sample size and mental health scores, the sample was distributed into 4 groups (A1B1 – Low stress/Low Spiritual belief, A1B2 - Low stress/High Spiritual belief, A2B1 - High stress/Low Spiritual belief, A2B2 - High stress/High Spiritual belief) with 15 scores in each group. Following table 4.4 shows the values of mean and SD's of mental health for four classified groups.

Table 4: Mean & SD's of mental health of four classified groups

Groups	A1B1	A1B2	A2B1	A2B2
Mean	89.00	88.87	71.53	87.80
SD	12.78	18.86	11.56	14.66

The data of four groups are treated by two way analysis of variance (ANOVA). Complete summary of two way ANOVA for mental health measure is given in following table.

Table 5: Complete Summary of two way ANOVA

Source of variation	Sum of squares	df	Mean square	F
A: Stress	1288	1	1288	5.54 *
B: Spiritual Belief	976	1	976	4.20 *
AB: Stress x Spiritual Belief	1009	1	1009	4.34 *
Error: Within treatment	13018	56	232.46	
TOTAL	**16291**	**59**		

* significant at 0.05 level

Table 6: Mean scores of mental health of the two groups of stress and spiritual belief

Group	Stress	Spiritual belief
Low	88.93	80.26
High	79.66	88.33

Table 5 shows the F ratio for the main effect of stress (A) is 5.54. The value is significant at 0.05 level. It indicates that stress independently affects mental health of farmers. Table 6 shows that the mean of mental health of low stress group is significantly better (88.93) than the mean score of mental health of farmers for the high stress group (79.66). Thus it shows that there is a significant effect of stress on mental health of farmers. It indicates that with low stress, farmers have better mental health. The explanation is that farmers experiencing less stress in all situations of life are more creative and enthusiastic.

Table 5 also shows the F ratio for the main effect of spiritual belief (B) is 4.20. The value is significant at 0.05 level. It indicates that spiritual belief independently affects mental health of farmers. Table 6 shows

that the mean of spiritual belief of low spiritual belief group is significantly better (80.26) than the mean score of mental health of farmers for the high spiritual belief group (88.33). Thus there is significant effect of spiritual belief on mental health of farmers.It indicates that the farmers with high spiritual belief have better mental health. The probable explanation is that, high spiritual belief brings positivity in them and they become more positive towards their life and future.

Similarly, from Table 5, it is observed that the F ratio for the main effect of interaction between stress and spiritual belief (AB) is 4.34. The value is significant at 0.05 level. It indicates that there is significant effect of stress and spiritual belief on mental health of farmers. Stress is inevitable part in life but if we have spiritual belief, it may lead to better mental health.

4.3 Duncan's Multiple Range Test (DMRT)

Duncan's Multiple Range test (DMRT) is a post hoc test to measure specific differences between pairs of means. Among a set of *k* samples *of equal size n*, analysis of variance indicates a significant difference between the sample means. It is required to determine which pairs of means differ significantly. Duncan proposed a test that provides a series of shortest significant ranges, given by a quantity *Rp* in order to compare intergroup differences between means.

A – High Stress with Low Spiritual Belief,

B – High Stress with High Spiritual Belief

C – Low stress with High Spiritual Belief,

D – Low Stress with Low Spiritual Belief

Table 7 shows that there are significant differences in mean scores of mental health among five inter groups at 0.01 level of significance. The careful observation of the findings suggests that

Farmers with low stress have better mental health than farmers with high stress.

Farmers with low stress and low spiritual belief have higher mental health than all other groups.

It can be said definitely that low stress plays an important role in increasing mental health of farmers. The concluding comment is that stress is indispensible factor in personal and work environment. Farmers should use stress coping strategies to decrease the level of stress for better mental health.

Table 7: Duncan's test for intergroup mean differences

		A	B	C	D	Shortest Significant Ranges at 0.01 LoS
MEANS		71.53	87.8	88.87	89	
A	71.53	-	16.27 **	17.34 **	17.47 **	R2 - 7.63
B	87.8		-	1.07	1.20	R3 - 7.96
C	88.87			-	0.13	R4 - 8.18
D	89				-	

**significant at 0.01 level

4.4 Study of sex differences in terms of stress, spiritual belief on mental health of farmers

The third objective of the present study is to study sex differences in terms of stress, spiritual belief on mental health of farmers.

From the above table 8 it is observed that the mean score of stress in case of male farmer group is 28.37 and the mean score of stress of female farmer group is 26.17. The difference between two mean score is 2.2 and not significant at 0.05 level. It indicates that male and female farmers donot significantly differ on stress.

Also from above table 8, it is observed that the mean score of spiritual belief in case of male farmer group is 115.74 and the mean score of female farmer group is 115.08. The difference between two mean scores is 0.66 and not significant at 0.05 level. It indicates that male and female farmers do not significantly differ on spiritual belief.

Table 8 also indicates that the mean score of mental health in case of female farmer group is 84.86 which is more than the mean score of male farmer group 87.29. The difference between two mean scores is 2.43 and not significant at 0.05 level. It indicates that male and female farmers do not significantly differ on mental health.

5. CONCLUSION

The purpose of this study was to find out the relationship between stress, spiritual belief and mental health of farmers. Also the objective includes study the effect of stress and spiritual belief on mental health of farmers. The purpose also includes study of sex differences in terms of stress, spiritual belief on mental health of farmers. Following were the conclusions:

- There is no significant relationship between stress and mental health of farmers.
- There is no significant correlation between stress and spiritual belief of farmers.
- There is no strong significant correlation between spiritual belief and mental health of farmers.
- There is significant effect of stress on mental health of farmers.
- There is significant effect of spiritual belief on mental health of farmers.
- The interaction between stress and spiritual belief significantly effects on

Table 4.8: Comparison between male and female farmer groups in terms of stress, Spiritual Belief and Mental Health

Variable	Group	Mean	SD	N	Diff. between Means	't'	Significance
Stress	Male	28.37	11.59	100	2.2	0.57	NS
	Female	26.17	9.05	100			
Spiritual Belief	Male	115.74	16.62	100	0.66	0.04	NS
	Female	115.08	18.09	100			
Mental Health	Male	84.86	15.75	100	2.43	0.19	NS
	Female	87.29	15.02	100			

NS – Not significant at 0.05 level

mental health of farmers.

- There is no significant difference between male and female farmers with respect to stress, spiritual belief and mental health.

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