

Determinant of Work-Related Stress among Nursing Staff: A Systematic Review

Manal H. Abo Elmagd¹, Hamdia M. Khamis² & Hala Y. Sayed Ali³

¹Associate Professor of Psychiatric & Mental Health Nursing, Faculty of Nursing, Umm Al-Quraa University, Saudi Arabia.

²Assistant professor Obstetric & Genecology nursing' Faculty of Nursing, Umm Al- Quraa University, Saudi Arabia.

³Assistant professor Nursing Management, Faculty of Nursing, Umm Al- Quraa University, Saudi Arabia.

Corresponding author: mhali@uqu.edu.sa

Abstract

Background: Globally, work-related stress had a significant impact on health-care providers. According to WHO, nurses are the largest health care group in the world; nurses and midwives represent about 50% of the global health workforce **Aim:** To assess determinant of work-related stress among nursing staff. **Method:** This paper analyses 23 papers relating to work related stress among hospital nurses derived from original searches available on credible databases; PubMed, CHINAL, MEDLINE, EMBASE, PsycINFO, MedRxiv and Google Scholar. Covering English languish from 2018 till 2023, published in international journals. **Design:** Systematic review. **Sample:** The studied populations were nurses or health care professionals who had worked at public and private hospitals. **Results:** The overall magnitude of work-related stress among nurses working in hospital was almost half. The average of work-related stress among nurses working in public hospitals is relatively high compared with nurses in private hospitals. Additionally, the workload and manpower availability are most significant stressors among the nurses. The management of the hospitals needs to look into these two issues to help overcome the stress faced by the nurses. Determinates of work-related stress were Sex, operating and intensive care units, working experience, and type of institution (public and private hospitals). **Recommendations:** Hospital's management need to consider the nurses workload to help overcome the stress faced by the nurses. There is a crucial need for reducing workload and providing stress management training to reduce nurses' work-related stress.

Key words: Determinants, nursing staff, Systematic review, Work stress

Introduction

Dynamic lifestyles cause stress at the workplace. Work-related stress is widely accepted as the employee's incongruous psychological perception between what the work demands and the ability to cope with that demand. The employee sees it as a

hurdle in life due to demands, constraints, or opportunities. Often instances workplace becomes stressful and overwhelmed an individual's work-life balance. Stress is defined as an everyday life reality because everyone suffers in

different situations and circumstances (Johan, Sarwar, and Majeed. 2017).

Work-associated strain is the reaction of humans that exists whilst paintings stressors are unrivaled with their knowledge, skills, or talents which demanding situations their coping mechanisms (Abdali, Naji and Zarea 2016). Nurses confronted with extreme infection and that makes nursing as extraordinarily stressful profession (Ezenwaji et al.2019). It promotes organizational incompetency, excessive group of workers turnover, sickness, absenteeism, lower nice of care, expanded charges of fitness care, and decreased task satisfaction (Bruno, 2019).

The effect of work-associated strain at financial system and social existence consists of throughout contamination time or occupational hazard; agency covers the value of remedy and offers cash for reimbursement which reduces productiveness of the agency (O'Keefe, Brown and Christian, 2014). Nursing has been diagnosed as one of the professions with the best strain due to the fact nature of the activity itself has an effect on nurses' fitness mentally and physically. It stated that the nursing profession is stressful and challenging as nurses are required to offer emotional aid in addition to relieving pressure of loss of life and crying patients (Heathfield, 2019).

Significance of the study:

Work-Related Stress among nursing staff members is thought a common problem worldwide. Among all health practitioners, many studies proved that nurses are facing the highest level of stress. It is considered as one of the most influential factors for

current nursing shortage and high turnover in many countries. Nurses' job stress is one of the factors that lowers work productivity and efficiency, and threatens affected person safety, and while task pressure increases, it influences affected person care in addition to the pleasant of care (Jacobs, and Lourens, 2016).

Aim of the study

This study aimed to **assess determinant of work-related stress among nursing staff.**

Researcher question

- What is the level of prevalence of work-related stress among nursing staff?
- What are the determinants of work-related stress among nursing staff?

Literature Search and Selection

Method

Design: systematic review was conducted. The following databases were searched: PubMed, CHINAL, MEDLINE, EMBASE, PsycINFO, MedRxiv and Google Scholar, from January 2019 up to January 2023. **Sample:** hospital nursing staff. The search was conducted by using search terms were nursing staff and "work related stress." The search period was set to the previous 4 years from 2019 to 2023. Consequently, 229 studies were found.

After excluding 79 duplicate studies unrelated research based on the study title and study population, and the rest 127 studies were reviewed against the inclusion/exclusion criteria. After reviewing the abstracts, another 52 studies were excluded as well: 19 of studies that were not conducted on hospital nurses, other studies that included non-nursing staff, 23 studies that did not present work related stress or other relevant factors, 13 studies that were either abstract presentation in conferences so inadequate

information about the study design and study results was present, 4 studies where the full text was unavailable.

The full texts of the remaining 44 studies were reviewed. A total of 28 studies were additionally excluded: 13 studies include unrelated terms on its titles for instance fatigue. Burnout post-traumatic stress, impact of stress, post-traumatic stress disorder. The quality of the remaining 12 studies was assessed and 5 studies with low quality were excluded.

Studies with a high quality and published in Peer-Reviewed Journals were included 16 research articles; that matched with the study objectives of exploring the prevalence and variables related to work related stress among hospital nurses included in this study. That derived from original searches and available on credible databases covering English language from 2019 till 2023, original research articles published in international journals. Its study populations were nurses or health care professionals working at public and private hospitals.

Study selection.

Researchers performed the search and scrutinizing all titles for eligibility towards the inclusion and exclusion criteria. Studies were included in the review according to the following inclusion criteria: (1) reported prevalence of work-related stress among nurses (2) all types of setting. (3) study population nurses of health care providers the exclusion criteria

were: (1) protocol papers and conference abstracts; (2) study did not report parameters for work related stress and its correlates among nurses.

Results:

1. The overall magnitude of work-related stress among nurses. According to **Shbre et.al., 2021** study the magnitude of work-related stress among nurses in private and public hospitals, Dessie city, Northeast Ethiopia, April 8 to May 7, 2021 (n = 304). Revealed that, the overall mean (\pm SD) score of work-related stress was 2.28(\pm 0.49) [private hospitals, 2.13(\pm 0.42), and public hospitals, 2.44(\pm 0.51)]. This mean value was used to categorize nurses into two groups. Nurses who had scored ≥ 2.28 (± 0.49) were considered as stressed, and those nurses who had scored < 2.28 (± 0.49) were considered as not stressed. Accordingly, 147 (48.4%, 95% CI: 42.4, 54.6) nurses were stressed. Additionally, the magnitude of work-related stress in private and public hospitals was 46.4% (95% CI: 42.1, 50.3) and 51.6% (95% CI: 51.2, 59.5), respectively.

Batran, (2019) proved that the workload stress was the highest average scores between sources of the work stress 59.4 (14.67), the second source of work stress was lack of support 55.3 (19.13). On the other hand, conflict with other nurses had the lowest source of work stress 52.5 (16.78). Other parameters of work stress levels among nursing staff nurses illustrated in table (1).

Table (1): Data analysis for parameters of work stress levels among nursing staff nurses.

Study	Parameters	Mean (SD) scores of job stress.		Conclusion & Recommendations
		M	SD.	
Ji-Young Lim et al.(2022). Factors Associated with Job Stress among Hospital Nurses: A Meta-Correlation Analysis <i>Int. J. Environ. Res. Public Health</i> 2022.	Job stress (28.2%)	NA	NA	These results are likely to be useful in clinical practice and research to help develop job stress intervention programs for nurses. Despite extensive attempts, this study has limitations as it includes only studies published in Korean and English. Therefore, it is suggested that a more robust theoretical model for the factors related to job stress in hospital nurses should be developed in the future, including studies published in various languages.
Shbre Tsegaw et al.(2021). Determinants of Work-Related Stress Among Nurses Working in Private and Public Hospitals in Dessie City: Comparative Cross-Sectional Study <i>Psychol Res Behav Manag.</i> 2022; 15: 1823–1835.	Work-related stress among nurses was 48.4% (95% CI: 42.4–54.6)	NA	NA	Reducing workload and providing stress management training is crucial to reducing work-related stress among nurses.
	Work-related stress (51.6% among public hospitals and	NA	NA	
	Work-related stress 46.4% for private hospitals).	NA	NA	
Samuel et al., 2021 Nurses' perspective of work-related stressors, <i>IOP Conf. Ser.: Earth Environ. Sci.</i> 704 012026 https://iopscience.iop.org/issue/1755-1315/704/1	NA	3.24	0.4	The government too needs to emphasize the importance of manpower issues in the healthcare sector. With an aging population, nursing care

				will be very much needed in the future. Future researcher should expand the research to more hospitals including government hospitals. This will widen the scope of research and can be generalized to the nursing profession in this country.
Ali-Reza Babapour et al., 2022, Nurses' job stress and its impact on quality of life and caring behaviors: a cross-sectional study, BMC Nurs 2022, Mar 31;21(1):75.	NA	2.77 Range from 0-4	0.54	-Required to investigate the stressors and effective planning to eliminate these factors. -The provision of educational programs to the proper introduction of this profession to the community can increase awareness about the nurses' problems and concerns, and ultimately, improve their quality of life. Nevertheless, it is recommended the initial management be performed at the organizational level. Purposeful education in university on nursing professional values is essential and hospital managers can improve nurses' quality of life and caring behaviors by providing cognitive-behavioral intervention programs with the aim of identifying sources of stress in the workplace and providing soft skill programs such as team

				working, behavioral and communication skills and teaching effective coping strategies to reduce stressors.
Nawar Aqeel et al., 2022, Prevalence of Work-Related Stress and its Associated Factors among Healthcare Professionals at Jazan Region, Saudi Arabia. Journal of Pharmaceutical Negative Results Volume 13 Special Issue 1 2022 1174-1183.	(66.3%) of participants have a high work stress level and 29.6 % had moderate level of work stress	NA	NA	-Future large-scale research should be conducted on healthcare providers in other regions of Saudi Arabia for expansion and generalize the findings . - Further studies are needed to explore other contributing factors that the researcher did not look at. - Educational sessions on stress and burnout should be established by authorities to minimize of stress levels among healthcare providers
Alanazi, A., Mohamed, A., et al. (2019). Job-related stress among nurses in primary healthcare centers in Arar city, Saudi Arabia. Electronic Physician, 11(3), 7594-7601.	(34.7%) of the nurses had work-related stress	NA	NA	Application of interventional programs to relieve sources of stress, and providing more training of nurses on stress management is a necessity
Regidor- Dioso, Mohamed Janoof, Amarasingam Thiviyasuthan, (2020). American Research Journal of Emergency and Intensive Critical Care Volume 1, Issue 1, 8-13 Pages Work-Related Stress Among Sri Lankan Nurses in Critical Care Settings – A Cross Sectional Study.	45% of the respondents were experiencing stress	NA	NA	-The policy makers and administrators should take measures to reduce work related stress associated with shortage of staff, poor physical environment, and lack of facilities (Pawson et al, 2005). -Developing standard

				<p>policies for extended shifts is helpful at the work place as it can provide structured system which managers can follow. It is recommended that hospital policies must include structured monetary system of rewarding and/or physical incentives that may reduce stressors from nurses, if hiring of newly graduate nurses from private educational institutions is unlikely to be an option.</p> <p>- Technical supports are also to be provided in critical care settings</p>
Gebeyehu, S., & Zeleke, B. (2019). Workplace stress and associated factors among healthcare professionals working in public health care facilities in Bahir Dar City, Northwest Ethiopia, 2017. BMC research notes, 12 1), 249 .	The prevalence of workplace stress was 78.6% of healthcare providers.	NA	NA	This study recommended that the health care facilities should work to identify other sources of workplace stress and further large-scale researches need to be done.
Godifay, G., Worku, W., Kebede, G., Tafese, A., & Gondar, E. (2018). Work related stress among health care workers in Mekelle City administration public hospitals, North Ethiopia.	46.9% of health care professionals have a high level of stress.	NA	NA	<p>-Work related stress is significantly high among health care workers. Gender, marital status, work experience and job satisfaction status were identified as factors associated with work related stress.</p> <p>-Therefore, it needs to set intervention programs focusing on prevention and control of stress. Work related</p>

				<p>stress is significantly high among health care workers. Gender, marital status, work experience and job satisfaction status were identified as factors associated with work related stress.</p> <p>-Therefore, it needs to set intervention programs focusing on prevention and control of stress</p> <p>-Work related stress is significantly high among health care workers. Gender, marital status, work experience and job satisfaction status were identified as factors associated with work related stress.</p> <p>-Therefore, it needs to set intervention programs focusing on prevention and control of stress</p> <p>Conclusion: Work related stress is significantly high among health care workers. Gender, marital status, work experience and job satisfaction status were identified as factors associated with work related stress. Therefore, it needs to set intervention programs focusing on prevention and control of stress</p> <p>Conclusion: Work related stress is</p>
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				<p>significantly high among health care workers. Gender, marital status, work experience and job satisfaction status were identified as factors associated with work related stress. Therefore, it needs to set intervention programs focusing on prevention and control of stress</p> <p>Work related stress is significantly high among health care workers. Gender, marital status, work experience and job satisfaction status were identified as factors associated with work related stress. Therefore, it needs to set intervention programs focusing on prevention and control of stress.</p>
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Alanazi and Mohamed, et al. (2019), was carried out to determine the prevalence of job stress among nurses in primary health centers in rural city and to identify its associated factors. Almost one third of nurses working at primary healthcare centers in rural (34.7%) had work -related stress respectively. (**Alanazi and Mohamed, et al. 2019**). A comparable figure has been reported in Jordan by Al-Hawajreh as 30% of hospital nurses had job stress In South-West Ethiopia (**Godifay, et al. 2018**) the average overall job -related stress level of 58.46 ± 12.62 (out of 26-116) was reported among nurses working in public hospitals In another Ethiopian study, the prevalence of work stress was 37.8% In Egypt, a very high prevalence was reported (72.5%) (**Godifay, 2018**).

In Iran, 75% of the nurses experienced average and high levels of stress Also in Iran, a meta-analysis revealed a pooled prevalence of work-related stress of 69% among nurses working in public and private hospitals. The difference in rates reported from various studies including the present one could be attributed to different categories of nurses, their socio - demographics, cultural background as well as different tools assessing work -related stress in different studies.

Considering the work-related stress levels. **Ghadeer et.al. 2022** study revealed that 127 nurses, 69 general physicians, and 43 of participant working in administrator work are exposed to high stress level. In addition, 62 nurses are exposed to neutral stress level, while 13 nurses are exposed to low stress level (**Alrashidi, 2022**).

In Regidor- Diosoletal., study the nurse-respondents were categorized according to the level of stress, they further categorized them under age groups. Among the age bracket 21-30 years old, 16 nurses had mild stress, 60 nurses had moderate stress and 5 nurses had severe stress. In the age group of 31-40 years old, 65 participants were in moderate to severe stress and 7 participants experienced the worst level of stress. In the age group 41-50 years old, 7 nurses were without stress, 10 were with mild stress, 6 were with moderate stress and only 1 nurse was with severe stress.

Other studies were aimed to identify the determinate of stress among nurses in Saudi Arabia. The results demonstrated that workload, lack of resources and support, and dealing with death and dying are the main sources of work's stress. Additionally, nervousness (32, 4%) and exhaustion (30%) were the most common mental health problem among participant nurses.

Determinants of Work-Related Stress among Nurses:

The study was used the multivariable regression, and four variables including sex, type of institution, working unit, and service year were considered as determinants of work-related stress. Female nurses were about two-fold more likely to have work-related stress as compared to male nurses (AOR = 1.87, 95% CI: 1.06, 3.31). Nurses who had worked in public hospitals were about 4 times more likely to have work-related stress as compared to their counterparts (AOR=4.06, 95% CI: 1.79, 9.21). Nurses who had worked in ICU and OR were five and four times more likely to have

work-related stress as compared to nurses who had worked in OPD, respectively (AOR = 5.24, 95% CI: 1.69, 6.28), (AOR = 3.71, 95% CI: 1.07, 13.01). Nurses who had five to ten years of work experience were 60% less likely to have work-related stress as compared to nurses who have less than five years of work experience (AOR = 0.40, 95% CI: 0.19, 0.83). As the less experienced nurses had higher percentage of work-related stress. The final multivariate regression declared significant determinants at a p-value <0.05 and a 95% confidence interval with an adjusted odds ratio (AOR) to reveal the strength of associated variables (**Shbre, et al., 2022**).

In addition, as revealed from this study, the overall magnitude of work-related stress among nurses was 48.4% (95% CI: 42.4–54.6) (51.6% among public hospitals and 46.4% for private hospitals). Bachelor nurses (AOR=0.32,95% CI:0.13,0.76), working in operation room (AOR=7.89, 95% CI:1.46,9.60) and job dissatisfaction (AOR=4.95, 95% CI: 1.94,2.61) were determinants of work-stress in private hospitals whereas being female (AOR = 3.15, 95% CI: 1.43, 6.92), working experience 5 to 10 years (AOR=0.42, 95% CI: 0.18, 0.97), having degree and above (AOR = 0.41, 95% CI: 0.17, 0.99) and working in intensive care unit (AOR = 6.48, 95% CI:1.49, 8.18) were determinants of work-related stress in public hospitals (**Shbre, et al., 2022**).

Alanazi, and Mohamed, et al. (2019). study Job-related stress among nurses in primary healthcare centers in Arar city, Saudi Arabia (**Alanazi, and Mohamed, et al. 2019**). All nurses at primary healthcare

centers in Arar city were included in the study (101nurses). The most frequent areas of work-related stress among nurses were time pressure (42.6%), followed by boredom-induced stress (32.7%), pressure on the job (31.7%), work underload stress (26.7%), and disagreement and indecision (25.7). Almost one-third (34.7%) of the nurses had work-related stress. Higher educated nurses (Bachelor or above) were more likely to have work-related stress compared to diploma educated nurses; 55.2% versus 26.4% (OR=3.4, CI: 1.3-8.4, p=0.006) **Alanazi, and Mohamed, et al. 2019**).

Higher educated nurses (Bachelor or above) were more likely to have problems in the area of boredom-induced stress than Diploma educated nurses (48.3% versus 26.4%, OR= 2.6, CI: 1.06-6.3). The difference was statistically significant (p=0.034). Nurses with lower monthly income (5000-<10000 SR/month) were more likely to have problems in the area of boredom-induced stress of work-related stress than those with income exceeding 10000 SR/month (40.7% versus 21.4%, OR= 2.5, CI: 1.02-6.1, p=0.042) (Table 3). Higher educated nurses (Bachelor or above) were more likely to have overall work-related stress compared to Diploma educated nurses (55.2% versus 26.4%, OR= 3.4, CI: 1.3-8.4). The difference was statistically significant (p=0.006). Other studied factors (age, sex, years of work and income) were not significantly associated with work-related stress **Alanazi, and Mohamed, et al. 2019**).

Samuel et al., 2021 study finding indicating that 41.4% of the variance in work related

stress can be explained by the 4 predictors. Workload ($\beta = 0.342$, $p < 0.05$) and Manpower Issues ($\beta = 0.301$, $p < 0.05$) were positively related to Work Related Stress while Social Support ($\beta = 0.040$, $p > 0.05$) and Work Environment ($\beta = 0.048$, $p > 0.05$) were not significant predictors.

Discussion

Nursing is fundamentally a caring science, and nurses are the frontline healthcare professionals who deliver the most personalized care for various service users (Gebeyehu & Zeleke, 2019). Their work in hospitals is affected by numerous factors, including the amount of work delegated to them, the way they are managed by their supervisors, and their interactions or interrelationships at work as part of multidisciplinary healthcare teams and in liaising with service users (Durant. Et al., 2019). Such work factors shape their professional quality of life (QoL) either positively or negatively.

Due to the high rates of burnout (BO), absenteeism, and turnover among healthcare professionals worldwide, researchers have devoted increasing attention to exploring the status of professional QoL among caregivers and ways to improve it. Prolonged fatigue, emotional attrition, and a lack of perceived personal achievement can cause negative symptoms among employees (Kwak . et al ., 2020).

On the other hand, the positive impact of altruism creates feelings of enjoyment from helping others, which is called compassion satisfaction (CS) (Erkorkmaz. Dogu. & Cinar, 2017. Self-efficacy beliefs, the

feeling of being part of a community, and effective coping with different life situations are directly associated with compassion satisfaction (Cetrano, et al., 2017). Compassion satisfaction obtained from caring and showing kindness and empathy for others, enhances the “professional and personal lives” of caregivers (Hegney.et al., 2015).

Nursing has been identified as one of the professions with the highest stress because the nature of the job itself has an impact on nurses’ health mentally and physically (Smart. et al., 2014). Heathfield, M.S. (2019) stated that the nursing profession is stressful and challenging as nurses are required to provide emotional support as well as relieving stress of dying and crying patients. Nurses’ responsibility of monitoring patients’ condition, they also observe and provide care for patients and their families who are both suffering physically and mentally (Baye, et al., and 2020).

High stress level among nurses could be attributed to the high pressure and stressful events faced by healthcare providers particularly nurses in the hospital. A study of (Alanazi, and Mohamed, et al. 2019) showed that nurses reported the highest frequency of occupational stressors due to their workload (Baye, et al., 2020).

A study by Yehya., et al., (2020 found that, there was a statistically significant and negative relationship between total job stress scores with quality of life ($r = -0.44$, $P < 0.001$, Medium effect) and caring behaviors ($r = -0.26$, $P < 0.001$, Small effect). Linear regression showed that job stress alone could predict 27.9% of the changes in the

total quality of life score ($\beta = -0.534$, $SE = 0.051$, $R^{2adj} = 0.279$, $P < 0.001$) and 4.9% of the changes in the total score of caring behaviors ($\beta = -0.098$, $SE = 0.037$, $R^{2adj} = 0.049$, $P < 0.001$) **Yehya., et al., (2020)**.

According to WHO, strategies to solve work stress problems among nurses include changing the demands of work by sharing the workload differently, developing the employees' knowledge and skills by giving training and creating a fun work environment, encouraging new learning experiences among staffs, motivating staff through tangible and intangible rewards. Work-related stress is a considerably prevalent problem among nurses working at primary healthcare centers in rural city, Saudi Arabia as it impacts almost one third of them **(Alanazi, and Mohamed, et al. 2019)**.

Socio-demographic characteristics, behavioral factors, work-environment factors (work shift, working unit, work experience, working hours per week, assigned position, and job satisfaction) were determinants of work-related stress among nurses **(Yehya., et al., 2020)**. The prevalence of work-related stress in Africa is high. Researchers on work-related stress reported that in the most organizations about one-third of employees reported high levels of stress while one-quarter of workers ranked their job as the highest stressful one **(Munnangi, et al., 2018)**.

In general, exposure to more Work stressors increases the possibility of developing health problems. Nevertheless, this relationship is depending on variables

related to the type of stressors, its intensity, and person resilience **(Anshasi, et al., (2020)**.

Nursing profession is very stressful as they are exposed to a high psychological and physical workload including needs and safety of patients, shortage of staff, long shifts, work, work-related conflicts with patients, relatives and supervisors, bias as well as lack of organizational support **(Babapour, et al., 2020)**. This could be explained by some occupational tasks represent another source of stress for nurses, and dealing with death was considered one of the most significant sources of stress. This type of tasks increases the possibility to develop symptoms of stress among nurses, This result is consistent with **(Nawar et al, study 2022)** as they proved that, more than half of the participants had high-stress levels. The highest mean score for the job stress sub-domain is "Role", while the lowest mean score for the job stress sub-domain is "Change". Nurses as a member of health care provider reported the higher level of stress. Furthermore, years of experience, working department, and occupational position are the significant correlated with job stress level **(Guo, et al., 2018)**. It was acknowledged also that, the long working hours, the intense workload, the poor earnings, and the high job danger were all contributors to the stress **(Munnangi, et al., 2018)**.

Conclusion:

The overall magnitude of work-related stress among nurses working in hospital was almost half. The average of work-related

stress among nurses working in public hospitals is relatively higher than in private hospitals. Nurses' sex, workplace such as operating room, and intensive care units, working experience, and type of institution (public and private hospitals) were work-related stress determinants.

Recommendations:

1. Application of interventional programs to relieve workload stress for nurses.
2. There is a crucial need to provide stress management training for reducing work-related stress among nursing staff members.
3. Orientation of hospital managers and health staff about factors contributing to workload stress to prevent staff turnover.
4. Future researcher studies needed to widen the scope of research and can be generalized to the nursing profession.

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