SOCIETY OF EXTENSION EDUCATION

RESEARCH ARTICLE

Psychological Dimension of COVID 19 on Farmers in Rainfed Regions of India

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ABSTRACT

COVID pandemic hit the farming community harder with its nature of infection and also with various restrictions imposed during the first and second lockdown in 2020 and 2021. The present study was conducted during the year 2021 to study the psychological distress experienced by the farmers in wake of COVID-19 in two surrounding districts of Hyderabad, Telangana namely Rangareddy and Vikarabad. Data was collected from 240 farmers from July to September, 2021 just after second wave of COVID-19. Non-specific psychological distress due to pandemic was measured by the Kessler 10 (K10) scale which is a well validated and widely used scale to measure distress. The findings of the study showed that about 76 per cent of the farmers experienced high to very high level of psychological distress during the second wave of COVID 19. This was attributed to the fact that these districts were dependent on Hyderabad for sale of its produce which was badly affected by pandemic leading to distress. The results further revealed that majority of farmers (85%) involved in full time farming were experiencing very high distress while only 15 per cent farmers having service in addition to farming were in the same category. This highlights the need of providing alternate livelihood strategies for farmers to tide over uncertain circumstances.

***Key words** : COVID-19; Distress; Farmers; Kessler k 10; Livelihood.*

India is a well-populated country with diversified societal nature having different occupation. The COVID-19 was first identified in December 2019 in Wuhan (China) and spread throughout the world with Rapid infection and deaths (*Raman et. al. 2021*). In March 2020, the WHO declared the novel coronavirus outbreak a global pandemic, and India reported its first infection on 30th January 2020, and was later spread to other parts of the country (*Saravanan, 2022*). The pandemic has affected the not only the health and but also had paralyzed the public health system, along with mental wellbeing of people been severely affected. Works of various researchers have shown the pervasive nature of psychological and social effect of COVID 19 pandemic on mental health of people now and in future (*Holmes et. al., 2020*). The farming sector in India is one of the most vulnerable sectors to bear the brunt of this pandemic. Farmers are the backbone of our economy. They provide citizens food,

besides performing other activities like environmental maintenance and preservation of cultural and social heritage. Farmers have often been relatively isolated, physically, socially, and culturally and it is evident that there is low mental health among farmers globally. This pandemic has created havoc in the life of farmers and people related to farming sector, as pandemic led to situation which was difficult to control and it affected most of the people economically, physically and mentally. Farmers' distress was exacerbated by various restrictions imposed as a control measure to pandemic leading to agricultural supply chain disruption.

The intended consequences on agriculture (i.e economic losses) due to COVID-19 are much talked about but the unintended consequences i.e the psychosocial impact on farmers is often neglected. The adversity and consequences of covid-19 were likely to increase with social isolation and loneliness, which are strongly associated with anxiety, depression, and

self-harm (*Grover et al., 2020*). Farmer's mental health issues have gained worldwide attention in recent times. Farmers are subjected to various stressors and these affects severely the wellbeing and health of the farmers. Studies have confirmed that farming populations have elevated levels of mental disorder (*Page & Fragar, 2002*). Many studies have found that psychological health problems were commonly prevalent in farming population than non-farming populations (*Daghagh Yazd et al., 2019*). The maldistribution of psychologists and psychiatrists among all the rural societies is a common problem. The education gap among the farmers plays an important role in planning and policy making for farmers. These factors lead to high stress levels (*Padhy, 2019*).

Though various studies have been conducted on psychological aspects of COVID on different strata of population but there is dearth of literature involving farming community. *Sonkusale et al. (2022),* in their study found that there were lot of literature on impact of COVID 19 on agriculture but the psychological aspects were missing in majority of those articles. Therefore, psychological dimension of the pandemic on farmers requires immediate intervention at the level of policy and research. Thus, the present investigation is an attempt to study the psychological distress experienced by the farmers during COVID-19 disaster.

METHODOLOGY

Rangareddy and Vikarabad districts surrounding Hyderabad were selected purposively for the study as these districts meets the horticultural and dairy requirement of the city. Floriculture of these area were particularly affected during the pandemic. (*Hindu, April, 2020*). The study employed multistage sampling technique wherein the districts were chosen purposively and Two Mandals from each district were selected randomly. Subsequently, two villages from each Mandals were selected using random sampling. Thirty farmers from each village were selected randomly, hence constituting a sample size of 240 farmers. Psychological distress among farmers was measured by the Kessler 10 (K10) scale. Distress is considerably more prevalent during disasters and emergencies, than mental health disorders. Distress is generally tolerable, short-lived and dependent upon the duration of the stressors. The K10 was selected because it is a well-established and validated measure that is used widely in population research. Well-
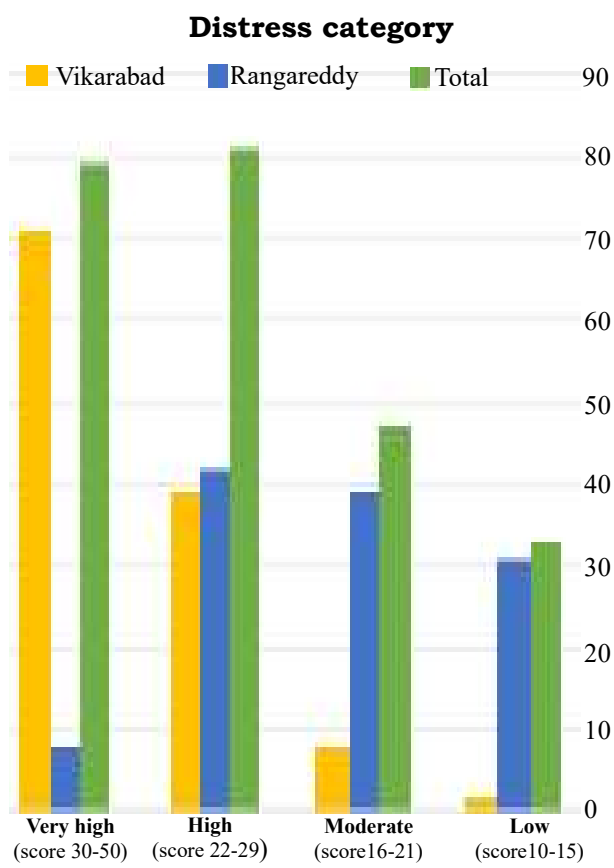
structured questionnaire prepared after extensive literature review and expert's suggestions was used to collect data in face-to-face setting from the respondents. Participants were asked to rate how frequently they experienced distress consisting of nervous, hopeless, restless or fidgety, depressed, think that everything was an effort and worthless during the last 30 days prior to taking the survey. These six dimensions will be assessed using the five-point Likert scale including '1=none of the time', '2=a little of the time', '3=some of the time', '4=most of the time' or '5=all of the time'. Responses were summed to obtain the total score, ranging from 10 to 50. Participants were also asked to report their sociodemographic information related to age, gender, education, caste, area, crops grown for the study.

RESULTS AND DISCUSSION

Psychological distress : COVID 19 has added another stress to the already burdened Indian farmers. Level of psychological distress among the farming population was assessed using Kesseler k 10 scale. About 76 per cent of the farmers experienced high to very high level of psychological distress during the second wave of COVID 19 (Table 1). The high prevalence of psychological distress found in study was in line with the results of prior studies using the Kesseler scale, conducted in rural areas in low-income and middle-income countries including Nigeria (35.5%), Ghana (30.8%) and Uganda (30.8%) (*Sweetland et al., 2019*). The distress experienced by farmers during COVID-19 may due to the uncertainties of the nature of disease and its impact on their health and agriculture sector. The distress of the farmers was exacerbated by inaccurate news from various mass media. The findings further highlight the need of screening and monitoring of psychological health status of the farmers in Indian context. The data (Table 1) from the districts shows that majority (83%) of farmers in Vikarabad district experienced high to very high level of psychological distress while majority (65%) of farmers in Rangareddy district had psychological distress from moderate to high. *Bahar*

Table 1. Distress level of the respondents

Distress Levels	Total	Rangareddy	Vikarabad
Low (score 10–15)	13.8	25.8	1.7
Moderate (score 16–21)	19.6	32.5	6.7
High (score 25–29)	33.8	35.0	32.5
Very high (score 30–50)	32.9	6.7	59.2

Distress category

Legend: Vikarabad, Rangareddy, Total

Categories:
- Very high (score 30-50)
- High (score 22-29)
- Moderate (score16-21)
- Low (score10-15)

et al., (2021) in their study also found that about two-thirds of the study participants (62.1%) experienced moderate to very high levels of psychological distress. The results depicted in Table 2 also shows that there was statistically significant difference at 1 per cent

level of significance between the districts in the level of psychological distress experienced (U=1939.5, P=000). The mean rank of Vikarabad (164.34) was higher than Rangareddy (76.66) which means that farmers in Vikarabad district experienced higher level of distress. Rangareddy district being nearer to Hyderabad Mandis compared to Vikarabad might be the reason behind the high distress experienced by farmers in Vikarabad areas due to distance. Previous studies on psychosocial effects of outbreak of severe acute respiratory syndrome (SARS), Ebola and Nipah outbreaks have also shown negative psychological outcomes such as higher depressive levels among those who were impacted by the pandemic (*Ko et al., 2006*).

About 59 per cent of the farmers responded that sometimes they felt tired out for no good reason in the past 4 weeks while 47 per cent of the participants stated that they felt nervous most of the time during the last 4 weeks (Table 3). The feeling of hopeless was experienced by around 47 per cent of the respondent during the last 4 weeks of data collections. Majority (46 %) of Farmers felt restless a little of the time and about 48 per cent of the farmers depressed for most of the time during the last 4 weeks. This was the time when the second wave was at its peak in India. *Rajesh & Smitha (2023).* also constructed a scale to measure impact of COVID-19 on farm operation including items assessing nervousness and anxious of farmers. This is time when psychosocial support can be provided to

Table 2. Mann whitney test between the districts for psychological distress

	Group	Mean Rank	Mann-Whitney U	Wilcoxon W	Z value	Asymp. Sig (2-tailed)
Distress	Rangareddy	76.66	1939.500	9199.500	-9.799	0.000
	Vikarabad	164.34				

Table 3. Statement of Kessler scale regarding the psychological distress of the farmers

Distress Statements	AT %	MT %	ST %	LT %	NT %
In the past 4 weeks, about how often did you feel tired out for no good reason?	2.5	12.5	59.2	22.1	3.8
In the past 4 weeks, about how often did you feel nervous?	3.8	46.7	40.8	7.1	1.7
In the past 4 weeks, about how often did you feel so nervous that nothing could calm you down?	0.4	5.8	39.2	42.1	12.5
In the past 4 weeks, about how often did you feel hopeless?	3.3	10.0	47.5	30.0	9.2
In the past 4 weeks, about how often did you feel restless or fidgety?	1.3	6.3	33.8	45.8	12.9
In the past 4 weeks, about how often did you feel so restless you could not sit still?	0.4	7.5	21.3	47.5	23.3
In the past 4 weeks, about how often did you feel depressed?	6.7	48.3	37.9	5.4	1.7
In the past 4 weeks, about how often did you feel that everything was an effort?	4.6	17.5	50.0	23.8	4.2
In the past 4 weeks, about how often did you feel so sad that nothing could cheer you up?	0.8	5.8	21.3	50.4	21.7
In the past 4 weeks, about how often did you feel worthless?	3.8	7.5	43.8	25.4	19.6

AT= All of the time, MT= Most of the time, ST=Some of the time, LT=A little of the time, NT= None of the time

Table 4. Association between demographic variables and distress category

Variables	Distress category				Pearson χ^2	
	Low	Moderate	high	Very high		
Age						
Young	0 (0)	0 (0)	2 (3.70)	7 (5.06)		
Middle	24(72.72)	39(82.97)	46 (56.79)	44 (55.69)	19.065	0.004
Old	9 (27.27)	8 (17.02)	33 (40.74)	28 (35.44)		
Gender						
Male	27 (81.81)	37 (78.72)	67 (82.71)	60 (75.94)	22.45	0.667
Female	6 (18.18)	10 (21.27)	14 (17.28)	19 (24.05)		
Education						
Illiterate	14 (42.42)	14 (29.78)	35 (43.20)	38 (48.10)		
Can Read only	0 (0)	1 (2.12)	3 (3.70)	0 (0)		
Can Read & Sign	5 (15.15)	3 (6.38)	6 (7.40)	6 (7.59)		
Primary School	1 (3.03)	6 (12.76)	5 (6.17)	11 (13.92)	21.258	0.267
High School	9 (27.27)	11(23.40)	17 (20.98)	13(16.45)		
Secondary School	2(6.06)	4 (8.51)	10 (12.34)	5 (6.32)		
Graduate	2 (6.06)	8 (17.02)	5 (6.17)	6 (7.59)		
Primary Occupation						
Full time Farming	22 (66.66)	24 (51.06)	64 (79.01)	67 (84.81)		
Farming+Service	6 (18.18)	9 (19.14)	7 (8.64)	12 (15.18)	32.894	.000
Farming + Business	5 (15.15)	14 (29.78)	10 (12.34)	0(0)		
Caste						
Open Category	1 (3.03)	4 (8.51)	7 (8.64)	3 (3.79)		
OBC	19 (57.57)	31 (65.95)	47 (58.02)	25 (31.64)		
Scheduled Caste	6 (18.18)	12 (25.53)	18 (22.22)	20 (25.31)	42.120	.000
Scheduled Tribe	7 (21.21)	0 (0)	7 (8.64)	29 (36.70)		
Others	0 (0)	0 (0)	2 (2.46)	2 (2.53)		
Family size						
1-4 Members	16 (48.48)	23 (48.93)	33 (40.74)	29 (36.70)		
4-8 Members	16 (48.48)	22 (46.80)	43 (53.08)	44 (55.69)	5.123	0.823
>8 Members	1 (3.03)	2 (4.25)	5 (6.17)	6 (7.54)		
Experience in farming						
Upto 10 years	9 (27.27)	15 (31.91)	12 (14.81)	20 (25.31)		
10 – 20 years	14 (42.42)	15 (31.91)	36 (44.44)	31 (39.24)	6.350a	0.385
>20 Years	10 (30.30)	17 (36.17)	33 (40.74)	28(35.44)		
Land owned						
Yes	33	47	79	79	12.208	0.057
No	0	0	2	0		
Land						
Upto 1 Ha	13 (39.39)	18(38.29)	34 (41.97)	29 (39.70)		
1-2 Ha	11 (33.33)	21(44.68)	32 (39.50)	42 (53.16)		
2-4 Ha	6 (18.18)	5 (10.63)	14 (17.28)	6 (7.59)	16.254	.180
4-10 Ha	3 (9.09)	3 (6.38)	0 (0)	2 (2.53)		
>10 Ha	0 (0)	0 (0)	1 (2.38)	0 (0)		
Type of Irrigation						
Rainfed	7 (21.21)	18 (38.29)	43 (53.06)	26 (32.91)		
Irrigated	25 (75.75)	24 (51.6)	32 (39.50)	41 (51.89)	17.911	0.006
Both	1 (3.03)	5 (10.63)	6 (7.40)	12 (15.18)		
Crops grown						
Field Crops	17 (51.51)	23 (48.93)	39 (48.14)	35 (44.30)		
Horticultural Crops	0	1 (2.12)	5 (6.17)	12 (15.18)	11.626	0.071
Both	16 (48.48)	23 (48.93)	37 (45.67)	32 (40.50)		
Crops sold						
Nearby market	10 (30.30)	6 (12.76)	20 (24.69)	12 (15.18)		
Hyderabad + govt. procurement centers	6 (18.18)	6 (12.76)	9 (11.11)	3 (3.79)		
Hyderabad + Pvt agencies	14 (42.42)	29 (61.70)	44 (54.32)	54 (68.35)	15.956	0.193
Hyderabad+Govt.+Private	3 (9.09)	6 (12.76)	8 (9.87)	9 (11.39)		
Others	0 (0)	0 (0)	0 (0)	1 (1.26)		
Livestock owned						
Yes	17 (51.51)	21 (44.68)	37 (45.67)	27 (34.17)	3.763	0.288
No	16 (48.48)	26 (55.31)	44 (54.32)	52 (65.82)		
Member of Community						
Yes	11 (33.33)	15 (31.91)	19 (23.45)	19 (24.05)	2.115	0.549
No	22 (66.66)	32 (68.08)	62 (76.54)	60 (75.94)		
Type of family						
Nuclear	13 (39.39)	12 (25.53)	28 (34.56)	23 (29.11)		
Joint	16 (48.48)	32 (68.08)	49 (60.49)	47 (59.49)	5.597	0.470
Extended	4 (12.12)	3 (6.38)	4 (4.93)	9 (11.39)		

Parenthesis in bracket shows per centage

farmers. Tele-counselling can emerge as effective support to farmers in times of distress. *Singh et al., (2021)* observed that post tele-counselling, farmers knowledge was increased which translated into practices with 75 per cent of respondents following appropriate practices of complying with government guidelines during COVID pandemic. Practicing yoga in everyday life also helps to relieve stress (*Singh et al., 2022*).

Chi square test was carried out to study the association between demographic variables and distress categories (Table 4). The findings suggest that statistically significant association was found between distress category and age (χ^2=19.06, p=0.004), primary occupation (χ^2=32.9, p=0.000), caste (χ^2=42.12, p=0.000), and type of irrigation (chi square=17.91, p=0.006). In the age category, it was seen that majority of the farmers (56%) in the age group of 26-50 were in the very high category followed by farmers in the age group of above 50 years. *Ahearn (2011)* noted in his study that young farmers experience more stress than their more experienced colleagues. The findings further indicated that majority of farmers (85%) involved in full time farming were experiencing very high distress while only 15 per cent farmers having service in addition to farming were in the same category. Hence, it is important to create avenues of farmers to involve in secondary agriculture to decrease their dependence only on agriculture sector. The findings also showed that irrigated farmers (53%) experienced high psychological distress than rainfed farmers (39%). This may be due to the reason that most of the irrigated farmers were vegetables and flowers growers. They suffered huge loss during the lockdown due to perishable nature of the produce while the rainfed farmers were growing

millets or redgram that can be stored and sold later in the market. It is important for the government that cold storage facilities should be created at the taluk level to tide over such kind of situations.

CONCLUSION

Mental wellness of farmers is one corner where no much light has been engrossed. Majority of respondents in this study, have experienced high to very high level of psychological distress. Psychological wellbeing of the farming communities has been neglected; hence it is important to develop care providers who can offer supports to farmers. In this regard, family members, self-help groups, volunteers, at village level and well-trained mental health professionals at the district level can provide the much-needed help to the farmers. Reform in agriculture is needed to includes pandemic management and creating source of additional income in times of disaster.

CONFLICTS OF INTEREST

The authors have no conflicts of interest.

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