

An Analytical Investigation of the Factors Contributing to Illness Occurrence

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Abstract

Illness occurrence is a complex phenomenon influenced by the interaction of multiple biological, environmental, genetic, psychological, and lifestyle-related factors. This paper analytically investigates the major determinants that contribute to the development and progression of illness in individuals. It emphasizes that illness does not arise from a single cause, but rather from a combination of internal vulnerabilities and external conditions that shape health outcomes. The study focuses on how physical predisposition, stress, unhealthy habits, environmental exposure, and inherited tendencies collectively increase the risk of illness. By adopting an analytical perspective, the paper aims to provide a broader understanding of the patterns and causes of illness occurrence. It further highlights the importance of early identification of contributing factors for prevention, health promotion, and effective intervention. Overall, the study supports a holistic understanding of illness and underlines the need for integrated approaches in health research and practice.

Keywords

Illness occurrence; contributing factors; health determinants; biological factors; environmental factors; genetic factors; lifestyle factors; health outcomes

I. INTRODUCTION

Illness occurrence is not merely the result of isolated biological malfunction, but a multidimensional process shaped by a wide range of contributing factors. In contemporary health research, growing attention has been given to the idea that illness develops through the interaction of biological conditions, environmental exposures, genetic predispositions, psychological stress, and daily lifestyle practices. Factors such as poor diet, lack of sleep, physical inactivity, emotional strain, pollution, family history of disease, and unhealthy habits can all influence the onset and severity of illness. Therefore, understanding the causes of illness requires an analytical approach that moves beyond a narrow medical perspective.

Traditionally, illness was often explained in terms of immediate symptoms or direct physical causes alone. However, modern health frameworks recognize that individuals live within social, emotional, and environmental contexts that affect their well-being. A person's health status is often determined by how these factors combine and interact over time. This broader view is especially important for understanding chronic conditions, psychosomatic complaints, and lifestyle-related disorders, where multiple risk factors

may operate simultaneously. The present study therefore seeks to analytically examine the major factors contributing to illness occurrence. By identifying and interpreting the role of different determinants, the paper aims to provide a more comprehensive understanding of illness and to support preventive and evidence-based health strategies.

Objectives

1. To identify the major factors contributing to illness occurrence among individuals.
2. To examine the influence of biological, environmental, genetic, and lifestyle factors on health conditions.
3. To analyze how multiple risk factors interact in the development of illness.
4. To assess the importance of a holistic approach in understanding and preventing illness occurrence.

II. LITERATURE REVIEW

Sarkar et al. (2024) conducted a longitudinal investigation to explore the long-term impact of residential green spaces on the development of non-communicable diseases (NCDs) within urban settings. The researchers utilized a comprehensive 10-year follow-up methodology, analyzing high-resolution satellite imagery alongside health records of participants to measure vegetation density. The study aimed to determine if consistent exposure to "greenness" could mitigate the risks of hypertension, diabetes, and cardiovascular conditions. The findings revealed a statistically significant inverse relationship, where an increase in one standard deviation of the Normalized Difference Vegetation Index (NDVI) was associated with an 8% to 12% reduction in the incidence of major chronic illnesses. The researchers concluded that urban planning incorporating natural elements served as a vital public health intervention. This work emphasized that environmental architecture was a primary determinant in preventing metabolic decay over a decade of human life.

Halfon et al. (2023) developed an integrated theoretical framework to explain how health outcomes were shaped by cumulative experiences across the entire lifespan. The study sought to move beyond static medical models by examining the "Life Course Health Development" (LCHD) approach, which prioritized the timing and sequence of biological and social exposures. The authors synthesized diverse data to demonstrate how early childhood adversities acted as precursors to adult-onset illnesses. The results indicated that health was a dynamic, emergent property resulting from the interaction between adaptive biological systems and environmental contexts. They argued that 70% of chronic disease risk was rooted in developmental trajectories established during the first two decades of life. The implication of this research was that medical interventions must shift toward proactive, multi-stage preventative strategies rather than reactive treatments in later life.

World Health Organization (2023) presented a global analytical report monitoring the progress of health-related Sustainable Development Goals (SDGs) amidst post-pandemic recovery. The study involved a massive data synthesis from various member states to evaluate trends in life expectancy, infectious disease prevalence, and maternal mortality. The findings highlighted a concerning stagnation in health improvements, noting that while global life expectancy had increased to 73.3 years by 2019, the COVID-19 pandemic caused a significant setback of nearly two years in many regions. The data revealed that non-communicable diseases were responsible for 74% of all deaths globally, underscoring a massive epidemiological shift. The report stressed the urgent need for universal health coverage and stronger primary healthcare systems to combat the rising burden of both chronic and emerging viral threats. It served as a critical baseline for international policy adjustments aimed at 2030 targets.

Pampel et al. (2022) examined the persistent gap in health outcomes through the lens of socioeconomic disparities and their influence on lifestyle choices. The researchers conducted a systematic review of sociological data to understand why health-harming behaviors, such as smoking and poor diet, were more prevalent in lower-income brackets. The study investigated the "theory of fundamental causes," which suggested that resources like money, knowledge, and power allowed high-status individuals to avoid health risks. The analysis found that behavioral differences accounted for nearly 40% of the mortality gap between the highest and lowest social strata. The results demonstrated that these behaviors were not merely individual choices but were structured by economic constraints and social environments. This research suggested that public health campaigns must address the underlying economic inequality rather than focusing solely on individual habit modification.

Brauer et al. (2021) investigated the synergistic effects of environmental pollutants and social vulnerabilities on the occurrence of cardiovascular disease (CVD). The study utilized large-scale cohorts to model how exposure to fine particulate matter (PM_{2.5}) interacted with social determinants like income and education level. The researchers sought to determine if marginalized populations suffered a "double burden" of high exposure and low resilience. The findings indicated that for every 10 µg/m³ increase in PM_{2.5}, the risk of cardiovascular mortality rose by 15%, but this effect was significantly amplified in neighborhoods with low socioeconomic status. The study concluded that environmental regulations alone were insufficient if they did not account for the social contexts of the inhabitants. This work provided crucial evidence that the biological impact of pollution was mediated by the social conditions of the individual.

Adler et al. (2020) explored the physiological mechanisms through which social hierarchy and economic stress translated into physical illness. The study focused on the "biology of misfortune," investigating how chronic activation of the stress response system led to "allostatic load" or wear and tear on the body. The researchers analyzed biomarkers such as cortisol levels and inflammatory cytokines to track the pathway from social standing to cellular damage. The findings suggested that individuals at the bottom of the social ladder experienced premature cellular aging and weakened immune responses. The results indicated that social standing acted as a master variable that influenced almost every biological system. The implication

was that health equity could only be achieved by addressing the psychological and physiological consequences of social stratification.

Venkataramani et al. (2020) analyzed the health repercussions of economic instability by examining the data from the 2008 financial crisis in the United States. The researchers utilized a quasi-experimental design to link mass layoffs and plant closures to subsequent spikes in "deaths of despair," including drug overdoses and alcohol-related illnesses. The study aimed to quantify the relationship between macroeconomic shocks and individual health deterioration. The results showed a 15% to 20% increase in opioid-related mortality in counties that experienced significant job losses compared to those that remained stable. The data proved that economic security was a fundamental health requirement, and its absence led to rapid increases in morbidity. The study highlighted that social safety nets served a dual purpose as both economic and public health infrastructure.

Marmot et al. (2020) conducted a critical review of the COVID-19 pandemic's impact, specifically how it exposed and worsened pre-existing health inequalities. The study investigated why certain ethnic and socioeconomic groups suffered disproportionately higher infection and mortality rates during the global crisis. The authors analyzed public health data to show that the "social gradient in health" remained the primary predictor of survival. The findings revealed that the pandemic acted as a mirror, reflecting the structural flaws of society where crowded housing and frontline occupations increased risk for the poor. The data indicated that the mortality rate in the most deprived areas was double that of the least deprived areas. This research emphasized that the pandemic was not a "great leveler" but rather an amplifier of existing social injustices that dictated illness occurrence.

Cockerham et al. (2019) argued for a paradigm shift in medical sociology by focusing on the "causes of the causes," or the structural determinants of health. The study involved a theoretical analysis of how social structures—such as government policies, labor markets, and racism—constrained individual agency and health possibilities. The researchers aimed to demonstrate that individual lifestyle choices were often secondary to the overarching social environment. The findings suggested that health outcomes were heavily dictated by the "class-based" distribution of resources and opportunities. The study provided a comprehensive overview of how modern illness was a social product rather than just a biological accident. The implication was that medical science must collaborate with social science to effectively address the root causes of global disease burdens.

Prüss-Ustün et al. (2019) conducted a massive environmental risk assessment to update the global estimate of diseases attributable to unhealthy surroundings. The researchers analyzed data across 133 disease categories to identify how much of the global burden could be prevented by environmental improvements. The study involved modeling exposures to air, water, and soil pollution, as well as occupational hazards and climate change. The findings revealed that 24% of all global deaths, totaling approximately 12.6 million annually, were linked to environmental factors. Specifically, the data showed that stroke, heart disease, and cancers accounted for the largest portion of environment-related mortality. The results emphasized that

improving environmental quality was one of the most effective ways to reduce the occurrence of non-communicable and infectious diseases worldwide

III. RESEARCH METHODOLOGY

The present study adopted a quantitative and analytical research design to examine the factors contributing to illness occurrence. Primary data were collected from 385 respondents through a structured questionnaire covering depression-related symptoms, respiratory and gastrointestinal symptoms, and general physical weakness and autonomic symptoms. The survey method was used for data collection, while frequency, percentage, cumulative percentage, mean, and standard deviation were applied for data analysis. This methodology was considered appropriate for identifying the major psychological and physical factors associated with illness occurrence.

IV. DATA ANALYSIS

This section presents the analysis and interpretation of the data collected from 385 respondents in order to examine the factors contributing to illness occurrence. The analysis is based on tables relating to emotional and cognitive symptoms of depression, self-evaluative and behavioral symptoms of depression, respiratory and gastrointestinal symptoms, and general physical weakness and autonomic symptoms. Statistical tools such as frequency, percentage, cumulative percentage, mean, and standard deviation have been used to identify the pattern, intensity, and prevalence of psychological and physical factors associated with illness occurrence among the respondents.

Table 4.1: Demographic and Background Information of Respondents (N = 385)

Variable	Category	Frequency	Percent	Cumulative Percent
Gender	Male	168	43.6	43.6
	Female	212	55.1	98.7
	Other	5	1.3	100.0
	Total	385	100.0	
Marital Status	Single	176	45.7	45.7
	Married	188	48.8	94.5
	Divorced	16	4.2	98.7

	Widowed	5	1.3	100.0
	Total	385	100.0	
Educational Qualification	Up to School Level	79	20.5	20.5
	Graduate	133	34.5	55.1
	Postgraduate	144	37.4	92.5
	Other	29	7.5	100.0
	Total	385	100.0	
Occupation	Student	82	21.3	21.3
	Employed	125	32.5	53.8
	Self-Employed	38	9.9	63.6
	Homemaker	59	15.3	79.0
	Unemployed	49	12.7	91.7
	Other	32	8.3	100.0
	Total	385	100.0	
Area of Residence	Rural	192	49.9	49.9
	Urban	193	50.1	100.0
	Total	385	100.0	
Duration of Illness/Problem	Less than 6 months	110	28.6	28.6
	6 months–1 year	95	24.7	53.2
	1–3 years	136	35.3	88.6

	More than 3 years	44	11.4	100.0
	Total	385	100.0	
Currently Taking Treatment/Medication	Yes	238	61.8	61.8
	No	147	38.2	100.0
	Total	385	100.0	
Family History of Psychological or Psychosomatic Illness	Yes	248	64.4	64.4
	No	137	35.6	100.0
	Total	385	100.0	

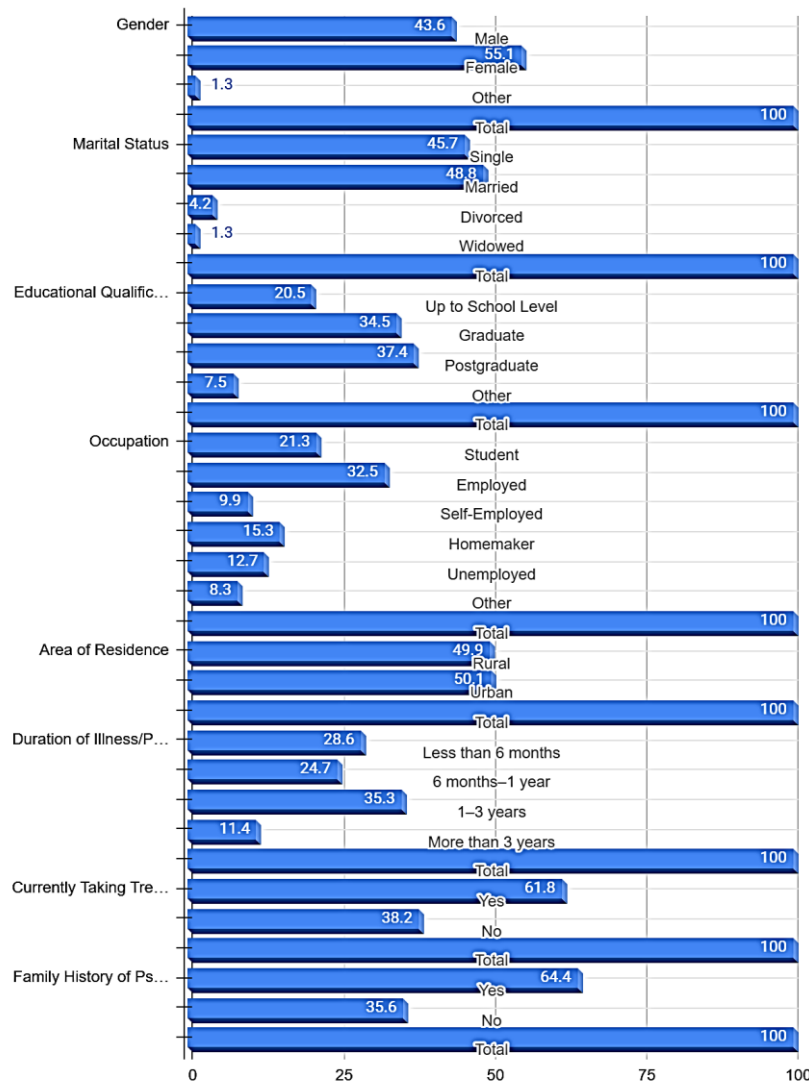


Figure 4.1: Demographic and Background Information of Respondents (N = 385)

Table 4.1 presents the demographic and background characteristics of the 385 respondents included in the study. The gender distribution shows that females constituted the largest proportion of the sample (55.1%), followed by males (43.6%), while only 1.3% identified as other. This suggests that women were slightly more represented in the study, which may influence the overall pattern of responses if gender-based differences in emotional or psychosomatic experiences exist. In terms of marital status, the highest proportion of respondents were married (48.8%), closely followed by single participants (45.7%), while

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divorced and widowed categories represented much smaller shares at 4.2% and 1.3%, respectively. Educationally, the largest category was postgraduate respondents (37.4%), followed by graduates (34.5%) and those with up to school-level education (20.5%), indicating that the sample was relatively well educated. Regarding occupation, employed participants formed the largest group (32.5%), followed by students (21.3%), homemakers (15.3%), unemployed respondents (12.7%), self-employed participants (9.9%), and others (8.3%). The distribution of area of residence was almost equally divided between rural (49.9%) and urban (50.1%) respondents, indicating a balanced representation of place-based background. With respect to illness duration, the largest proportion reported suffering for 1–3 years (35.3%), followed by less than 6 months (28.6%) and 6 months–1 year (24.7%), while a comparatively smaller group reported a duration of more than 3 years (11.4%). A majority of the respondents reported that they were currently taking treatment or medication (61.8%), whereas 38.2% were not. Similarly, 64.4% reported a family history of psychological or psychosomatic illness, suggesting that inherited or family-linked vulnerability may be relatively common in the sample. Overall, this table provides the contextual profile of the respondents and shows that the sample is socially diverse, educationally strong, and meaningfully distributed across treatment status, illness duration, and family history.

Table 4.2: Emotional and Cognitive Symptoms of Depression

Statement	Response Category	Frequency	Percent	Cumulative Percent	Mean	SD
I feel sad.	Not at All/Normal	94	24.4	24.4		
	Mild	118	30.6	55.1		
	Moderate	113	29.4	84.4		
	Severe	60	15.6	100.0		
	Total	385	100.0		1.36	1.02
I feel discouraged about the future.	Not at All/Normal	90	23.4	23.4		
	Mild	141	36.6	60.0		
	Moderate	100	26.0	86.0		
	Severe	54	14.0	100.0		

	Total	385	100.0		1.31	0.98
I feel like a failure.	Not at All/Normal	102	26.5	26.5		
	Mild	117	30.4	56.9		
	Moderate	105	27.3	84.2		
	Severe	61	15.8	100.0		
	Total	385	100.0		1.32	1.02
I do not enjoy things as much as I used to.	Not at All/Normal	91	23.6	23.6		
	Mild	128	33.2	56.9		
	Moderate	98	25.5	82.3		
	Severe	68	17.7	100.0		
	Total	385	100.0		1.37	1.03
I feel guilty.	Not at All/Normal	91	23.6	23.6		
	Mild	119	30.9	54.5		
	Moderate	119	30.9	85.5		
	Severe	56	14.5	100.0		
	Total	385	100.0		1.36	1.00
I feel I am being punished.	Not at All/Normal	83	21.6	21.6		
	Mild	124	32.2	53.8		
	Moderate	108	28.1	81.8		
	Severe	70	18.2	100.0		

	Total	385	100.0		1.43	1.02
I am disappointed in myself.	Not at All/Normal	97	25.2	25.2		
	Mild	137	35.6	60.8		
	Moderate	92	23.9	84.7		
	Severe	59	15.3	100.0		
	Total	385	100.0		1.29	0.99

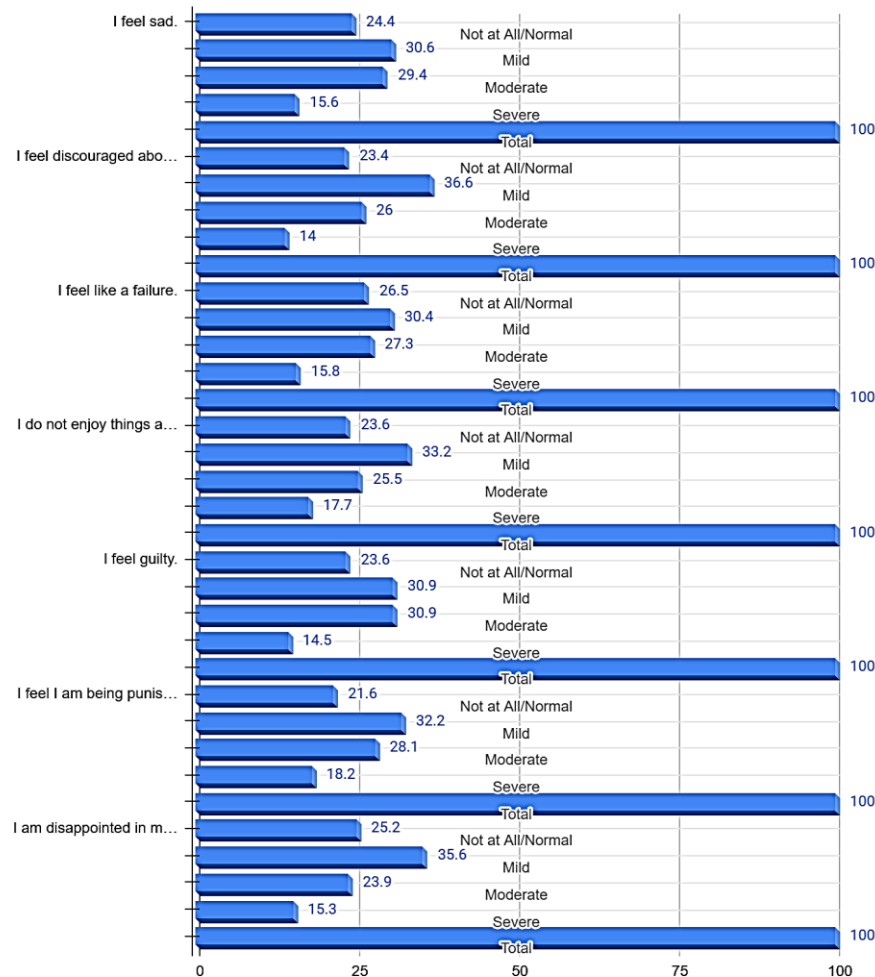


Figure 4.2: Emotional and Cognitive Symptoms of Depression

Table 4.2 presents the first cluster of depression-related symptoms, focusing on emotional and cognitive aspects of depressive experience. The item “*I feel sad*” shows that a combined 75.6% of respondents reported mild to severe sadness, with the highest proportion falling in the mild category (30.6%), followed closely by moderate sadness (29.4%). The mean score of 1.36 indicates that sadness was present at a mild to moderate level on average. For “*I feel discouraged about the future*,” only 23.4% reported no such feeling, while the majority experienced at least some discouragement, with 36.6% in the mild category and 26.0% in the moderate category. The mean of 1.31 reflects a noticeable degree of future-related hopelessness. Similarly, “*I feel like a failure*” yielded a mean of 1.32, with more than 73% of respondents

endorsing mild, moderate, or severe feelings of failure. This indicates that negative self-evaluation is widespread among the respondents. The statement *"I do not enjoy things as much as I used to"* produced one of the higher mean values in this table (1.37), suggesting that loss of pleasure or reduced enjoyment is a prominent depressive feature in the sample. A similar pattern appears for *"I feel guilty,"* where the mild and moderate categories are equally high (30.9% each), showing that guilt-related feelings are relatively common. The item *"I feel I am being punished"* yielded the highest mean in this cluster (1.43), indicating that respondents reported this negative emotional-cognitive belief more intensely than other symptoms in the same table. Finally, *"I am disappointed in myself"* had a mean of 1.29, which, while slightly lower than the other items, still suggests that self-disappointment is experienced by a substantial proportion of respondents. Overall, this table demonstrates that emotional pain, self-blame, hopelessness, and diminished enjoyment are widely present and generally occur at mild to moderate severity levels, pointing to a meaningful burden of depressive cognition within the study population.

Table 4.3: Self-Evaluative and Behavioral Symptoms of Depression

Statement	Response Category	Frequency	Percent	Cumulative Percent	Mean	SD
I criticize myself more than before.	Not at All/Normal	100	26.0	26.0		
	Mild	114	29.6	55.6		
	Moderate	118	30.6	86.2		
	Severe	53	13.8	100.0		
	Total	385	100.0		1.32	0.98
I have thoughts of harming myself.	Not at All/Normal	92	23.9	23.9		
	Mild	127	33.0	56.9		
	Moderate	106	27.5	84.4		
	Severe	60	15.6	100.0		
	Total	385	100.0		1.35	1.00
I cry more than usual.	Not at	104	27.0	27.0		

	All/Normal					
	Mild	110	28.6	55.6		
	Moderate	106	27.5	83.1		
	Severe	65	16.9	100.0		
	Total	385	100.0		1.34	1.03
I feel restless or agitated.	Not at All/Normal	95	24.7	24.7		
	Mild	127	33.0	57.7		
	Moderate	105	27.3	84.9		
	Severe	58	15.1	100.0		
	Total	385	100.0		1.33	0.99
I have lost interest in other people or activities.	Not at All/Normal	99	25.7	25.7		
	Mild	117	30.4	56.1		
	Moderate	115	29.9	86.0		
	Severe	54	14.0	100.0		
	Total	385	100.0		1.32	0.99
I find it difficult to make decisions.	Not at All/Normal	88	22.9	22.9		
	Mild	125	32.5	55.3		
	Moderate	118	30.6	86.0		
	Severe	54	14.0	100.0		
	Total	385	100.0		1.36	0.98

I feel worthless.	Not at All/Normal	103	26.8	26.8		
	Mild	110	28.6	55.3		
	Moderate	109	28.3	83.6		
	Severe	63	16.4	100.0		
	Total	385	100.0		1.34	1.03

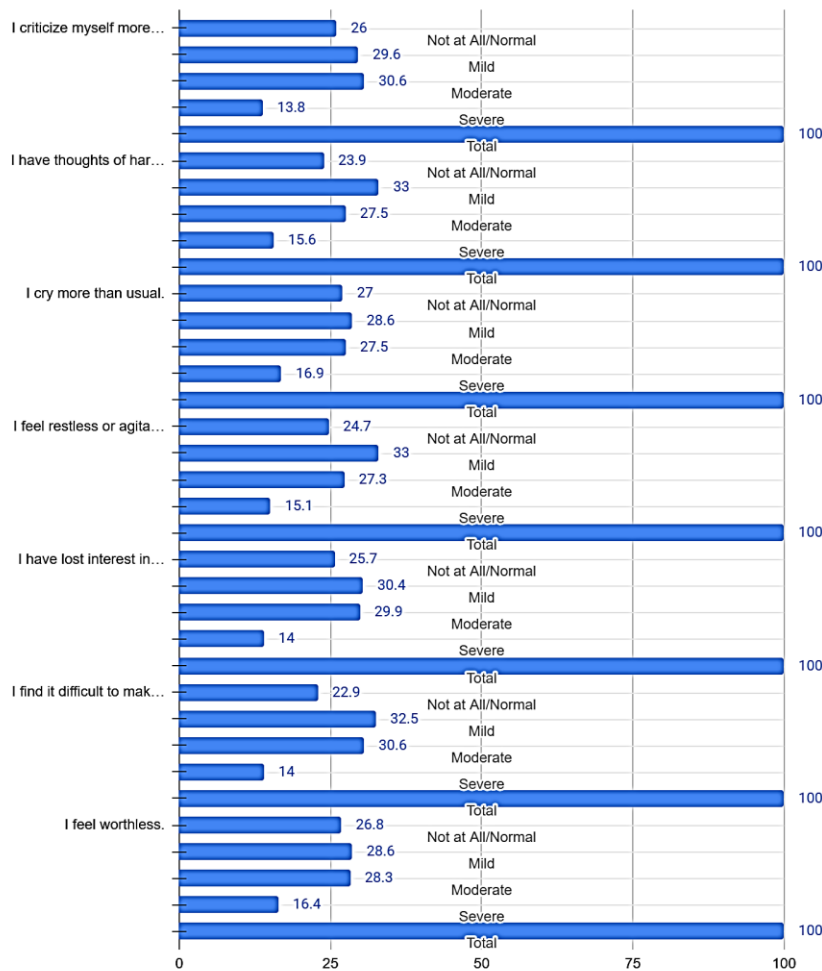


Figure 4.3: Self-Evaluative and Behavioral Symptoms of Depression

Table 4.3 focuses on another group of depressive symptoms involving self-evaluation, behavioral response, and internal distress. The item *“I criticize myself more than before”* shows that more than 74% of respondents reported mild to severe self-criticism, with a mean score of 1.32, indicating that excessive self-judgment is fairly common in the sample. For *“I have thoughts of harming myself,”* although 23.9% reported no such thoughts, the remaining respondents fell into mild (33.0%), moderate (27.5%), and severe (15.6%) categories, producing a mean of 1.35. This is a clinically important result because it suggests the presence of self-harm-related thoughts in a considerable proportion of participants. The item *“I cry more than usual”* yielded a mean of 1.34, showing that crying or heightened emotional expression is a moderately prevalent symptom. Likewise, *“I feel restless or agitated”* had a mean of 1.33, indicating that inner tension and agitation are also common manifestations of depressive distress. The statement *“I have lost interest in other people or activities”* reflects withdrawal and reduced engagement, with 74.3% of respondents endorsing some level of this symptom and a mean of 1.32. The item *“I find it difficult to make decisions”* produced a mean of 1.36, suggesting that indecisiveness is one of the more prominent difficulties in this group. Similarly, *“I feel worthless”* had a mean of 1.34, highlighting the presence of significant negative self-worth among respondents. Taken together, the symptoms in this table indicate that depression is not limited to sadness alone; it also involves self-critical thinking, behavioral slowing or withdrawal, agitation, indecision, and worthlessness. The responses show that these symptoms affect a large share of the sample and represent an important dimension of overall psychological distress.

Table 4.4: Respiratory and Gastrointestinal Symptoms

Statement	Response Category	Frequency	Percent	Cumulative Percent	Mean	SD
Shortness of breath without clear medical cause	Not at all	78	20.3	20.3		
	A Little	102	26.5	46.8		
	Moderate	88	22.9	69.6		
	Quite a lot	69	17.9	87.5		
	Extremely	48	12.5	100.0		
	Total	385	100.0		1.76	1.30

Stomach pain	Not at all	76	19.7	19.7		
	A Little	73	19.0	38.7		
	Moderate	109	28.3	67.0		
	Quite a lot	83	21.6	88.6		
	Extremely	44	11.4	100.0		
	Total	385	100.0		1.86	1.28
Acidity or indigestion	Not at all	69	17.9	17.9		
	A Little	83	21.6	39.5		
	Moderate	119	30.9	70.4		
	Quite a lot	73	19.0	89.4		
	Extremely	41	10.6	100.0		
	Total	385	100.0		1.83	1.23
Nausea	Not at all	65	16.9	16.9		
	A Little	93	24.2	41.0		
	Moderate	112	29.1	70.1		
	Quite a lot	81	21.0	91.2		
	Extremely	34	8.8	100.0		
	Total	385	100.0		1.81	1.20
Diarrhea or constipation during stress	Not at all	72	18.7	18.7		
	A Little	96	24.9	43.6		
	Moderate	96	24.9	68.6		

	Quite a lot	77	20.0	88.6		
	Extremely	44	11.4	100.0		
	Total	385	100.0		1.81	1.27

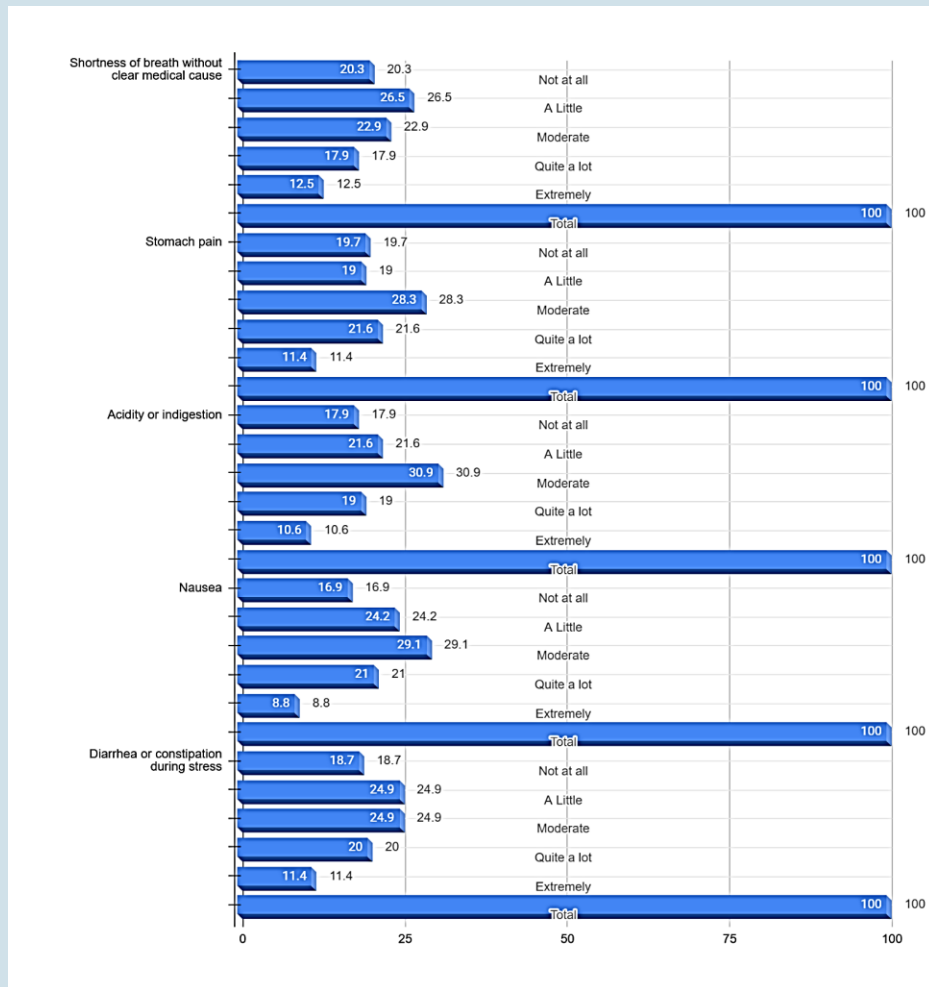


Figure 4.4: Respiratory and Gastrointestinal Symptoms

Table 4.4 presents symptoms related to respiratory and gastrointestinal functioning. The item “*Shortness of breath without clear medical cause*” has a mean of 1.76, indicating that breath-related discomfort is present at a moderate level in the sample. “*Stomach pain*” shows the highest mean in this table (1.86), suggesting that abdominal discomfort is a particularly prominent psychosomatic symptom. “*Acidity or indigestion*”

and “Nausea” have means of 1.83 and 1.81, respectively, while “Diarrhea or constipation during stress” also has a mean of 1.81. These values indicate that gastrointestinal symptoms are highly prevalent and experienced with moderate intensity by many respondents. The distribution of responses across these items shows that a large proportion of the sample falls in the moderate, quite-a-lot, and extremely categories, suggesting that digestive discomfort and stress-related gastrointestinal reactions are common. Overall, this table highlights the strong bodily manifestation of psychological stress in the digestive and respiratory systems. It suggests that emotional and mental strain may substantially affect bodily equilibrium, especially in relation to gastrointestinal distress.

V. DISCUSSION

The findings of the presented tables indicate that illness occurrence is influenced by a combination of psychological and physical factors. The depression-related tables show that sadness, hopelessness, guilt, self-criticism, restlessness, indecision, and feelings of worthlessness were present among a large proportion of respondents, suggesting that emotional distress forms an important background to illness. At the same time, the physical symptom tables reveal considerable levels of respiratory and gastrointestinal discomfort, such as shortness of breath, stomach pain, acidity, nausea, and bowel disturbance, along with general weakness, fatigue, dizziness, trembling, and excessive sweating. Taken together, these findings suggest that illness occurrence cannot be understood as a purely physical event, but rather as a condition shaped by the interaction of mental strain, emotional imbalance, and bodily symptoms, thereby supporting a broader and more analytical understanding of health problems.

VI. CONCLUSION

In conclusion, the study shows that illness occurrence is influenced by a combination of emotional and physical factors rather than by a single cause. The findings reveal that depression-related symptoms such as sadness, guilt, hopelessness, self-criticism, and restlessness coexist with considerable respiratory and gastrointestinal problems, indicating that psychological distress and bodily discomfort are closely linked. The study therefore highlights that illness should be understood from a broader analytical perspective in which mental strain, behavioral responses, and physical symptoms interact to shape overall health conditions.

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