



RESEARCH ARTICLE

Effects of risk factors, barriers and social support on the psychological well-being of the farmers in the state of Himachal Pradesh

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Abstract

The present study investigates the effects of risk factors, barriers and social support on the psychological well-being of the farmers in Himachal Pradesh, India. It aims to identify the primary stressors impacting mental health and explore how social support and barriers to seeking help influence psychological well-being. A descriptive study was carried out with a sample of 408 farmers from Kangra, Mandi, Kullu and Bilaspur districts. Data were collected through a survey questionnaire, including the Mental Health Inventory (MHI-38), General Help-Seeking Questionnaire and Multidimensional Scale of Perceived Social Support. Statistical analyses were performed using SPSS v.25, including linear regression, correlation tests and response priority index. The study found significant risk factors negatively impacting psychological well-being, including economic, environmental and family factors. Personality traits were positively linked to better psychological well-being. Barriers to help-seeking included inadequate familiarity with mental health problems and a heavy workload. Social support from significant others, relatives, family and friends positively correlated with psychological well-being. Effective mental health interventions should address the identified risk factors and barriers while enhancing social support systems to improve the psychological well-being of farmers. The study underscores the importance of targeted policies and support mechanisms to address mental health challenges in agricultural communities.

Keywords: barriers; help seeking; mental health; psychological wellbeing; risk factors; social support

Introduction

Farmers are regarded as the spine of society, nourishing people worldwide. Farming and agriculture contributed US\$3.352 trillion to the worldwide economy in 2017 (1). India is an agrarian nation with around 60 % of its population reliant directly or indirectly upon agriculture and over 70 % of the rural households hinge on agriculture. This segment delivers roughly around 52 % of the entire figure of jobs existing in India and contributes around 18.1 % to the Gross Domestic Product (GDP) (2). Himachal Pradesh is an agriculture-based state, with about 70 % of the population directly employed in the sector. The agriculture sector contributes 13.62 % of the states' GDP. A total of 9.44 lakh ha of land are under cultivation, with an average holding size of 0.95 ha. Marginal and small farmers make up 88.86 % of all landholders, with 55.93 % of the operational area. Medium holdings account for 10.84 %, while large holdings account for only 0.30 %. Due to the mountainous terrain, only 10 % of the total area is cultivated (3). Farming, as an occupation, has been identified as particularly hazardous in terms of the frequency and severity of accidental injuries (4). Extensive research has consistently demonstrated that farmers face elevated risks of suicide and mental health issues, exhibiting a reluctance to seek assistance (5–8).

Farmers constitute a unique demographic whose livelihoods are intricately interwoven with every facet of their lives and the multigenerational experiences of their families (9, 10).

The occupation of farming demands prolonged working hours, physically strenuous tasks and often entails social and geographic isolation from essential services. Farmers are less inclined to take vacations and are unlikely to retire compared to individuals in other professions (11). Stress levels among farmers are among the highest, with those on small holdings being particularly vulnerable (12). Small-scale business operators continually grapple with financial and time pressures, leading to elevated stress levels (13). Various stressors, such as weather fluctuations (e.g., floods, frost and drought), significantly impact agriculturalists' businesses and funds (14). Additionally, the farming sector has borne the burden of globalisation, economic rationalisation and pest and disease outbreaks (15). The challenging conditions of farming expose individuals to various physical and mental health risks and farming communities regularly face risk factors such as debt, fluctuating product prices, environmental change, time pressures, overburden, administration guidelines, loneliness, role conflicts and inadequate housing facilities (16, 17).

In India, where over 50 % of the inhabitants reside in rural areas with limited health infrastructure and medical resources, mental health issues are anticipated to be on the rise. Himachal Pradesh has witnessed an increase in suicides, with the first half of 2021 reporting 391 cases, including 101 labourers and 16 farmers. Police records indicate a rise in suicide rates from 560 in 2015 to 709 in 2019 (18).

The financial challenges faced by farmers, particularly those whose primary income source is farming, have been identified as a significant negative factor impacting mental health. Farmers across both developed and developing countries report various stressors related to market prices for harvests and livestock, uneven cash flow, escalating input costs, taxes, healthcare expenses and high levels of debt (19). These stressors contribute to psychological distress, depression, diminished life fulfilment, increased incidence of alcoholism and even suicide among farmers. Monetary losses prompt farmers to implement substantial changes to their operations, such as reducing the number of waged ranch workers, extending working hours, altering production practices or deciding to depart from farming altogether (20).

Several mental health issues are associated with financial stress in farming, including factors like the number of children, broadacre production and land charges (21). While farmers may successfully explore alternative agronomic options to cope with challenges like droughts, finding solutions to financial burdens proves more challenging, contributing to heightened mental distress. Studies consistently indicate an optimistic connection between high farm returns and superior well-being, with reduced distress observed among farmers and farm workforces in such instances (22).

Climate variability poses a substantial risk to farmers, as highlighted by research conducted previously (23). Droughts, characterised as slow-moving disasters, exert notable health effects primarily through environmental, financial and societal pathways (24). The changing patterns of climate, specifically the adverse impacts of droughts, have been identified as contributors to mental health concerns among farmers, resulting in heightened worries and persistent forms of distress (25). The agricultural sector bears the brunt of the impact of droughts, leading to reduced production, crop losses and livestock failures. Extensive research, such as that conducted earlier, has revealed a strong link between extended drought periods and increased stress stages, along with a higher incidence of psychological morbidity among farmers (26).

The occurrence of mental sickness in farmers is notably associated with factors such as poor physical health, previous injuries, or work impairment. Farmers represent one of the highest-risk groups for both occupational injuries and mental health issues, as demonstrated by the findings of a previous study (27). Given that agricultural workers and farmers often reside at their worksites, injuries sustained in the workplace can significantly impact their overall life satisfaction. Moreover, distress in farmers is linked to the physical health of spouses and the potential injury of children, as reported by women, as indicated earlier (28). There is also a noteworthy prevalence of somatic symptom disorders (SSD) among farmers.

A few other risk factors and symptoms associated with psychological distress in farmers include elements such as government policies, substantial workloads, social isolation, role conflicts, time constraints, substandard housing conditions and the

prevalence of foot and mouth disease amongst livestock, as identified in the research earlier (29). In developing nations, stressors encompass inadequate access to market information and limited availability of credit facilities for agriculture, as outlined in the previous study (30).

Psychological well-being is commonly conceptualised as a harmonious blend of positive emotions and effective functioning across individual and social dimensions of life (31). This encompasses leading fulfilling lives, involving the experience of positive emotions while adeptly managing inevitable negative emotions like disappointment, failure and grief. Effective management of these negative emotions is pivotal for sustained well-being. Feeling good extends beyond mere happiness and contentment, encompassing emotions such as interest, engagement, confidence and affection. Psychological functioning involves the recognition of one's abilities, maintaining control over one's life, pursuing meaningful goals and fostering positive relationships (32).

Within the realm of agriculture and farming, certain aspects, particularly those related to the husbandry and welfare of livestock, are notably more stressful than others (33). Stress in farming can significantly impact the psychological well-being of farmers, leading to notable physical and mental health symptoms. Mental health concerns and services remain an abandoned issue in rural areas, especially amongst farming societies (34).

Stress, defined as a state of psychological and physiological response to a perceived threatening stimulus, can result in various evident and concealed maladaptive behaviours (35). Lasting stressors exert a considerable impact on well-being and health, with a documented association between stress and an increased prevalence of mental ailments like depression and anxiety (36). Studies highlight the prevalence of chronic stress among farmers, leading to physical (headaches, sleep problems), mental (anxiety, anger, depression) and cognitive issues (memory loss, decision-making difficulties) (37). Mental health difficulties impact farmers' lives differently, with farmers often reporting a diminished sense of life worth living compared to non-farming populations (16). Stress manifests as reduced interest in pleasure, concentration difficulties, changes in appetite and weight, fatigue, irritability, sleep disturbances, loss of control and anxiety (38). Commonly observed consequences in the farming population include loss of self-esteem, drawing away from society, relationship breakdowns, loss of temper and relaxation problems (30). The poor mental health of farmers can have substantial adverse effects on worldwide monetary efficiency, animal health and human well-being. Farmers' mental health impacts individual health, family life, farm productivity and animal welfare. Given that one-third of the global population contributes to the economy through the agriculture industry, confirming the mental health of farmers and ranch workers is paramount for global public health. Approximately one out of four individuals worldwide experiences mental health issues annually (39).

Stress and exhaustion among farmers are often obscure, which delays help-seeking behaviour in farmers. Help seeking is the pursuit of relief or treatment to fulfil a need and is a complex decision-making process for persons who are already suffering from a mental health disorder (40). A person who believes that they can deal with their problem alone and a lack of knowledge, are some of the common reasons that decrease the likelihood of an individual's help-seeking (41). Lack of access to mental health facilities in remote areas is a major barrier to delivering suitable mental health services

(42). Older farmers are inclined to access mental health support, but practical and social blockades frequently prevent them from succeeding (43). Farmers are less likely to visit general practitioners than the non-farming population. Farmers feel much better in managing themselves than in accessing help for physical or mental health needs (41).

Social support serves as a coping mechanism and has been found to directly influence both health and mental well-being, as well as act as a buffer against perceived stress. It typically refers to the assistance and support provided by social networks, for instance, family, friends and co-workers (44). Numerous studies have demonstrated that social support for coping is linked to improved physical and mental health and often helps mitigate the negative effects of stress (44). Social support can be categorised into two forms: instrumental support and emotional support. Instrumental support involves seeking advice and assistance from others to directly address and minimise a stressor, thus aligning with problem-focused coping strategies. On the other hand, emotional support involves seeking support and understanding regarding one's feelings and emotions related to a stressor, thereby reflecting emotion-focused handling tactics (45).

The risk factors that were assessed in the present research study were selected after thorough analysis of the literature review.

The statements were adopted from standardised inventories. The respondents' response on the personality factors based on the Big Five inventory were Neuroticism (statements 1, 2 and 3) and Conscientiousness (statements 4, 5 and 6). 'The general self-efficacy scale' (GSE) was administered to measure self-efficacy (statements 7, 8 and 9). Rotter's locus of control scale was used to measure external locus of control (statements 10, 12 and 15) and internal locus of control (statements 11, 13 and 14). Respondents were requested to rate their agreement on a five-point Likert scale of 1 to 5, for positive statements 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree and 5 = strongly agree. Reverse scoring for negative statements was done where 1 = strongly agree, 2 = agree, 3 = undecided, 4 = disagree and 5 = strongly disagree.

Physical factors contained statements regarding various physical stress symptoms which farmers face in day-to-day life, such as headaches, fatigue, rapid breathing and skin rashes, etc. A standardised inventory. The stress symptoms scale by Elkin 1999 was used. In physical factors, the responses ranged from 1 to 5, on the Likert scale, where 1 = never, 2 = sometimes, 3 = often, 4 = very often and 5 = always.

These factors were included to measure the effect of family situation on the psychological well-being of the farmers. All the statements were reverse-scored. The scores were given as 1 = strongly agree, 2 = agree, 3 = undecided, 4 = disagree and 5 = strongly disagree.

It consisted of statements regarding farm income, input costs, debt, etc. The allotted scores were 1 = strongly agree, 2 = agree, 3 = undecided, 4 = disagree and 5 = strongly disagree.

Technological factors presented the information about technology, e.g., improved variety seed, lack of personal protection equipment, irrigation facilities, etc. The scores were given as 1 = strongly agree, 2 = agree, 3 = undecided, 4 = disagree and 5 = strongly disagree.

Environmental factors consisted of statements regarding environmental risk factors such as hailstorms, cyclones, drought, frost, etc. The scores were allotted as 1 = strongly agree, 2 = agree,

3 = undecided, 4 = disagree and 5 = strongly disagree.

Part C included various dimensions regarding intentions to seek perceived social support, barriers to mental health help seeking, psychological distress, psychological wellbeing and farm stress. The responses were scored on a five-point Likert scale.

The General Help-Seeking Questionnaire (GHSQ) is a widely used tool to measure peoples' intentions to seek help from different sources (48). The GHSQ was used in a study of farmers to assess their intentions to seek help for personal or emotional problems. The questionnaire includes a list of 12 help sources, both professional and non-professional. Participants were asked to indicate how likely they were to seek help from each source if they were to experience a problem. The scores were given as 1 = extremely unlikely, 2 = unlikely, 3 = can't say, 4 = likely, 5 = extremely likely.

The Multidimensional scale of perceived social support was incorporated in the questionnaire to identify the respondents' social support (49). The multidimensional scale used a set of statements which identified the social support from various sources such as family (statements 4, 5, 8 and 10), friends (statements 7 and 11), relatives (statements 3, 6 and 9) and significant others (statements 1 and 2). Respondents were asked to rate their agreement and disagreement on a five-point Likert scale in which the scorers were allotted as 1 being "strongly disagree" and 5 being "strongly agree".

Barriers to mental health help-seeking consisted of the statements regarding the barriers that may occur when seeking mental health help. It included dimensions such as inadequate internet access, inadequate communication system, isolation, lack of privacy, etc. Statements were scored on a five-point Likert scale in which scores were given as 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree and 5 = strongly agree.

Psychological distress was measured through the MHI-38. The study uses all the dimensions from MHI-38, including anxiety (statements 1, 2, 3, 4, 5, 14, 16, 17 and 18), loss of behaviour/emotional control (statements 6, 7, 9, 10, 11, 12 and 13) and depression (statements 8, 15 and 19). The responses were taken on a five-point Likert scale where 1 = always, 2 = very often, 3 = sometimes, 4 = almost never, 5 = never.

For the assessment of psychological well-being, the Mental Health Inventory - 38 (MHI - 38) and the Ryff scale were used. From MHI-38, three dimensions were taken, i.e., life satisfaction (statement 1), general positive affect (statements 2, 3, 4, 5, 7, 8, 9, 10 and 11) and emotional ties (statement 6) (Department of Health and Ageing, Canberra, 2003). From the Ryff scale, three dimensions were chosen, i.e., environmental mastery (statements 12, 13, 14 and 15), personal growth (statements 16, 17 and 18) and self-acceptance (statements 19, 20 and 21). The responses were scored on a five-point Likert scale where 1 = none of the time, 2 = most of the time, 3 = can't say, 4 = some of the time and 5 = all the time.

The standardised farm stress inventory developed by the Canadian Agricultural Safety Association was incorporated in the study to measure the farm stress among the farmers. The inventory included various categories of farm stressors like finance (statements 1, 2, 3, 6 and 8), environmental (statements 4 and 7), personal (statements 5, 9, 13, 14, 16, 17, 18, 19 and 20), health (statements 10 and 12), legal (statements 11) and infrastructure (statements 15). Farm Stress Inventory - Canadian Agricultural Safety Association (casa-acsa.ca). The responses were taken on a five-point Likert scale. The scores were allotted as 1 = little bit pressure, 2 = normal pressure, 3 = more than usual pressure, 4 = high pressure

and 5 = pressure more than I could bear.

The present study investigates the multifaceted impact of farming as an occupation on the mental health and psychological well-being of farmers, with a particular focus on those in Himachal Pradesh, India. This research aims to identify the primary stressors and risk factors contributing to mental health issues among farmers, including financial pressures, climate variability, poor physical health and other occupational hazards. Additionally, the study seeks to discover the barriers to help-seeking behaviour among farmers and the role of social support in mitigating stress and promoting mental well-being. By elucidating these factors, the study endeavours to contribute to the development of targeted interventions and policies to enhance the mental health and overall quality of life of farmers.

Materials and Methods

Study sample and data collection

The nature of the study was descriptive. In the current study, a multi-stage sampling method was implemented. For the present study, four districts, i.e., Kangra, Mandi, Kullu and Bilaspur, of Himachal Pradesh were selected based on their proneness to various weather-related hazards and regular occurrence of the agricultural contingencies, such as drought, flood, heat wave, frost, pest and diseases outbreak and hailstorm and higher regular occurrence. According to the data available on the Department of Agriculture and Farmers Welfare (46). The districts with the highest proneness and regular occurrence of the agricultural contingencies are Mandi, Kangra, Kullu and Bilaspur. In the second stage, the blocks were selected on the basis of the highest number of cultivators in the chosen districts. In the third stage of sampling, the list of gram panchayats was obtained from the website of the national portal of India (47). Two-gram panchayats from each of the selected blocks were selected through simple random sampling. The panchayats were selected through a lottery method wherein the random numbers were assigned to the list of panchayats obtained from the website of the national portal of India. Thereafter, the experts were asked to tick the random numbers. The sample size for the present study was calculated using the formula described previously (48). The appropriate sample size calculated for the present study was 408. The present study includes the farmers of the four districts as respondents.

The data collection tool was a survey questionnaire covering items related to socio-demographics, psychological well-being, risk factors, social support and barriers in seeking mental health help. The first section of the questionnaire includes the socio-demographic profile of the respondents. The second scale includes the Mental Health Inventory (MHI-38) to study the various psychological well-being and risk factors. The barriers perceived by farmers were measured using the General Help-Seeking Questionnaire (49). The multidimensional scale of perceived social support was incorporated in the questionnaire to identify the respondents' social support (50).

Reliability and validity of the survey instrument

Reliability

Cronbachs' Alpha Coefficient was used to measure the internal consistency of the factors. The ranging values between 0.6 and 0.9 are considered to be reliable. The overall reliability of the instrument was 0.859 and the reliability for individual variables was above the

minimum of 0.6 threshold, which shows that the inter-reliability of the variables was good. However, for the variables personality factors, economic factors and technological factors were 0.661, 0.686 and 0.596 respectively (Table 1). A Cronbachs' Alpha of 0.4 or higher is considered reasonable, especially if the items measuring a construct are few.

Table 1. Reliability of the constructs in the survey instrument

Construct	No. of items	Alpha value
Personality factors	15	0.661
Physical factors	10	0.714
Family factors	6	0.720
Economic factors	8	0.686
Technological factors	7	0.596
Environmental factors	11	0.745
Intention to seek social support	9	0.717
Social support	11	0.914
Barriers to mental health help-seeking behaviour	12	0.826
Psychological distress	19	0.870
Psychological wellbeing	21	0.898
Farm stress	20	0.832
Structural support system	9	0.620

Statistical analyses

Analyses were executed in SPSS v.25. Descriptive statistics of frequencies, means and standard deviations were calculated. Linear regression was administered to inspect the risk factors affecting the psychological well-being of the farmers. Correlation tests examined the direction of the relationship between various sources of social support and psychological well-being. The response priority index was used to rank the barriers perceived by the farmers in seeking mental health help.

Results

Table 2 presents the distribution of gender among a total sample of 408 individuals. Results show that the majority of the respondents, i.e., 265 individuals, were male, representing 65 % of the total sample, while 143 individuals identified as female, representing 35 % of the total sample. Table 3 shows the age distribution among the respondents. The majority of respondents belonged to the older age category with 175 individuals (42.9 %) aged 46 years and above. This was followed by 99 individuals (24.3 %) in the 36–45 years age group 76 individuals (18.6 %) in the 26–35 years age group and 58 individuals (14.2 %) in the 18–25 years age group.

The distribution among educational qualifications of the respondents shows that the largest proportion of respondents have completed secondary education (121 individuals, 29.7 %) or

Table 2. Gender wise distribution of the sample

Gender	Frequency	%
Male	265	65
Female	143	35
Total	408	100

Source: Primary probe.

Table 3. Age wise distribution of sample

Age	Frequency	%
18-25 yr	58	14.2
26-35 yr	76	18.6
36-45 yr	99	24.3
46 yr and above	175	42.9
Total	408	100.0

Source: Primary probe.

Table 4. Educational qualification of the sample

Educational qualification	Frequency	%
Not attended formal education	26	6.4
Primary	64	15.7
Secondary	121	29.7
Higher secondary	125	30.6
Graduate	41	10.0
Post graduate	31	7.6
Total	408	100.0

Source: Primary probe.

higher secondary education (125 individuals, 30.6 %), as shown in Table 4. Additionally, 64 individuals (15.7 %) have completed primary education, while 41 individuals (10.0 %) are graduates and 31 individuals (7.6 %) have completed postgraduate studies. A smaller proportion (26 individuals, 6.4 %) have not attended formal education. The primary occupations of the respondents are categorised by their involvement in agriculture and other services or businesses (Table 5). The majority of respondents (236 individuals, 57.8 %) are engaged solely in agriculture. Additionally, 69 individuals (16.9 %) are involved in both agriculture and private

Table 5. Primary occupation-wise distribution of the sample

Primary occupation	Frequency	%
Agriculture and government services	48	11.8
Agriculture and private services	69	16.9
Agriculture only	236	57.8
Agriculture and business	55	13.5
Total	408	100.0

Source: Primary probe.

services, while 55 individuals (13.5 %) combine agriculture with business activities. A smaller proportion (48 individuals, 11.8 %) is engaged in agriculture and government services.

Table 6 shows the distribution of annual income. The majority of respondents fall within the income bracket of 1 lakh to 5 lakhs per year, with 144 individuals (35.3 %) reporting earnings in this range. This is followed by 136 individuals (33.3 %) who have an

Table 6. Sample profile pertaining to annual income of sample

Annual income	Frequency	%
Below 1 lakh	136	33.3
1–5 Lakhs	144	35.3
6–10 Lakhs	108	26.5
11 Lakhs and above	20	4.9
Total	408	100.0

Source: Primary probe.

annual income below 1 lakh, while 108 individuals (26.5 %) earn between 6 and 10 lakhs annually. A smaller proportion of respondents (20 individuals, 4.9 %) report earning 11 lakhs and above per year.

Table 7 illustrates the distribution of farming experience. The data shows that a substantial proportion of respondents have farming experience ranging from 11 to 15 yr, with 111 individuals

Table 7. Experience wise distribution of sample

Experience in farming	Frequency	Percent
Below 5 Yr	61	15.0
5–10 Yr	98	24.0
11–15 Yr	111	27.2
16–20 Yr	30	7.4
21 Yr and above	108	26.5
Total	408	100.0

Source: Primary probe.

(27.2 %) falling within this category. This is followed by 5–10 yr of farming experience, with 98 individuals (24.0 %) and 21 yr and above of experience, comprising 108 individuals (26.5 %). Additionally, 61 individuals (15.0 %) have less than 5 yr of farming experience, while 30 individuals (7.4 %) have 16–20 yr of experience.

For the distribution of land sizes among the sample (Table 8), the majority of respondents (186 individuals, 45.6 %) own or operate land holdings below 1 ha in size. Additionally, 132 individuals (32.4 %) have land holdings ranging from 1 to 2 ha, while 66 individuals (16.2 %) own or operate land between 2 and 4 ha. A smaller proportion of respondents have larger land holdings, with 22 individuals (5.4 %) managing land holdings of 4 to 10 ha and only 2 individuals (0.5 %) possessing 10 ha or more of land. The mean values of the respondents on the statements about the psychological well-being of farmers are depicted in Table 9. The findings revealed that respondents obtained the highest mean values ($M = 3.47$) for personal growth, followed by self-acceptance ($M = 3.44$). The results also revealed that respondents obtained similar mean values for emotional ties and environmental mastery, i.e. ($M = 3.33$), whereas mean values for general positive affect were ($M = 3.16$) and the lowest mean value was noted for life satisfaction ($M = 3.08$). It can be concluded that respondents have a moderate to high psychological well-being as indicated by the mean values above 3. It can be said that the respondents are more content with their lives than dissatisfied. This suggests a higher overall level of happiness and contentment among the respondents. Personal growth indicates that respondents perceive themselves as evolving and developing in various aspects of their lives. This could encompass areas such as personal skills, relationships and self-

Table 8. Distribution of samples according to the size of the land

Land size	Frequency	%
Below 1 ha (ha)	186	45.6
1–2 ha	132	32.4
2–4 ha	66	16.2
4–10 ha	22	5.4
10 ha and above	2	0.5
Total	408	100.0

Table 9. Mean values showing psychological well-being and its dimensions among sampled respondents

Statements	Mean	S.D
Life satisfaction	3.08	1.15
Emotional ties	3.33	0.99
General positive affect	3.16	0.62
Environmental mastery	3.33	0.66
Personal growth	3.47	0.81
Self-acceptance	3.44	0.82

Source: Primary probe

awareness, indicating a positive trajectory in their personal development. Thus, the higher values of life satisfaction and personal growth suggest that the respondents are experiencing positive psychological well-being, are content with their lives and are witnessing personal growth and development. This reflects a favourable state of overall well-being among the respondents.

Table 10 presents the regression analysis of risk factors and their impact on psychological well-being. Results revealed that Personality factors ($B = 0.710, p = .000$) exhibit a substantial positive association with psychological well-being, indicating that certain personality traits may serve as protective factors against mental health issues. Conversely, physical factors ($B = -0.035, p = 0.004$), family factors ($B = -0.100, p = 0.044$), economic factors ($B = -0.094, p =$

Table 10. Effect of risk factors on psychological well-being

Risk factors	Standardised coefficients (β)	Unstandardised coefficients (B)	Sig.
Personality factors	0.521	0.710	0.000
Physical factors	-0.142	-0.035	0.004
Family factors	-0.118	-0.100	0.044
Economic factors	-0.156	-0.094	0.002
Technological factors	-0.061	-0.066	0.278
Environmental factors	-0.231	-0.168	0.001
R square		0.307	
F		28.999	
Sig.		0.000	

Source: Primary probe, Dependent variable – psychological well-being.

0.002) and environmental factors ($B = -0.168, p = 0.001$) demonstrate negative associations with psychological wellbeing. However, technological factors ($B = -0.066, p = 0.278$) do not show a substantial influence on psychological well-being in this analysis. The overall model is highly statistically significant ($F = 28.999, p < 0.001$), explaining 30.7 % of the variance in the outcome variable.

The results are consistent with the previous study (50, 51) (Table 11). The top three factors identified in the study are related to inadequate knowledge, not knowing the right person and heavy workload, which are also key risk factors identified in the systematic review. Other factors identified in the study, such as lack of time, poor financial situation and lack of knowledge about mental health, are also consistent with the findings of the systematic review. Additionally, research indicates that the barriers to mental health in the present study are inadequate communication systems, isolation/remoteness and lack of time due to heavy workload. The other barriers in the study, such as mental health being considered a taboo, lack of privacy and inadequate knowledge of mental health problems, are also consistent.

Table 12 presents the correlation matrix showing the relationship between psychological well-being and social support. Results reported a that the variables of social support i.e., significant other, relatives, family, friends have a positive relationship with psychological wellbeing i.e., with significant other ($r = 0.464, p < 0.01$), relatives ($r = 0.454, p < 0.01$), family ($r = 0.538, p < 0.01$) and friends

($r = 0.306, p < 0.05$) which indicates that as the quality of relationships with these variables increases, so does psychological wellbeing. The findings of the study correlate with the fact that social support from significant others, relatives and family was positively associated with psychological well-being among farmers (40). The present findings of the study show that social support from significant others, relatives, family and friends is positively associated with psychological well-being among farmers. The research indicates a positive correlation between social support and psychological well-being among the respondents (53). The findings also align with research in which social support was positively correlated with some of the variables (54). Research found that social support was positively linked with psychological well-being (55). The study also revealed that social support cushioned the damaging effects of farm stress on psychological well-being. This means that farmers who had more social support were less likely to experience negative psychological effects from farm stress.

Discussion

The demographic profile reveals a predominantly male sample (65 %), with a significant proportion (42.9 %) aged 46 years and above. This aligns with the typical demographics of farming communities in India, where agriculture is often male-dominated and features an ageing workforce. The educational background is diverse, with most respondents having completed secondary or

Table 11. Barriers perceived by farmers in seeking help for psychological well-being

Statements	RPI	Rank
Inadequate knowledge of mental health problems	3.83	I
Don't know the right person to seek help from	3.70	II
Lack of time due to a heavy workload	3.54	III
No other person to take care of farm operations	3.37	IV
Mental problems are considered to be taboo	3.30	V
Poor financial situation (debt, irregular income, low income)	3.22	VI
Inadequate internet access	3.17	VII
Isolation/Remoteness (km away from town)	3.14	VIII
Lack of privacy	3.05	IX
Unpleasant weather	3.04	X
My personal pride tends to prevent me from asking others for help.	2.85	XI
Inadequate communication systems (landline and mobile phones, etc.)	2.75	XII

Source: Primary probe.

Table 12. Relationship between social support and psychological well-being

	Psychological wellbeing	Significant other (Spouse/husband)	Relatives	Family	Friends
Psychological wellbeing	1	-	-	-	-
Significant other	0.464**	1	-	-	-
Relatives	0.454**	0.569**	1	-	-
Family	0.538**	0.740**	0.515**	1	-
Friends	0.306**	0.644**	0.597**	0.525**	1

Source: Primary probe.

higher secondary education. This distribution may have implications for understanding and addressing mental health issues within the farming community.

Notably, the study exhibited moderate to high levels of psychological well-being among respondents, with particularly high scores in personal growth and self-acceptance. This finding is somewhat unexpected given the numerous challenges faced by farmers in India, including financial pressures, climate variability and occupational hazards. It suggests a degree of resilience within the farming community, possibly stemming from cultural factors, strong social ties, or a sense of purpose derived from their work. This resilience aligns with previous research highlighting the complex relationship between farming and well-being (15).

The regression analysis revealed significant relationships between various risk factors and psychological well-being. Notably, personality factors showed a strong positive association with psychological well-being, suggesting that certain personality traits may serve as defending feature against mental health issues. This finding corroborates existing literature on the role of personality in resilience and coping strategies among farmers (55).

Conversely, physical factors, family factors, economic factors and environmental factors demonstrated negative associations with psychological well-being. These results support previous research on the multifaceted stressors affecting farmers' mental health (16). The negative impact of economic factors is particularly noteworthy, given the financial pressures faced by farmers in India, including irregular cash flow, escalating input costs and high levels of debt (18).

Interestingly, technological factors did not show a noteworthy impact on psychological well-being in this analysis. This finding contrasts with some prior studies that have highlighted the role of technological challenges in farmer stress (29). Additional research may be needed to understand the specific technological context of farmers in Himachal Pradesh and its relationship to mental health outcomes.

The study identified several key barriers to help-seeking behaviour among farmers, with inadequate knowledge of mental health problems ranking as the most significant obstacle. This finding underscores the critical need for mental health literacy programs tailored to farming communities, supporting previous research (50, 51). The identification of heavy workload and lack of time as significant barriers aligns with research on the demanding nature of farming (10). Research indicates that mental health interventions for farmers need to be designed with consideration for their time constraints and work schedules. The presence of stigma-related barriers, such as mental health problems being considered taboo, indicates the persistent challenge of addressing mental health stigma in rural communities. This finding supports the need for community-based approaches to mental health education and stigma reduction (42).

The study revealed positive correlations among various sources of social support (significant others, relatives, family and friends) and psychological well-being. This finding is consistent with prior research highlighting the protective role of societal support in mental health outcomes (40, 43). The strongest correlation was observed between family support and psychological well-being, emphasising the crucial role of family

relationships in the mental health of farmers. Social support can buffer the negative effects of farm stress on psychological well-being (53–55).

Conclusion

The study highlights the significant impact of risk factors, barriers and social support on the psychological well-being of farmers in Himachal Pradesh. Personality traits play a protective role, while physical, family, economic and environmental factors negatively affect mental health. Social support is crucial for coping and targeted interventions are necessary to address the identified barriers and promote mental health among farmers in the region. being consistent with findings from prior research. This alignment underscores the persistent and multifaceted nature of barriers to mental health support among farmers.

Despite the limitations, this study can be further used to create an understanding of the psychological wellbeing, risk factors affecting the farmers wellbeing and barriers perceived by them in receiving mental health. Additional research should explore the longitudinal impact of these factors on farmers mental health and evaluate the effectiveness of targeted interventions. Understanding the specific needs of different sub-groups within the farming community, such as women and young farmers, can help tailor support strategies more effectively. Additionally, investigating the role of emerging technologies in improving mental health support for farmers could provide innovative solutions to overcome existing barriers.

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Authors' contributions

ST carried out multi-stage stratified random sampling, using analytical tools for the analysis. SK and SR¹ participated in the sequence alignment and drafted the manuscript by reviewing the literature. YJ and SR² contributed to the analysis of this study. AM conceived of the study and participated in its design and coordination. All authors read and approved the final manuscript. [SR¹ stands for Shubham R and SR² stands for Sarah R].

Compliance with ethical standards

Conflict of interest: Authors do not have any conflict of interest to declare.

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