Depression Level Among Farmers of Dharwad and Uttara Kannada Districts

P. S. Lokanath and A. A. Vijayalaxmi

Department of P.G. Studies and Research in Psychology, Karnatak University, Dharwad - 580 003
e-Mail : lokanath758@gmail.com

Abstract

The present study aims to understand the depression level of Dharwad and Uttara Kannada districts farmers. To achieve this objective, 80 farmers were selected randomly from each district and administered depression inventory (Bech, 1998). The obtained responses were scored and subjected to 't' test. Results revealed that Dharwad district farmers had significantly very high depression compared to Uttara Kannada farmers (t= 6.005; p< 0.001). Further, female farmers have significantly high depression compared to male farmers in both the districts (Dharwad t=2.81; P< 0.01 and Uttara Kannada t=2.15; p<0.05, respectively). It's also observed that Dharwad district farmers who get one crop per year and those seeking help from others in agricultural work have significantly lower depression compared to their counterparts. Uttara Kannada district farmers who participating in agricultural training programs and belonging to age group of 50-60 years have shown significantly high depression, where as those who get two crops per year and seeking help from others in agricultural work have shown significantly lower depression.

Keywords: Dharwad and Uttara Kannada districts, Farmers, Depression, Demographic factors

Diversified professions with economic growth are needed for the progress of any society or nation. Among them agriculture is the main occupation which is very essential. Health and strength of citizen mainly depends on the farmer's contribution compared to any other profession. Farmers' financial conditions and comforts of life are very unpredictable. Thus, it is the social responsibility of researchers to diagnose the psychological problems of farmers.

Depression is a common mental disorder that depicts negative mood, loss of interest or pleasure, decreased energy, feelings of guilt or low self-worth, disturbed sleep or appetite and poor concentration. Moreover, depression often comes with symptoms of anxiety. These problems can become chronic or recurrent and lead to substantial impairments in an individual's ability to take care of his or her responsibilities. If depression of any person is left unattended, it may lead to suicide. Almost one million lives are lost yearly due to suicide, which translates to 3000 suicide deaths every day. For every person who completes a suicide, twenty or more may attempt to end his or her life (WHO, 2012).

Literature search revealed that studies on mental health of Indian farmers are very less. Hence, the present study is taken up, with the objective of focusing on depression of Karnataka state farmers belonging Dharwad and Uttara Kannada districts.

Methodology

The study aims to investigate the significance of difference between Dharwad and Uttara Kannada district farmers with regard to their depression. It is also aimed to identify the socio-demographic factors that are significantly contributing to depression of Dharwad and Uttara Kannada districts farmers.

The present study sample consists of 160 farmers from the villages of Dharwad and Uttara Kannada districts of Karnataka state. Eighty farmers from each district were selected, (out of which 40 male and 40 female famers, as the collected sample was odd number between 40-50, in order to equate the sample size '40' were selected in each group). The age of the sample ranges from 20 to 60 years. Farmers of two different districts are matched in terms of their age, gender and demographic factors.

Major Depression Inventory was used to collect data. This inventory has 10 items. Each item has six response categories such as 'All the time', 'Most of the time',

'Slightly more than half the time', 'Slightly less than half the time', 'Some of the time' and 'At no time'. Thus, the total scores range from 0 to 50. A scoring method of 5, 4, 3, 2, 1 and 0 was followed for the above responses, respectively. For items 8a versus 8b and for items 10a versus 10b, whichever is higher score on a or b is to be considered. The author of the scale has reported high reliability and validity of the scale, which is also supported with further research studies conducted by various scientists on different samples.

However, the pilot study carried out by us on farmers of Karnataka state (by translating it into local language) also revealed high reliability and validity. The scale has shown high reliability in terms of Cronbach's Alpha (0.82), Split-half (0.63), Spearman Brown coefficient (0.78) and Guttman (0.85). The concurrent validity is also significant, which is revealed by its correlation with stress, anxiety, perceived social support and psychological well-being (coefficients being 0.33**, 0.20*, -0.31** and -0.29**, respectively).

Primary data was collected by visiting the farmers of Mansur, Managundi, Garag, Kallapur, Tadakod, Chikkamalligavada, Kundagol, Samshi of Dharwad district and Chanagar, Angadibail, Brahmoor, Achave, Nagoor, Hiregutti, Moraba, Nushikote and Balale of Uttara Kannada district. The literate farmers answered on their own, whereas for illiterate farmers, questions were read out by the investigator and their responses were recorded. Socio-demographic details of the sample were obtained with the help of a personal data sheet designed for this purpose. The obtained data was scored and subjected to 't' test as well as stepwise multiple regression analysis.

RESULTS AND DISCUSSION

An inspection of Table 1 reveals that Dharwad district farmers have shown above average depression ($\bar{X}$=54.29), whereas Uttara Kannada farmers have below average depression score (=45.70). One can observe that there is noticeable difference in the depression experienced by the two district farmers. Further, this noticeable difference is tested for its significance by applying 't' test.

TABLE 1

Mean and SD for depression scores of farmers belonging to Dharwad and Uttara Kannada districts (n=80 in each group)

Farmers	Mean	SD
Dharwad District	54.29	12.15
Uttara Kannada District	45.70	4.01

Table 2 reveals that the difference between farmers of Dharwad and Uttara Kannada districts is significantly very high (t=6.005: p< 0.001) in their depression. In other words, the depression of Dharwad district farmers is significantly very high compared to Uttara Kannada farmers.

TABLE 2

MD, SEM and 't' Value for depression scores of farmers belonging to Dharwad and Uttara Kannada districts (n=80 in each group)

Variable	MD	SEM	't' value
Depression	8.59	1.43	6.005 ***

*** p < 0.001; Very Highly Significant

This fact may be attributed to several reasons, the most evident reason is Dharwad district farmers mainly depend upon rainfall for their agriculture products. The farmers of Uttara Kannada have wet land and multi options for their livelihood other than agriculture. During off season either they depend on fishing or on other products such as betel nut and coconut. In other words, the geographical conditions are more conducive for better economic gain throughout the year for Uttara Kannada farmers. On the contrary, Dharwad district farmers have to depend mainly on rainfall for their agriculture work. Hence, they suffer from low income that results in high depression. A study by Kumara and Narasimha (2018) also reveals that most of the irrigated land farmers have high level of well-being, whereas those depending on rainfall had low level of well-being.

Table 3 reveals that mean scores of male and female farmers are differing to some extent in their depression. Further, the 't' value (2.81: p< 0.01) showed that male and female farmers of Dharwad

district differ significantly in their depression score. Specifically, female farmers have shown significantly high depression compared to their male counterparts.

Table 4 reveals that male and female farmers of Uttara Kannada district differ significantly ($t = 2.15$: $p < 0.05$) in their depression. In other words, even in Uttara Kannada district, female farmers have shown significantly higher depression compared male farmers.

The observed fact of female farmers having significantly high depression compared to their male counterparts as shown in Table 3 and 4 is supporting the earlier finding of (Hanklang *et al.*, 2016), in which high percent of female farmers experienced depression compared to male farmers.

High depression observed among female farmers of Dharwad and Uttara Kannada districts is mainly due to financial hardship directly experienced by them in managing their family. Compared to male, female farmers' take greater responsibility of managing the family by catering various needs of all members that makes them to feel more stressed. When they feel it difficult to manage and meet various demands and needs of the family with lower income results in high

depression. On the contrary, male farmers who have more possibility of getting exposed to other social activities outside the home may reduce their mental worries and results in low depression.

An observation of Table 5 reveals that only two factors such as number of crops per year and receiving help from others in agricultural work have emerged as significantly contributing factors to depression of Dharwad district farmers ($R^2 = 0.367$ and $F = 14.68$; $p < 0.001$). These factors collectively contributed to 36.7 per cent of variance on depression of Dharwad district farmers, which is very highly significant. More specifically, those who grow one crop per year as monocrop being 'sugarcane' was more profitable, hence resulted in lesser depression ($t = -3.94$; $p < 0.001$), whereas those with three crops have shown significantly higher depression ($t = 2.65$; $p < 0.01$). Further, the farmers of Dharwad district who are seeking help from relatives and others for their agricultural work have shown significantly lower depression compared to their counterparts ($t = -3.07$; $p < 0.01$). The above facts with respect to the number of crops relating to depression of farmers may be attributed to the fact of 'one crop' being sugarcane which is profitable income oriented, where as 'three

TABLE 3

Mean, SD, MD, SEM and 't' value for depression scores of male and female farmers of Dharwad district (n=40 in each group)

Variable	Groups	Mean	SD	MD	SEM	't' value
Depression	Male	46.98	5.92	-6.03	2.14	2.81 **
	Female	53.01	12.19			

** $p < 0.01$; Highly Significant

TABLE 4

Mean, SD, MD, SEM and 't' value for depression scores of male and female farmers of Uttara Kannada district (n=40 in each group)

Variable	Groups	Mean	SD	MD	SEM	't' value
Depression	Male	47.64	10.76	4.71	2.18	2.15 *
	Female	52.35	8.67			

* $p < 0.05$ Significant

TABLE 5

Demographic factors significantly contributing to the depression of Dharwad district farmers

Demographic factors	B	SE	R^2	't'	
One crop	5.40	1.37	0.195	-3.94	***
Seeking Help From Relative And Others (Yes)	-4.31	1.40	0.113	-3.07	**
Three Crops (per year)	7.02	2.64	0.059	2.65	**

Adjusted R^2= 0.367   F= 14.68 ***

*** p < 0.001; Very Highly Significant

** p < 0.01; Highly Significant

crops' may not fetch more income. Thus, the financial gain or loss is having impact on the depression of farmers. Another factor of 'seeking help from relatives and others' helping to reduce the depression may be due to gained confidence and motivation through social support and feeling of security. Participating in training was considered for Dharwad farmers but it did not emerge as significant factors.

An examination of Table 6 raveled that the factors such as 'participating in agricultural training program',

TABLE 6

Demographic factors significantly contributing to the depression of Uttara Kannada district farmers

Demographic factors	B	SE	R^2	't'	
Participate in Agricultural Training Program (Yes)	7.498	2.280	.092	3.289	***
Two Crop	-1.706	.508	.110	-3.361	***
Seeking Help from Relative and others (Yes)	-2.191	.897	.047	-2.443	***
Age (50-60 year)	1.584	.768	.040	2.064	**

Adjusted R^2= 0.249   F= 07.61 ***

*** p < 0.001; Very Highly Significant

** p < 0.01; Highly Significant

'growing two crops', 'seeking help from relatives and others' and 'age' have collectively contributed to the depression of Uttara Kannada district farmers (R^2 =0.249 and F=7.61; p<0.001). It means 24.9 per cent of variance on depression of Uttara Kannada district farmers is mainly due to the collective contribution of 'participating in training program', 'number of crops', 'seeking help from relative and others' and 'age'. More specifically, farmers who attended training programs have shown high depression (t=3.289; p<0.001), those farmers who grow two crops and seeking help from others have shown significantly lower depression (t=3.361; and -2.443; p< 0.001, respectively). Finally, Uttara Kannada district farmers who are above 50 years have expressed significantly higher depression compared to younger ones (t=2.064; p<0.01). Maybe participating in training program raised their expectation and not meeting with that might have led to high depression (However, needs to be investigated further). Uttara Kannada district farmers who get two crops per year showing significantly lower depression may be due to better economic gain throughout the year. Uttara Kannada district farmers who are seeking help from others showing significantly lower depression (t=-2.443; p<0.001) may be due to strengthened self confidence by the social support. Lastly elderly Uttara Kannada district farmers showing higher depression is mainly attributed to their lower level of mental readiness and flexibility to accept the variations in their field. This fact confirmed the earlier findings (Rayens and Reed, 2014 and Torske *et al.,* 2016) which revealed that elderly farmers had high suicide rates and depression. However, it is contradicting to earlier study of Rudolphi *et al.* (2020) in which they found that depression and anxiety is high among young adult farmers. Significantly lower depression shown by both the districts farmers who get seeking helps from others in agricultural activities confirmed the earlier study conducted by Bjornested *et al.* (2019) in which they observed that social support from friends and family members prevented depression symptoms in farmers. Further, also supported in which the sense of belongingness and social support weakened suicidal ideation and depression of Australian farmers.

The above discussed results led to the following conclusions:

1. Dharwad district farmers have significantly higher depression compared to Uttara Kannada district farmers

2. Female farmers of Dharwad and Uttara Kannada districts have significantly higher depression compared to male farmers

3. Dharwad district farmers who get one crop being sugarcane per year and those seeking help from relatives and others in agricultural work have significantly lower depression compared to their counterparts

4. Uttara Kannada district farmers who participated in agricultural training programs and those who are above 50 years have shown significantly higher depression compared to their counterparts

5. Uttara Kannada district farmers who get two crops per year and seeking help from relatives and others in agricultural work have significantly lower depression

Social Implications

The findings of the study draw the attention of social thinkers and policy makers to take some measures to protect the farmers suffering from high depression through some proper planning and interventions. If this issue is not taken seriously it may hamper the mental health of farmers and affects their quality of life. Thus, farmers do require proper counseling and guidance from the experts of agricultural and mental health field. Even provisions can be made for online counseling for farmers in their emergency need.

(*Received :* March 2021   *Accepted :* June 2021)

REFERENCES

BJORNESTAD, A., BROWN, L. AND WEIDAUER, L., 2019, The relationship between social support and depressive symptoms in Midwestern farmers. *Journal of Rural Mental Health.*, **43** (4) : 109.

HANKLANG, S., KAEWBOONCHOO, O., MORIOKA, I. AND PLERNPIT, S. A., 2016, Gender differences in depression symptoms among rice farmers in Thailand. *Asia Pacific Journal of Public Health,* **28** (1) : 83 - 93.

KUMARA, P. N. AND NARASIMHA, N., 2018, A comparative analysis of farmers' well-being under irrigated and rainfed farming conditions in central dry zone of Karnataka, *Mysore J. Agric. Sci.,* **52** (2) : 204 - 211.

RAYENS, M. K. AND REED, D. B., 2014, Predictors of depressive symptoms in older rural couples: The impact of work, stress and health. *The Journal of Rural Health*, **30** (1) : 59 - 68.

RUDOLPHI, J. M., BERG, R. L. AND PARSAIK, A., 2020, Depression, anxiety and stress among young farmers and ranchers: a pilot study. *Community Mental Health Journal*, **56** (1) : 126 - 134.

TORSKE, M. O., HILT, B., GLASSCOCK, D., LUNDQVIST, P. AND KROKSTAD, S., 2016, Anxiety and depression symptoms among farmers: The HUNT study, Norway. *Journal of Agro Medicine*, **21** (1) : 24 - 33.

WORLD HEALTH ORGANIZATION, WORLD SUICIDE PREVENTION DAY, 2012, http://www. who.int/mediacentre/events/ annual/world_suicide_prevention_day/en/ Accessed.16.6.2012.