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Original article

Imposter syndrome among nurses: Prevalence and associated factors

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Abstract

Introduction: Impostor syndrome (IS) can lead to substantial psychological distress among nurses, with potential repercussions for both their mental well-being and the quality of care they provide. This study aimed to assess the prevalence of impostor syndrome among nurses and to identify associated risk factors.

Methods: A cross-sectional study was conducted among all nurses (N = 612) working at Sahloul University Hospital in Tunisia between October 2023 and May 2024. The Clance Impostor Phenomenon Scale (CIPS), a validated 20-item instrument, was used to evaluate the presence and severity of IS. Multivariable logistic regression analysis was performed to determine factors associated with high impostor experiences, with a p-value of < 0.05 considered statistically significant.

Results: A total of 436 nurses participated in the study, yielding a response rate of 72.1%. The mean age of participants was 32.34 ± 10.01 years, and women constituted 61.0% of the sample. Additionally, 72.2% of respondents worked in medical departments. The mean CIPS score was 54.71 ± 12.36 , indicating a moderate level of impostor syndrome. Notably, 27.1% of participants scored in the high IS range. Multivariable analysis identified two significant risk factors for high impostor experiences: being under 25 years of age (OR = 5.022; 95% CI: 2.160-11.680; p < 0.001) and working in a surgical department (OR = 2.920; 95% CI: 1.676-5.087; p < 0.001). Conclusion: This study highlights the significant prevalence and impact of impostor syndrome among nurses. Early identification of at-risk individuals is crucial for implementing targeted interventions that reduce psychological distress and support both nurse well-being and the quality of patient care.

Keywords: Imposter syndrome, Nurses, Prevalence, Associated factors

1. Introduction

The impostor syndrome (IS), first described by Clance and Imes in 1978, is characterized by a persistent internalized belief that one's achievements are undeserved. Individuals affected by IS often attribute their success to external factors such as luck, error, or interpersonal connections, rather than to their own abilities or efforts [1]. IS can have significant psychological consequences, including chronic feelings of distress, anxiety, depression, and in some cases, substance dependence [2]. These emotional disturbances may adversely affect an individual's overall health, well-being, and quality of life. Reported prevalence rates of IS vary widely, ranging from 9% to 82%, largely due to differences in assessment tools, definitions, and threshold criteria used to identify symptoms [3]. While IS has been extensively explored across disciplines such as economics [4] and medicine [5,6], research focusing specifically on the nursing profession remains relatively scarce. Evidence suggests that nurses are particularly vulnerable to a range of psychological difficulties, including stress, anxiety, and depression [7,8]. These issues are frequently attributed to occupational stressors such as interpersonal conflicts with colleagues as well as emotional interactions with patients and their families.

*Correspondence: Chaieb Radhia Higher Institute of Nursing Sciences, University of Sousse, Tunisia. radhiasousse@gmail.com While multiple factors contribute to nurses' mental health challenges, IS has been increasingly recognized as a significant and understudied risk factor in this context [9–11]. Nurses, as a professional group exposed to high levels of emotional and professional demand, may experience IS-related emotions that not only undermine their mental health but also impact the quality of care they provide [12]. Indeed, IS has been linked to reduced self-esteem and heightened risk of burnout, underscoring the importance of addressing this phenomenon within the nursing workforce [10]. Despite growing academic interest in IS, data regarding its prevalence and associated determinants among practicing nurses remain limited. The present study aims to assess the prevalence of IS among nurses and to identify factors associated with its occurrence.

2. Methods

Study design and setting

A cross-sectional study was conducted between October 2023 and May 2024 at Sahloul University Hospital in Sousse, Tunisia. Due to structural organization, ICU-specific data could not be isolated from other departments, which limited subgroup analysis of intensive care environments.

Study population and sampling

The target population included all nurses working at Sahloul University Hospital during the study period (N=612). An exhaustive sampling method was employed to include the entire nursing staff. Nurses were eligible to participate if they were present during data collection and provided informed consent.

Data collection

Data were collected using a structured self-administered questionnaire composed of two sections. The first section gathered sociodemographic information (age, gender, residence) and professional characteristics (length of professional experience, department of work). The second section assessed impostor syndrome using the Clance Impostor Phenomenon Scale (CIPS) [13], a validated 20-item instrument developed by Pauline Rose Clance.

The CIPS evaluates various dimensions of impostorism, including fear of evaluation, concern about not sustaining success, and perceived intellectual fraudulence. Each item is scored on a 5-point Likert scale ranging from 1 ("not at all true") to 5 ("very true"). The total score is obtained by summing responses across all items, with interpretive categories as follows: ≤ 40: Few impostor characteristics; 41–60: Moderate impostor experiences; 61–80: Frequent impostor experiences; 80: Intense impostor experiences. In line with Holmes et al. (1993), a score of 62 or higher was considered indicative of high impostor experience [14]. Data collection was conducted by the principal investigator and a trained research nursing student.

Statistical analysis

Statistical analysis was performed using SPSS version 23.0. Quantitative variables were expressed as means \pm standard deviations (SD), and qualitative variables were presented as frequencies and percentages. Comparisons of categorical variables were made using Pearson's chi-square test. Variables with p-values \leq 0.2 in bivariate analysis were included in a multivariable logistic regression model to control for potential confounders. Adjusted odds ratios (OR) with 95% confidence intervals (CI) were calculated, and variables with p-values < 0.05 were considered statistically significant.

Ethical consideration

Ethical approval was obtained from the institutional review board of Sahloul University Hospital. All procedures were conducted in accordance with ethical standards, ensuring respect for the rights, confidentiality, and autonomy of all participants.

3. Results

A total of 436 nurses participated in the study, yielding a response rate of 72.1% (Fig. 1). The mean age of participants was 32.34 ± 10.01 years, with a sex ratio of 0.63 (male/female). Most participants lived in urban areas (83.3%) and were single (67.4%). Regarding professional

experience, 38.8% of the nurses had between 1 and 5 years of experience, and 72.2% were employed in medical departments.

Table 1. Detailed sociodemographic and occupational characteristics of the study population.

Variables	Classification	n.	%
Age/year	< 25 years	124	28.4
	25-34 years	159	36.5
	≥35 years	153	35.1
Gender	Male	170	39.0
	Female	266	61.0
Residence	Urban	363	83.3
	Rural	73	16.7
Marital status	Single	294	67.4
	Married	107	24.5
	Divorced	35	8.0
Experience	< 1 year	116	26.6
/Year	[1-5 years]	169	38.8
	[6-10 years]	54	12.4
	More than 10 years	97	22.2
Department	Medical	315	72.2
	Surgical	121	27.8

The average Clance Impostor Phenomenon Scale (CIPS) score was 54.71 ± 12.36 , indicating a moderate level of impostor syndrome. Most participants (72.9%) scored below the high-IS threshold (Table 2). Notably, 27.1% of nurses scored between 62 and 100 on the CIPS, reflecting significant impostor experiences.

Table 2. Distribution of CIPS scores across the different levels of impostor syndrome.

Imposter syndrome % N Low Impostor Experiences 318 72.9 CIPS Score (0-61) High Impostor Experiences 27.1 118 CIPS Score (62-100) SD Mean CIPS-Score 54.71 12.36

Bivariate analysis revealed statistically significant associations between impostor syndrome scores and several factors: age group (p < 0.001); years of professional experience (p < 0.001); department of employment (p = 0.007) (Table 3).

In the multivariable logistic regression analysis, two variables remained significantly associated with high impostor syndrome scores: 1) being under 25 years of age was associated with a fivefold increase in risk (OR = 5.022; 95% CI: 2.160-11.680; p < 0.001); 2) working in a surgical department was associated with nearly three times the risk (OR = 2.920; 95% CI: 1.676-5.087; p < 0.001) (Table 4).

4. Discussion

The objective of this study was to assess the prevalence and identify the factors associated with (IS) among nurses, with the aim of informing potential intervention strategies. Our findings revealed that 27.1% of participating nurses exhibited high levels of impostorism, as indicated by their CIPS scores. This prevalence is lower than that reported among internal medicine physicians (44%) [15], surgical residents (43%) [16], family medicine residents (33%) [17],

Table 3. Associated factors of impostor syndrome

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Sociodemographic		Low	High	p-			
Subgroup		Impostor	Impostor	value			
		Experiences	Experiences				
		CIPS Score	CIPS Score				
		(0-61)	(62-100)				
		(n=318)	(n=118)				
Age/year	<25	68 (21.4%)	56 (47.5%)	10-3			
	years						
	25-34	131	28 (23.7%)				
	years	(41.2%)					
	≥35	119	34 (28.8%)				
	years	(37.4%)					
Gender	Male	126	44 (37.3%)	0.675			
	_	(39.6%)	44 (37.370)				
	Female	192	74 (62.7%)				
		(60.4%)	, , (==,, , ,)	0.515			
Residence	Urban	51 (16.0%)	22 (18.6%)	0.517			
	Rural	267	06 (91 40/)				
		(84.0%)	96 (81.4%)				
Marital	Single	208	86 (72.9%)	0.297			
status		(65.4%)	00 (72.770)				
	Married	84 (26.4%)	23 (19.5%)				
	Divorced	26 (8.2%)	9 (7.6%)				
Experience /Year	< 1 year	68 (21.4%)	48 (40.7%)	10^{-3}			
	[1-5	137	32 (27.1%)				
	years]	(43.1%)	52 (27.17.5)				
	[6-10]	41 (12.9%)	13 (11.0%)				
	years]	(-)	- (-)				
	More	72 (22.6%)	25 (21.2%)				
	than 10	` ,	` '				
	years						
Department	Surgical	77 (24.2%)	44 (37.3%)	0.007			
	Medical	241 (75.8%)	74 (62.7%)				

Table4. Multivariable binary logistic regression analysis of factors associated with high Impostor Syndrome

Socio-demographic subgroup		OR	95% CI		p-value
Age	< 25 years	5.02	2.160	11.680	10-3
	25-34 years	1.46 0	0.688	3.096	0.324
	≥35 years	Ref			
Experience	< 1 year	0.97 6	0.413	2.304	0.955
	[1-5 years]	0.48 2	0.226	1.027	0.059
	[6-10 years]	0.86	0.386	1.930	0.720
	More than 10 years	Ref			
Department	Surgical	2.92 0	1.676	5.087	10-3
	Medical	Ref			

and health sciences students, such as those in nursing, pharmacy, and dentistry (30%) [18]. However, it remains higher than the prevalence observed among general surgery professors (7.8%) [15].

Previous research on IS within the nursing profession has primarily focused on nursing students and clinical nurse specialists. A recent review reported prevalence rates ranging from 36% to 75% among these groups [19], highlighting the heterogeneity in populations studied and methodologies used.

In our sample, younger age was significantly associated with higher IS scores, a finding consistent with several previous studies [17,20–22]. Chae et al. [20] found that IS tends to decrease with age, and Brauer and Proyer [21] similarly observed an inverse relationship between age and impostorism among professionals in Germany. However, this trend is not universal, as Oriel et al. [17] did not identify a statistically significant effect of age in family medicine residents. These findings suggest that psychological maturity and professional experience may mitigate impostor feelings, although context-specific factors may influence this relationship.

In terms of gender, our study found no statistically significant difference in IS prevalence between women (27.8%) and men (25.9%). This agrees with findings by Paladugu et al. [23], who observed no significant genderbased differences in IS among healthcare professionals. Conversely, Iwai et al. [24] reported a higher prevalence of IS among female physicians. Multiple studies [10,25,26] have linked IS in women to systemic barriers, workplace discrimination, and societal expectations, which may lead to self-doubt and internalized pressure to conform to traditional gender roles [27]. However, as recent literature emphasizes, IS is not exclusive to women and can affect men as well [3]. Our study did not find a significant association between marital status and IS. While some studies report greater IS intensity among unmarried individuals [28], others suggest that marriage may buffer distress [18,29]. These conflicting findings indicate that marital status may influence IS indirectly through psychosocial factors such as emotional support, confidence, or life satisfaction.

Professional experience emerged as a protective factor against IS. Nurses with fewer years of experience were more likely to report high IS, a finding consistent with previous literature [28]. This could be attributed to lack of confidence, reduced clinical exposure, or limited validation in the early stages of professional development.

The department of employment was also significantly associated with IS. Nurses working in surgical departments were more likely to experience impostor feelings than those in medical departments. This may be explained by the high-pressure, performance-driven environment of surgical units, where the margin for error is low and expectations are high. Hutchins [31] noted that competitive and demanding professional settings can exacerbate feelings of self-doubt and impostorism.

Although IS has been widely studied in high-income contexts among students and physicians, data from low- and middle-income countries (LMICs)—particularly among practicing nurses—remain limited. This study contributes to the existing literature by providing evidence from a Tunisian—university hospital, using a validated measurement tool (CIPS) and an exhaustive sampling strategy, yielding a representative response rate (72.1%).

However, several limitations must be acknowledged. First, key psychological variables such as perfectionism,

neuroticism, anxiety, and burnout were not assessed, despite their established links to IS. Second, the cross-sectional and monocentric design limits both the generalizability of our findings and the ability to draw causal inferences. Third, categorical data collection for certain variables (e.g., years of experience) restricted the depth of statistical analysis.

Additionally, due to the lack of differentiation between ICU and non-ICU settings, we were unable to evaluate the potential influence of intensive care environments on impostor experiences—a factor that may be particularly relevant given the known stressors in such units.

Despite these limitations, this study provides a valuable foundation for future research and the development of context-specific interventions. Identifying high-risk groups—such as younger nurses and those in surgical settings—should be a priority for institutional mental health programs aimed at promoting well-being and enhancing care quality. Future research should incorporate validated measures of perfectionism, neuroticism, burnout, and organizational climate, which may mediate or moderate the development of IS.

Conclusions

This study highlights the substantial prevalence of impostor syndrome (IS) among nurses and identifies key associated factors, notably younger age and employment in surgical departments. Recognizing nurses at risk for IS is essential for developing and implementing targeted interventions aimed at reducing its psychological and professional impact. Such interventions have the potential to improve mental well-being, foster job satisfaction, and enhance the quality of patient care. Addressing IS within healthcare settings can also contribute to cultivating a supportive and empowering work environment, enabling nurses to perform confidently and effectively. Ultimately, investing in strategies to prevent and manage IS is not only beneficial for individual nurses but also for the overall performance and resilience of healthcare systems.

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Ethical considerations

Ethical approval has been obtained from the institutional review board of Sahloul University Hospital, Sousse, Tunisia.

Conflict of interest

The authors declare that they have no conflicts of interest.

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Patient consent

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Consent for publication

Not applicable.

Authors' contributions

All authors contributed to the drafting of the article and approved the submitted version.

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