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The Service Quality Expectations of HIV Patients in a Tertiary Hospital in the South-South Region of Nigeria

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ABSTRACT

Introduction: Patients' expectations are their presumptions of what should occur in healthcare systems before an encounter. The chronicity of HIV/AIDS and the requirement of periodic visits to health facilities for care makes it imperative to determine the expectations of these patients for their healthcare. This study determined patients' expectations of patients on antiretroviral treatment in a tertiary hospital in Nigeria.

Methods: A cross-sectional study design using systematic sampling technique with the multi dimensional "ServQual expectation" scale for data collection. Descriptive data analysis was conducted for background characteristics and Mean Expectation Scores (MES) while inferential analysis was conducted using linear regression analysis to identify potential factors related to patients' expectation

Results: The mean age of the 337 respondents was 39.6 ± 11.3 years and a majority were females (73.6%), married (62.9%) and had a post primary level of education (82.4%). The overall MES is 90.2% ± 4.6% while the MES for the four domains ranges from 89.2 ± 4.6 for empathy to 91.0% ± 4.6% for the assurance domain. The mean expectations scores for the items range from 87.9% ± 20.5% for "individualised medical attention" to 95.8% ± 11.0% for "adequate staff support". Religion was the only factor with a statistically significant relationship with the overall mean expectation, responsiveness, assurance and empathy domains.

Conclusion: The reported high level of expectation for service quality across all the domains, has implications for policy, HIV care and future research.

Keywords: Patient expectation; Service quality; HIV treatment; Tertiary hospital; South-south region; Nigeria

INTRODUCTION

Generally, patients' views on health are expressed in their preferences, evaluations and reports. Expectation which is an expression of their preferences are ideas about what should occur in healthcare systems and anticipation of what is to be encountered in the process of accessing health care. It is preconceived thoughts by patients of what their encounter with healthcare should be in terms of time, information and services. The expectation of the patient can become a reference for the evaluation of their healthcare. As such, evaluation becomes the degree to which expectations, goals or preferences are met. Met expectations can influence patients' evaluation ratings, making it pertinent for health workers to understand patients' expectations [1].

Human Immunodeficiency Virus infection (HIV) is an infectious disease of public health importance, that is currently managed using Highly Active Antiretroviral Therapy (HAART). The discovery of HAART is the most outstanding milestone in the management of HIV as its use has led to improvement in desirable outcomes such as viral load suppression and life expectancy. The various classes of Antiretroviral (ARV) drugs work through various mechanisms to suppress the replication of HIV to undetectable levels [2].

Approximately 37.9 million people are living with HIV globally with Nigeria hosting the second highest population of infected individuals worldwide. Nigeria is also one of the sub Saharan African countries with the highest rates of new infections. The report of the 2018 national seroprevalence sentinel survey which was officially released in March 2019 shows that 1.9 million people and 1.4% of the adult population were living with HIV. There were 130,000 new HIV infections and 53,000 AIDS related deaths recorded during the same period. The south-south zone of Nigeria with a prevalence of 3.1% is the worst affected zone and Rivers state which is one of 6 states in the zone has a prevalence rate of 3.8% which is 170% higher than the national seroprevalence rate. Despite efforts at scaling up access to Antiretroviral Treatment (ART) in Nigeria, only 53% and 35% of HIV infected adults and children respectively are on ART [3].

Due to the chronicity of HIV/AIDS and associated social rejection of victims, suicidal thoughts, stress and anxiety levels are high among patients attending ARV clinics, thus making the management of their presumptions a challenging task. Evidence suggests that patients generally have lots of assumptions including freedom from discrimination, dignified care, adequate health information and regular availability of essential drugs and commodities. An earlier study reported that patients desired a comfortable environment as well as personal interaction with the health personnel. These findings, buttress the need to design HIV services in line with the preferences and expectations of the patients.

Failure to consider the expectations of the patients may pose a barrier to utilization of available HIV services with an attendant negative impact on HIV treatment outcome and escalation in losses to follow up. Atnafu in their study on waiting time revealed that patients with met expectations reported more fulfilling experiences. In contrast, the dissatisfaction and unwillingness to adhere to doctors' advice by patients with unmet expectations resulted in poor symptom improvement and a low tendency toward health care utilization [4].

Scaling up access to HAART is critical to achieving the 90,90,90 goal of the Joint United Nations Programme on HIV and AIDS (UNAIDS), which seeks to ensure that 90% of people living HIV know their status and 90% of people who know their status access HIV treatment and 90% of people on treatment have a suppressed viral load. Achieving targets related to access to effective treatment can be made easier where due considerations are given to the expectations. This will encourage uptake, retention, follow-up and improved adherence and treatment outcomes [5].

This study determined patients' expectations of HIV treatment services before an encounter with the antiretroviral clinic of the University of Port Harcourt Teaching Hospital Port Harcourt (UPTH). The study specifically ascertained the sociodemographic characteristics of the patients receiving ARV care, their expectations and the relationship between the patients' socio demographic characteristics and their expectations of care [6].

MATERIALS AND METHODS

Study Area

Port Harcourt is a port town that lies along the Bonny river named after the then colonial secretary, Lewis Harcourt and is traditionally inhabited by the Ikwerre people. It was founded around 1912 and serves as the capital and largest city in Rivers state, South-South, Nigeria. Rivers state is a largely low lying pluvial state in the South-South geopolitical region of Nigeria. With a total area of 11,077 km² (4,277 mi²), Rivers state is the 26th largest state in Nigeria [7].

The University of Port Harcourt Teaching Hospital (UPTH) is an 800 bed, multispecialty tertiary facility that serves as a referral hospital to secondary and primary health centers. It is one of the 2 tertiary health facilities caring for HIV/AIDS patients in the state. The adult ARV clinic jointly run by the departments of community medicine, internal medicine and microbiology provides specialized adult ARV care to patients. This antiretroviral clinic has close to 12,000 registered patients with about 5,300 of these patients ART [8].

The clinic attends to an average of 80 patients daily, out of which about 15 patients are early enrollees on their first three visits to the clinic. The ARV Clinic was formerly supported by a grant from the American President's Emergency Plan for AIDS Relief (PEPFAR) Initiative through her Strengthening Integrated Delivery of HIV and AIDS Services (SIDHAS) Project through the Family Health International (FHI-360) but is presently supported by the Institute of Human Virology, Nigeria (IHVN) in conjunction with the centers for disease control and prevention [9].

Study Design and Procedure

The study is a cross sectional study with data collection done using the "expectation" scale of the ServQual questionnaire over a three months (January-March 2020). The scale has a section on background characteristics and a section consisting of twenty items under 5 domains tangible, reliability, responsiveness, assurance and empathy. Questionnaires were distributed and filled by the eligible respondents who had arrived at the clinic but before their encounter with the health care providers. The research assistants assisted respondents who needed help to fill their questionnaire [10].

Study Population

The study population consisted of all early enrollees who were newly diagnosed or newly transferred (first, second or, the third visit) into the adult ART programme at UPTH during the study period.

Sample Size Determination

A sample size of 306 was calculated using Cochran's formula, which was adjusted for 10% non response to 337. The respondents were selected using a systematic sampling technique.

Data Management

Data from the questionnaire were coded and entered into the Statistical Package for Social Science (SPSS) version 25 for statistical analyses. The independent variables in this study were the background characteristics of the respondents (age, gender, occupation, marital status, level of education, religion, number of clinic visits) while the dependent variable is the Mean Expectation Scores (MES). The questionnaire was first subjected to psychometric validation to determine its internal consistency reliability using Cronbach's alpha coefficient and the construct and convergent validities of scale. The latter was achieved using a series of statistical tests such as the item-item correlation coefficients, item-domain correlation and domain subscale correlation.

Categorical (frequency distribution of response options) and continuous (score transformation and calculation of the mean expectation scores) data were generated. The score transformation for ease of comparability was achieved with the formula:

$$\text{Transformed score} = \frac{(Patient's\,score - minimal\,scale\,score)}{(maximum\,scale\,score - minimum\,scale\,score)} \times 100^{27}$$

Inferential analysis was done using linear regression analysis to ascertain which of the background characteristics influence MES. The background factors were all re categorized into dichotomous variables with one category serving as a referent variable.

RESULTS

Table 1 shows that most of the respondents are below 35 years (n=199, 59.1%) while the females (n=248, 73.6%) are the preponderant gender group. The majority of the respondents are presently married (n=212, 62.9%) and are currently employed (n=269 79.8%) while about three-fifths of the sampled population have below tertiary level education (n=216, 64.1%). In the same vein, most of the respondents are adherents of the Christian religion (n=325, 96.4%).

Table 1: Background characteristics of the study participants (n=337).

Variable	Frequency	Percentage (%)
Age category in years		
<35	199	59.1
≥ 35	138	40.9
Gender		
Female	248	73.6
Male	89	26.4
Marital status		
Presently single	125	37.1
Presently married	212	62.9
Employment status		
Presently unemployed	68	20.2
Presently employed	269	79.8

	Educational level	
<Tertiary	216	64.1
≥ Tertiary	121	35.9
	Religious groups	
Other religious groups	12	3.6
Christianity	325	96.4

Table 2 shows the frequency distribution of the expectation variable items. Most of the respondents expressed high expectations across all domains. The highest expectation was expressed for items in assurance (adequate support (289, 85.8% for strongly agree) and responsiveness (staff responds to my request promptly (243, 72.1% for strongly agree) domains. On the contrary, the least on "strongly agree" (231, 68.5%) response is for the empathy domain item on "staff to provide individualized attention" to me.

Table 2: Frequency distribution of multi point responses to expectation items.

Expectation items	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree	Total
			Tangibles			
Clinic to have up to date equipment	0 (0.0)	4 (1.2)	30 (8.9)	68 (20.2)	235 (69.7)	337 (100)
Physical facilities in this clinic to be attractive to me	0 (0.0)	6 (1.8)	26 (7.7)	73 (21.7)	232 (68.8)	337 (100)
Staff to be well dressed	0 (0.0)	4 (1.2)	24 (7.1)	67 (19.9)	242 (71.8)	337 (100)
Appearance of physical facilities to be in good order	0 (0.0)	6 (1.8)	21 (6.2)	69 (20.5)	241 (71.5)	337 (100)
			Reliability			
Staff to do things promptly	2 (0.6)	10 (3.0)	27 (8.0)	57 (16.9)	241 (71.5)	337 (100)
Staff to be sympathetic and reassuring	1 (0.3)	5 (1.5)	28 (8.3)	62 (18.4)	241 (71.5)	337 (100)
To receive information about my medical condition	1 (0.3)	2 (0.6)	26 (7.7)	60 (17.8)	248 (73.6)	337 (100)
To feel confident when receiving care	0 (0.0)	2 (0.6)	24 (7.1)	62 (18.4)	249 (73.9)	337 (100)
			Responsiveness			
Staff to tell me when services will be performed	0 (0.0)	1 (0.3)	18 (5.3)	77 (22.8)	241 (71.5)	337 (100)

To receive prompt service in this clinic	0 (0.0)	1 (0.3)	20 (5.9)	76 (22.6)	240 (71.2)	337 (100)
Staff to always demonstrate willingness to help me	0 (0.0)	2 (0.6)	21 (6.2)	75 (22.3)	239 (70.9)	337 (100)
Staff to respond to my request promptly	0 (0.0)	1 (0.3)	15 (4.5)	78 (23.1)	243 (72.1)	337 (100)
Assurance						
To trust staff	1 (0.3)	8 (2,4)	35 (10.4)	61 (18.1)	232 (68.8)	337 (100)
Staff to respect my privacy	0 (0.0)	3 (0.9)	32 (9.5)	67 (19.9)	235 (69.7)	337 (100)
Staff to be polite	0 (0.0)	1 (0.3)	32 (9.5)	64 (19.0)	240 (71.2)	337 (100)
Staff to receive adequate support to do their job well	0 (0.0)	0 (0.0)	9 (2.7)	39 (11.6)	289 (85.8)	337 (100)
Empathy						
Staff to provide individualized attention to me	1 (0.3)	11 (3.3)	32 (9.5)	62 (18.4)	231 (68.5)	337 (100)
Staff to show understanding to my discomfort	0 (0.0)	5 (1.5)	32 (9.5)	62 (18.4)	238 (70.6)	337 (100)
Staff to treat me with a warm and caring attitude	0 (0.0)	4 (1.2)	33 (9.8)	65 (19.3)	235 (69.7)	337 (100)
Staff to understand my specific needs	0 (0.0)	3 (0.3)	30 (8.9)	68 (20.2)	236 (70.0)	337 (100)

Table 3 shows the statistics of expectation scores following their transformation from discrete to a continuous variables. The overall mean expectation score is 90.2% ± 4.6% while the mean expectation scores for the domains range from 89.2% ± 4.6% for the empathy domain to 91.0% ± 4.6% for the assurance domain. In the same vein, the mean expectations for the items range from 87.9% ± 20.5% for the empathy item on "staff to provide individualized medical attention" to 95.8% ± 11.0% for the assurance item on "staff to receive adequate support to do their job well".

Table 3: Mean and SD of expectation scores of scale's domains and items.

Expectations	Mean (SD)
Overall mean score	90.2 (4.6)
Tangibles	90.0 (4.6)
Clinic to have up to date equipment	89.6 (17.6)
Attractive physical facilities in this clinic	89.4 (17.8)
Well dressed staff in this clinic	90.6 (16.8)
Appearance of physical facilities to be as the services provided	90.4 (17.1)

Reliability	90.3 (4.6)
Staff in the clinic to do things promptly as promised	88.9 (20.3)
Staff to be sympathetic and reassuring over my problems	89.8 (18.3)
Adequate information about my medical condition	90.9 (16.9)
Confident when receiving HIV care services in this clinic	91.4 (15.9)
Responsiveness	90.4 (4.7)
Staff to tell me exactly when services will be performed	91.4 (14.8)
Prompt service in this clinic	91.2 (15.1)
Staff to be always willing to help me	90.9 (15.7)
Expect health staff to respond to my request promptly	88.2 (20.0)
Assurance	91.0 (4.6)
Trustworthy staff	88.2 (20.0)
Staff to always respect my privacy	89.6 (17.5)
Staff to be polite	90.3 (16.7)
Staff to receive adequate support to do their job well	95.8 (11.0)
Empathy	89.2 (4.6)
Staff to provide individualized medical attention to me.	87.9 (20.5)
Staff to show understanding towards my feeling of discomfort	89.5 (18.1)
Staff to treat me with a warm and caring attitude	89.4 (17.9)
Staff to understand my specific needs	89.8 (17.2)

Table 4 shows that patients affiliated with the Christian religion reported an 8% higher mean overall expectation score above those affiliated to other religions and this relationship was statistically significant (p=0.003).

Table 4: Factors associated with the overall mean expectation score (n=337).

Variable	Overall expectation	
	B (95%CI)	p-value
Age		
<35	0.89 (-2.0, 3.6)	0.615
≥ 35		
Gender		
Female	-0.69 (-4.0, 2.8)	0.678
Male		
Marital status		
Presently single	-0.17 (-3.5, 3.5)	0.935
Presently married		

Employment		
Presently unemployed	1.5 (-2.3, 5.6)	0.494
Presently employed		
Educational		
Below tertiary	-1.30 (-4.6, 2.5)	0.441
Tertiary and above		
Religious		
Other religious groups	-8.14 (-11.5, -4.7)	0.003
Christianity		

Table 5 shows religion as the only socio-demographic factor found to have a statistically significant relationship with the expectations in the responsiveness (p=0.003), the assurance (p=0.003) and the empathy (p=0.003) domains.

Table 5: Factors influencing expectation in the component domains (n =337).

Variable	Tangible		Reliability		Responsiveness		Assurance		Empathy	
	B (95%CI)	p-value	B (95%CI)	p-value	B (95%CI)	p-value	B (95%CI)	p-value	B (95%CI)	p-value
Age										
<35	1.35 (-2.4, 5.2)	0.497	-0.54 (-4.0, 3.4)	0.793	1.86 (-1.9, 6.0)	0.308	1.27 (-1.8, 4.3)	0.432	0.50 (-3.4, 5.2)	0.828
≥ 35										
Gender										
Female	0.02 (-4.1, 4.6)	0.994	-0.61 (-4.3, 6.1)	0.76	-0.23 (-3.2, 2.5)	0.879	-1.89 (-6.1, 2.8)	0.322	-0.72 (-5.4, 3.8)	0.76
Male										
Marital status										
Presently single	0.42 (-3.3, 4.1)	0.837	0.08 (-3.5, 4.6)	0.962	0.16 (-3.5, 4.2)	0.947	-1.78 (-5.5, 1.5)	0.287	0.28 (-4.3, 4.7)	0.929
Presently married										
Employment										
Presently unemployed	-1.05 (-4.2, 3.0)	0.627	2.39 (-2.0, 7.5)	0.352	2.74 (-1.7, 6.9)	0.201	2.61 (-1.1, 7.0)	0.204	0.90 (-3.5, 5.3)	0.678
Presently employed										
Education										
<tertiary	-.80 (-4.3, 3.2)	0.689	0.27 (-4.1, 5.0)	0.914	-0.01 (-3.3, 3.4)	0.991	-2.31 (-5.4, .8)	0.207	-3.65 (-7.5, 0.4)	0.077
≥ Tertiary										
Religion										
Other religious groups	-4.78 (-10.5, 1.9)	0.145	-5.66 (-11.5, 1.4)	0.074	-10.55 (-13.2, -8.2)	0.003	-8.70 (-13.2, -4.5)	0.003	-11.01 (-14.3, -7.8)	0.003
Christianity										

DISCUSSION

This study determined the service quality expectations of patients receiving antiretroviral care in the University of Port Harcourt teaching hospital, Port Harcourt. The respondents are educated (though mostly below tertiary level) married females of the Christian religion that are below 35 years of age. The mean expectation scores were high across the domains but particularly high in the responsiveness and the assurance domains. Religion was the only sociodemographic factor found to influence expectation scores in the responsiveness, assurance and empathy domains.

The demographics of the respondents in this study share similarity to a Kenyan study in terms of the age and gender of the participants. Though both studies used different study designs and sampling methods, the preponderantly young female participants may be due to the low health-seeking behaviours usually exhibited by males in Africa. The marital status of most of the respondents in this study agrees with that of a similar study in Vietnam. The preponderance of married respondents may be due to spousal support which is likely unavailable among single patients. The educational level of this study participants was different from the findings in a Vietnamese study where most of the respondents have below high school education. This difference in the educational status of the study subjects could have arisen from the difference in the study setting. While the index study was conducted in a single tertiary center, the Vietnamese study was a multi centre study consisting mostly of secondary and primary healthcare facilities.

The mean expectation scores in both the domains and items were found to be high in this study. The high scores are similar to findings from previous cross sectional studies conducted in south-south and southwest Nigeria and in other countries across the world. Although many of these studies were cross sectional and cannot be used to decipher temporal relationships, the finding of high patient expectations from HIV services requires providers to consistently optimise services to meet patients' expectations. Such service optimisation may produce positive effects on patients' satisfaction, patient retention and treatment outcome.

The two highest MES for the domain variables were recorded for the "responsiveness" and the assurance domains. This result could be likened to the findings of other cross sectional studies in some parts of Asia and the Middle East. It however differs from some Nigerian studies that found the highest mean expectation score in the tangible and the empathy domains. Some studies from other climes also recorded the highest mean expectation score in the reliability domain. Though, most of the cited studies are of cross sectional design, they mostly reported very high mean expectation scores in the non tangible domains. The finding of this index study could be attributed to the high premium patients generally place on providers' interpersonal and clinical skills. This, therefore, calls for a paradigm shift from the physician centered style of medical practice to a more friendly patient centered style. This could be achieved by setting up strategies to train, retrain and supportively supervise frontline health workers on the skills needed to meet patients' expectations.

It was noted that respondents had the highest mean expectation score for the item on adequate support for staff. The findings share similarities with a Chinese cross sectional study that reported the highest expectation scores for items in the "assurance" domain. The reality on the ground is however different as health care providers in Nigeria have had cause to down tools on several occasions in protest for unmet welfare needs. It is therefore crucial for authorities to prioritise the welfare needs of workers to optimise productivity. Incentives could be in form of enhanced wages, training allowances and provision of insurance packages

The lowest mean expectation score was noted in the empathy domain which corroborates earlier cross sectional studies done in Nigeria and Iran. This finding is however in contrast with some other studies which have independently revealed tangibles responsiveness and reliability as the domain with the lowest mean expectation score. The differing opinion in the results of the cited studies may be accounted for by the disparity in culture, social context and the size of the sampled population. One can therefore deduce from the finding of this index study that some of the HIV patients may not necessarily need individualised attention possibly because of the desire for solidarity by patients with the same diagnosis. It is therefore suggested that quality improvement programs should be situated in the context of culture and disease conditions while being tailored to meet the expectations of individual patients.

The "reliability" and the "tangible" domains also recorded high mean expectation scores in this study. These findings were corroborated by previous cross sectional studies on service quality in Nigeria (tangible), Tanzania (reliability), Ethiopia (reliability), Iran (reliability) and Malaysia (reliability). These suggest that patients strongly expect staff to provide dependable, accurate and prompt service in a conductive environment. This places a heavy burden on staff, regulatory bodies and relevant government agencies to ensure that services are not just efficient, ethically sound and patient friendly but are rendered in a conducive and comfortable environment. These expectations can be attained through proper staff training and retraining on interpersonal skills, adequate motivation by way of enhanced remuneration and provision of working tools, enhanced budgetary allocation to health and supportive supervision of staff. It is also incumbent on staff and hospital authorities to develop a feedback mechanism that facilitates data collection on expectation and perception of services for proper planning.

Religion was the only background factor found to influence patients' overall expectations and expectations in the domains of responsiveness, assurance and empathy. This may be due to a tendency for Christians which is the predominant religion in the study setting to particularly have higher expectations for items in the responsiveness, assurance and empathy domains. The suggestion of a positive correlation between religiosity and emotional empathy further explains this finding. This is however in contrast with another study

finding which revealed no difference in the level of empathy between religious and non religious people. The significance is for health care providers to exhibit the trait of trustworthiness and to be more empathetic in the discharge of their duties to these HIV patients.

Implications of the Findings

There are important implications of the findings of this study for practice, policy and future research.

Practice Implications

There is a need for the Head of the HIV unit and indeed all frontline staff to orient quality improvement that is focused on addressing issues in the domains with the greatest expectations. This can be attained by instituting deliberate measures that promote training and retraining of health care providers on health communication skills. Hospital authorities can promote HCW's interpersonal skills through supportive supervision and by the reactivation of the SERVICOM unit of the hospital. This is in addition to a periodic evaluation of the quality of care by using patients' feedback on services.

Policy Implications

It is incumbent on policymakers including the minister of health, chief medical directors and boards of health agencies and parastatals to adequately support workers for improved productivity in line with the expectations of patients. This can be done by the provision of adequate working tools, a conductive working environment and enhanced welfare packages.

Implications for Future Research

The need for a periodic survey by HCP on HIV patients' needs and expectations to provide for continuous quality improvement cannot be over emphasised. This is because patients' expectations and needs are ever changing. Also, to get a clear picture of the situation in Nigeria, a large scale nationwide multicentre study on HIV patients' expectations of service quality by the ministry of health and her partners should be conducted. It is also pertinent to establish local thresholds by the Hospital authorities and the ministry of health to facilitate interpretations of findings on studies of this nature since there is always a likelihood that expectations will always be high, Finally, going forward, an experimental study aimed at establishing the exact relationship between religion and the expectations in the responsiveness, assurance and empathy domains should be conducted.

CONCLUSION

A high level of expectation was reported among HIV patients receiving care at the ARV Centre in this tertiary hospital which was not significantly differentiated along with patients' sociodemographic status. This finding calls for concerted efforts by policymakers, practitioners and other stakeholders to align the service with the expectation of the clients to achieve greater utilization, satisfaction, adherence and wellbeing of HIV patients in Nigeria. Future research should explore the relationships between patient expectations and critical outcomes in HIV management.

ETHICAL CONSIDERATION

Ethical approval for the study was obtained from the research ethics committee of the University of Port Harcourt Teaching Hospital (UPTH) while permission was obtained from the head of the ARV clinic of UPTH. The confidentiality of information collected was secured by restricting access to the data collected to investigators and research assistants. The anonymity of the clients was maintained by excluding the personal details of the clients in the instrument. Participation in the study was voluntary and participants had the liberty to withdraw their participation at any point without jeopardizing their care in the hospital.

DECLARATION OF CONFLICTING INTERESTS

The authors declare that there is no conflict of interest.

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