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Spirituality Self-Care Practices as a Mediator between Quality of Life and Depression

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Abstract: The purpose of this study was to develop a midrange theory, building on Orem's self-care deficit nursing theory (SCDNT) to include constructs of religion, spirituality, and spiritual self-care practices. This mid-range theory, White's theory of spirituality and spiritual self-care (WTSSSC), was developed and tested as part of a larger study of African American patients with heart failure (HF). The aim of the study was to determine if spiritual self-care practices were mediating the relationship between depression and quality of life for African Americans diagnosed with heart failure. Participants in this study included 142 African Americans diagnosed with HF who were recruited at the clinic where they were being treated. Four instruments were used to measure spiritual self-care practices (White's Spiritual Self-Care Practice Scale (WSPSCPC)), depression symptomology (Patient Health Questionnaire-9 (PHQ-9)), quality of life (World Health Organization QOL (WHOQOL-Bref)), and personal characteristics. Results of the analysis were statistically significant, indicating that spirituality self-care practices were mediating the relationship between depression and quality of life for African American individuals diagnosed with HF. As the population ages and chronic illness becomes more common, nurses need to promote the use of spirituality self-care practices to help patients maintain their well-being.

Keywords: spirituality; self-care; chronic illness; African American; depression; mediation

1. Introduction[1]

More than 50% of Americans say they have one or more chronic illnesses or conditions [2]. Medical conditions, illnesses, and health problems that have symptoms or entail limitations requiring medical management for long periods are considered chronic illnesses [3]. Self-care for chronic illness can be challenging as the activities required to maintain life and enhance well-being involve long-term commitment. Well-being is related to health and can be maintained even when a person has been diagnosed with a chronic illness, such as heart failure (HF) [4]. As health care providers, nurses work with individuals on self-care behaviors to manage their chronic illness symptoms.

Self-care was first presented in the 1950s when Orem published her theory regarding nursing and self-care [4,5]. Self-care is defined as the activities of daily living that are needed to maintain quality of life and well-being. Some of the self-care activities that are used with chronic illness include: following up with medical care, self-monitoring (e.g., glucose checks for diabetes, blood pressure monitoring for hypertension), taking medication properly, adhering to diet and exercise regimens, and smoking cessation [6]. Orem described self-care deficit nursing theory (SCDNT) as:

[1] Parts of the parent study have been presented at the 12th IOS World Congress on Future Nursing Systems; "New Approaches-New Evidence for 2020" in Luxembourg (2012). The demographic data also were included in the conference proceedings; *Bulletin luxembourgeois des questions sociales* [1].

> ...descriptively explanatory of the *relationship* between the action capabilities of individuals and their demands for self-care or the care demands of children or adults who are their dependents. *Deficit* thus stands for the relationship between the action that individuals should take (the action demanded) and the action capabilities of individuals for self-care or dependent-care. *Deficit* in this context should be interpreted as a *relationship*, not as a human disorder ([7], p. 149).

Depression occurs when an individual experiences depressed mood or loss of interest or pleasure along with changes in sleeping patterns, eating more or less, lack of energy, inability to concentrate, and poor self-image that reflect a change in functioning for a period of at least two weeks [8]. When experiencing depression, a person may experience symptoms that are associated with loss of interest, feelings of worthlessness, withdrawal from social interactions, and loss of hope. Some individuals have physical symptoms, such as weight loss, insomnia, loss of energy, and decreased concentration when they are depressed [9]. Other symptoms of depression that people may report include overwhelming sadness, a sense of futility, fear and worry regarding life and death, lack of motivation, confusion, and suicidal ideation [10].

A report by the Cleveland Clinic [11] indicated that depression has been associated with chronic illness. They further reported that almost one-third of people diagnosed with a chronic illness were likely to exhibit symptoms of depression. When a person is given both diagnoses (chronic illness and depression), he/she may tend to have more severe symptoms of both, greater difficulty adapting to the medical condition, and greater costs associated with medical treatment than nondepressed individuals who have a chronic illness [12]. Artinian, Washington, Flack, Hockman, and Jen [13] found that 21% of African Americans diagnosed with hypertension also had depression scores that were evidence of clinical depression. Women with chronic obstructive pulmonary disease tended to experience major depressive symptoms more often than men [14].

Depression often co-exists with chronic illnesses, such as heart disease (including HF, stroke, cancer, human immunodeficiency virus infection/acquired immunodeficiency syndrome (HIV/AIDS), diabetes, or Parkinson's disease [15]. Approximately 10% of African Americans are diagnosed with a lifetime major depressive disorder (MDD). Over a 12-month period, 57% of the African Americans are diagnosed with persistent MDD, with 39% of the Caucasian population having this diagnosis [16]. African American women with a dual diagnosis of HF and depression fail to complete self-care activities on a daily basis, leading to greater problems with their chronic illness.

"Spirituality is defined in this study as the beliefs a person holds related to their subjective sense of existential connectedness, including beliefs that reflect relationships with others, acknowledgement of a higher power, and recognition of an individual's place in the world, that lead to participation in spiritual practices" ([4], p. 50). Spirituality can have an effect on people's health beliefs, practices, and outcomes. African Americans, in contrast to Caucasians, tend to use spiritual practices when coping with exacerbation of acute and chronic illnesses. According to Newlin, Knafl, and D'Eramo Melkus [17], spiritual practices used by African Americans have had a positive effect on their health and quality of life (QOL).

"Spiritual self-care is defined as the set of spirituality-based practices in which people engage to promote continued personal development and well-being in times of health and illness" ([4], p. 50). An individual's mind-spirit-body connection, upbringing, moral and religious background, and life experiences that originate from faith, feelings, and emotions form the basis of spiritual self-care. Examples of spiritual self-care can include building social networks or volunteering [18]; listening to inspirational music [19]; meditation [20]; and development of a sense of inner peace and quiet [21]. Other examples of spiritual self-care include practicing yoga or Tai Chi, attending religious services, reading sacred or inspirational texts, prayer or mediation, hiking, walking or otherwise enjoying nature, and developing or mending personal relationships [22]. People can enhance their spiritual well-being and QOL by participating in spiritual self-care activities.

QOL is a multidimensional construct, incorporating physical, emotional, and social effects on an individual's perception of daily life. According to the World Health Organization, QOL is defined as "an individual's perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards, and concerns" ([23], p. 28). As a construct, QOL often is the focus of research on chronic illness. QOL ratings are subjective and vary depending on the extent to which individuals are experiencing changes in their lifestyles from the chronic illness [24].

White's mid-range theory of spirituality and spiritual self-care (WTSSSC) was developed from a comprehensive review of literature on self-care practices and experience as a nurse practitioner in an urban area (see Figure 1). The purpose of this study was to help nurses understand the importance of discussing the use of spiritual self-care practices with patients diagnosed with chronic illness as a way to decrease effects of depression on QOL. The specific aim of the study was to determine if using spiritual self-care practices could mediate the relationship between depression and QOL.

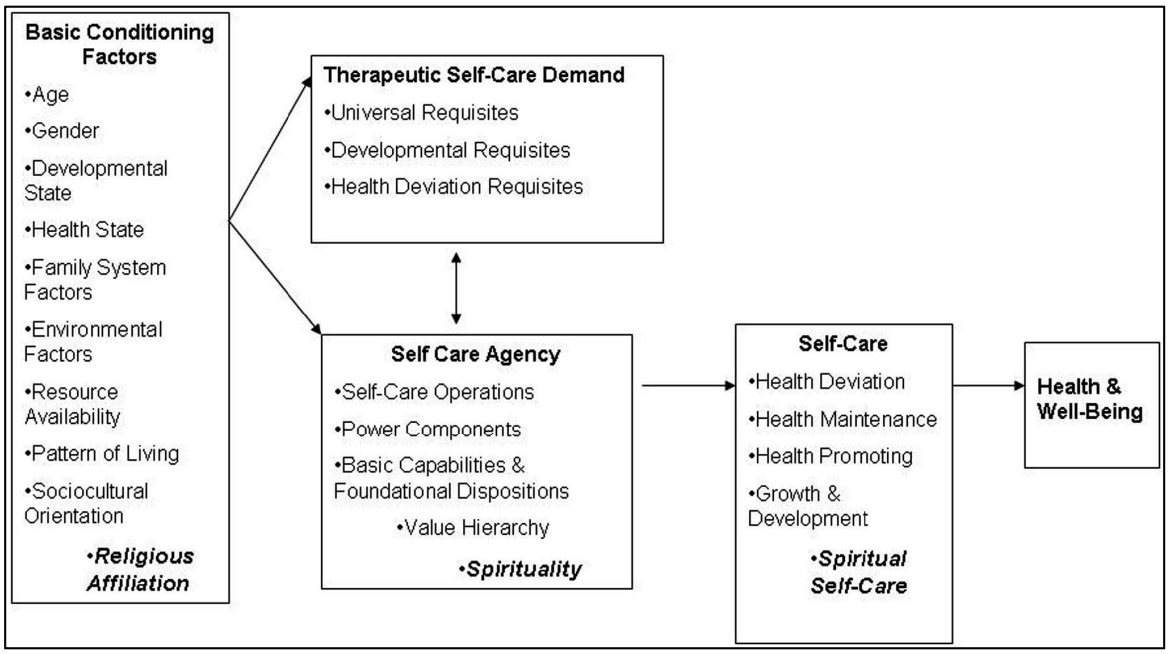

Figure 1. White's theory of spirituality and spiritual self-care (WTSSSC).

2. Methods

This study presents a secondary analysis of data collected as part of a larger study of African Americans diagnosed with HF [1]. The original study investigated the extension of Orem's SCDNT to include spiritual self-care practices. The present study examines the mediating effects of spiritual self-care practices on the relationship between depression symptomology and QOL for African Americans diagnosed with chronic illness (*i.e.*, HF).

2.1. Participants

The participants in this study included 142 African American men (n = 71) and women (n = 71) who had been diagnosed with HF. These participants were recruited at the clinic where they were being seen for treatment. The demographic information from the parent study has been presented at the 12th International Orem Society (IOS) World Congress on Future Nursing Systems, "New Approaches-New Evidence for 2020" in Luxembourg in 2012 [1]. The demographic data also was included in the conference proceedings, *Bulletin luxembourgeois des questions sociales* [1]. Most of the participants were single, never married (n = 61, 43.3%), and 36 (25.5%) reported they were married. The largest group of

participants (n = 56, 40.3%) were high school graduates, with 12 (7.9%) reporting they had completed either a bachelor's or graduate degree. While the majority of the participants (n = 111, 78.2%) were either retired or disabled, 23 (16.5%) were working full-time and 5 (3.6%) were working part-time. The participants were either living with a partner/spouse (n = 40, 28.8%) or independently (n = 43, 30.9%) (Table 1).

Table 1. Frequency distributions of demographic characteristics of the sample (N = 142).

Demographic Characteristics	Number	Percentage
Gender		
Male	71	50.0%
Female	71	50.0%
Marital Status		
Single, never married	61	43.3%
Married	36	25.5%
Widowed	18	12.8%
Divorced	24	17.0%
Living with partner	2	1.4%
Educational Level		
Less than high school	30	21.6%
High school graduate/General Education Development	56	40.3%
Some college/Technical school	30	21.6%
Associate degree	12	8.6%
Bachelor's degree	7	5.0%
Graduate degree	4	2.9%
Work Status		
Working full-time	23	16.5%
Working part-time	5	3.6%
Retired	39	28.1%
Retired, volunteering	2	1.4%
Disabled	44	31.7%
Other	26	18.7%
Living Arrangements		
Spouse	40	28.8%
Children	25	18.0%
Alone (independently)	43	30.9%
Assisted living facility	2	1.4%
Senior residence	1	0.7%
Other family/friends	28	20.1%

Mean age 56.82 (SD = 14.41) years, ranging from 18 to 91 years.

2.2. Measures

Spiritual Self-Care Practice Scale SSCPS is a 36-item questionnaire that measures the extent to which participants practice spiritual self-care actions on four domains: (1) personal self-care practices; (2) spiritual practices; (3) physical spiritual practices; and (4) interpersonal spiritual practices [22]. The items on the instrument were developed from an extensive review of the literature on spirituality and through brainstorming with nurses, psychologists, and professors at a prestigious Wayne State University College of Nursing. The instrument was tested for content validity by having four diverse religious leaders (a Catholic priest, a Jewish rabbi, a Muslim imam, and a Protestant minister) review the items. They made suggestions for revising some of the items on the scale. Changes were made to increase the content validity. A principal components factor analysis was used to determine construct

validity [25]. To be retained on a subscale, the factor loadings had to be greater than 0.35 and load high only on one factor. Table 2 presents the results of the factor analysis.

Table 2. Factor analysis of the spiritual self-care practices scale.

Item	Factor 1	Factor 2	Factor 3	Factor 4
1. Personal Self-Care Practices				
Making time for self	0.71			
Eating healthy foods	0.67			
Feeling at peace and/or in harmony	0.66			
Resting to regain health and energy	0.65			
Giving love to others	0.58			
Following medical orders	0.57			
Maintaining a sense of hope for the future	0.57			
Laughing	0.56			
Forgiving yourself	0.56			
Finding meaning in both good or bad situations	0.51			
Maintaining positive relationships	0.50			
Asking questions about medical orders	0.50			
Forgiving others	0.43			
Helping others	0.43			
2. Spiritual Practices				
Attending religious services		0.75		
Contributing to a religious group		0.70		
Praying		0.68		
Consulting a spiritual advisor		0.66		
Living a moral life		0.59		
Meditating, contemplating, or reflecting		0.55		
Reading for inspiration		0.54		
Mending broken relationships		0.40		
Resolving conflicts		0.38		
3. Physical Spiritual Practices				
Engaging in physical activity			0.77	
Giving alms to the poor or doing other acts of charity			0.55	
Volunteering			0.54	
Hiking or walking			0.50	
Practicing yoga or tai-chi			0.36	
4. Interpersonal Spiritual Practices				
Following a special diet (e.g., Kosher, Halal, vegetarian, *etc.*)				0.66
Maintaining friendships				0.56
Being with family				0.52
Having a meaningful conversation with others				0.47
Receiving love from others				0.46
Being with friends				0.46
Wearing special clothing or jewelry (yarmulke, burqa, cross, Star of David, *etc.*)				0.44
Percent of explained variance	30.23	6.90	5.35	4.77
Cronbach alpha coefficients	0.89	0.85	0.69	0.66

The eigenvalues for each of the factors were greater than 1.00, indicating that the factors accounted for significant amount of variance in spirituality self-care practices. The alpha coefficient for the total scale was 0.91 indicating the scale had good internal consistency reliability [22]. For the purpose of the present study, the total score on the instrument was used to measure spiritual self practices.

The Patient Health Questionnaire-9 (PHQ-9) [26] was derived from its parent instrument, the "Patient Health Questionnaire", a 58-item self-report measure of depression, somatoform disorder,

panic disorder, anxiety, eating disorder, and alcohol misuse [27]. The authors extracted the depression items and named it the PHQ-9. One item ("thoughts that you would be better off dead or of hurting yourself in some way" ([27], p. 607) was eliminated from the PHQ-9 for the present study. This item was removed because the purpose of the scale in the present study was not to diagnose depression, but was to determine the number and severity of depressive symptoms being experienced by the participants. Participants rated each item on the PHQ-9 using a 4-point scale ranging from 1 for *not at all* to 4 for *nearly every day*. The numeric ratings for the items are summed to obtain a score that can range from 0 to 27 [27]. The PHQ-9 has been tested extensively for reliability and validity [26]. A Cronbach alpha coefficient of 0.86 was obtained to determine the internal consistency of the PHQ-9 when used with a sample of 142 African American patients diagnosed with HF in the current study.

The World Health Organization (WHO) developed the WHOQOL-BREF as a short form of the WHOQOL-100 [23,28]. The WHOQOL-BREF includes 26 questions, with one item from each of the 24 facets comprising the WHOQOL-100. Two items from the "Overall QOL" and "General Health" facets are included on the survey. The items on the WHOQOL-BREF are rated using a 5-point scale, with the ratings varying on the items. For example, the first two questions ask about life in the past two weeks. Participants are asked to rate these items using a 5-point scale ranging from 1 for *not at all* to 5 for *completely*. The next two items are rated using a scale that ranges from 1 for *very poor* to 5 for *very good* and 1 for *very dissatisfied* to 5 for *very satisfied*. The remaining items are rated in the same way. The changes in scaling are explained before each section. Computing scores requires the researcher to recode specific items and then create mean scores for each domain. The use of mean scores allows comparisons across the domains that would not be possible if summed scores were used. Miller, Chan, Ferrin, Lin, and Chan [29] reported on the validity of the WHOQOL-BREF. Construct validity of the WHOQOL-BREF was determined through the use of exploratory and confirmatory factor analysis. Miller *et al.* [29] reported Cronbach alpha coefficients ranged from 0.68 for social relationships to 0.82 for physical health, supporting the internal consistency of the WHOQOL-BREF. The range of test-retest reliability coefficients at 2-to 4-week intervals was from 0.41 to 0.79 at the individual item level. An alpha coefficient of 0.94 for the total score for the WHOQOL-BREF was obtained for the 142 African American participants in the present study indicating the total score had good internal consistency reliability.

2.3. Procedures

After receiving approval from the Wayne State University Institutional Review Board (IRB) and the Detroit Medical Center IRB, the researcher began data collection at two urban cardiology clinics. The office staff referred potential participants to the researcher. When they came for their office visits, the researcher approached the patient to ask them if they would like to participate in the study. All data collection was conducted in private rooms at the two clinics. After reviewing the informed consent form, 142 patients agreed to complete the surveys. Because of differences in the literacy levels of the participants, the researcher sat with the participants and was available to read the items to them, if necessary. Patients had the right to refuse to answer any questions with which they were uncomfortable. Patients were given $20.00 for participating in the study.

3. Results

The mediation analysis used the Baron and Kenny procedure [30] to determine if spirituality self-care practices were mediating the relationship between depression as measured by the PHQ-9 and QOL as measured by the WHOQOL-Bref. Descriptive statistics were used to provide baseline information regarding the variables that were used in the mediation analysis (see Table 2). The mean score for spirituality self-care practices was 3.79 (SD = 0.59), with a range from 2.31 to 4.83. Higher scores were associated with the use of more spiritual self-care practices. Depression symptoms had a mean score of 1.68 (SD = 0.67), with a range from 1.00 to 3.75. On a score of 1–4, higher scores were indicative of greater numbers of depressive symptoms. Quality life ranged from 1.72 to 4.89, with a

mean score of 3.82 (SD = 0.70). Higher scores for QOLindicate participants' perceived higher levels of well-being (see Table 3).

Table 3. Descriptive statistics of the study variables (N = 142).

Variable	Mean	SD	Minimum	Maximum
Spiritual Self-care Practices	3.79	0.59	2.31	4.83
Depression	1.68	0.67	1.00	3.75
Quality of Life	3.82	0.70	1.72	4.89

The first step used depression as the predictor variable, with QOL used as the criterion variable using a simple linear regression analysis. Fifty-six percent of the variance in QOL was explained by depressive symptomology, $\beta = -0.75$, F (1, 135) = 174.21. The relationship between depression and spirituality self-care practices tested on the second step was statistically significant, $\beta = -0.56$, F (1, 135) = 62.49. On the third step of the analysis, the relationship between spiritual self-care practices and QOL was statistically significant, $\beta = -0.67$, F (1, 135) = 110.15. Holding the mediating variable constant, the amount of variance in QOL that was explained by depressive symptomology was reduced to 0.20, although the relationship between the two variables remained statistically significant, $\beta = -0.55$, F (1, 135) = 126.32. The substantial reduction in explained variance in QOL explained by depressive symptomology provided support that spiritual self-care practices was mediating the relationship (Table 4 and Figure 2).

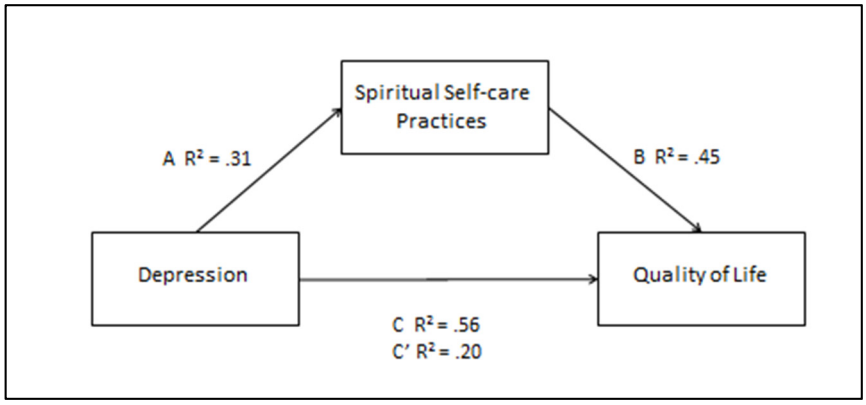

Figure 2. Medication model of spirituality and depression (as measured by PHQ-9) mediated by spiritual self-care practices.

Table 4. Mediation analysis of the mediating role of spiritual self-care practices on the relationship between depression as measured by the PHQ-9 and quality of life (QOL) (N = 142).

Step	Predictor	Outcomes	R^2	F	Standardized β
1	Depression	QOL	0.56	174.21	−0.75 **
2	Depression	Spirituality Self-care Practices	0.31	62.49	−0.56 **
3	Spirituality Self-care Practices	QOL	0.45	110.15	0.67 **
4 (a)	Spirituality Self-Care Practices	QOL	0.45	110.15	0.67 **
(b)	Depression	QOL	0.20	126.32	−0.55 **

* $p \leqslant 0.05$; ** $p \leqslant 0.01$.

4. Discussion

Chronic illness affects more than 50% of Americans, requiring medical management that involves active involvement by patients. A link was found between depression and chronic illness [11], with

approximately one-third of people diagnosed with a chronic illness having co-diagnosis of depression. The dual diagnosis of depression and chronic illness, such as HF, can result in more severe symptoms, difficulty in providing self-care for the chronic illness, and increased costs associated with medical treatment [12].

In contrast to prior research that found a negative relationship between QOL and depression [12,13,15], the present study found that spirituality self-care practices were mediating this relationship. African Americans are more likely than Caucasians to turn to spiritual practices during times of distress, such as exacerbation of the symptoms of their chronic conditions. Newlin *et al.* [17] found that these types of practices can result in positive effects on this QOL.

While the African American participants were knowledgeable about their chronic illness and the self-care procedures needed to control their symptoms, they might not always use these procedures to control the symptoms. For example, some participants during the data collection process mentioned that while they knew that they should weigh themselves daily, they did not have scales needed to weigh themselves. In addition, while they were aware of the need to refrain from using salt, they continued to include salt in their cooking.

Most of the participants recognized that religion was important in their lives. However, they were generally unaware of the benefit that performing spiritual self-care practices may have been having on their well-being. The negative relationship between depression and quality of life indicated that African Americans diagnosed with HF who had higher scores for quality of life had lower depressive symptoms. Chronic illness often is associated with depression as patients become aware of the limitations their illnesses can impose on their lives. However, in the sample of African American patients in the present study, depression was not as evident, possibly because of their use of spiritual self-care practices to mitigate the symptoms of their chronic illnesses.

Using spiritual self-care practices can serve as a buffer to alleviate feelings of depression. African Americans generally are religious and use spiritual self-care practices, even if they are unaware of their effect as self-care agents. For example, for many African Americans praying and attending Bible studies are spiritual activities, as are living a moral life, volunteering, being with family, and finding meaning in good and bad situations. These practices can improve an individual's spirit, promote inner peace, and provide comfort when they are experiencing exacerbation of their chronic symptoms.

5. Implications for Nursing

Nurses should encourage patients of all ethnicities and genders to use self-care practices as a way to manage chronic illnesses. By talking to patients about spiritual self-care practices, nurses can add a dimension to self-care that goes beyond the medical model presented in Orem's SCDNT [7]. Nurses need to explain that spiritual self-care practices go beyond religious practices, such as going to church. Intake forms and medical histories need to obtain information beyond the religion of the patient and include items that could lead to a discussion of spiritual self-care practices to help manage the symptoms of their chronic illness.

6. Limitations of the Study

This study was limited to one ethnic group and one chronic illness. Additional research is needed to determine the importance of spiritual self-care practices in a more heterogeneous group of patients dealing with a variety of chronic illnesses. The study was completed using surveys that measured the patients at one point in time. An experimental study is needed to determine how participating in spiritual self-care practices can affect depression levels and improve management of their chronic illnesses.

Conflicts of Interest: The author declares no conflict of interest.

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