

Research Progress on Psychological Distress in Prostate Cancer Patients

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Abstract: Prostate cancer patients commonly experience varying degrees of psychological distress throughout the diagnostic and treatment trajectory, which not only influences disease progression and prognosis but also impairs their quality of life. This review systematically synthesizes the current landscape of psychological distress in prostate cancer, encompassing assessment tools and influencing factors. By elucidating these dimensions, the study aims to furnish caregivers with evidence-based insights for tailored psychosocial interventions while offering a foundational reference for advancing future research in this domain.

Keywords: Prostate Cancer, Psychological Distress, Assessment Tools, Influencing Factors

1. Introduction

According to the Global Cancer Statistics 2020, prostate cancer ranks as the third most prevalent malignancy worldwide. Projections indicate that between 2020 and 2030, both the incidence and mortality rates of prostate cancer in China will exhibit an upward trajectory, accompanied by a burgeoning disease burden^[1]. Cumulative evidence from longitudinal studies reveals that prostate cancer patients frequently encounter a spectrum of mental health challenges across disease stages, including fear, fatigue, existential distress, anxiety, depression, and somatic image disorders^[2]. The National Comprehensive Cancer Network (NCCN) defines cancer psychological distress as the spectrum of psychological challenges experienced by individuals diagnosed with cancer. Emerging evidence underscores the profound impact of psychological distress on both the quality of life and prognosis of prostate cancer patients, often persisting throughout the disease trajectory. Given these implications, precise assessment of psychological distress among prostate cancer patients, coupled with targeted management strategies and evidence-based psychosocial interventions, is imperative. Such an approach is essential for delivering holistic patient support and enhancing their overall survival quality. This narrative review synthesizes current research on psychological distress in prostate cancer patients, with the aim of advancing understanding and informing future investigations in this critical area.

2. Concepts and connotations

Psychological distress represents a dynamic continuum of psychosocial challenges experienced by patients, encompassing both normative emotional responses (e.g., fear, sadness) and clinical psychosomatic conditions (e.g., depression, anxiety, panic disorder)^[3]. In 1988, the National Comprehensive Cancer Network (NCCN) first conceptualized cancer-related psychological distress as an unpleasant experience shaped by multifaceted psychological, social, spiritual, and physical determinants. Building on this foundation, Gundelach posited that such distress is inherently rooted in a cancer diagnosis, with outcomes that may manifest along a positive-negative continuum. The framework further identifies four core attributes—anxiety, depression, fear, and discouragement—as constitutive elements of this construct.

In a 2021 scholarly endeavor, Huda advanced the theoretical understanding through a systematic literature review and conceptual analysis, delineating the nuanced connotations of cancer-related psychological distress. Specifically, for patients with advanced cancer, the construct was operationalized by five defining attributes: anxiety, depression, death anxiety, dysphoria, and perceived coping incapacity. Notably, death anxiety emerged as the linchpin dimension within this typology, underscoring its pivotal role in the distress experience of this patient population. The antecedents of

psychological distress in cancer contexts encompass the complexity of oncological treatment regimens, disease prognostic evaluation, unmet nursing care needs, and the distressing symptoms reported by patients. Consequences of such distress manifest along a dual continuum: deleterious effects including exacerbated emotional dysregulation, compromised quality of life, suicidal ideation, and potential acceleration of disease progression, counterbalanced by infrequent salutary outcomes such as reality acceptance and present-moment engagement^[4].

3. Psychological distress assessment tools for prostate cancer patients

3.1 Distress Management Screening Measure (DMSM)

The DMSM comprises two components: the Distress Thermometer (DT) and the Problem List (PL). DT was first developed and applied to prostate cancer patients in 1998. It is a self - assessment tool similar to the visual analog scale, capable of reflecting the patients' distress level in the past week. Psychological distress is measured on a scale of 0 to 10, where a higher score indicates a greater level of psychological distress. The NCCN recommends that a DT score of 4 or higher suggests obvious psychological distress, while a score below 4 represents normal emotional fluctuations and doesn't require special intervention. The NCCN added PL based on DT. The Chinese version of PL consists of 40 items across 5 dimensions: practical problems (6 items), communication problems (4 items), emotional problems (9 items), physical problems (20 items), and religious belief problems (1 item). These items are evaluated using a "yes" or "no" response. The two scales can be used either simultaneously or separately. DMSM is easy to understand and operate, making it the most widely used screening tool for psychological distress.

3.2 10-item Kessler psychological distress scale (K10)

The K10 is employed to evaluate the frequency of specific psychological stress - related symptoms, such as anxiety and depression, that patients have experienced over the past four weeks. Comprising ten items, this scale utilizes a 5 - level Likert scale, where scores from 1 to 5 are assigned, corresponding to responses ranging from "almost never" to "all the time". The total score falls between 10 and 50, with a higher score signifying a more severe level of psychological distress. The K10 categorizes the degree of psychological distress into four levels: almost no psychological distress (10 - 15 points), mild psychological distress (16 - 21 points), moderate psychological distress (22 - 29 points), and severe psychological distress (30 - 50 points). Nevertheless, since the assessment period of this scale is four weeks, patients may have to rely on recollection to estimate their state at that time, which results in less - than - ideal test - retest reliability.

3.3 21-Item Depression Anxiety and Stress Scale (DASS-21)

The DASS is employed to evaluate the severity of an individual's negative emotions over the past week. The original version comprises 42 items. The DASS-21 is composed of three sub - scales: anxiety, depression, and stress. Each sub - scale contains 7 items, amounting to a total of 21 items. It adopts a 4 - level Likert scale (0 - 3) for scoring. A score of 0 indicates "not at all consistent", while a score of 3 means "very consistent". Higher scores suggest more severe negative emotional symptoms in an individual. Foreign research has verified the applicability of this scale for prostate cancer patients. Nevertheless, the Chinese version has only been measured and evaluated among college students, teachers, and naval officers, and has yet to be applied to prostate cancer patients in China.

3.4 Psychosocial Distress Questionnaire - Prostate Cancer (PDQ - PC)

The PDQ - PC was specifically developed for prostate cancer patients to assess the degree of their psychosocial problems. This scale comprises eight sub - scales: trait anxiety (10 items), state anxiety (6 items), depressive symptoms (7 items), social problems (3 items), physical problems (4 items), masculinity problems (3 items), hormonal problems (2 items), and financial problems (1 item), totaling 36 items. It employs the Likert 4 - point rating scale, with scores ranging from 1 to 4. Here, 1 indicates "not at all" and 4 represents "a great deal". This scale exhibits good psychometric properties. However, there is currently no Chinese version of this questionnaire, which restricts its application in China.

3.5 Others

In relevant domestic and international studies, besides the existing tools, the Self - Rating Anxiety Scale (SAS), the Self - Rating Depression Scale (SDS), the Brief Symptom Inventory - 18 (BSI - 18), and the Patient Health Questionnaire - 9 (PHQ - 9) are also used to assess the psychological distress of prostate cancer patients. However, these are all general questionnaires and lack specificity when it comes to evaluating the psychological distress of prostate cancer patients.

4. Research status of psychological distress among prostate cancer patients

Current investigations into psychological distress among prostate cancer patients encompass comprehensive cross-sectional and longitudinal designs. Emerging evidence from international cohorts has documented a notable variability in distress prevalence, ranging from 19.5% to 54%^[5]. Core contributors to this psychological burden include existential worry, disease-related fear, urological dysfunction, erectile impairment, persistent fatigue, and sleep dysregulation. Notably, a subset of patients further identifies disruptions in intimate relationships and sexual dynamics as pivotal stressors.

Some scholars have also conducted longitudinal studies to analyze the changing trends of psychological distress among prostate cancer patients. Korean scholars found that prostate cancer patients experienced the most severe psychological distress before and after cancer diagnosis, which then decreased over time. Chien evaluated the psychological status of prostate cancer patients before diagnosis, one month after treatment, and six months after treatment. It was found that psychological distress increased significantly one month after treatment, while there was no significant change six months after treatment. Zajdlewicz conducted a five - year follow - up on the psychological distress of 81 prostate cancer patients receiving different treatment methods. The results showed that the incidence of psychological distress among prostate cancer patients was the highest before and after diagnosis, reaching 46.3%. It decreased to 18.6% after 12 months of treatment, rose to 38.9% after 36 months, and decreased to 32.6% after five years of treatment. Chambers carried out a follow - up assessment on the psychological distress of prostate cancer patients at nine time points from pre - treatment to 72 months post - treatment. The study revealed that prostate cancer patients exhibited three different trajectory patterns of psychological distress: low, medium, and high cancer - related distress. Nevertheless, the level of psychological distress declined over time. Kim evaluated the changes in psychological distress among prostate cancer patients who underwent surgical treatment. The results indicated that patients had the highest psychological distress scores before surgery, and 40.9% of them experienced psychological distress, which gradually eased at 1 month, 3 months, 6 months, and 12 months after surgery. This finding is consistent with the research results of other scholars^[6].

Currently, most studies on the psychological distress of prostate cancer patients in China are cross - sectional, and most of them focus on those who have received surgical treatment. Yu Zhenliang^[7] carried out a questionnaire survey on 252 surgically - treated prostate cancer patients and found that the average psychological distress score was (3.35 ± 1.63) , with an incidence of psychological distress of 47.62%. 41.67% of the 118 elderly patients after radical prostatectomy suffered from significant psychological distress, which severely affected their quality of life^[8]. Gu Youyan surveyed prostate cancer patients who underwent laparoscopic radical surgery and found that their average psychological distress score was (4.33 ± 2.58) , indicating a moderate level of distress. Some scholars assessed the psychological distress of prostate cancer patients undergoing surgical or endocrine treatment and found it to be at a moderate level. Additionally, Liu Huijing conducted a questionnaire survey on the psychological distress of newly - diagnosed elderly prostate cancer patients who had not received treatment yet. The results showed that psychological distress was prevalent among these patients, with the incidence of severe psychological distress reaching as high as 54.99%. In a study of patients with stage III and IV prostate cancer receiving comprehensive treatment, the psychological distress of these patients was at a mild - to - moderate level, and the incidence of psychological distress was 41.5%^[9].

5. Influencing factors of psychological distress in prostate cancer patients

5.1 Demographic factors

It mainly includes age, educational level, marital status, and economic income. Young patients tend to experience a higher level of psychological distress than older ones^[10]. This could be because they are in a crucial stage of building and solidifying their careers and shoulder greater social and family

responsibilities. Moreover, as young men are sexually active, getting sick may impose significant mental stress on them, thereby increasing their psychological distress.

Patients with a higher educational level generally have lower psychological distress. Those with better education possess good health literacy, can correctly perceive the disease, face it more calmly, and show higher treatment compliance.

In addition, unmarried prostate cancer patients are at a significantly higher risk of depression and suicide compared to their married counterparts. A good marital status and family environment can offer family support to patients, alleviating their negative emotions and relieving psychological distress to some extent.

Research has shown that the economic income level also impacts the psychological distress of prostate cancer patients^[10]. Treating prostate cancer not only causes physical discomfort but also imposes an economic burden on patients. Low - income patients may experience psychological stress due to concerns about treatment costs, which can exacerbate their psychological distress and lead to treatment delays or abandonment.

5.2 Disease-related factors

It mainly includes disease-related symptoms, comorbidities, and treatment methods. Relevant studies have shown that symptoms associated with prostate cancer, like urinary incontinence, sexual dysfunction, and intestinal symptoms, significantly affect patients psychologically^[11]. As time passes, the negative impact of these symptoms on psychological distress continues to grow. Secondly, there is a positive correlation between cancer-related fatigue and psychological distress among prostate cancer patients undergoing endocrine therapy^[2]. Chinese scholars have discovered that the higher the Gleason score of prostate cancer patients, the greater their risk of experiencing psychological distress^[7].

Moreover, relevant scholars have also found that prostate cancer patients with comorbid chronic conditions such as cardiovascular diseases face a higher risk of psychological distress, particularly elderly patients^[9]. And scholars have found that the psychological distress of prostate cancer patients is positively correlated with the number of their comorbidities^[6]. Comorbidities are associated with poor physical and mental health, as they increase the patients' disease and psychological burdens, thereby aggravating psychological distress.

Related studies have found that for patients who received radical prostatectomy and radiotherapy, their scores deteriorated rapidly and significantly one month after treatment and remained stable at the sixth and twelfth months. For patients under active surveillance, their scores only deteriorated slightly and slowly over a twelve - month interval. Compared with those who underwent surgical treatment, patients under active surveillance were more worried about their future health.

5.3 Socio-psychological factors

It mainly includes personality traits, illness perception, psychological flexibility, coping styles, and social support. There is a mutual longitudinal association between personality traits and psychological distress among cancer patients, and personality traits serve as susceptibility factors influencing psychological distress^[12]. Studies have revealed that neuroticism in the personality traits of young cancer patients is positively correlated with their psychological distress. Type D personality, a unique personality characteristic, is often linked to negative emotions such as anxiety and depression. It can impact the psychological distress of lung cancer patients^[13]. Prostate cancer patients with neurotic personalities are prone to experiencing negative emotions like anxiety and tension^[14].

Research indicates that the more negatively prostate cancer patients perceive their illness, the more severe their anxiety and other negative emotions become^[15]. Negative intrusive cognitions increase the risk of anxiety and depression in prostate cancer patients, thereby leading to psychological distress. Psychological flexibility is defined as an individual's ability to perceive and accept their own experiences, thoughts, memories, and feelings, and to manage personal behavior in line with their values^[16]. The psychological flexibility of prostate cancer patients can significantly predict their psychological distress^[11].

There is a negative correlation between the psychological distress and social support of prostate cancer patients. Patients with good social support tend to experience relatively lower levels of psychological distress^[7]. Effective social support can alleviate patients' psychological and economic

burdens, enabling them to confront the disease actively and thus reducing psychological distress. Moreover, the psychological distress of prostate cancer patients is negatively correlated with the confrontive coping style and positively correlated with the avoidant coping style. When prostate cancer patients adopt coping strategies such as avoidance, concealment, and withdrawal, the risk of psychological distress rises accordingly. On the other hand, adopting the appropriate emotional coping style can alleviate psychological distress to a certain extent.

6. Conclusion

Prostate cancer patients commonly suffer from psychological distress, which has an impact on their quality of life. There are numerous factors influencing the psychological distress of these patients, such as physical, psychological, and social aspects. Thus, it is crucial to promptly screen for psychological distress among prostate cancer patients and implement effective interventions. Currently, most domestic research on the psychological distress of prostate cancer patients consists of cross-sectional studies, lacking persuasive large-sample and multi-center research. In the future, large-sample data surveys should be conducted. Moreover, psychological distress is a continuously changing variable, and there is group heterogeneity in it. Not all individuals follow the same change pattern. Therefore, it is advisable to conduct relevant longitudinal studies to thoroughly explore the change patterns and individual differences in the psychological distress of prostate cancer patients, so as to offer references for better promoting their physical and mental well-being.

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