



# "Anxiety and Quality of Life in Prostate Cancer: A Correlation Analysis of HADS Anxiety Scores and EQ-5D VAS Ratings"

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## ARTICLE INFO

## ABSTRACT

**Background-** Prostate cancer is a serious health concern among Indian men that has been increasing in the past few years in India. Men over the age of 50 are usually affected by this cancer and the risk rises with age. Diagnosis of cancer raises anxiety in patients and lowers their quality of life.

**Aim-** We focused on the relationship between an individual's quality of life and anxiety levels in those who have been diagnosed with prostate cancer.

**Patients and Method-** Patients diagnosed with prostate cancer and who gave consent for participation (n=50) were included in the study. Our study measured anxiety using the Hospital Anxiety and Depression Scale (HADS) and evaluated the overall quality of life with the EuroQol-5D-3L Visual Analogue Scale (EQ-5D-3L VAS). To investigate possible relationships between anxiety scores and assessments of one's health status, we performed a correlation study.

**Results-** Higher HADS anxiety levels were significantly correlated with lower EQ-5D VAS ratings in the study, which included 50 patients with prostate cancer, according to the data analysis. These results imply that anxiety may have a detrimental impact on a person's quality of life if they have prostate cancer. The implications of these findings for therapeutic therapies and psychosocial assistance in the treatment of prostate cancer are discussed.

**Key Words-** HADS, EQ-5D-3L VAS, Anxiety, Quality of Life

## Introduction

Prostate cancer is the major public health concern and second most common cancer among men worldwide in terms of morbidity and mortality and it is anticipated to overtake all other cancers by 2035(1). Both communities and healthcare systems feel its effects. In the United States, this illness is predicted to cause 34,700 deaths by 2023 (2). There are expected to be 288,300 new cases of prostate cancer in India in 2023. (3)

Prostate cancer has a substantial impact on the physical and mental health of a person by its diagnosis and treatment. When a person is dealing with prostate cancer, anxiety appears as a common emotional reaction and can significantly lower quality of life (QoL). Diagnosis of prostate cancer can trigger anxiety during the disease course, including the time of diagnosis, decision-making about treatment options, and during and after treatment. The ambiguity concerning the prognosis, multiple side effects of treatment, and fear of cancer progression are common sources of anxiety. (3)

Anxiety can result in psychological distress, which can have an impact on self-worth, mood, and overall mental health. According to Sharpley et al., it may lead to depression, further lowering the quality of life (QoL) of prostate cancer patients (4). Anxiety can affect treatment decisions, possibly leading to choices that favour reducing anxiety over the most effective treatment options. According to Hansen et al., this may affect disease management and overall survival (5).

Anxiety can worsen physical symptoms such as pain, mobility, exhaustion, and sexual dysfunction, further impairing the quality of life (QoL) of prostate cancer patients (6). Anxiety can also lead to social withdrawal and loneliness. To effectively manage the disease, it is crucial to address the connections and social networks between anxiety and quality of life (7).

Our paper examines the relationship between patient quality of life and anxiety scores. It will help to ease initial worries so that psychological issues affecting men with prostate cancer can be positively handled and patients can maintain their standard of living following diagnosis, throughout therapy, and after treatment.

## Methods

### Ethics statement

Data collection was by the ethical guidelines of the concerned institute. Written informed consent was obtained from all participants regarding the conduct of the study. We protect the privacy of individuals when processing personal information and keep personal information and accounts confidential.

### Design and Collection of Data

A descriptive research design is used. A consecutive group of patients with prostate cancer were enrolled from the oncology wards for the study over a three-month duration from a tertiary care hospital in New Delhi.

### Inclusion Criteria

Males diagnosed with prostate cancer with an age range of 18-70 years, with Primary education or higher who consented to participate and were able to comprehend the questionnaire were included in the study.

### Exclusion criteria

Including those who had a history of psychiatric illness, were diagnosed with other cancers and were unable to understand the questionnaire.

We completed face-to-face interviews to administer the questionnaire. Written consent was obtained from all the patients before the interview. Basic socio-demographic data including age, marital status, treatment and diagnosis were collected from all the participants in a self-administered questionnaire.

To measure anxiety and quality of life, the following measurement tools were included in the questionnaire.

### Tools

Our study used EQ-5D-3L VAS and the Hospital Anxiety and Depression Scale-Anxiety (HADS-A) instruments to analyse correlations between anxiety and the health status of cancer patients. A convenient Random sampling method was used in this investigation.

### Hospital Anxiety and Depression Scale (HADS):

Anxiety was evaluated by the Hospital Anxiety and Depression Scale (HADS-A). HADS is a widely used questionnaire to evaluate anxiety and depression in cancer patients. We used the Anxiety subscale of this questionnaire. It is a 14-item questionnaire. Each item can record a maximum score of 21 for anxiety. Scores of 11 or more are a significant "case" of psychological morbidity, while scores of 8-10 represent "borderline", and <08 "normal" (8, 9)

### EQ-5D-3L VAS

The EuroQol Group released the EQ-5D-3L, a 3-level version of the test, in 1990. The EQ-5D description system and the EQ visual analogue scale (EQ VAS) make up the two main areas of the EQ-5D-3L. The EQ VAS uses a vertical visual analogue scale to record the patient's self-rated health, with the endpoints designated "Best imaginable health state" and "Worst imaginable health state." The range that is provided is 0-100. Each patient is assigned a score based on their current level of health.

### Statistical Analysis

Data were analysed using SPSS version 24.0. Descriptive statistics such as mean and standard deviation were recorded. Spearman's Correlation test was used to determine the level of anxiety and its relationship with quality of life. A p-value of < 0.05 was considered statistically significant.

## Results

A total of 50 patients with Prostate cancer were observed. The Demographic characteristics of all patients can be seen in Table 1. The mean age of the prostate cancer patients was 56.36 years with a standard deviation of 7.795. Most of the patients studied up to higher secondary (58%). 24% completed their studies till the secondary level. A very low percentage was found with graduates (14%). Maximum patients were married (96%) and employed (60%). 72% of patients were observed with stage 2, 22% were in stage 3 and 6% were at last stage(4) of prostate cancer.

**Table 1: Distribution of Sample Based on Demographic Characteristics**

Demographic Characteristics	Mean $\pm$ SD	% of total cases
1.Age	66.36 $\pm$ 7.795	
2.Gender (Male)		50(100%)
3. Educational level		
Illiterate		2 (4%
Secondary		12( 24%
Higher Secondary		29(58%
Graduate		7( 14%
4. Marital status		
Unmarried		2(4%
Married		48(96%
5. Employment		
Unemployed		3(6%
Self Employed		17(34%
Employed		30(60%
6. Lifestyle		
Active		39(78%
Healthy		11(22%
7. Stage of illness		
ii		36(72%
iii		11(22%
iv		3(6%
8.Res. Background		
Rural		39(78%
Semi Urban		2(4%
Urban		9(18%
9.Family Type		
Joint		28(56%
Nuclear		22(44%
10. Tobacco		
No		31(62%
Smoke		19(38%
11.Localized metastaic		42(84% 8(16%

In Table 2, Overall, the mean VAS score for prostate cancer males was found to be 6.72 with and standard deviation of 2.020, and the mean HADS-A score obtained by this study was 8.18 with and standard deviation of 3.101.

**Table 2: Average Score VAS and HADS-D score**

	N	Mean $\pm$ SD
VAS Score	50	6.72 $\pm$ 2.020
HADS-A Score	50	8.18 $\pm$ 3.101

From Table 3, the value and direction of the correlation (r) VAS and HADS-A score were reflected. The correlation value between HADS and the Visual Analogue scale was found as  $r = -0.64$ . The conclusion drawn value (p) is  $< 0.004$ . VAS was found to be positively significant with HADS-A.

**Table 3: Score VAS and HADS-D in Prostate Cancer patient**

Hospital Anxiety Depression Scale		
Visual Analogue Scale $r = -0.64$	$P \leq 0.004$	N =50
Correlation test Spearman's $p < 0.05$ .		

In this data, the p-value  $< 0.05$  clearly stated that the data was not normally distributed, therefore the data transformation was done. After the data transformation test, it was still not normally distributed, where the p-value is  $< 0.05$ , then Spearman's correlation test was performed.

## Discussion

### 1. Anxiety and Prostate Cancer

An analysis of anxiety levels among patients with prostate cancer indicates a substantial and complicated correlation between mental health and the oncological experience. Consistent with earlier studies, our results highlight the high frequency of anxiety among patients with prostate cancer (4,5). Anxiety levels get higher due to the special difficulties that come with receiving a prostate cancer diagnosis, such as worries about the harmful consequences of treatment, how the disease will advance, and how it will affect close relationships (11).

### 2. Impact on Quality of Life:

Anxiety and quality of life are correlated, which highlights the significant influence that psychological distress has on prostate cancer patients' general well-being. Higher levels of anxiety are linked to a lower quality of life connected to health, impacting areas like social functioning, emotional stability, and physical functioning (9). These results highlight the significance of including psychosocial support in the holistic treatment of patients with prostate cancer to address the emotional as well as the physical components of the illness.

### 2. Correlation between Anxiety and Quality of Life:

The purpose of the current study was to investigate the relationship between anxiety levels in patients with prostate cancer, as determined by the Hospital Anxiety and Depression Scale (HADS), and quality of life, as determined by the EuroQol-5D 3L Visual Analogue Scale (EQ-5D 3L VAS). Our results show a strong negative connection, indicating that the perceived quality of life declines with elevated anxiety levels. This is according to the increasing amount of research that highlights the complex connection between psychological health and general quality of life in cancer patients, including those with prostate cancer (14, 15).

### 3. Treatment Decision-Making

Prostate cancer-related anxiety goes beyond the first diagnosis and can affect the choice of therapy. Elevated levels of anxiety can cause ambiguity and decision-making difficulties, which might influence the selection of treatment approaches (16).

### 2. Implications for Clinical Practice:

Comprehending the connection between anxiety and a lower quality of life holds significant consequences for clinical treatment. Healthcare providers should be aware of the psychological effects of their work, especially while caring for patients with prostate cancer. Regular anxiety evaluations and prompt therapies could improve patients' overall quality of life as well as their mental health when they are receiving treatment for prostate cancer (4). Understanding the prevalence and effects of anxiety in patients with prostate cancer will have a big impact on clinical practice. Regular anxiety screening with validated instruments like the Hospital Anxiety and Depression Scale (HADS) can help medical professionals find patients who require focused interventions. It can improve the quality of life of patients suffering from prostate cancer (17). Early identification of stress and timely delivery of interventions and support services allow the integration of psychosocial assessments into standard clinical care.

### 4. Limitations and Future Research:

It is critical to recognise the study's limitations. The cross-sectional approach makes it challenging to determine a cause-and-effect relationship, and the ability to generalise might be restricted to specific clinical or social characteristics. To further understand the spatial patterns of anxiety and quality of life in prostate cancer, longitudinal research methods should be used in future studies. Additionally, examining how particular therapy modalities affect anxiety and quality of life may offer insights into modified approaches.

## Conclusion:

To sum up, our research adds to the increasing amount of literature that emphasises the negative effects of anxiety on the quality of life experienced by individuals with prostate cancer. The discovery of this association highlights the necessity of treating cancer patients holistically, taking psychological health into account. Healthcare providers can improve the general quality of life for people dealing with prostate cancer by treating anxiety.

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