

## Perceived health, perceived social support and professional quality of life in hospital emergency nurses

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### ARTICLE INFO

#### Keywords:

Professional quality of life  
Compassion fatigue  
Compassion satisfaction  
Burnout  
Perceived health  
Social support  
Nursing  
Emergency services

### ABSTRACT

**Background:** Emergency department nurses are continually exposed to distressing experiences that can lead to burnout, compassion fatigue, and compassionate satisfaction, thus could affect the professional quality of life. The aim of this study was to analyse professional quality of life in hospital emergency department nurses based on perceived health, social support and a series of socio-demographic and sociooccupational variables.

**Methods:** This descriptive cross sectional study involved nursing professionals working at hospital emergency departments in Andalusia, Spain. Professional quality of life, perceived health, socio-demographic and occupational variables, and perceived social support were measured. A descriptive and multiple regression analysis was performed.

**Results:** A total of 253 nursing professionals participated, of which 62.5% had high levels of compassion fatigue and compassion satisfaction (45.1%). Burnout levels were medium (58.5%). Perceived health significantly influenced on compassion fatigue and burnout. Perceived social support was found to be significantly related to all three dimensions of professional quality of life, but it had the greatest influence on the occurrence of burnout.

**Conclusions:** Emergency department nurses in public hospitals are emotionally drained. Healthcare systems must develop intervention strategies to increase the quality of life of nursing professionals, which would lead to improved patient care. The promotion of compassion is a key element.

### 1. Introduction

There are many stressors originating in the work context that cause healthcare professionals to develop certain syndromes that affect their physical health and emotional well-being [1]. One of these syndromes is compassion fatigue, which occurs in professionals who are in constant contact with individuals experiencing pain or distress [2,3]. Compassion fatigue manifests itself through personal protective behaviours, such as cynicism or disregard for the patients they are caring for or even for one's own colleagues [4].

Another syndrome related to compassion fatigue and generated by the working conditions surrounding healthcare professionals is burnout [5]. Compassion fatigue, burnout, and compassion satisfaction are included in Stamm's conceptualisation of Professional Quality of Life (PQoL) [6]. PQoL is a three-dimensional concept that may be defined as the perception of well-being that people experience when their personal needs in the workplace are met [7]. Burnout and compassion fatigue exert a direct negative influence on PQoL, well-being, and perceived health, while Compassion satisfaction exerts a positive influence [8]. Compassion satisfaction may be described as the feeling of gratification

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<https://doi.org/10.1016/j.ienj.2021.101079>

Received 14 December 2020; Received in revised form 24 July 2021; Accepted 3 September 2021

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that the professional receives from caring for others, and which motivates them to keep doing so [9]. Compassion satisfaction is considered to be an important protective factor that promotes a good PQoL [10].

In the same vein, psychosocial support is a mechanism that prevents and reduces compassion fatigue [9]. The subjective assessment, made by individuals, of the support they have at an instrumental, educational, or emotional level to cover their basic needs enhances their capacity of adaptation to the environment and to stressful situations [11,12]. In fact, perceived social support is a mechanism that mediates between work stressors and the presence of burnout in health professionals [13].

Studies in different countries have shown that the PQoL and health of healthcare professionals working in hospital emergency departments (ED) is compromised [14,15]. Being in close contact with sick individuals causes nurses to be more susceptible to compassion fatigue [8,15]. The structural characteristics of these services, as well as the sometimes extremely serious situations of vulnerability of patients, require a great deal of effort from workers and represent a physical and emotional challenge for them [16]. Age, sex, shifts, and seniority or experience in the service are variables that may influence PQoL [10,17].

PQoL in ED nurses has been studied in countries such as the USA and Australia, but little information is available for Spain [18,19]. In addition, the socio-demographic and socio-occupational variables that may affect PQoL in this population are unknown, but perceived health and perceived social support could play a major role [5,20]. A number of studies have found that the perceived health of nurses in the ED is impaired and that social support is a factor influencing burnout [13–15]. However, we have limited knowledge of its relationship with PQoL and more specifically with compassion satisfaction and compassion fatigue [3,13,14]. Therefore, the objective of this study was to analyse the PQoL of ED nurses based on their perceived health, perceived social support and main socio-demographic and socio-occupational variables.

## 2. Materials and methods

### 2.1. Study design

A descriptive, cross-sectional study was carried out.

### 2.2. Sample and setting

Participants were nurses working in hospital ED of the Andalusian Public Health System (APHS), Spain. Professionals working in managerial positions of these services were excluded. A total of 15 hospitals in this Spanish Autonomous Community participated from January 2018 to December 2018. For the calculation of sample, the number of nurses working in the ED during 2017 was taken as a reference ( $n = 1710$ ). A confidence level of 95%, an accuracy level of 5% and an expected compassion fatigue rate of 20.97% were assumed [15]. According to this sample calculation, the number of nurses necessary to carry out the study had to be 222, in the end a sample of 253 was obtained.

### 2.3. Instrument and variables

A data collection sheet was designed. This included socio-demographic variables (age, sex; marital status) and work-related variables (employment status, work experience and seniority in the current position).

The following instruments were administered:

1. The Professional Quality of Life Scale (ProQOL v. IV) [21]. The questionnaire is self-administered and it measures how you feel about your work helping other people. This has been implemented in professionals in the healthcare setting [22]. It consists of 30 items which are divided into three subscales: compassion fatigue (10 items) (high =  $\geq 17$ ; medium = 9–17; low =  $\leq 8$ ); compassion satisfaction (10 items) (high =  $\geq 42$ ; medium = 34–41; low =  $\leq 33$ ),

and burnout (10 items) (high =  $\geq 27$ ; medium = 19–26; low =  $\leq 18$ ). Each item rated on a 5-point Likert scale ranging from 1 = “never” to 5 = “very often”.

2. Goldberg’s General Health Questionnaire (GHQ-12) [23,24]. It is a screening questionnaire that measures perceived health and it detects possible cases of psychiatric pathology. This is a 12-item questionnaire with a 4-point Likert scales (0 = “not at all”, 0 = “no more than usual”, 1 = “rather more than usual”; 1 = “much more than usual”). The total score ranges from 0 to 12 points. Higher scores indicate poorer perceived health.
3. The Duke-UNC-11 perceived social support questionnaire (Duke-UNC) [25] measures the subjects’ perception of the availability of help from family and friends in difficult situations. This is an 11-item questionnaire with a 5-point Likert scale ranging from 1 = “much less than I would like” to 5 = “as much as I would like”. This scale is structured in two dimensions: confidential support (the ease of communicating with loved ones) and affective support (displays of love and empathy). The total score ranges from 11 to 55 ( $<32$  points = low support;  $\geq 32$  = normal support).

### 2.4. Data collection and ethical considerations

Regarding the data collection process, the researchers contacted the directors of the healthcare centers by telephone or by email and requested their participation in the study. Once their permission was obtained, the researchers met with the professionals in small groups to inform them of the objectives of the study and to hand out the data collection notebook to those who agreed to participate. It was requested that all the participants sign the informed consent form, which specified that participation was voluntary and anonymous. The study was authorized by the research ethics committee (PEI-039/17).

### 2.5. Statistical methods

Regarding data analysis, a descriptive analysis was performed for the numerical (means and standard deviations) and categorical (absolute values and percentages) variables. Student’s *t*-test for independent samples and one-way ANOVA, with a 95% confidence interval, were used to determine the relationship between PQoL and the following variables: socio-demographic variables, work-related variables, perceived social support and perceived health. Pearson’s correlation was used for quantitative variables. Finally, taking as the dependent variables the three dimensions of the PQoL questionnaire (compassion fatigue, compassion satisfaction, and burnout) and socio-demographic variables, socio-occupational variables, perceived social support and perceived health as the explanatory variables, a forward stepwise linear regression model was designed. Fit of the model was determined by the coefficient of determination ( $R^2$ ). The analysis was carried out with the program SPSS Statistics v.25 (IBM Corp, Armonk, NY, USA).

## 3. Results

Table 1 shows the main socio-demographic, occupational, and outcome variables. A total of 253 nursing professionals participated in the study, with a mean age of 43.21 (SD = 7.69), a mean work experience of 18.47 (SD = 7.68) years, and a mean seniority in the service of 10.61 (SD = 8.31) years. The mean perceived health score was 1.74 (SD = 2.17) and the mean perceived social support score was 44.09 (SD = 7.51). PQoL was measured in all its three dimensions. The mean compassion fatigue score was 20.79 (SD = 7.99). 5.1% of the participants obtained low compassion fatigue values, 32.4% obtained medium compassion fatigue values, and 62.5% obtained high compassion fatigue values. On the other hand, the mean compassion satisfaction score was 35.45 (SD = 7.11). 45.1% obtained low SC levels, 32.8% obtained medium compassion satisfaction levels, and 22.1% obtained high compassion satisfaction levels. The mean burnout score was 23.73 (SD

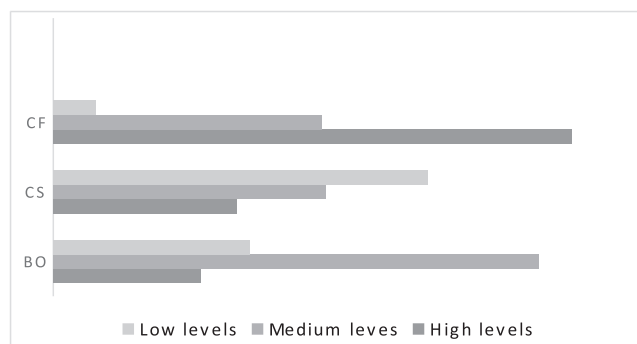
**Table 1**  
Socio-demographic and occupational characteristics, perceived social support, and perceived health of the participants.

Variables	% (n)	Mean ± SD
<b>Age (years)</b>		43.58 (7.68)
<35	10.7% (27)	
35–45	53.8% (136)	
>45	35.6% (90)	
<b>Sex</b>		
Female	78.3% (198)	
Male	21.7% (55)	
<b>Marital status</b>		
Married	19.4% (49)	
Single	68.4% (173)	
Other	12.3% (31)	
<b>Employment status</b>		
Casual	17% (43)	
Temporary or long-term	37.5% (95)	
Statutory or permanent	45.5% (115)	
<b>Work shift</b>		
Morning	8.7% (22)	
Morning/Evening	46.2% (117)	
Rotating	43.1% (109)	
Other	2.0% (5)	
<b>Work experience (years)</b>		
<10	10.3% (26)	
10–20	54.9% (139)	
>20	34.8% (88)	
<b>Seniority in the service</b>		
<5	29.6% (75)	
5–10	14.6% (37)	
>10	55.7% (141)	
<b>Professional Quality of Life (ProQOL)</b>		
Compassion fatigue		20.79 (7.99)
Compassion satisfaction		35.45 (7.11)
Burnout		23.73 (5.41)
<b>Goldberg’s General Health Questionnaire (GHQ-12)</b>		1.74 (2.17)
<b>Perceived Social Support (Duke-UNC)</b>		44.09 (7.51)
Confidential support		28.34 (5.23)
Affective support		15.75 (2.77)

CF = Compassion fatigue; CS = Compassion satisfaction; BO = Burnout; Duke-UNC = Perceived social support; GHQ-12 = Goldberg’s General Health; B = Unstandardised coefficient; SD = Standard deviation; t = Student’s t; p = Significance level; CI = Confidence interval; R<sup>2</sup> = Coefficient of determination.

= 5.41). 17.8% obtained low burnout levels, 58.5% obtained medium burnout levels, and 23.7% obtained high burnout levels (Fig. 1).

Table 2 shows the differences in means between PQoL and socio-demographic and occupational characteristics. Mean compassion fatigue scores were significantly higher in single participants than in the rest of the participants ( $F = 5.18; p < 0.01$ ). Mean compassion satisfaction scores were significantly higher in participants under 35 years of age compared to the rest of the age groups ( $F = 3.12; p < 0.05$ ). The mean compassion satisfaction score was significantly higher in the group with <10 years of work experience ( $F = 3.02; p < 0.05$ ), as compared to the group with 10 to 20 years of work experience and the group with >20 years of work experience. The mean burnout score was significantly higher in the group with 10 to 20 years of work experience



**Fig. 1.** Professional Quality of Life: dimensions CF = Compassion fatigue; CS = Compassion satisfaction; BO = Burnout.

than in the rest of the groups ( $F = 4.47; p < 0.01$ ).

As shown in Table 3, compassion fatigue was found to be significantly and positively correlated with burnout and perceived health. Compassion fatigue and compassion satisfaction, as well as compassion fatigue and perceived affective social support, were significantly and negatively correlated. Compassion satisfaction was also found to be significantly and negatively correlated with burnout. Compassion satisfaction and perceived affective social support were significantly and positively correlated. In addition, burnout was also found to be significantly and negatively correlated with the total score for perceived social support and the two sub-dimensions of perceived social support: confidential support and affective support. Finally, burnout was found to be significantly and positive correlated with perceived health (Table 3).

In the multiple linear regression model, perceived health is significantly related to compassion fatigue, but this model only explains 6% of the total compassion fatigue variance. Work experience in years is significantly related to compassion satisfaction. This model explains 3% of the variance of the dependent variable. Two models were generated for the burnout sub-dimension. In model 1, the perceived health variable is related to burnout, while in model 2, perceived health and perceived social support influence burnout significantly. Model 2 is the one that best explains the variance of the dependent variable, explaining 15% of this variance (Table 4).

#### 4. Discussion

The results of this study showed that hospital ED nurses had a PQoL with high levels of compassion fatigue, medium levels of burnout, and low levels of compassion satisfaction. These data are not consistent with data obtained in other studies conducted in other settings, in which medium levels of compassion satisfaction and low levels of compassion fatigue and burnout were found [19,26]. This study was carried out in different public health centers of the Andalusian service in Spain. In this service, nurses have direct care with vulnerable populations and with a certain degree of fragility. They are usually the ones who receive patients and relatives before being cared for by other health professionals. It may be that the high levels of compassion fatigue are due to this contact in the first line and for this reason, by way of compensation, the levels of compassion satisfaction are high. Even so, it would be necessary to study other organisational and institutional variables or factors, as well as potential cultural factors, to be able to delve into the reasons behind these differences.

The low levels of compassion satisfaction shown by the participants in our study do not compensate for the high levels of compassion fatigue and burnout. According to Stamm [6] compassion satisfaction is the positive component of PQoL, as it contributes to the individual’s emotional well-being and cushions the negative effects of compassion fatigue. Unrewarding working conditions and difficulty in managing close contact with high levels of physical, psychological, and/or spiritual distress may reduce compassion satisfaction and affect the quality of

**Table 2**  
Differences in means between PQoL and socio-demographic and occupational characteristics.

Variables	CF		CS		BO	
	M (SD)	p	M (SD)	p	M (SD)	p
<b>Age (years)</b>						
<35	18.19 (7.39)	0.18 <sup>a</sup>	38.74 (7.71)	0.04 <sup>a*</sup>	21.96 (6.42)	0.18 <sup>a</sup>
35–45	21.14 (8.30)		35.13 (7.06)		24.05 (5.26)	
>45	21.28 (7.73)		35.07 (7.09)		23.51 (5.24)	
<b>Sex</b>						
Female	21.23 (8.05)	0.17 <sup>b</sup>	35.72 (7.20)	0.35 <sup>b</sup>	23.64 (5.44)	1 <sup>b</sup>
Male	19.58 (7.90)		34.69 (7.21)		23.64 (5.30)	
<b>Marital status</b>						
Married	19.06 (7.57)	0.006 <sup>a*</sup>	35.55 (8.41)	0.84 <sup>a</sup>	23.31 (6.45)	0.70 <sup>a</sup>
Single	21.94 (8.05)		35.36 (6.78)		23.83 (5.08)	
Other	17.81 (7.56)		36.16 (7.61)		23.10 (5.41)	
<b>Employment status</b>						
Casual	20.02 (7.62)	0.73 <sup>a</sup>	37.19 (8.10)	0.07 <sup>a</sup>	22.81 (5.73)	0.42 <sup>a</sup>
Temporary or long-term	21.00 (8.49)		35.95 (6.82)		24.09 (5.67)	
Statutory or permanent	21.10 (7.84)		34.49 (7.05)		23.57 (5.04)	
<b>Work shift</b>						
Morning	21.18 (7.78)	0.06 <sup>a</sup>	35.82 (6.55)	0.21 <sup>b</sup>	21.93 (5.51)	0.12 <sup>a</sup>
Morning/ Evening	19.24 (8.18)		35.83 (7.72)		21.95 (5.81)	
Rotating	22.10 (7.71)		34.96 (6.67)		24.02 (4.72)	
Other	14.60 (9.01)		37.80 (9.60)		19.40 (7.40)	
<b>Work experience (years)</b>						
<10	18.00 (7.15)	0.15 <sup>a</sup>	38.15 (8.41)	0.04 <sup>a*</sup>	21.00 (5.80)	0.01 <sup>a*</sup>
10–20	21.12 (8.16)		35.71 (7.12)		24.32 (5.36)	
>20	21.34 (7.98)		34.38 (6.78)		23.33 (5.14)	
<b>Seniority in the service (years)</b>						
<5	20.73 (7.99)	0.95 <sup>a</sup>	36.55 (7.64)	0.31 <sup>a</sup>	23.03 (5.66)	0.50 <sup>a</sup>
5–10	20.62 (8.13)		35.19 (6.43)		23.89 (4.84)	
>10	21.01 (8.08)		35.01 (7.14)		23.89 (5.41)	

<sup>a</sup> = one-way ANOVA; <sup>b</sup> = Student's *t*-test for independent samples; \* Correlation is significant at the 0.05 level.

**Table 3**  
Bivariate correlations between PQoL, perceived social support, and perceived health.

Variables		ProQOL			Duke-UNC			GHQ-12
		CF	CS	BO	CSu	ASu	Total score	Total score
ProQOL	CF							
	CS	−0.47**						
	BO	0.54**	−0.46**					
Duke-UNC	CSu	−0.65	0.96	−0.21**				
	ASu	−0.13**	0.14**	−0.24**	0.73**			
	Total score	−0.11	0.11	−0.24**	0.96**	0.88**		
GHQ-12	Total score	0.26**	−0.06	0.34**	−0.13*	−0.12*	−0.14*	

ProQOL = Professional Quality of Life; CF = Compassion fatigue; CS = Compassion satisfaction; BO = Burnout; Duke-UNC = Perceived social support; CSu = Confidential support; ASu = Affective support; GHQ-12 = Goldberg's General Health. \*Correlation is significant at the 0.05 level; \*\*Correlation is significant at the 0.01 level.

the care provided [27,28].

Our data show that one of the factors influencing compassion satisfaction is work experience and, as a consequence, the observed levels of compassion satisfaction have been significantly higher in professionals with less work experience. This is not consistent with study by Ju et al. conducted in professionals from other occupational settings, which showed that years of work experience lead to increased compassion satisfaction levels and decreased compassion fatigue levels [29]. The challenges existing in the ED represent a motivating factor at the beginning of one's career, a period in which professionals also enjoy a high level of energy. However, the passage of time and continued work in these services may lead to a decline in compassion satisfaction.

On the other hand, attending to people in situations of extreme vulnerability constantly and trying to alleviate their distress may also have negative effects on health [30] if the necessary institutional resources are not available and/or the sufficient psycho-emotional skills have not yet been developed [31]. In fact, one of the most important findings of this study is the relationship between compassion fatigue and burnout and perceived health, with perceived health deteriorating with higher compassion fatigue scores. In other studies, higher levels of anxiety and stress have also been observed in professionals with high levels of compassion fatigue and burnout [32]. This is why it is important to bear in mind that compassion fatigue is not caused by repeatedly exercising compassion in settings where suffering is present, such as ED, but by the absence of adequate compassion skills. Promoting self-compassion and supporting compassionate care literacy in emergency nursing can improve the care patients receive, as well as boosting levels of engagement and satisfaction among healthcare professionals [33]. In addition, in our study, like in previous studies, social support was shown to be a factor related to PQoL [34] and a determining factor in the occurrence of burnout [16,19]. Affective support, that is to say, displays of affection and empathy from individuals in the work environment, helps to manage the most stressful situations [35]. Even when working conditions and the work environment are complex, professionals tend to cope better when they perceive that they are being supported and assisted by the members of their team or by the heads of their unit [36]. This may be because the perception of social support is related to the increase in compassion satisfaction [37], which must be taken into account when implementing interventions aiming to improve levels of PQoL. The findings of this study suggest that interventions targeting individual professionals should be reconsidered [38]. It would be more appropriate for interventions in the ED to be carried out with the entire healthcare team. This would not only cultivate compassion and reduce stress among team members, it would also strengthen their relationships and have a greater impact on their PQoL than individual interventions.

**4.1. Limitations**

Among the limitations of this study, it should be noted that this study used a cross-sectional design, which does not make it possible to establish cause-effect relationships between variables. In addition,

**Table 4**

Multiple linear regression: Professional Quality of Life, socio-demographic variables, occupational variables, perceived social support, and perceived health.

	Models	Variables	B (SD)	$\beta$	t	p	CI (95%)	R <sup>2</sup>	Adjusted R <sup>2</sup>
CF	Model 1	Constant	19.15 (0.62)	–	30.62	≤0.001	17.92–20.38	0.07	0.06
		GHQ-12	0.98 (0.22)	0.27	4.39	≤0.001	0.54–1.42		
CS	Model 1	Constant	38.22 (1.15)		32.96	≤0.001	35.93–40.50	0.03	0.03
		Work experience (years)	–0.15 (0.58)	–0.16	–2.66	0.008	–0.26– –0.40		
BO	Model 1	Constant	22.23 (0.41)		53.61	≤0.001	21.42–23.05	0.11	0.10
		GHQ-12	0.82 (0.14)	0.33	5.60	≤0.001	0.53–1.12		
	Model 2	Constant	28.48 (1.94)		14.62	≤0.001	24.65–32.32	0.15	0.15
		GHQ-12	0.76 (0.14)	0.30	5.20	≤0.001	0.48–1.05		
		Duke-UNC	–0.13 (0.04)	–0.19	–3.27	≤0.001	–0.22– –0.05		

CF = Compassion fatigue; CS = Compassion satisfaction; BO = Burnout; Duke-UNC = Perceived social support; GHQ-12 = Goldberg's General Health; B = Unstandardised coefficient; SD = Standard deviation; t = Student's t; p = Significance level; CI = Confidence interval; R<sup>2</sup> = Coefficient of determination.

although this study is based on a small sample of professionals, this is a highly varied sample, which has allowed us to explore the situation of professionals in hospital ED in Spain. Finally, other variables that may be related to PQoL, such as empathy or coping mechanisms, have not been taken into account.

#### 4.2. Future research and implications for practice

Further studies are needed to be able to perform an in-depth analysis of the relationship of other variables with PQoL, variables related to healthcare professionals, organisations, and institutions. Healthcare systems should design specific care programmes to improve the well-being of healthcare professionals and increase compassion as a protective factor among workers. There are interventions available, such as mindfulness-based therapies, which may be beneficial in this regard [39]. In particular, the Compassion Cultivation Training (CCT) programme has been implemented in healthcare professionals and has contributed to reducing stress and promoting empathy and compassion [40]. Therefore, practising compassion improves job satisfaction and performance and therefore increases the quality of the care provided [41,42].

#### 5. Conclusions

Hospital ED professionals obtained a PQoL with high levels of compassion fatigue, moderate levels of burnout, and low levels of compassion satisfaction. Work experience was shown to be a variable influencing compassion satisfaction. Perceived health was significantly related to compassion fatigue and burnout. Perceived social support was significantly related to the three dimensions of PQoL and was a factor that was principally associated with burnout. Healthcare systems should implement interventions to increase the quality of life of workers. The cultivation or training of compassion is fundamental for the protection and satisfaction of professionals. Being compassionate will improve perceived social support, it will make us aware that the people around us need help. In addition, the compassionate attitude is a resource that will provide to health professionals with the ability to feel strong and increase social networks in their work. In turn, this will make them feel more emotionally satisfied and therefore improve emotional well-being.

#### Funding

Research project funded by the Ministry of Health of the Regional Government of Andalusia, Spain (AP-0100–2016).

Funding for open access charge: Universidad de Huelva /CBUA.

#### Ethical Statement

This research has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments who involving humans. The study was authorized by the

research ethics committee (PEI-039/17).

#### Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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