ILLNESS PERCEPTION, PERSONSALITY TRAITS AND PERCEIVED SOCIAL SUPPORT AS PREDICTORS OF PSYCHOLOGICAL DISTRESS AMONG PROSTATE CANCER PATIENTS

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Abstract
This study examined illness perception, personality traits and perceived social support as positive predictors of psychological distress among prostate cancer patients. Fifty-one (51) outpatients of Chukwuemeka Odumegwu Ojukwu University Teaching Hospital, Awka, Anambra State were selected for the study through total population sampling technique. Their age ranged between 59 to 86 years, with a mean age of 73.69 And standard deviation of 4.70. Four sets of instrument were used for the study and they include Kessler Psychological Distress Scale (K10), Illness Perception Questionnaire Revised (IPQ-R), Big Five Personality Inventory (BFI) and the Multidimensional Scale of Perceived Social Support (MSPSS). Multiple Linear Regression was used to test the three hypotheses postulated. Result showed illness perception was a positive predictor of psychological distress $\beta = .554$, $t(51) = 5.883$, $p > .05$. In the second hypothesis only neuroticism was a positive predictor of psychological $\beta = .462$ $t(51) = 4.618$, $p < .05$; while other personality traits of extraversion, agreeableness, conscientiousness and openness were rejected. Finally, the third hypothesis was rejected because social support was not a positive predictor of psychological distress. In line with the findings, the study recommended that clinicians should always consider patient's illness perception when rendering treatment. Secondly, psychological therapies should always be encouraged for patients with traits of neuroticism to have a complete tailored treatment with positive outcome.
Keywords: Prostate Cancer, Illness Perception, Personality Traits, Perceived Social Support, Psychological Distress.
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Introduction
Prostate cancer has become very prevalent in recent times, to the extent that Ikuerowo et al., (2013) implied that it is one of the most prevalent ill-health that is non-communicable among men. According to Bosland et al., (2021) 29.1 % of all male cancers in Nigeria as at 2018 were prostate. This ordinarily makes prostate cancer a significant health concern in Nigeria. American Cancer Society (2021) noted that other than skin cancer, prostate cancer is the most common cancer in American men. This prostate cancer is a decease condition that characterized by an uncontrollable malignant growth of cells in the prostate gland *(UCLA Health, 2020).* The prostate gland is located below the bladder and can only be found in the male reproductive system which produces some of the fluid that is part of semen. Prostate cancer begins when cells in the prostate gland start to grow out of control, and apart from skin cancer, prostate cancer is the most common cancer among men globally *(Yvette, 2019).* According to the American Cancer Society (2023), the current 2023 estimate of new cases of prostate cancer in America is about 288,300 and the current related death cases are about 34,700. In Africa, according to IARC (2022), prostate cancer was the leading incident cancer in men in 40 countries in sub-Saharan Africa with about (77 300 cases), followed by liver

cancer (24 700 cases). Living with prostate cancer has mostly been associated with a greater risk of experiencing mental health problems like psychological distress (ACS, 2016).

Therefore, the concern about prostate cancer at this psychological moment is not on the prevalence or on the rapid rate with which new cases are reported rather on the health burden of the illness. According to American cancer society (2016) most of the current mental health problems and psychological disturbances are as a result of health burden and prostate cancer has been recognized as a health burden worldwide. This is because prostate cancer from the moment of its diagnosis, treatment and recovery is psychologically distressing. According to World Cancer Day (WCD, 2016), the problems patients encounter during physical treatment of cancer, can predispose them to psychological distress. In the recovery moment, complications in the patient recovery process, pain after radical prostatectomy, and unfavorable results regarding sexual function could adversely affect the patients' perceptions of well-being and quality of life (Romanzini et al., 2018).

Moreover, it has also been observed that despite the consistent effort of scientists to bring an enduring solution or cure to cancer, psychological factors have been implicated as what could limit recovery and survival among cancer patients (ACS, 2016). And one of the commonest psychological factor is psychological distress. This is because psychological distress can make adherence to treatment schedule and positive response to treatment difficult. Psychological distress is a term used to describe the general psychopathology of an individual with a combination of depressive symptoms, anxiety, and perceived stress (Ohayashi & Yamada, 2012). Previous studies while analyzing some symptoms of psychological distress have estimated the prevalence of clinically significant anxiety and depressive symptoms among prostate cancer patients to be 27.04%, 15.09%, and 18.49% before, during, and after treatment, respectively, for anxiety symptoms and the corresponding values for depressive symptoms are 17.27%, 14.70%, and 18.44%, respectively and these estimates are higher than those observed in the general population (Brunckhorst et al., 2020).

Prostate cancer patients often experience psychologically distressing symptoms even after receiving physical treatments such as chemotherapy, radiotherapy and surgery (American Cancer Society, 2016). Also, cancer patients frequently express that psychologically distressing symptoms are more severe than physical side effects like nausea (Emami et al., 2022). In Nigeria, more than 78 % of cancer patients were reported to be psychologically distressed, unfortunately, there is a death of adequate psychological aid in the hospitals to attend to the diverse psychological needs of Nigerian cancer patients (Ezeugo et al., 2022; Persaud et al., 2022). In line with the above observation, it is therefore disheartening that cancer treatment in Nigeria may seem to primarily focus on the biological and pharmacological aspects with little or no attention to psychological aspects which can facilitate positive outcome of treatment or hamper complete recovery if not considered. As a result of this, patients often do not receive complete clinical advice or information.

In consideration of some predictive role of some psychological factors on psychological distress, it has been observed in recent years by health professionals like health and clinical psychologists that, in a painful health conditions like prostate cancer, patients create a specific set of cognitive and emotional representation about their sickness and that is their illness perception. According to Patre, Jago and Devcich (2007), illness perceptions are the cognitive representations or beliefs that patients have about illnesses and medical conditions. These specific set of cognitive representations have been shown to predict health-related outcomes in other patient groups (Villiers-Tuthill, Barker, & McGee, 2014). How an individual perceives

his or her illness may determine how he reacts to every step taken to make him well. This is because patients' beliefs about their condition may often be at variance from those who are treating them. And patients' perceptions vary widely. Even patients with the same medical condition or injury can hold very disparate views of their illness. Illness perception is likely an important predictor of how patients will behave during their illness experience and is directly associated with a number of health outcomes. This is because, it is believed that patients with more positive illness perceptions will be related to more positive illness management and health outcomes (Fortenberry, Berg, King, Stump, Butler, Pharm& Wiebe, 2014; Weinman & Patre, 1997).

Another factor is personality which refers to one' unique pattern of thought, feeling and action. Personality traits have been implicated severally as modifiable risk factor for psychological distress Garofalo, Petrikovich, and Garcia (2021). According to Afshar et al., (2015) in their study of association of personality traits with psychological factors of depression, anxiety, and psychological distress defined personality as the dynamic arrangement of psycho-physical systems. Arguably, to the researchers' best of knowledge, there is paucity of study from South-eastern part of Nigeria on the predictive role of a complete assessment of the Big Five personality domains on psychological distress among prostate cancer patients, instead, few that did ended up examining only selected aspects of neuroticism and introversion.

Furthermore, people in one's social support system can behave in ways that influence these reactions to illness. This is critical as patients with cancer may often be unable to maintain their social activities, which in turn affects their access to interpersonal resources. Thus, cancer patients may have difficulty obtaining social resources just when they need them the most (Helgeson & Cohen, 1996). Even when they are provided with their basic needs by family, relations and friends, the way they may perceive the support is likely to depend on many factors, considering the fact that prostate cancer is an illness that is common only among men of certain age, who in our culture and in their masculine nature may not always express need for support for fear of negative evaluation. Hence, it is necessary to investigate the predictive roles of illness perception, personality traits and perceived social support on psychological distress among prostate cancer patients.

Hypotheses

The following research hypotheses were formulated to guide the study:
1. Illness perception will be a positive predictor of psychological distress among prostate cancer patients.

2. Personality traits (Extraversion, Openness, Conscientiousness, Neuroticism, and Agreeableness) will be positive predictors of psychological distress among prostate cancer patients.

3. Social support will be a positive predictor of psychological distress among prostate cancer patients.

Theoretical Framework of the Study
Pearlin's Theory of Psychological Distress (1981) was used to link the three independent variables with the dependent variable. This theory has it that all humans are in a particular state of perpetual change due to the situations like illness and the stressors that come along with them to help them change. The individual's resolution of challenging situations is shaped by

the vulnerability and strength of the individual. The different factors according to this theory that can help one resolve the stressors of life are related to the independent variables of the study which include unique personal characteristics like personality traits, individual illness perception and social support like family support. The effectiveness of these factors is often dependent on their interconnectedness and also on how the stressors are perceived. It also pointed to the fact that if these factors among others do not help in the resolution of the problem, the problem may eventually lead to psychological distress characterized by symptoms of depression and anxiety.

Method
Participants:
The participants of this study were 51 men with prostate cancer from Chukwuemeka Odimegwu Ojukwu University Teaching Hospital (COOUTH) Awka in Anambra State, Nigeria. This hospital was selected because it is the only major state owned university teaching hospital in Anambra state. The participants of this study were 51 prostate cancer outpatients from the hospital, who met the inclusion criteria. Their age ranged from 59 to 86 years, with a mean age of 73.69 and a standard deviation of 4.70. They were drawn using total population sampling technique. Data showed that 5 (9.8%) attended primary school, 10(19.6%) attended senior secondary school, and 36 (70.6%) have tertiary education. On occupation, 33 (64.7%) of them were of both federal and state civil servants, 13 (25.5%) traders and 5 (9.8%) were farmers. On ethnicity, data revealed that 50 (98.%) were Igbo and 1 (2%) was Hausa. Finally, 51 (100%) were Christians (please, see appendix II for frequency and descriptive statistics)

Instrument for the Study include:
Kessler Psychological Distress Scale (K10), Illness Perception Questionnaire Revised (IPQ-R), Big Five Personality Inventory, Multidimensional Scale of Perceived Social Support (MSPSS).

Research Procedure
The researchers first obtained permission from the relevant authorities to conduct this research from the hospital. Having obtained approval letter, the researchers went to the Head of Department of Urology outpatient clinic of the hospital. They introduced and familiarized with the doctors, nurses and staff in the Unit. After, the researchers explained the nature of the research involving prostate cancer patients.

One research assistant with (M.Sc) in Clinical Psychology was employed for the study. This research assistant was trained on how to create rapport and administer the instrument and to maintain the confidentiality of the clients' responses. The participants were drawn using total population sampling technique. This is a type of purposive sampling technique of non-probabilistic sampling method that involves employing all participants of interest seen at the field of study that met the inclusion criteria and are willing to participate voluntarily in that study. Inclusion Criteria were 1) Must have been diagnosed with prostate cancer at least 30 days before the study; 2) Must not have any other diagnosis; 3) Participants be an out-patient who come for treatment; 4) Participants be drawn on voluntary basis who signed and returned the informed consent letter to the researchers; 5) Participants needed to be strong enough to participate in the study: not under severe pain or other similar medical condition that can interfere with effective participation; 6) All the participants chosen can read and communicate in English language.

Design and Statistics: This study used predictive survey design. Multiple linear regression was used to analyze the data collected. This is because it is a predictive study where illness perception, social support and personality traits are the predictor variables and psychological distress is the criterion variable.

Results
Under this chapter, results of the study were presented in the order in which the hypotheses were tested.

Tables below are: Tables for Model Summery, ANOVA and Coefficients of Illness Perception, Personality Traits, (Extraversion, Openness, Conscientiousness, Neuroticism, Agreeableness) and Social as Predictors of Psychological Distress

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.885[a]	.784	.749	2.03531

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	646.030	7	92.290	22.279	.000[b]
	Residual	178.126	43	4.142		
	Total	824.157	50			

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	19.861	12.424		1.599	.117
	Illness Perception	.543	.092	.554	5.883	.000
	Extroversion	-.046	.058	-.077	-.780	.440
	Openess	-.020	.048	-.034	-.412	.682
	Conscentiounsness	-.209	.132	-.115	-1.579	.122
	Neuroticism	.736	.159	.462	4.618	.003
	Agreeableness	-.280	.243	-.083	-1.153	.255
	Social Support	-.161	.059	-.226	-2.705	.010

a. Dependent Variable: Psychological Distress

The first hypothesis stated that illness perception will be a positive predictor psychological distress among prostate cancer patients. On the tables above, Model summary and ANOVA indicated significant result, R^2= .784, R^2 (adjusted) = .749, F = (7, 43) = 22.279, $p>.05$. On table of coefficients, the result showed that the beta values indicate that illness perception β = .554, t(51) = 5.883, $p>.05$. Therefore, hypothesis one was accepted.

The second hypothesis stated that personality traits will be a significant positive predictors of psychological distress among prostate cancer patients. On tables above, Model summary and

ANOVA indicated significant result, R^2= .784, R^2(adjusted) = .749, F = (7, 43) = .22.279, p>.05. On table of coefficients, the result showed that the beta values indicated that extraversion β = -.077 t(51) = -.780, p<.05; openness β = -.034 t(51) = -.412, p<.05; conscientiousness β = -.115 t(51) = -1.579, p<.05; neuroticism β = .462 t(51) = 4.618, p<.05; and agreeableness β = -.083 t(51) = -1.153, p<.05. Therefore, hypothesis two was accepted for neuroticism personality trait, but rejected other personality traits of extraversion, openness, conscientiousness and agreeableness.

The third hypothesis stated that social support will be a positive predictor of psychological distress among prostate cancer patients. On table 1 and 2 above, Model summary and ANOVA indicated significant result, R^2= .784, R^2(adjusted) = .749, F = (7, 43) = .22.279 p>.05. On table of coefficients, the result showed that the beta values indicate that social support β = -.226, t(53) = -2.705, p<.05. Therefore, hypothesis three was rejected.

Discussion and Conclusion
In a bid to examine some psychosocial factors as possible positive predictors of psychological distress among prostate cancer patients three hypotheses were postulated. The first hypothesis which stated that Illness perception will be a positive predictor of psychological distress among prostate cancer patients was accepted. This result suggests that prostate cancer patients are vulnerable to distress because of their unhealthy perceptions and belief about the consequence, cure, treatment control, personal control and even timeline of their condition. This confirmation that illness perception is a positive predictor of psychological distress answers the first research question of this study. Following this result, while it may have disagreed with studies that reported no influence of illness perception on psychological distress on the participants studied, it agrees with studies that reported that illness perception is a positive predictor of psychological distress. As such this study agrees with the following studies by Husson, Poort, Sansom-Daly, Netea-Maier, Links, Mols, (2020) who conducted a study on Psychological Distress and Illness Perceptions in Thyroid Cancer Survivors in Netherlands. The result of the analysis indicated that most illness perception subscales were associated with psychological distress and older patients who believed that their illness would continue for a long time reported more distress. Based on the above result, the study concluded that Illness perceptions play a key role in the experience of distress years after diagnosis and this is related to age. Older cancer patients may be particularly vulnerable to distress related to maladaptive cancer-related beliefs/perceptions. The relationship between the above result and the result of this current study could be attributed to relationship in their ages, as most participants of this study were mainly old men suffering from prostate cancer. Furthermore, though the above participants were not prostate cancer patients but they were Thyroid cancer patients. This showed that cancer patients suffer from psychological distress irrespective of the cancer site.
Also, the result is in line with the findings of Morgan, Villiers-Tuthill, Barker and McGee (2014) who did a study on the contribution of illness perception to psychological distress in heart failure patients. The contribution of illness perceptions was greater than that made by traditional covariates (socio-demographic variables and functional status).

Again, this study postulated its second hypothesis which precisely stated that Personality traits (Extraversion, Openness, Conscientiousness, Neuroticism, and Agreeableness) will be positive predictors of psychological distress among prostate cancer patients. However, the result confirmed only neuroticism personality traits and rejected extraversion openness, conscientiousness and agreeableness.

This study is in line with the findings by Afshar, Roohafza, Hassanzadeh-Keshteli, Sharbafchi, Feizi, and Adibi (2015) who did a study on Association of Personality Traits with Psychological Factors of Depression, Anxiety, and Psychological distress. The study concluded that high level of neuroticism was associated with being depressed or anxious, or having high psychological distress. High levels of neuroticism is however associated with negative emotions. Prostate cancer patients who predominantly fall under this domain are likely to express negative emotions because of the stressful and painful health condition. This study is also in line with the work by Perry, Hoerger, Silberstein, Sartor, & Duberstein (2017) who did a study on understanding the distressed prostate cancer patient: role of personality. Moreover, third hypothesis which stated that social support will be a positive predictor of psychological distress among prostate cancer patients was rejected.

Implications of the Study
The findings of this study have great implications for different mental health institute, hospitals and men in general. First, following the findings of this study, it may serve as eye opener to management of hospitals especially the urological section by bringing to their awareness that some of their clients are affected by psychological distress. As such teaching hospitals and health centers may be propelled to initiate program(s) targeting the vulnerable population in order to forestall the impact of this on their physiological health condition. Secondly, the findings of this study may be of immense benefit to medical students and professionals. Accordingly, it will inform them that depression and anxiety as symptoms of psychological distress are also common among men with prostate cancer. And that the patient's perception of illness influences not only his mental health but also the treatment and recovery process. This will make them become more equipped regarding how to find a long lasting solution to it. Also, patients with personality traits of neuroticism should always be evaluated to determine their level of psychological distress so that they will always receive proper treatment.

Recommendations
Based on these findings, the study recommended among others, that hospitals should initiate program that will always check the mental health of cancer patients especially prostate cancer patients. This will contribute in deploying clinical psychologists and equipping them with the necessary instrument needed to examine and arrest the consequences of mental health problems. As such, creating preventive programmes, that will do a lot in eliminating the impact of this mental health issues on this vulnerable group.

Limitations of the Study
Although some findings have been made from this study, it is very important that these findings be interpreted with caution, based on the reason that there are some limitations to it. Firstly, this study employed only a few men from a section or unit under just one hospital in Anambra state. Employing participants from different hospitals in other states and cultural settings would have provided large sample size and increase easy generalization.

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