

## ORIGINAL RESEARCH

# Application effect of SBAR communication system in patients with prostate cancer: a retrospective study

Hui Yu<sup>1</sup>, Shengtao Liu<sup>1,\*</sup>, Feilei Li<sup>2</sup>, Binyu Zhou<sup>1</sup>

<sup>1</sup>Department of Urology, The Second Affiliated Hospital of Wenzhou Medical University, 325000 Wenzhou, Zhejiang, China

<sup>2</sup>Department of Neck Surgery, The Second Affiliated Hospital of Wenzhou Medical University, 325000 Wenzhou, Zhejiang, China

**\*Correspondence**

lst21\_tao@163.com  
(Shengtao Liu)

**Abstract**

**Background:** The status-background-assessment-recommendation (SBAR) model is widely utilized in medical communication. However, there is a lack of systematic research on its specific impact on the self-management abilities, psychological health and quality of life of prostate cancer patients. This study aims to address this gap by applying the SBAR model to patient communication. This study aimed to examine the impact of nursing intervention via the SBAR-based communication mode on patients diagnosed with prostate cancer. **Methods:** From existing case records, a retrospective analysis was conducted on the clinical data of 200 prostate cancer patients treated at our hospital between January 2022 and December 2023. Based on the different care methods recorded, the study included 100 patients in the observation group (received SBAR-based communication in addition to standard care) and 100 patients in the control group (received standard care alone). Both groups were assessed for self-management abilities, anxiety and depression levels, mental health, quality of life, tumor-related disease and patient satisfaction. **Results:** After intervention, the observation group showed significant improvements in Scale for Understanding Prostate Cancer Health (SUPPH) scores, than the control group (95% Confidence Interval (CI) (7.742, 9.838), (23.350, 26.830), (6.930, 8.350),  $p < 0.001$ ). Compared to the control group, the observation group exhibited noteworthy enhancements in Hamilton Anxiety (HAMA), Hamilton Depression (HAMD) scores (95% CI (-6.345, -4.335), (-2.459, -1.841),  $p < 0.001$ ). After intervention, the quality of life scores in the observation group were higher than control group (95% CI (2.243, 6.817), (9.447, 14.393), (10.994, 15.646), (15.409, 19.691), (5.606, 10.574), (16.837, 20.743),  $p < 0.001$ ). Additionally, the observation group reported higher levels of satisfaction. **Conclusions:** The SBAR-based communication mode has proven to be significantly effective in aiding prostate cancer patients in improving their self-management abilities, alleviating negative emotions, enhancing their quality of life. Thus, it merits further promotion and integration into clinical practice.

**Keywords**

Prostate cancer; SBAR communication mode; Self-management; Psychological status

## 1. Introduction

Prostate cancer ranks second among malignant tumors in terms of mortality rate among elderly men in industrialized Western nations, where it is a prevalent malignancy [1]. The prevalence of prostate cancer is increasing annually due to various factors, including changes in dietary habits, environmental conditions, work status and the aging population [2]. Prostate cancer patients frequently endure both physical and mental anguish, which diminishes their quality of life. Currently, the treatment of prostate cancer patients includes surgery, radiotherapy, chemotherapy and other modalities [3]. However, individuals undergoing treatment experience significant physical and mental distress, leading to heightened risks of

developing negative emotions such as anxiety and depression. These emotional responses can potentially compromise the efficacy of clinical interventions and disrupt the patients' daily routines [4]. Impact of Prostate Cancer on Patients' Lives: Treatment for prostate cancer can lead to various side effects, including sexual dysfunction, urinary incontinence and fatigue [5]. These physiological changes not only affect the patient's daily life but also cause social impairment and a decrease in self-esteem. The presence of the tumor and the treatment process may also lead to chronic pain, further affecting the patient's quality of life and daily activities [6]. Prostate cancer patients often face concerns about disease progression, uncertainty about treatment outcomes and fear of the future. These psychological states not only affect the

patient's emotions but also impact their treatment adherence and self-management ability. Psychological health plays a key role in the overall treatment and rehabilitation process of cancer patients. Poor psychological health can lead to a reduced ability to cope with the disease, thereby affecting treatment outcomes and quality of life. Therefore, attention to the patient's mental state and providing psychological support and interventions are crucial for improving the patient's overall prognosis.

The SBAR mode is a standardized communication method that utilizes the components of status (S), background (B), assessment (A) and recommendation (R) [7]. It has been gradually integrated into the medical field, improving the effectiveness of interactions between healthcare professionals, enhancing medical service standards and promoting patient well-being [8]. Nevertheless, there is a scarcity of studies on the application of the SBAR model in prostate cancer patients.

Below is a detailed description of SBAR's application in the management of specific diseases in clinical practice: Situation (S): Provide a brief overview of the patient's current status and primary issues. A clear description of the situation ensures that the recipient can quickly understand the patient's urgency and key issues that require attention. Background (B): Provide the patient's relevant medical history, diagnosis and treatment course. This includes the patient's past medical history, current disease management plan and factors that may affect the patient's status. Assessment (A): Based on the status and background information, the nurse or doctor should provide their professional judgment of the patient's condition. This may include an analysis of the disease, potential complications and an assessment of the effectiveness of current treatment. This section should emphasize professional judgment to help others understand the severity of the current situation and the necessary interventions. Recommendation (R): Clearly state recommendations or requests for further management. Clear recommendations can help other members of the healthcare team take prompt action, thus improving patient treatment outcomes.

The objectives of this study include: (1) Assessing self-management ability: Observing whether the SBAR communication model can improve the self-management ability of prostate cancer patients, making them more proactive and effective in disease management. (2) Evaluating the impact of the SBAR communication model on anxiety and depression levels: Exploring its role in psychological support. (3) Analyzing the effect of the SBAR model on enhancing patients' psychological health: Helping patients better adapt to the challenges brought by the disease. (4) Investigating the effect of SBAR communication on overall quality of life: Particularly during disease treatment and management. (5) Comparing the effects in tumor-related disease management: Exploring the advantages of the SBAR model in this area. Assessing patient satisfaction: Analyzing whether the SBAR communication model can improve patients' overall perception of nursing services.

This study contributes to the field of prostate cancer nursing in the following ways: (1) Practical guidance: Provides evidence for the application of the SBAR communication model in the nursing care of prostate cancer patients, offering new

perspectives and guidance for clinical practice. (2) Psychological health intervention: Highlights the importance of effective communication in psychological health support, showing that structured communication methods can improve patients' psychological states. (3) Patient engagement: Promotes patient involvement in disease management, enhancing self-management abilities, which is particularly important for patients with chronic diseases. (4) Multidimensional evaluation: By comprehensively evaluating multiple indicators, it provides methodological references for future related research and advances the systematic study of prostate cancer patient care.

The scales used in this study include: The SUPPH score (Self-Management of Prostate Cancer Patients Health) assesses the self-management abilities of prostate cancer patients, reflecting their proactivity and effectiveness in disease management.

The Hamilton Anxiety Rating Scale (HAMA) evaluates patients' anxiety levels by quantifying anxiety symptoms through standardized questions. The Hamilton Depression Rating Scale (HAMD) assesses the severity of depressive symptoms, helping clinicians understand the patient's depression status and its trend over time.

The main aim of this study is to evaluate the application effect of the SBAR communication model in prostate cancer nursing, particularly its impact on improving patients' self-management ability, psychological health, quality of life and patient satisfaction. This research not only focuses on the patients' physiological conditions but also emphasizes the importance of psychological health, providing both theoretical and practical evidence to improve overall patient care quality. The findings are outlined as follows.

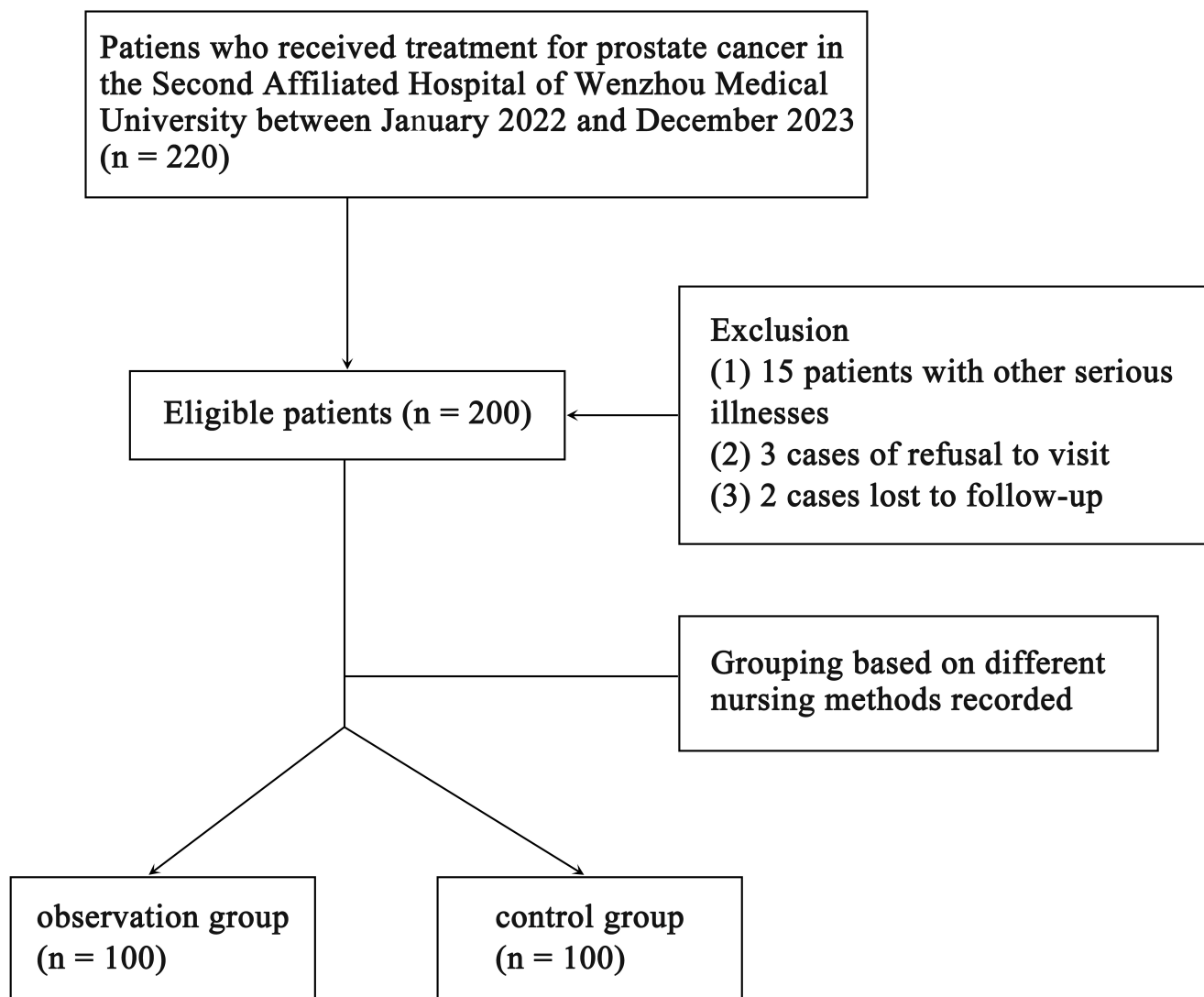
## 2. Materials and methods

### 2.1 Patient and general information

From existing case records, clinical data of 200 patients who received treatment for prostate cancer between January 2022 and December 2023 were retrospectively included. They were grouped according to the different care methods recorded, with 100 patients in the observation group and 100 patients in the control group. The patient inclusion flowchart is shown in Fig. 1. The study was approved by the ethics committee of the hospital (Approval no. 2024-K-331-02).

Inclusion criteria: (1) Prostate cancer in all patients was confirmed through a combination of clinical symptoms, medical history, as well as laboratory and imaging examinations. (2) All patients conform to the diagnostic criteria for prostate cancer in National Comprehensive Cancer Network (NCCN), Version 4.2023 [9].

Exclusion criteria: (1) Patients with blurred consciousness and mental disorders; (2) Combined with other malignancies; (3) Patients with severe organ dysfunction such as liver and kidney; (4) The patient had poor treatment compliance and did not actively cooperate.



**FIGURE 1.** Flow chart of the included patients.

## 2.2 Interventions

As a retrospective study, the intervention methods were already recorded in existing case records.

The control group implemented traditional nursing techniques, which included providing guidance during admission, hospitalization and discharge. During admission orientation, patients received information about the ward setting, including relevant rules and regulations, daily routines, rest schedules and safety measures. Education during hospitalization: It is essential to provide patients with dietary guidelines and medication safety instructions throughout their hospital stay. Following discharge, the nurse responsible for oral health education will inform the patient about information medication management, physical activity, precautions measures, routine assessments and follow-up appointments. Post-discharge follow-up: A weekly telephonic assessment will be conducted to evaluate the patients' current status and address any potential concerns.

Patients in the observation group were introduced to the SBAR communication method, which was an enhancement of control group's approach. (1) Formation of Communication

Team: A SBAR communication team was established, consisting of responsible nurses, urologists and general practitioners, to optimize task coordination and promote comprehensive information sharing throughout the process. The participating nurses and physicians each possessed over 5 years of professional expertise in urology. (2) Effective communication with patients and primary family members: Clear and timely communication with patients and their primary family members is essential throughout the process. This includes adhering to a prescribed protocol for sharing updates on the current situation, background information, assessment and recommendations. Additionally, collaboration with the patients' families is necessary to develop a communication plan that emphasizes the significance and methods of family support for the patients' physical and mental recovery. (3) Preoperative preparation: Preoperative evaluation will be initiated, including educate on diaphragmatic breathing and additional exercises, alongside targeted counseling to alleviate negative emotions. (4) Post-operative rehabilitation care: Once the patient regains consciousness and their condition stabilizes, they will participate in passive limb activities, including ankle rotation and flexion, to enhance blood circulation. Patients will receive theoretical

explanations, case analysis and various methods to understand the importance of rehabilitation exercises. Subsequently, personalized exercise regimens will be formulated based on the specific location of the injury and the characteristics of the condition. The SBAR communication method will be used to assess the psychological state of the patients, inquire about the adequacy of physical activity, and adjust the rehabilitation exercise plan according to the urologists' recommendations. (5) Ongoing care: After discharge, disease-specific articles, information, exercise recommendations and dietary tips will be shared via WeChat. Livestream courses featuring nursing experts, nutrition guidance and psychological counseling will be conducted. Weekly contact with patients or their families via WeChat voice or video will facilitate a comprehensive understanding of the patients' recovery progress, identification of potential postoperative complication, assessment of family support and provision of nursing recommendations based on the current situation. Providing instructions for self-care and rehabilitation exercises upon waking up is crucial for effectively managing cough, sputum and skin care while in bed. Additionally, addressing patients' questions, assessing their mental health and managing any negative emotions are essential. The patients' recovery will be evaluated two months post-intervention.

## 2.3 Primary outcome

As a retrospective study, the outcome indicators results were already recorded in existing case records.

### 2.3.1 Self-management effectiveness

Researchers utilized the Cancer Self-Efficacy Scale (SUPPH) [10] to assess the self-efficacy levels of patients receiving surgical treatment for prostate cancer. The widespread use of SUPPH by researchers can be attributed to its remarkable reliability and validity. The calculated Cronbach's alpha coefficient was  $0.849 \pm 0.970$ . Three primary components comprise the scale: reduction in tension, cultivation of a positive attitude and enhancement of decision-making abilities. The evaluation consists of a total of twenty-eight items, each categorized based on the levels of certainty as follows: lack of confidence, a bit of confidence, certainty, high certainty and utmost certainty. A score between 1 and 5 is allocated to each item, for a grand total of 140 points. A higher score signifies an enhanced perception of one's own efficacy.

### 2.3.2 Anxiety and depression

Anxiety condition was scored using the 24th edition HAMA scale [11], which including 14 questions. The higher the score, the more severe of the anxiety condition. Depression condition was scored using the 24th edition HAMD scale [12], which including 24 questions. The higher the score, the more severe of the depression condition.

### 2.3.3 Quality of life

The quality of life was evaluated using the Quality of Life Questionnaire Core 30 (QLQ-C30) tool [13], which consists of six dimensions: physical functioning, emotional functioning, cognitive functioning, pain, social functioning and overall

well-being. There is a favorable correlation between the level of function or quality of life and the scores achieved on both the functional scale and the overall quality of life measure. Both the scales measuring symptoms and the individual items within those scales showed a positive correlation, suggesting that higher scores were linked to increased levels of symptoms or challenges.

### 2.3.4 Satisfaction

Newcastle nursing service satisfaction scale (NSNS) was used to assess the level of nursing satisfaction among two distinct patient groups [14]. The total score of 19~95 points. <69 points means dissatisfy, 70~76 points means generally satisfy, 77/85 points means satisfy,  $\geq 86$  points mean very satisfy. Overall satisfaction = (generally satisfy + satisfy + very satisfy) cases/total cases  $\times 100\%$ .

## 2.4 Statistical methods

The collected data were analyzed using SPSS 22.0 statistical analysis software (IBM, Armonk, NY, USA) and GraphPad Prism 8.0.2 software (GraphPad Software, Inc. San Diego, CA, USA). Normally distributed continuous data are expressed as mean  $\pm$  standard deviation (SD). For intergroup comparisons, independent sample *t*-tests were used, and for intragroup comparisons, paired sample *t*-tests were applied. Skewed distribution or heterogeneous variance data were analyzed using the Mann-Whitney U test and are expressed as median (M) with interquartile range (P25, P75). Categorical data are presented as frequencies and percentages (%). For intergroup comparisons, Chi-square ( $\chi^2$ ) tests or Fisher's exact test were used. A *p*-value of  $< 0.05$  was considered statistically significant.

## 3. Results

### 3.1 Clinical data

The general information of the two groups of patients is shown in Table 1.

### 3.2 Self-management efficacy

After intervention, there was a significant improvement in the SUPPH scores of both the experimental and control groups compared to pre-intervention levels. Moreover, the observation group showed a significant increase in SUPPH scores compared to pre-intervention levels (95% CI (7.742, 9.838),  $p < 0.001$ ; (23.350, 26.830),  $p < 0.001$ ; (6.930, 8.350),  $p < 0.001$ ; Table 2), suggesting that the SBAR communication system effectively enhances self-management efficacy in prostate cancer patients.

### 3.3 Anxiety and depression

After intervention, there was a noticeable decrease in the HAMA and HAMD scores in both groups. Moreover, the scores for HAMA and HAMD in the observation group were considerably lower compared to the control group (95% CI (-6.345, -4.335),  $p < 0.001$ ; (-2.459, -1.841),  $p < 0.001$ , Table 3), suggesting that the utilization of the SBAR communi-

**TABLE 1. Comparison of clinical data between the two groups (descriptive statistics).**

Project	Observation group (n = 100)	Control group (n = 100)	$t/\chi^2$	$p$
Age (yr)	58.13 ± 6.00	59.91 ± 4.72	2.347	0.020
Marital status				
Married	78 (78.00%)	74 (74.00%)	0.439	0.508
Unmarried	22 (22.00%)	26 (26.00%)		
BMI	21.14 ± 3.26	21.21 ± 3.20	0.153	0.879
PSA at diagnosis (ng/mL)	9.03 ± 1.72	9.21 ± 1.89	0.728	0.467
Staging of carcinoma				
Stage I	9 (9.00%)	11 (11.00%)	2.211	0.530
Stage II	51 (51.00%)	47 (47.00%)		
Stage III	32 (32.00%)	38 (38.00%)		
Stage IV	8 (8.00%)	4 (4.00%)		

BMI: Body Mass Index; PSA: Prostate-Specific Antigen.

**TABLE 2. Comparison of self-management efficacy between the two groups after intervention (points,  $x \pm s$ ).**

Groups	Time	Observation group (n = 100)	Control group (n = 100)	$t$	$p$
Stress relief					
	Before intervention	22.66 ± 3.42	22.96 ± 3.44	0.620	0.536
	After intervention	34.70 ± 4.47*	25.91 ± 2.90*	16.560	<0.001
Positive attitude					
	Before intervention	32.34 ± 4.35	32.19 ± 5.27	0.220	0.826
	After intervention	62.81 ± 6.69*	37.72 ± 5.75*	28.435	<0.001
Decision-making					
	Before intervention	6.96 ± 2.54	6.98 ± 2.34	0.058	0.954
	After intervention	15.17 ± 3.23*	7.53 ± 1.59*	21.272	<0.001

Note: within the same group, compared with before intervention, \* $p < 0.05$  after intervention.

**TABLE 3. Comparison of HAMA and HAMD scores between the two groups (points,  $x \pm s$ ).**

Groups	Time	Observation group (n = 100)	Control group (n = 100)	$t$	$p$
HAMA scores					
	Before intervention	25.04 ± 4.75	26.21 ± 4.40	1.811	0.072
	After intervention	16.06 ± 3.14*	21.40 ± 4.02*	10.477	<0.001
HAMD scores					
	Before intervention	7.21 ± 1.25	7.10 ± 1.15	0.650	0.516
	After intervention	3.47 ± 0.93*	5.62 ± 1.26*	13.738	<0.001

Note: within the same group, compared with before intervention, \* $p < 0.05$  after intervention. HAMA: Hamilton Anxiety Rating Scale; HAMD: Hamilton Depression Rating Scale.

cation system can effectively alleviate anxiety and depression among prostate cancer patients.

### 3.4 Quality of life

A comparison between the observation group and the control group revealed a marked enhancement in the quality of life, as assessed through the QLQ-C30 questionnaire. Various factors including physical discomfort, psychological well-being,

emotional well-being, social engagement and mental health exhibited notable enhancements (95% CI (2.243, 6.817),  $p < 0.001$ ; (9.447, 14.393),  $p < 0.001$ ; (10.994, 15.646),  $p < 0.001$ ; (15.409, 19.691),  $p < 0.001$ ; (5.606, 10.574),  $p < 0.001$ ; (16.837, 20.743),  $p < 0.001$ ; Table 4), suggesting that the implementation of the SBAR communication system can enhance the quality of life in patients with prostate cancer.

### 3.5 Satisfaction

The overall satisfaction of patients in the observation group was generally higher than that in the control group ( $p < 0.05$ , Table 5).

## 4. Discussion

Prostate cancer is a prevalent malignancy in the field of urology, particularly among older men. Typical symptoms include increased frequency of urination, a sense of urgency during urination and the presence of blood in the urine [15–18]. The mortality rate for patients in the middle and late stages of prostate cancer has significantly increased, posing a severe threat to life [19]. The incidence of prostate cancer is rising annually, primarily due to a combination of factors such as lifestyle changes, dietary habits, environmental influences, occupational hazards and an aging population [20]. Men diagnosed with prostate cancer frequently encounter both psychological and physical distress. Therefore, it is crucial to enhance the provision of appropriate health counseling to

patients and their families to improve their capacity for care [21].

The SBAR mode, a traditional communication method, comprises four sections: situation background, assessment and recommendation. The term “situation” involves a thorough assessment and understanding of the patient’s current clinical state; “background” refers to the patient’s medical history and family support related to their tumor condition; “assessment” entails ongoing evaluation of the patient’s physical and mental health through communication; “recommendation” focuses on addressing immediate concerns and preventing future complications. Research indicates that the SBAR mode is one of the communication approaches endorsed by the World Health Organization (WHO) [22–25]. It is primarily utilized for medical communication and transitions, including patient care, ward transfer and referral. In recent years, numerous medical facilities have gradually introduced this practice into clinical nursing. The goal of this integration is to ensure the accuracy and impartiality of condition reporting and nursing documentation, thereby enhancing the quality of

**TABLE 4. Comparison of quality of life between the two groups.**

Groups	Time	Observation group (n = 100)	Control group (n = 100)	<i>t</i>	<i>p</i>
Physiological function					
	Before intervention	64.06 ± 5.39	63.15 ± 5.32	1.202	0.231
	After intervention	83.98 ± 9.09	79.45 ± 7.20	3.906	<0.001
Psychological function					
	Before intervention	71.47 ± 6.54	70.06 ± 7.08	1.464	0.145
	After intervention	89.60 ± 9.18	77.68 ± 8.56	9.506	<0.001
Physical pain					
	Before intervention	60.43 ± 6.43	60.85 ± 5.96	0.480	0.632
	After intervention	81.28 ± 7.05	67.96 ± 9.45	11.298	<0.001
Emotional function					
	Before intervention	65.28 ± 6.52	66.72 ± 6.66	1.546	0.124
	After intervention	85.02 ± 8.72	67.47 ± 6.48	16.176	<0.001
Social function					
	Before intervention	67.45 ± 6.26	68.09 ± 5.70	0.756	0.450
	After intervention	80.96 ± 8.75	72.87 ± 9.07	6.422	<0.001
Mental health					
	Before intervention	64.02 ± 6.26	63.87 ± 6.75	0.163	0.817
	After intervention	83.49 ± 8.17	64.70 ± 5.59	18.987	<0.001

**TABLE 5. Comparison of satisfaction between two groups of patients (n (%)).**

Groups	Very satisfied	Satisfy	Generally	Dissatisfied	Satisfaction
Control group (n = 100)	28 (28.00)	36 (36.00)	11 (11.00)	25 (25.00)	75 (75.00)
Observation group (n = 100)	47 (47.00)	32 (32.00)	17 (17.00)	4 (4.00)	96 (96.00)
$\chi^2$					21.541
<i>p</i>					<0.001

nursing care and mitigating the adverse impacts of inadequate communication [26, 27].

The findings of this study demonstrated that the SUPPH score of the observation group was significantly higher than that of the control group, indicating a substantial improvement in patients' self-management efficacy and self-care competence. By addressing the root causes, the introduction of SBAR nursing intervention, along with health education, cognitive intervention, self-care techniques, effective communication and other approaches, can enhance patients' understanding and confidence. Promoting proactive teamwork in medical care can boost patients' self-care abilities and streamline the provision of effective care outside the hospital environment. In a study by MacDonald C, a single-blind randomized controlled trial involving 128 prostate cancer survivors in a tertiary hospital was conducted. Participants were randomly assigned to either the intervention group ( $n = 64$ ), which received a 3-month active health management program based on five health modules, including online and telephone follow-ups, or the control group ( $n = 64$ ), which received routine telephone follow-up care. Baseline, 1-month and 3-month assessment results were collected post-discharge. The results showed that, compared to the control group, the intervention group had significant improvements in prostate cancer symptoms and self-efficacy after the intervention [28]. A 3-month active health management intervention significantly reduced symptoms in prostate cancer survivors and improved self-care ability and self-efficacy. This intervention helped enhance patient self-efficacy, consistent with the findings of this study, further proving that SBAR nursing intervention can improve patients' self-management ability and self-efficacy.

The HAMA scores and HAMD scores in the observation group were significantly lower compared to the control group, suggesting that psychological nursing using the SBAR model can enhance the psychological well-being of prostate cancer patients. The use of the SBAR model in psychological nursing could be a contributing factor to this outcome. A psychological nursing approach was established and implemented for prostate cancer patients, based on the SBAR model's key components: situation (S), background (B), assessment (A) and recommendation (R). This approach facilitated effective communication between medical professionals, nurses and patients. Nurses can gain a more comprehensive understanding of patients' condition and specific nursing needs during therapy by effectively communicating about patients' condition, psychological issues, treatment plans and key considerations. This allows nurses to offer individualized clinical advice and emotional support, assisting patients in fostering a positive outlook on their health. Moreover, customizing nursing interventions based on the patient's unique needs ensures that they receive targeted psychological assistance during interactions with the healthcare team [29]. This, in turn, helps the patient develop trust in the treatment of prostate cancer and addresses their psychological needs, ultimately leading to an improvement in anxiety, depression, and other adverse emotions [30]. In a study by Wang Yanan, 100 pediatric patients who underwent tracheotomy and were receiving care in the pediatric intensive care unit were recruited and randomly assigned in a 1:1 ratio to the control group (empathic care) or

the observation group (empathic care combined with SBAR). The postoperative anxiety self-assessment scale scores and negative emotions were compared between the two groups. The results showed that, after nursing, the observation group had significantly lower anxiety self-assessment scores than the control group [31]. This further demonstrated that combining nursing care with the SBAR communication system significantly improved patients' postoperative negative emotions and enhanced the quality of care.

Both the observation group and the control group exhibited significantly higher QLQ-C30 scores following treatment compared to their pre-treatment scores. Remarkably, the SBAR cohort showed a significantly higher QLQ-C30 score post-treatment than the control group, indicating that the implementation of psychological support based on the SBAR model significantly improved the quality of life for prostate cancer patients. This improvement could potentially be attributed to the SBAR model's focus on the prompt assessment and intervention in patients' psychological well-being during prostate cancer therapy. Notably, this approach enhanced the effectiveness of nurse-patient interactions, facilitating a swift understanding of patients' true emotional responses. Consequently, the patient's internal distress, apprehension and other negative emotions were mitigated through the provision of comfort, language encouragement and explanations of successful treatment outcomes. This enabled patient to actively participate in their treatment while maintaining psychological stability [32].

Additionally, this study found that the nursing satisfaction rate in the observation group was significantly higher than the control group, suggesting that the psychological nursing based on the SBAR model enhanced the nursing satisfaction of prostate cancer patients. This could be due to the model's emphasis on patient-centered care, focusing on the practical clinical assessment of prostate cancer patients and providing compassionate nursing interventions. As a result, the SBAR model successfully boosted patients' mental well-being, minimized negative responses and improved their overall quality of life. Moreover, it reinforced the patients' trust in healthcare providers, ultimately leading to increased satisfaction with nursing care [33]. In Xiang Fang's study, 120 elderly patients undergoing chest imaging in the hospital's radiology department were divided into an observation group and a control group. Both groups received the same diagnosis, treatment plan and nursing measures during hospitalization. The control group received traditional care, while the observation group used SBAR combined with the Communication Interventions for Care and Recovery (CICAR) communication model for nurse-patient communication [34]. The results showed that the observation group had higher satisfaction than the control group during the examination period. This indicated that the communication model combining SBAR and CICAR improved elderly patients' Computed Tomography (CT) hydration outcomes and nursing satisfaction. The model enhanced patients' understanding, preparation and compliance with the CT examination protocol, leading to better outcomes and reduced anxiety and depression levels, and improving overall nursing outcomes and satisfaction.

However, this study has some limitations. First, it is a

single-center study with limited sample size due to resource constraints. Additionally, some included patients had distant metastasis, which could introduce bias into the results. Therefore, large-scale multi-center clinical studies are necessary to further validate these findings. Due to the nature of this study being retrospective, patient allocation followed previously documented treatment protocols and did not involve randomization or blinding.

While retrospective studies can provide valuable preliminary insights, it is crucial to acknowledge their limitations and potential biases compared to prospective studies or randomized controlled trials (RCTs). These studies should be interpreted with caution, especially regarding causality and generalizability. Recognizing and discussing potential biases enhances transparency and helps other researchers understand the applicability of the findings.

Generalizability of the Study Findings to Other Settings: (1) The SBAR communication model is not only applicable to prostate cancer patients but can also be extended to the care of individuals with other types of cancer or chronic diseases. By providing a standardized communication framework, the model enables patients to engage more effectively in managing their health, thereby enhancing their self-management abilities. (2) The effectiveness of the SBAR communication model makes it suitable for various healthcare settings, including outpatient clinics, inpatient care and community healthcare, ultimately enhancing the overall patient experience. (3) As a structured communication tool, the SBAR model demonstrates good adaptability. While specific implementation details may vary across different cultures and healthcare systems, its core principles—clear information transmission and active patient involvement—remain universally applicable. The findings of this study offer valuable insights for healthcare practices in diverse regions and cultural contexts, particularly in settings involving multidisciplinary teamwork.

In summary, the SBAR communication model for prostate cancer patients shows high generalizability to other settings. By improving communication, increasing patient involvement and providing psychological support, the SBAR model has the potential to enhance health outcomes and patient satisfaction across various patient populations. Therefore, promoting the widespread adoption of the SBAR model could improve overall healthcare quality and the patient experience.

## 5. Conclusions

To summarize, the SBAR mode has a positive impact on prostate cancer patients by enhancing their ability to manage their condition and boosting their self-efficacy. Additionally, it reduces the adverse effects of the disease and improves their overall quality of life. Therefore, it is strongly recommended to promote and implement the SBAR mode in clinical practice.

## AVAILABILITY OF DATA AND MATERIALS

The authors declare that all data supporting the findings of this study are available within the paper and any raw data can be obtained from the corresponding author upon request.

## AUTHOR CONTRIBUTIONS

HY, STL—designed the study and carried them out. HY, STL, FLL, BYZ—interpreted the data; prepared the manuscript for publication and reviewed the draft of the manuscript. HY, STL, FLL, BYZ—supervised the data collection. HY, STL, FLL, BYZ—analyzed the data. All authors have read and approved the manuscript.

## ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Ethical approval was obtained from the Ethics Committee of The Second Affiliated Hospital of Wenzhou Medical University (Approval no. 2024-K-331-02). Written informed consent was obtained from a legally authorized representatives for anonymized patient information to be published in this article.

## ACKNOWLEDGMENT

Not applicable.

## FUNDING

This research received no external funding.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

## REFERENCES

- [1] Cronin KA, Scott S, Firth AU, Sung H, Henley SJ, Sherman RL. Annual report to the nation on the status of cancer, part 1: National cancer statistics. *Cancer*. 2022; 128: 4251–4284.
- [2] Gandaglia G, Leni R, Bray F, Fleshner N, Freedland SJ, Kibel A, *et al*. Epidemiology and prevention of prostate cancer. *European Urology*. 2021; 4: 877–892.
- [3] Kvizová J, Pavličková V, Kmoníčková E, Ruml T, Rimpelová S. Quo Vadis advanced prostate cancer therapy? Novel treatment perspectives and possible future directions. *Molecules*. 2021; 26: 2228.
- [4] Duarte V, Araújo N, Lopes C, Costa A, Ferreira A, Carneiro F. Anxiety and depression in patients with prostate cancer, at cancer diagnosis and after a one-year follow-up. *International Journal of Environmental Research and Public Health*. 2022; 19: 9122.
- [5] Wang F, Chen J, Wang W, Li M, Peng C, Pan S, *et al*. Quantitative analysis of quality of life and exploration of influencing factors in patients undergoing radical prostatectomy. *Urology*. 2023; 181: 105–111.
- [6] Agnew M, Bertram C L, Kwekkeboom K, Trentham-Dietz A, Gangnon R, Schmidt C, *et al*. Changes in physical activity since cancer diagnosis and associations with health-related quality of life: a study of adults living with advanced cancer. *Supportive Care in Cancer*. 2025; 33:131.
- [7] Noh GO, Kim M. Effectiveness of assertiveness training, SBAR, and combined SBAR and assertiveness training for nursing students undergoing clinical training: a quasi-experimental study. *Nurse Education Today*. 2021; 103: 104958.
- [8] Noh GO, Park MJ. Effectiveness of incorporating Situation-Background-Assessment-Recommendation (SBAR) methods into simulation-based education for nursing students: a quasi-experimental study. *Nurse Education Today*. 2022; 109: 105252.
- [9] Schaeffer EM, Srinivas S, Adra N, An Y, Barocas D, Bitting R, *et al*. Prostate cancer, Version 4.2023, NCCN clinical practice guidelines in



- oncology. *Journal of the National Comprehensive Cancer Network*. 2023; 21: 1067–1096.
- [10] Hanh TTH, Thanasilp S, Pudtong N. Psychometric properties of the new general self-efficacy scale for vietnamese persons with colorectal cancer. *Belitung Nursing Journal*. 2024; 10: 548–553.
- [11] Dos Santos ERP, Coelho JCF, Ribeiro I, Sampaio F. Translation, cultural adaptation and evaluation of the psychometric properties of the Hamilton anxiety scale among a sample of Portuguese adult patients with mental health disorders. *BMC Psychiatry*. 2023; 23: 520.
- [12] Li L, Wan A, Zhao M, Yu L, Han Y, Mi K. Effect of Shengyang Yiwei Decoction combined with selective serotonin reuptake inhibitor antidepressants on HAMD-17 score and somatic symptoms in patients with depression. *Pakistan Journal of Medical Sciences*. 2025; 41: 205–209.
- [13] Samara AA, Diamantis A, Magouliotis D, Tolia M, Tsavalas V, Tzovaras G. Assessing preoperative (EORTC) QLQ-C30 score in elderly patients with colorectal cancer: results from a prospective cohort study. *Journal of Clinical Medicine*. 2024; 13: 6193.
- [14] Rodríguez-Herrera C, López-Jiménez JJ, Del Toro-Valero A, Torres-Carrillo NM, Torres-Carrillo N, Godínez-Peña CA, *et al*. The Newcastle satisfaction with nursing scales in a Mexican oncology hospital. *African Health Sciences*. 2021; 21: 60–66.
- [15] Zhang R, Sun J, Zheng X, Liu M, Wang H, Wang X, *et al*. Prostate cancer patients' experiences and preferences for web-based physical activity applications: a qualitative meta-synthesis. *Journal of Clinical Nursing*. 2023; 32: 6998–7009.
- [16] Ahmed D, Mohammed EAA, Ahmed MEM, Abdalla YMO, Hadad I, Elimam AA, *et al*. Epidemiologic study on prostate cancer in Sudanese men across African ethnic groups. *Scientific Reports*. 2024; 14: 29646.
- [17] Mali B, Mali A, Mali A, Abdulrazzak M, Jobran AWM. Exploring the epidemiological characteristics and survival analysis among prostate cancer patients under 50: a seer-based population study. *Health Science Reports*. 2025; 8: e70414.
- [18] Sankarapillai J, Krishnan S, Ramamoorthy T, Sudarshan KL, Mathur P. Descriptive epidemiology of prostate cancer in India, 2012–2019: insights from the national cancer registry programme. *Indian Journal of Urology*. 2024; 40: 167–173.
- [19] Mishra P, Jiongming L, Jianhe L, Kewei F, Yongming J, Wang G, *et al*. Prostate cancer among patients undergoing radical cystoprostatectomy for bladder cancer in the department of urology in a tertiary care centre. *Journal of Nepal Medical Association*. 2023; 61: 782–786.
- [20] Liu J, Dong L, Zhu Y, Dong B, Sha J, Zhu HH, *et al*. Prostate cancer treatment—China's perspective. *Cancer Letters*. 2022; 550: 215927.
- [21] Merriel SW, Seggie A, Ahmed H. Diagnosis of prostate cancer in primary care: navigating updated clinical guidance. *British Journal of General Practice*. 2023; 73: 54–55.
- [22] Lee J. Situation, background, assessment, and recommendation stepwise education program: a quasi-experimental study. *Nurse Education Today*. 2021; 100: 104847.
- [23] Felipe TRL, Spiri WC, Juliani CMCM, Mutro MEG. Nursing staff's instrument for change-of-shift reporting-SBAR (Situation-Background-Assessment-Recommendation): validation and application. *Brazilian Journal of Nursing*. 2022; 75: e20210608.
- [24] Farzaneh M, Saïdkhani V, Ahmadi Angali K, Albooghobeish M. Effectiveness of the SBAR-Based training program in self-efficacy and clinical decision-making of undergraduate anesthesiology nursing students: a quasi-experimental study. *BMC Nursing*. 2023; 22: 145.
- [25] Yun J, Lee YJ, Kang K, Park J. Effectiveness of SBAR-based simulation programs for nursing students: a systematic review. *BMC Medical Education*. 2023; 23: 507.
- [26] Ding Y, Wang G, Chen H, Kang J, Wu Z. Application effects of SBAR communication mode in ICU nursing physical restraint shift. *Alternative Therapies in Health and Medicine*. 2022; 28: 112–117.
- [27] Davis BP, Mitchell SA, Weston J, Dragon C, Luthra M, Kim J, *et al*. SBAR-LA: SBAR brief assessment rubric for learner assessment. *MedEdPORTAL*. 2021; 17: 11184.
- [28] MacDonald C, Ilie G, Kephart G, Rendon R, Mason R, Bailly G, *et al*. Mediating effects of self-efficacy and illness perceptions on mental health in men with localized prostate cancer: a secondary analysis of the prostate cancer patient empowerment program (PC-PEP) randomized controlled trial. *Cancers*. 2024; 16: 2352.
- [29] Ghonem NME, El-Husany WA. SBAR shift report training program and its effect on nurses' knowledge and practice and their perception of shift handoff communication. *SAGE Open Nursing*. 2023; 9: 23779608231159340.
- [30] Ilie G, Rendon R, Mason R, MacDonald C, Kucharczyk MJ, Patil N, *et al*. A comprehensive 6-mo prostate cancer patient empowerment program decreases psychological distress among men undergoing curative prostate cancer treatment: a randomized clinical trial. *European Urology*. 2023; 83: 561–570.
- [31] Wang Y, Zhai S, Liu L, Qu B, Wang Z. Effect of empathy nursing combined with SBAR communication system on the negative emotions and nursing quality of children with tracheotomy. *Technology And Health Care*. 2024; 32: 369–378.
- [32] Mardani A, Farahani MA, Khachian A, Vaismoradi M. Fear of cancer recurrence and coping strategies among prostate cancer survivors: a qualitative study. *Current Oncology*. 2023; 30: 6720–6733.
- [33] Ghosh S, Ramamoorthy L, Pottakat B. Impact of structured clinical handover protocol on communication and patient satisfaction. *Journal of Experimental & Clinical Cancer Research*. 2021; 8: 2374373521997733.
- [34] Xiang F, Xia Y, Xie B, Huang H. Efficacy of SBAR combined with CICAR communication mode in enhancing CT hydration effect and nursing satisfaction in elderly patients with low education. *Alternative Therapies in Health and Medicine*. 2023; 29: 440–446.

**How to cite this article:** Hui Yu, Shengtao Liu, Feilei Li, Binyu Zhou. Application effect of SBAR communication system in patients with prostate cancer: a retrospective study. *Journal of Men's Health*. 2025; 21(2): 92-100. doi: 10.22514/jomh.2025.026.