Assessment of Self-Esteem and Coping Strategies among Leprotic Patients

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Abstract Leprosy is a chronic disease that causes physical disability as boy parts deformities and nerve damage. Stigma and associated psychosocial problems are common among leprotic patients and may increase the risk of mental disorders. Stigmatization by general population and their negative attitudes towards leprosy negatively impacts on patient's self-esteem and coping strategies. Aim of the study: to investigate the relationship between self-esteem and coping strategies of patients with leprosy. Research Design: A descriptive correlational research design was utilized in this study. A convenience sample consisted of 30 leper patients were participated in the study. Data collection started from July to December 2017. This study was conducted in Minia leprosy clinic, this hospital is affiliated to ministry of health. It services Minia governorate and it's distinct. Data collection: Personal data questionnaires, coping strategy scale Carver [1] and Self-esteem scale Sorensen [2]. Results: The findings of the present study revealed that, the majority of patients have a severely low level of self-esteem 23 (71.9%), most of the sample are unable to use effective coping strategies (81.3%). In addition there were statistically significant positive correlation between self-esteem and coping strategies (r=.693 p.000).

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1. Introduction

Leprosy is a long-term infection caused mainly by the bacilli Mycobacterium leprae and Mycobacterium lepromatosis [3]. Moreover, Leprosy is a communicable bacterial disease leading to serious skin and nerves damage which results in social segregation and discrimination against the affected patients [1,4]. The clinical manifestations of leprosy disease may remain persist for long periods for 20 years, which in turn lead to delayed diagnosis, especially among women [5].

The World Health Organization set a goal to stop this disease by 2020, but more than 200 thousand new cases of leprosy are added Worldwide [6]. There is need for more innovative preventive measures with the new trends of detection of cases of leprosy in order to reduce worldwide cases in the coming years, [7]. The same author added that leprosy causes both physical disabilities, as well as major psychosocial problems which in turn lead to seclusion of the affected persons. This is due to the stigma feelings which associated with this disease throughout human history. Many factors are associated in forming the stigma in leprosy as external lesions, religious beliefs, and fear of contagion.

Contrary to folklore, leprosy does not cause body parts to fall off but untreated leprosy can progress and cause permanent skin, nerves, limbs, and eyes damage, numb or diseased may occur as a result of secondary infections, because of body's defenses being compromised by the primary disease [8]. In addition, tissue loss may be caused by secondary infections causing fingers and toes to become shortened and deformed, as cartilage is absorbed into the body.

Contact with another case of leprosy is the greatest risk factor for developing leprosy [2]. Contacts with infected people are five to eight times more likely to develop leprosy than general population [7]. Other risk factors are unclearly understood as conditions that reduce immune function, such as malnutrition, other illnesses, or host genetic differences.

As of 2013, 14 countries contain 95% of the globally reported leprosy cases. India has the greatest number (59%) of cases, then Brazil (14%) and Indonesia (8%). In 2012, prevalence of leprosy was nearly about 180,000. In 2011, the approximate number of new leprosy diagnosed cases was 220,000 [3]. Although the number of cases worldwide continues to be decreased, high prevalence remain in certain areas such as Brazil, South Asia (India, Nepal, Bhutan), some parts of Africa (Tanzania, Madagascar, Mozambique), and the western Pacific.

Stigmatization associated with leprosy-affected people are often subjected to various participation restrictions at home, in their work and in their society , causing in severe emotional harm, social ostracism, defaulting from treatment

and economic disadvantages which in turn decease their self-esteem [9].

Researches indicated that internal health locus of control; self-esteem and family support were inversely related to psychological distress of leprosy patients. Leprosy patients had lower self-esteem, internal health locus of control and less family support, with more psychological distress compared with non-leprosy patients and healthy persons. Self-esteem was the best predictor for the psychological distress of leprosy patients and non-leprosy out-patients [10].

The person with leprosy isolates himself from society because society will not accept him. The affected person suffer from Bio-Psychosocial problems, as foot drop, loss of fingers or toes, foot drop, nasal depression , hypo pigmented patches, and loss of cutaneous sensation. Psychological problems such as low self-esteem, anxiety, distress, depression, suicidal tendency, and aggressiveness. And social problems such as social isolation, illiteracy, unemployment, and financial instability [11].

Coping strategy is the process by which a person attempts to manage stressful demands, it takes two major forms, a person can focus on the specific problem trying to find some way of changing it or avoiding it in the future, this is called problem focused coping, it is helpful in resolving or changing a person's behavior or situation. A person can use Emotion-focused coping that focus on alleviating the emotions associated with the stressful situation, even if the situation itself cannot be changed. These coping strategies include deep breathing, progressive relaxation, guided imagery and distraction such as music or other activities [12].

Patient with leprosy are generally uses two categories, such as adaptive coping strategies: as the patient with leprosy solve his Bio-Psychosocial problem in rational and productive way and thus reduces anxiety. Adaptive coping techniques such as, positive self-talk, problem solving, assertiveness, self-acceptance, learning skills needed for communication and relationship, conflict resolution, and community living skills. Palliative coping strategies: In these coping strategies, the solution for Bio-Psychosocial problems of leprosy patients is temporarily relieves anxiety [13].

Leprosy is highly stigmatized disease that apart from the physical ailment and the deformities causes psychosocial problems to the people affected. Due to social rejection the leprosy affected families inhabited in leprosy colonies, with inadequate psychosocial support and help, these people have resorted to beggary as a way to earn their living. Stigmatization of the patient with leprosy causing emotional harm, psychosocial and spiritual deprivation [14]. In addition, Leprosy is mainly because more psychosocial than medical problem. The impact of social inequality on health condition and its impact on the chronic and stigmatized disease has received little attention [15].

2. Subject and Methods

2.1. Aim of the Study

The aim of this study was to assess self-esteem and coping strategies among leprotic patients.

2.2. Research Design

A descriptive correlational research design was utilized in this study.

2.3. Sample

A convenience sample consisted of 30 leprotic patients were recruited in the study. Data collection started from July to December 2017.

2.4. Setting

This study was conducted in out- patient clinic in Minia leprosy, this hospital is affiliated to ministry of health. It services Minia governorate and it's distinct.

2.5. Research Question

Is there a relationship between self-esteem and coping strategies of patients with leprosy?

2.6. Tools of Data Collection

2.6.1. Personal Data Questionnaires

An interview questionnaire sheet was developed by the researcher and covered the following items: age, sex, educational level, marital status, and residence.

2.6.2. Coping Strategy Scale Carver [1]

The COPE Inventory was developed to assess a broad range of coping responses, it's a multidimensional coping inventory contains 53 items to assess the different ways in which people respond to stress. The inventory includes some responses that are expected to be dysfunctional, as well as some that are expected to be functional. The scale is divided into 14 sub items. Response choices were "I usually don't do this at all," "I usually do this a little bit,' "I usually do this a medium amount" and "I usually do this a lot". The subscales are: Active coping, Planning, Suppression of competing activities, Restraint coping, Seeking social support for instrumental reasons, Seeking social support for emotional reasons, Positive reinterpretation & growth, Acceptance, Turning to religion, Focus on & venting of emotions, Denial, Behavioral disengagement, Mental disengagement and Alcohol-drug disengagement Patient's responses indicate how frequently they use each coping strategy. All answers given on a 4-point scale ranging from "Don't do this at all" to "Do this a lot." The lower the total score "53" to "106" indicates less use of effective coping. From "107" to "160" is considered moderate use of effective coping which usually represent majority of human responses. The higher the score from "161" till reach 212 indicates optimal use of effective coping strategies.

2.6.3. Self-Esteem Scale Sorensen [2]

It was developed by Marilyn J. Sorensen, for measuring level of self-esteem. The test consists of 50 statements in which the person put a tick or mark next to each suitable answers. Each statement have yes or no answer, (Yes scored 0, No scored 1).Its score was (0-4 fairly good, 5-10 mild

low self-esteem, 11-18 moderately low self-esteem, 19-50 severely low self-esteem). The high score indicate low self-esteem, while the low score indicate high self-esteem.

3. Tools

Internal consistency of the questionnaires was assessed with the Cronbach's alpha coefficient. Cronbach's alpha coefficient of 0.00 indicates no reliability and a coefficient of 1.00 indicates perfect reliability.

Tools	Cronbach`s alpha
-Self esteem	0.79
-Coping strategy	0.93

4. Procedure

A review of related literature covering various aspects of the problem was done using available journals and books to be acquainted with the research problem and to select the appropriate study tools. An official permission was granted from the director of dermatology and leprosy hospital at Minia governorate to conduct the study. The aim of the study was explained by the researcher through direct personal communication with the patients for getting their approval prior starting their participation in the study to gain their cooperation, as well as voluntary participation and confidentiality were assured.

5. Ethical Considerations

After obtaining the official approval from the research ethics committee at Faculty of Nursing, Minia University. The purpose of the study was explained for every interviewed leprosy patient (males & females). The patient has the ethical right to agree or refuse participation in the study, informed consent to participate in the study was obtained from educated patients and verbal one obtained from uneducated patients, they informed that the information obtained will be confidential and used only for the purpose of the study and there was no any risk for their participation. Code numbers were created and kept by the researcher for each participant.

6. Data Analysis

Data were collected and analyzed by using SPSS (Statistical Package for the Social Sciences), version (20) for windows. Frequency and percentage were used for numerical data as well as mean ± standard deviation, median, minimum and maximum; for relational statistic; Analysis of Variance ANOVA was, correlation coefficient were used, Probability (p-value) less than 0.05 was considered significant and less than 0.001 considered as highly significant.

7. Results

Table 1 show that, the studied sample consisted of 30 patients, their age ranged from 20-29 years old were 30%, 33.3% from30-39 years old, and 36.7% from 40 or more years old. Males represented 76.7% of the sample, the majority of the sample were single (90%), 56.7% were educated, while 56.7% of the sample was employed, and 96.7% of the sample resided rural area.

Table 2 reveals that, the majority of patients have a severely low level of self-esteem 23(71.9%), while only 5 (15.6%) have moderately low self-esteem.

Table 3 illustrates that, most of the sample are less use of effective coping strategies 81.3%. And only 6.3% having optimal use of effective coping strategies.

Table 1. Frequency distribution of the studied sample according to demographic data (n= 30)

Items	No	%
1-Age 20-29	9	30.0
30-39	10	33.3
40 or more	11	36.7
2-Gender Male	23	76.7
Female	7	23.3
3-Marital status Single	27	90.0
Married	2	6.7
Divorced	1	3.3
4-Level of education Illiterate	13	43.3
Educated	17	56.7
5-Occupation Employed	17	56.7
Unemployed	13	43.3
6-Residence Urban	1	3.3
Rural	29	96.7

Table 2. Patients self-esteem levels

Variable	Fairly good N (%)		Mild low N (%)		Moderately low N (%)		Severely low N (%)	
Self-esteem	0	0.0	2	6.3	5	15.6	23	71.9

Table 3. Patients coping strategies levels

Variable	Less use of effective coping N (%)		Moderate use of effective coping N (%)		Optimal use of effective coping N (%)	
Coping strategies	24	81.3	4	12.5	2	6.3

Table 4 represents that, there were no statistically significant differences of patients between mean score of self-esteem, and coping strategies regarding to their age (p=.398, .321 respectively).in addition, the age group 20-29 have the highest mean score for self-esteem (40.78±12.17), while the age group 40 and more have the highest mean score for coping strategies (59.89±17.85).

Table 5 shows that, there were no statistically significant differences of patients between mean score of self-esteem, and coping strategies regarding to their education (p=.835 &.732 respectively) While the mean score of coping strategies were highest for illiterate patients (62.00±20.08).

Table 4. the relation between age groups regarding the various studied variables (n=30)

Variables	Age			F	P
	20-29 N=9	30-39 N=10	40 or more N=11		
Self esteem	40.78±12.17	33.10±13.36	33.64±14.54	.952	.398
Coping strategies	59.89±17.85	58.00±17.44	63.64±21.51	.236	.791

Table 5. relation between education level regarding the various studied variables (n=30)

Variables	Education		t	P
	Illiterate N=13	Educated N=17		
Self esteem	35.00±13.10	36.06±14.10	.210	.835
Coping strategies	62.00±20.08	59.59±18.04	.346	.732

Table 6. the relation between marital status regarding the various studied variables (n=30)

Variables	Marital status		t	P
	Married N=27	Single N=3		
Self esteem	36.89±12.38	24.00±20.22	1.61	.117
Coping strategies	59.70±17.20	69.00±32.90	.814	.422

Table 7. the relation between gender regarding the various studied Variables (n=30)

Variable	Sex		T	P
	Male (n=23)	Female (n=7)		
Self-esteem	33.39±14.62	42.86±3.33	1.68	.104
Coping strategies	63.55±20.77	52.86±2.73	1.27	.213

Table 8 the relation between occupation regarding the various studied variables (n=30)

Variable	Occupation		T	P
	Working (n=17)	Not working (n=13)		
Self-esteem	36.06±14.07	35.00±13.15	.210	.835
Coping strategies	63.12±21.07	57.38±15.11	.830	.414

Table 9. The relation between residence regarding the various studied variables (n=30)

Variable	Residence		T	P
	urban (n=1)	Rural (n=29)		
Self-esteem	43.00±0.0	35.34±13.62	.552	.585
Coping strategies	56.00±0.0	60.79±18.96	.249	.806

Table 10. Correlation between self-esteem and coping strategies subscales among patients with leprosy.

Items		Coping subscales							
		1	2	3	4	5	6	7	8
1-Self-esteem	r	1							
	P	.							
Coping subscales 2-Active coping	r	.366	1						
	P	.047	.						
3-Planning	r	.376	.730**	1					
	P	.040	.000	.					
4-Suppression of competing activities	r	.494	.800**	.884*	1				
	P	.005	.000	.000	.				
5-Restraint coping	r	.107	.151	.154	.112	1			
	P	.573	.425	.417	.555	.			
6-Seeking social support for instrumental reasons	r	.455	.509*	.505*	.607**	.469**	1		
	P	.012	.004	.004	.000	.009	.		
7- Seeking social support for emotional reasons	r	.432	.800**	.855**	.970*	.006**	.579**	1	
	P	.017	.000	.000	.000	.729	.001	.	
8-Positive reinterpretation & growth	r	.191	.248	.093	.174	.748	.499	.100	1
	P	.311	.186	.625	.357	.000	.005	.598	.
9-Acceptance	r	.242	.848	.664	.784	.027	.392	.821	.230
	P	.197	.000	.000	.000	.887	.032	.000	.222
10-Turning to religion	r	.424	.730	.733	.865	.129	.510	.901	.180
	P	.019	.000	.000	.000	.495	.004	.000	.340
11-Focus on venting of emotions	r	.494	.728	.751	.885	.160	.522	.892	.233
	P	.006	.000	.000	.000	.399	.003	.000	.216
12-Denial	r	.487	.673	.692	.803	.160	.622	.835	.201
	P	.006	.000	.000	.000	.399	.000	.000	.287
13-Behavioral disengagement	r	.351	.491	.566	.663	.138	.495	.677	.169
	P	.057	.006	.001	.000	.467	.005	.000	.371
14-Mental disengagement	r	.197	.505	.439	.612	.041	.404	.682	.006
	P	.296	.004	.015	.000	.831	.027	.000	.924
15-Alcohol-drug disengagement	r	.024	.300	.285	.328	.232	.400	.336	.178
	P	.902	.108	.127	.077	.217	.028	.069	.346
16-Total coping	r	.693	.243	.326	.436	.249	.500	.339	.292
	P	.000	.197	.079	.016	.184	.005	.067	.118

Table 11. Correlation between self-esteem and coping strategies subscales among patients with leprosy.

Items		Coping subscales							
		9	10	11	12	13	14	15	16
9-Acceptance	r	1							
	P	.							
10-Turning to religion	r	.827	1						
	P	.000	.						
11-Focus on venting of emotions	r	.811	.981	1					
	P	.000	.000	.					
12-Denial	r	.727	.940	.930	1				
	P	.000	.000	.000	.				
13-Behavioral disengagement	r	.577	.842	.829	.916	1			
	P	.001	.000	.000	.000	.			
14-Mental disengagement	r	.567	.736	.669	.751	.789	1		
	P	.001	.000	.000	.000	.000	.		
15-Alcohol-drug disengagement	r	.292	.340	.291	.394	.505	.624	1	
	P	.118	.066	.118	.031	.004	.000	.	
16-Total coping	r	.199	.330	.410	.412	.387	.181	.225	1
	P	.292	.075	.025	.024	.035	.338	.232	.

Table 6 reveals that, there were no statistically significant relation between mean score of self-esteem and coping strategies regarding marital status (p=.117 & .422 respectively). Moreover, the mean score of self-esteem was highest in married patients (36.89±12.38), while the mean core of coping strategies was highest in single patients (69.00±32.90).

Table 7 illustrates that, there were no statistically significant relation between mean score of self-esteem and coping strategies regarding their sex (p=.104 & .213respectively). Moreover, the mean score of self-esteem was highest in female patients (42.86±3.33), while the mean core of coping strategies was highest in male patients (63.55±20.77).

Table 8: shows that, there were no statistically significant relation between mean score of self-esteem and coping strategies regarding their occupation (p=.835 & .414 respectively). While the mean score of self-esteem and coping strategies were highest in working patients (36.06 ± 14.07 & 63.12 ± 21.07) respectively.

Table 9: reveals that, there were no statistically significant relation between mean score of self-esteem and coping strategies regarding their residence (p=.249 & .806 respectively). In addition, the mean score of self-esteem was highest in in patients living in urban areas (43.00±0.0), while the mean score of coping strategies was highest in patient living in rural areas (60.79±18.96).

Table 10 revealed that there were positive statistically significant correlation between self-esteem and coping subscales of active coping, planning and suppression of competing activities (r=.366, p.047, r=.376 p.040, r=.494 p.005 respectively). In addition there were statistically significant positive correlation between self-esteem and coping strategies (r=.693p.000).

Table 11 shows that, there were positive statistically significant correlation between acceptance subscale of coping and other subscales as turning to religion, denial, behavioral disengagement, and mental disengagement (r=.827 p.000, r=.727 p.000, r=.577 p.001, r=.567 p.001 respectively).

8. Discussion

The current study consisted of 30 participants, 30% of sample their age ranged between 20-29 years old, 33.3% from 30-39 years old, and 36.7% ranging from 40 or more years old. Males represented 76.7% of the sample, the majority of the sample was single and lives in rural areas, more than half were educated employed. In this respect [16] in a study of leprosy patients in Bangladesh found that In Khulna, 43% of the respondents were above 50 years of age 35% were in same group in Rangpur. The majority of sample (74%) were female, (26%) were male in Khulna .whereas (52%) were female and (48%) were male in Rangpur, overall (61%)of the respondents were male compared to female (39%). The majority of participants were from urban areas (63%) compared to rural area (37%). in Khulna and Rangpur the respondents were (48%) highly illiterate and (39%) rather than formal educated person (29%) and (30%), respectively. About (52%) of participants were female and (38%) of them were illiterate male. The majority of the respondents were married (87%).

The current study reveals that the majority of patients have a sever low self-esteem which could be related to social stigma as when the family or community knows that a person has leprosy he\she suffers economic and social losses, as well as participation restrictions in the community. Stigma attached to leprosy leads to loss of employment and becomes more difficult due to disability that often result from late or no treatment. It also leads to exclusion from society, causing physical and emotional distress.

In the same respect, a study was carried out on 108 clients for assessing the physical impairment among leprosy patients and their self-esteem, it found that there is decreased self-esteem of those clients who were having the physical impairment like visual impairment and nerve damage. Leprosy has remarkable impact on Health-related Quality of Life (HRQOL) and the mental health status of affected individuals. The self-esteem is mainly affect the

physical and emotional well-being of leprosy patients and their families [17].

A study was done on prevalence of mental distress among people attending a specialized leprosy and dermatology hospital, concluded that prevalence of mental distress was highly significant in patients with leprosy compared to patients with other dermatological condition. This study concluded that the patient with leprosy is a need of integration of psychosocial care into the medical treatment [11]. In the same respect, Ray et al., [18] found a significant percentage of patients with leprosy perceived that stigma had a negative effect on their self-esteem, relationships, and job opportunities.

This study result is consistent with the result of [19] who found that the patients with leprosy suffer low self-esteem and disturbed self-concept due to their social isolation, with negative impacts on their economic and social life, and affected quality of life in general. The dramatic effect could also extend to their families and caregivers who will need more support. These psychosocial problems persist even after the biomedical cure of the patient.

These findings are consistent with the findings of [20] who noticed a leprosy patient suffer from variety of intense emotions. Grief mainly is the first and most general emotional reaction that leprosy feels show after a diagnosis of leprosy. Anxiety is experienced due to segregation and deprivation of the usual privileges of home environments. They usually suffer from weak egos and lack independence in feeling, thinking and action. Due to defeat and unsuccessful coping with new situations, they develop withdrawal attitude. Usually these patients lack ego integration and poor adjustment abilities. Depression is the most common psychological disorder among these patients.

The present study also shows that, most of the sample had less use of effective coping strategies. It could be attributed as leprosy and its stigma have a prevailing effect on a patient's life, employment, affecting marriage, interpersonal relationships, leisure activities and attendance at social and religious occasions. This result is consistent with the result of Van [21] who found that majority of patients had mal adaptive coping, and it was found that, the leprosy patients with deformities face physical, psychological, financial and social problems. So it was concluded that when the problems increase the coping level decreases.

This result is congruent with Asampong et al [22] who stated that the leprotic patients had negative coping strategies before implementing supportive intervention as the optimism/problem solving, positive action, and re-assessment strategies. In the same respect Chitra [23] in a study to assess the level of coping experienced by the patients with leprosy disease, he demonstrated that 64% of leprotic patients had moderate use of coping strategies, also there were adequate social support in regard to physical, emotional, and financial help also encourage appropriate use of coping strategies which enabling them better coping to the illness.

The present study also reveals that, there were no statistically significant differences of patients between mean score of self-esteem, and coping strategies regarding to their education and marital status. Moreover, the mean score of self-esteem was highest in married patients (36.89±12.38). This may contribute to the presence of partner support which is considering a main source of increasing self-esteem. As

sharing the diagnosis with the spouse appeared to be beneficial, especially for males. People who shared the diagnosis with their spouse seeking treatment earlier and tended to hide the disease from others as a coping mechanism.

In contrast with the current study, Mesele [24] reported that being leprosy had difficulties in getting married or cause separation or divorce, having leprosy affected family member as whole who meant marital isolation for the whole member of that family. Indeed, Creswell, [25] stated that, the unmarried persons affected by leprosy their disease was a hurdle in their marriage. Also Their parents were worried of getting married even after the cure of the disease.

In the same line Kindu [26] reported that the stigma of leprosy have an impact on marriage for leprosy-affected individuals and also on the marriage prospects in all the family. Either the society does not prefer the marriage with these affected people and their families because of societal believes that leprosy is curse of God and societal fear of contagion or being infected.

The current study also revealed that there were no statistically significant relation between mean score of self-esteem and coping strategies regarding their sex. Moreover, the mean score of self-esteem was highest in female patients (42.86±3.33), while the mean score of coping strategies was highest in male patients (63.55±20.77). This result is consistent with the result of Rafferty [27] there is restriction in education between younger people who develop leprosy. As related to gender issue, a study has shown that women are more affected by leprosy accompanied by stigma with suffering more social isolation, rejection, loss of touch, and having more restrictions.

The present study also revealed that there were no statistically significant relation between mean score of self-esteem and coping strategies regarding their occupation, while the mean score of self-esteem and coping strategies were highest in working patients (36.06±14.07 & 63.12±21.07) respectively. This explained as working and dealing with people improve patient psychological health and improve their feeling of acceptance among others. Indeed, leprosy caused disability and, the chronic symptoms of untreated leprosy often affect individuals in their most productive age of life. In contrast, Ebenso [28] found that some participants may lose their employment because of leprosy functional disabilities or because of employers negative attitudes. As leprosy has a major impact on patients' economic status as some of them were breadwinners of their family.

In addition there were statistically significant positive correlation between self-esteem and coping strategies (r=.693 p.000). In agreement with this, a study in Canada reported that there is a strong relation between self-esteem and coping strategies among leprotic patients. In a study done by [29] illustrated that there was significant positive correlations between the scores of self-concept and the coping strategies, as lack of knowledge and training in coping methods among leprosy patients cause low self-esteem among them, So, [30] using of effective coping strategy will improve self-esteem.

9. Limitations of the Study

Majority of patients are living in rural area and above 40 years, they have difficult transportation to the hospital

so, they prefer to send their relatives to the hospital for getting the monthly medications and follow up.

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