The Multidimensional Fallout of Prostate Cancer Diagnosis: An Observational Monocentric Analysis of 324 Patients in the East Of Algeria (2023–2025)

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ABSTRACT

Background: Prostate carcinoma represents an escalating epidemiological burden in Algeria, particularly within the eastern regions. The communication of a cancer diagnosis frequently precipitates acute psychological distress, often exacerbated by emerging sexual dysfunction, the erosion of vocational capacity, and social withdrawal. This prospective monocentric investigation seeks to quantify the impact of diagnostic disclosure on sexual health, occupational stability, and familial support dynamics among a substantial cohort of 324 patients monitored over a two-year trajectory.

Methods: Conducted between 2023 and 2025 at the Medical Oncology Department of DIDOUCHE Mourad Hospital (Constantine, Algeria), this study enrolled 324 men diagnosed with prostate cancer (mean age: 66 years). Assessment modalities included the EPIC and IIEF psychometric instruments, evaluations of occupational status, the Family APGAR scale, and the HADS for psychological morbidity, supplemented by semi-structured interviews.

Results: The cohort exhibited profound functional and psychosocial impairment. Severe erectile dysfunction was reported by 72% of participants, with 55% experiencing a marked loss of libido. Vocational disruption was equally notable: 41% scaled back their professional commitments, and 26% ceased working entirely, primarily citing fatigue and psychological burden. Furthermore, only 38% perceived their familial support as adequate. Psychological screening revealed moderate-to-severe anxiety in 42% of the cohort.

Conclusion: The disclosure of a prostate cancer diagnosis exerts a profound, deleterious impact on sexual functionality, vocational retention, and psychosocial well-being within the Algerian context. To optimize patient trajectories, oncological care must transition toward a multidisciplinary paradigm that actively integrates sexual health counseling, vocational rehabilitation, and structured familial support.

Keywords: Prostate cancer, erectile dysfunction, vocational disruption, familial support, diagnostic disclosure, monocentric study, Algeria, EPIC, IIEF.

INTRODUCTION

Globally, prostate carcinoma ranks as the second most prevalent malignancy among men, representing a critical health concern within Algeria—particularly in the eastern regions, where early detection infrastructures and awareness campaigns remain underutilized [1]. The clinical act of communicating a malignancy diagnosis frequently acts as a psychological catalyst, triggering distress that simultaneously destabilizes sexual function, occupational trajectories, and familial dynamics [2]. Despite the high incidence of this pathology, localized empirical research evaluating the multifaceted fallout of diagnostic disclosure in the Algerian context is conspicuously scarce. To bridge this literature gap, the present prospective monocentric investigation tracks a robust cohort of 324 patients, aiming to critically evaluate the post-diagnosis trajectory concerning sexual health, occupational capacity, and familial support structures.

METHODS

2.1. Study Design and Population This monocentric observational study was conducted from 2023 to 2025 at the Medical Oncology Department of DIDOUCHE Mourad Hospital, Constantine, Eastern Algeria. The cohort comprised 324 men with a histologically confirmed, diagnosed prostate cancer (mean age: 66 years; range: 48–82).

2.2. Data Collection Modalities Data were aggregated using a battery of validated psychometric and functional instruments. Sexual function was quantified utilizing the Expanded Prostate Cancer Index Composite (EPIC) and the International Index of Erectile Function (IIEF) [3,4]. Vocational impact was evaluated via self-reported metrics detailing work retention, reduction, or complete cessation. Familial support dynamics were measured through structured interviews incorporating the Family APGAR scale [5]. Concurrently, psychological morbidity was screened using the Hospital Anxiety and Depression Scale (HADS) [6].

2.3. Statistical Analysis Statistical computations were executed using SPSS software (Version 28). The analytical framework encompassed descriptive statistics, chi-square tests for categorical associations, and logistic regression to identify predictive variables. Statistical significance was established at a p-value threshold of <0.05.

RESULTS

3.1. Sexual Function Impairment The sexual health of the cohort was severely compromised following diagnostic disclosure. A substantial majority (72%) reported severe erectile dysfunction (IIEF score <10), while 55% documented a significant loss of libido. Furthermore, logistic regression analysis revealed that younger patients (under 58 years) were disproportionately affected by sexual distress (Odds Ratio [OR] = 2.5; 95% Confidence Interval [CI]: 1.9–3.3). Detailed sexual function metrics are presented in Table 1.

Table 1: Post-Diagnosis Sexual Function Metrics (N=324)

Functional Domain	Prevalence	Mean Score (SD)	Statistical Significance
Severe Erectile Dysfunction	72%	IIEF: 7.9 (±3.8)	$p < 0.001$
Loss of Libido	55%	EPIC: 39.4 (±11.8)	$p < 0.01$
Orgasmic Dysfunction	51%	EPIC: 36.2 (±9.9)	NS*

Note: NS: Note significant

3.2. Occupational and Vocational Disruption Vocational trajectories were significantly altered by the diagnosis. Nearly half of the active cohort (41%) found it necessary to reduce their professional commitments. Furthermore, 26% ceased working entirely, predominantly citing severe fatigue and acute psychological distress as prohibiting factors. Patients who were unemployed prior to their diagnosis demonstrated a higher propensity for complete work cessation (OR = 1.8; 95% CI: 1.4–2.3), as illustrated in Table 2.

Table 2: Impact on Professional Activity and Associated Predictors

Occupational Status	Percentage	Associated Factors	OR (95% CI)
Work Retention	33%	Younger age, higher education	Reference
Reduced Activity	41%	Fatigue, psychological distress	1.9 (1.5–2.4)
Work Cessation	26%	Older age, prior unemployment	1.8 (1.4–2.3)

3.3. Psychosocial Dynamics and Psychological Morbidity Psychosocial evaluation revealed a stark deficit in perceived support, with only 38% of patients reporting adequate familial backing. Marital status emerged as a highly significant predictor of perceived support, with married individuals reporting superior familial integration ($p < 0.001$). Psychometric screening via HADS identified moderate-to-severe anxiety in 42% of the cohort (HADS-A ≥11), while 31% exhibited overt depressive symptoms (HADS-D ≥11). These psychosocial variables are summarized in Table 3.

Table 3: Family Support and Psychological Morbidity Profile

Variable	Prevalence	Associated Factors	p-value
Adequate Family Support	38%	Married status	< 0.001
Moderate-Severe Anxiety (HADS-A)	42%	Younger age, sexual dysfunction	< 0.01
Depressive Symptoms (HADS-D)	31%	Work cessation, low support	< 0.05

DISCUSSION

The empirical data derived from this substantial cohort elucidate the profound, multidimensional sequelae of a prostate cancer diagnosis within an Algerian healthcare landscape. The alarmingly high prevalence of severe erectile dysfunction aligns with broader international oncological literature, underscoring the universal vulnerability of sexual health post-disclosure [3,7].

However, the precipitous rate of vocational cessation (26%) introduces a critical imperative for structured occupational rehabilitation programs—an aspect frequently marginalized in standard oncological follow-up.

Furthermore, the limited familial support reported by the majority of participants signals significant gaps in the broader psychosocial care infrastructure, a challenge mirrored in other regional contexts such as the Middle East [8].

4.1. Strengths and Limitations This study boasts a robust sample size, augmented by the utilization of internationally validated psychometric instruments. Nevertheless, its monocentric nature introduces potential selection bias, and the reliance on self-reported data may inherently carry recall bias.

4.2. Recommendations Based on these observations, clinical practice should evolve to systematically integrate sexual health counseling into routine oncological care. Concurrently, the development of vocational rehabilitation frameworks and the active reinforcement of familial psychological support services are paramount.

CONCLUSION

This investigation substantiates the severe, multifaceted impact of prostate cancer diagnostic disclosure on sexual functionality, occupational retention, and familial support in Eastern Algeria. To meaningfully improve patient outcomes, the healthcare response must abandon a purely biomedical focus, adopting instead a holistic, multidisciplinary paradigm that addresses the complex biopsychosocial realities of the disease.

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