



# A SURVEY BASED RESEARCH ON IMPACT OF ANXIETY RELATED DISORDERS ON QUALITY OF LIFE AND PRODUCTIVITY

<sup>1</sup>MELFA DOLLY M, <sup>2</sup>SHIVANI CHAUHAN, <sup>3</sup>MITHUL V. MAMMEN, <sup>4</sup>MOHAMMAD FAJJAAN

DOCTOR OF PHARMACY INTERNS, DEPARTMENT OF PHARMACY PRACTICE,

TEERTHANKER MAHAVEER COLLEGE OF PHARMACY, TEERTHANKER MAHAVEER UNIVERSITY, MORADABAD-244001, UTTAR PRADESH.

## ABSTRACT

### Background and Aim:

Psychological disorders have always been the hardest to diagnose, treat and get to grips with. This prospective survey based research aims to find the impact of anxiety related disorders on productivity and quality of life.

### Methodology:

Two validated questionnaires were combined and then sent to the sample population of 384 individuals satisfying the inclusion and exclusion criteria as a Google form and the responses were acquired. The obtained data were analyzed using Chi-square test and Pearson's correlation coefficient test and made into a table using SPSS software version 20.

### Result:

The impact of anxiety disorders on quality of life and overall satisfaction in terms of Pearson's correlation coefficient and P-values was calculated and an inverse or negative relationship was deducted between the two. The work productivity and activity impairment percentage was calculated with maximum being 100% and minimum being 0%. Pearson's correlation coefficient and P value between anxiety disorders in relation to productivity was calculated and a direct or positive correlation was noticed between the two.

### Conclusion:

An inverse relation was observed between anxiety disorders and QOL and overall satisfaction meaning higher the score lower the quality of life and overall satisfaction. Direct relation was observed between anxiety disorders and Pearson's coefficient and the P-value of the four categories for productivity (work time missed, impairment of work, overall work productivity loss and activity impairment). This means that the higher the P-value or Pearson's coefficient the higher is the impairment of work productivity.

**Keywords:** anxiety disorders, impairment of work, productivity, quality of life.

## INTRODUCTION:

The growing awareness towards mental health has brought up a lot of questions with it. Researchers and medical practitioners now not only want to improve the symptoms faced by the patients but also find the impact that these disorders have on the everyday functioning of an individual.<sup>1</sup>

Productivity is the continuous state of improvements over time. They can either be personal, spiritual or financial in nature, but when anxiety disorders disrupts the normal functioning of an individual, productivity loss is observed.

Quality of life is a measure of life in terms often mentioned as satisfaction with life and overall emotional and physical contentment. QOL is also often disrupted in the presence of an anxiety disorder.

In this research paper, we expect to bring light to the current scenario of anxiety related loss of productivity and decrease in QOL.

According to M Taylor Wilmer et al, QOL was poorer among adults with current and remitted anxiety disorders when compared with healthy controls. Also an individual's capacity to have a more positive outlook towards distressing situations increased QOL whereas a negative approach decreased QOL.<sup>1</sup>

In a study by Johanna Katharina et al, QOL was observed to reduce before the onset of disease with further degradation during the course of disorder.<sup>2</sup>

Japan lost nearly approx. 11.8 billion USD in revenue due to absenteeism and productivity loss during presenteeism in the year 2008, as a result of anxiety disorders as shown in a study done by Mitsuhiro Sadu and colleagues.<sup>3</sup>

#### MATERIALS AND METHODS:

The study conducted was observational, prospective and survey based in nature and done using Google forms for the population of Delhi. Approval of the institutional ethics and research committee was obtained. To calculate the sample size Rao software was used and it was found to be 384 for the population of 81 lakhs with the response distribution of 50%, margin error of 5% and confidence interval of 95%.

It took four months (from March 2021- June 2021) to complete the study. Google forms were sent out to the study population and then the responses were noted. Genders including males and females between the ages of 18-50 years were taken into the inclusion criteria regardless of their education. Our exclusion criteria had individuals younger than 18 and older than 51, comorbid and pregnant women. Validated questionnaires were used to ensure quality of the study such as Q-LES-Q-SF and WPAI: GH. Statistical test used were Chi Square test and Pearson's correlation coefficient.

#### RESULTS AND DISCUSSION:

Sample population pertaining to the inclusion and exclusion criteria was 384, chi square and Pearson's correlation coefficient analyzed their responses and the following results were obtained for this observational and prospective study.

The general characteristics of the population are given below (table 1).

Table 1: General Characteristics of the Study Population

Variables	Frequency	Percentage
<b>Age (years)</b>		
18-27	286	74
28-37	52	14
38-47	34	9S
48-57	12	3
Mean± SD of age was 26.59±7.50 years		
<b>Gender</b>		
Male	186	48
Female	198	52
Variables	Frequency	Percentage
<b>Age (years)</b>		
18-27	286	74
28-37	52	14
38-47	34	9S
48-57	12	3
Mean± SD of age was 26.59±7.50 years		
<b>Gender</b>		
Male	186	48
Female	198	52

Quality of life assessed in the study population is represented in the table given below (table 2).

Table 2: Quality of Life Assessed in the Study Population

Variable	QOL
Minimum	26
Maximum	65
Median	47
Mean± SD	46.69±7.15

For finding the impact of anxiety disorders on quality of life and overall satisfaction, Pearson's correlation and P-value was calculated and the results are as follows (table 3):

Table 3: Impact of Anxiety Disorders on QOL and Overall Satisfaction

Disorder	QOL	Overall Satisfaction
<b>Anxiety and Depression</b> Pearson's correlation P-value	-0.376* 0.000	-0.363* 0.000
<b>OCD</b> Pearson's correlation P-value	-0.405* 0.000	-0.374* 0.000
<b>PTSD</b> Pearson's correlation P-value	-0.489* 0.000	-0.393* 0.000
<b>Insomnia</b> Pearson's correlation P-value	-0.446* 0.000	-0.348* 0.000

This section shows the negative correlation between the disorder and the quality of life. When the signs and symptoms of the disorder increases the quality of life decreases.

The mean values of loss of work productivity and impairment, activity impairment and overall work productivity loss were analyzed and are given in the table below (table 4):

Table 4: Work Productivity and Activity Impairment

Scale	Minimum	Maximum	Median	Mean± SEM
Work time missed (%)	0	100	0	10.38±1.14
Impairment of work (%)	0	90	20	24.64±1.14
Overall work productivity loss (%)	0	100	0	18.63±1.55
Activity impairment (%)	0	80	30	29.82±1.03

Pearson correlation coefficient and P-value between anxiety disorders in relation to productivity was obtained and recorded as follows in the table below (table 5).

Table 5: Pearson's Correlation Coefficient between Anxiety Disorders in relation to Productivity

Anxiety Disorders	WPAI-GH Scale			
	Work time missed (%)	Impairment of work (%)	Overall work productivity loss (%)	Activity impairment (%)
<b>Anxiety and Depression</b> Pearson's correlation P-value	0.036 0.479	0.353* 0.000	0.097 0.057	0.370* 0.000
<b>OCD</b> Pearson's correlation P-value	0.055 0.281	0.370* 0.000	0.155* 0.002	0.326* 0.000
<b>PTSD</b> Pearson's correlation P-value	0.111* 0.030	0.268* 0.000	0.172* 0.001	0.316* 0.000
<b>Insomnia</b> Pearson's correlation P-value	0.147* 0.004	0.316* 0.000	0.213* 0.000	0.333* 0.000

In this table, positive correlation was seen i.e. the increase in the disorder directly affects the work productivity and causes activity impairment.

**DISCUSSION:**

This survey based study aims to find the impact of anxiety related disorders on quality of life and productivity. Previously validated questionnaires were used to ensure the consistency of the responses. An inverse correlation between the disorder and quality of life and overall satisfaction was observed, proving that increase in the score on the test, or more severe the symptoms are, lower is the quality of life.

For each disorder the P-value calculated was statistically significant, meaning that the decrease in quality of life that was observed was due to anxiety disorders.

The decrement in the quality of life and overall satisfaction was also observed in a study by Paulomi M Sudhir et al <sup>4</sup>, strengthening our observed result. The impaired quality of life with sub threshold forms of anxiety disorder was also observed by Mauro V. Mendlowicz and his colleagues.<sup>6</sup>

For studying the impact of the disorder on work productivity, another previously validated questionnaire was used and the obtained data was represented in a tabular form with staggering but expected results

The maximum % of work time missed and overall work productivity loss was found to be 100% with impairment of work at 90% and daily activity impairment at 80%.

Results show us the impact of these disorders on our daily functioning for these otherwise seemingly healthy individuals.

Lastly, a positive correlation was observed between the disorder and its impact on the four categories of work productivity i.e., the higher the symptoms of the disorder, the higher was the work productivity and activity impairment. Similar results were obtained by Mitsuhiro when the morbidity cost of anxiety disorders i.e., loss of productivity due to absenteeism was calculated and found to be exponentially high <sup>3</sup>, around 2.9 trillion USD, indicating and strengthening our findings This was proven with a statistically significant P-value and stronger correlation. Steven R. Erickson et al. also found lower work performance for patients with forms of anxiety disorder<sup>7</sup>.

M Daley and colleagues also studied insomnia and its effects on work absenteeism and decline in work productivity and found results similar to ours.<sup>8</sup>

**CONCLUSION:**

The inverse correlation observed between anxiety disorders and QOL and overall satisfaction means higher the score, lower the quality of life and overall satisfaction. Direct correlation observed between anxiety disorders and Pearson's coefficient and the P-value of the four categories for productivity means that the higher the P-value or Pearson's coefficient the higher is the impairment of work productivity.

**LIMITATIONS OF THE STUDY:**

- [1] The sample population was 385 individuals residing in Delhi. This could have resulted in bias.
- [2] The number of disorders included only six (Anxiety, Depression, Stress, Insomnia, OCD, and PTSD) and did not take into account any other psychological disorder the participant may be showing symptoms of at the time of filling the form.
- [3] The inclusion of more variables could have made the study more accurate.
- [4] The Google form did not take into account any incomplete forms.

**ABBREVIATIONS USED:**

QOL: Quality of life

Q-LES-Q-SF: Quality of life enjoyment and satisfaction questionnaire- Short form

WPAI: GH. : Work productivity and activity impairment questionnaire: General health- Version 2.0

**ACKNOWLEDGMENT:**

We genuinely express our sincere gratitude to all those people who have knowingly or unknowingly helped us in the successful completion of this article.

**REFERENCES:**

- [1] Wilmer, M. T., Anderson, K., & Reynolds, M. (2021). Correlates of Quality of Life in Anxiety Disorders: Review of Recent Research. *Current psychiatry reports*, 23(11), 77. <https://doi.org/10.1007/s11920-021-01290-4>
- [2] Hohls, J. K., König, H. H., Quirke, E., & Hajek, A. (2021). Anxiety, Depression and Quality of Life-A Systematic Review of Evidence from Longitudinal Observational Studies. *International journal of environmental research and public health*, 18(22), 12022. <https://doi.org/10.3390/ijerph182212022>
- [3] Sado, M., Takechi, S., Inagaki, A., Fujisawa, D., Koreki, A., Mimura, M., & Yoshimura, K. (2013). Cost of anxiety disorders in Japan in 2008: A prevalence-based approach. *BMC Psychiatry*, 13(1). <https://doi.org/10.1186/1471-244x-13-338>
- [4] Manjula, M., & Sudhir, P. M. (2019). New-wave behavioral therapies in obsessive-compulsive disorder: Moving toward integrated behavioral therapies. *Indian Journal of Psychiatry*, 61(7), 104. [https://doi.org/10.4103/psychiatry.indianjpsychiatry\\_531\\_18](https://doi.org/10.4103/psychiatry.indianjpsychiatry_531_18)
- [5] Meltzer-Brody, S., & Davidson, J. R. (2000). Completeness of response and quality of life in mood and anxiety disorders. *Depression and anxiety*, 12 Suppl 1, 95–101. [https://doi.org/10.1002/1520-6394\(2000\)12:1+<95::AID-DA14>3.0.CO;2-U](https://doi.org/10.1002/1520-6394(2000)12:1+<95::AID-DA14>3.0.CO;2-U)
- [6] Mendlowicz, M. V., & Stein, M. B. (2000). Quality of life in individuals with anxiety disorders. *The American journal of psychiatry*, 157(5), 669–682. <https://doi.org/10.1176/appi.ajp.157.5.669>
- [7] Erickson, S. R., Guthrie, S., Vanetten-Lee, M., Himle, J., Hoffman, J., Santos, S. F., Janeck, A. S., Zivin, K., & Abelson, J. L. (2009). Severity of anxiety and work-related outcomes of patients with anxiety disorders. *Depression and anxiety*, 26(12), 1165–1171. <https://doi.org/10.1002/da.20624>
- [8] Daley, M., Morin, C. M., LeBlanc, M., Grégoire, J. P., Savard, J., & Baillargeon, L. (2009). Insomnia and its relationship to health-care utilization, work absenteeism, productivity and accidents. *Sleep medicine*, 10(4), 427–438. <https://doi.org/10.1016/j.sleep.2008.04.005>