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Factors Contributing to Work-Life Balance Among Iranian Nurses Working in Clinical Settings: A Multicenter Cross-Sectional Study

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ABSTRACT

Aim: To investigate work-life balance (WLB) and its contributing factors among Iranian nurses in clinical settings.

Design: This multicenter cross-sectional study collected data from 205 nurses using structured questionnaires.

Methods: Stratified random sampling was employed to select 205 nurses from three teaching hospitals in Tabriz, northwest Iran. Data were collected from March to June 2022. Participants completed a form detailing personal and work-related information, along with Fisher's Work-Life Balance Scale, which includes three subscales: Work Interference with Personal Life (WIPL), Personal Life Interference with Work (PLIW) and Work Personal Life Enhancement (WPLE).

Results: Nurses reported higher WIPL scores compared to PLIW scores. Those with master's degrees had significantly lower WIPL scores. Nurses contemplating early retirement were younger and showed higher WIPL and lower WPLE scores. Additionally, nurses' age was positively correlated with WPLE scores.

Implications for Healthcare and Nursing: Higher education levels may equip nurses with better skills to manage work demands, while those considering early retirement may experience increased pressures due to staffing shortages. The positive correlation between age and WPLE suggests that older nurses may have developed effective coping mechanisms or benefited from reduced work demands over time.

Conclusion: Iranian nurses experience significant work-life imbalances, with work interfering more with personal life than vice versa. Factors such as education level, early retirement preferences and age influence WLB. However, this study's cross-sectional nature limits causal inferences. Further longitudinal studies are needed to examine the dynamic relationship between work-life factors and WLB in this population.

No Patient or Public Contribution.

1 | Introduction

Nurses play defining, versatile and distinct roles in health-care systems worldwide. Their broader responsibilities reflect

advancements in medical technology, service redesign and an increasing willingness among physicians to delegate tasks to nursing professionals (de Bont et al. 2016). This evolution leads to a unique care-centred work identity for nurses, while

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a parallel non-work identity develops against a backdrop of cultural, ethnic, age-related and familial factors (Silva et al. 2019; Souza et al. 2020).

Nurses navigate a delicate balance between their demanding work and personal lives. This work-life balance (WLB) is influenced by various factors, stemming from both their work and non-work identities (Gribben and Semple 2021a, 2021b; Bighami et al. 2017). Their work identity encompasses professional values, skills and responsibilities. Nurses provide compassionate and efficient care, while often working long shifts and responding to urgent situations. The nature of their occupation can foster a sense of duty and self-sacrifice that blurs the boundaries between work and personal time. Beyond their professional roles, nurses embody diverse non-work identities as parents, spouses, friends or community members. These roles bring additional responsibilities that can compete with work-related tasks. Maintaining a healthy WLB requires nurses to prioritise and manage these different aspects of their lives effectively (Ramarajan and Reid 2013).

The interplay between work and non-work identities cannot be viewed as separate entities (Ramarajan and Reid 2013). The more individuals integrate their various identities with their work role, the more comfortable they feel in fulfilling these different responsibilities (Reverberi et al. 2022). The concept of WLB has gained prominence in nursing due to globalisation, rapid technological innovations across all life aspects, overlapping work and family roles, new organisational systems and changes in workplace dynamics (Sakthivel and Jayakrishnan 2012). This concept is often associated with achieving an ideal balance between professional obligations and personal life (Gribben and Semple 2021a; Kelliher et al. 2019; Suleiman-Martos et al. 2020).

Moreover, the significance of self-care for nurses alongside their responsibilities towards patients and families cannot be overlooked (Mishra and Bharti 2020). Long working hours, poor working conditions, excessive absences from home and failure to fulfil certain familial duties may interfere with these dual roles and adversely impact quality of life, job satisfaction, mental health, professional competence, commitment to the profession and lead to burnout—ultimately resulting in high turnover rates (Kamrani et al. 2018; Reverberi et al. 2022).

A healthy WLB is particularly crucial in nursing profession—predominantly occupied by women—who face greater challenges in balancing work and family life compared with their male counterparts (Sundaresan 2014). Previous studies indicate that women encounter more difficulties in achieving this balance as they bear primary responsibilities for home and family (Duxbury and Higgins 1991; Reverberi et al. 2022). This imbalance can lead to decreased job satisfaction and engagement, as well as increased turnover intentions (Brough et al. 2020; Matsuo et al. 2021). When the demands of active labour overshadow personal life commitments, nurses' health deteriorates, leading them to resign due to job dissatisfaction and a diminished quality of life (Makabe et al. 2015).

While the challenges of WLB are well-documented globally, the specific context of Iranian nurses remains underexplored.

In Iran, nurses face unique cultural, social and organisational factors that may exacerbate WLB challenges. For instance, cultural expectations often place a heavy burden on women to fulfil familial roles, while organisational factors such as high patient-to-nurse ratios, limited resources and inflexible work schedules further complicate the balance between work and personal life (Kalateh Sadati et al. 2016; Varasteh et al. 2022). Additionally, the Iranian healthcare system is characterised by staffing shortages and high turnover rates, which place additional pressure on nurses and undermine their ability to achieve WLB (Bighami et al. 2017). Understanding the specific factors influencing WLB in this context is critical for developing targeted interventions to support nurses and improve healthcare outcomes.

Despite the growing body of research on WLB in nursing, few studies have focussed on the Iranian context. Existing research has identified key factors influencing WLB, including personal factors such as time management and emotional intelligence, organisational factors such as workload and shift scheduling, and environmental factors such as social support (Bighami et al. 2017; Oludayo et al. 2018; Tejero et al. 2021). However, there is a need for more comprehensive studies that explore how these factors interact in the Iranian context and how they contribute to nurses' intention to leave or retire. This study aimed to address this gap by (1) assessing the current state of WLB among Iranian nurses and (2) exploring the relationship between workplace and personal factors with WLB, including their influence on nurses' intention to leave or retire.

While the challenges of WLB are well-documented globally, the specific context of Iranian nurses, particularly those in Tabriz, remains underexplored. In Tabriz, a major city in northwestern Iran with a distinct cultural heritage and socio-economic landscape, nurses face unique pressures that can significantly impact their WLB. These pressures include not only the general challenges faced by Iranian nurses, such as cultural expectations for women to prioritise familial roles and organisational factors such as high patient-to-nurse ratios and inflexible work schedules (Kalateh Sadati et al. 2016; Varasteh et al. 2022) but also region-specific issues such as limited access to resources, a higher cost of living compared with some other Iranian cities, and the potential for cross-cultural dynamics due to the city's diverse population. The Iranian healthcare system's staffing shortages and high turnover rates, compounded by these regional factors in Tabriz, place additional strain on nurses, making it even more difficult to achieve WLB (Bighami et al. 2017). Understanding these specific factors influencing WLB in the Tabriz context is crucial for developing targeted interventions to support nurses and improve healthcare outcomes in this region.

By focussing on the Iranian context, this study contributes to the growing body of literature on WLB in nursing and provides valuable insights for policymakers and healthcare administrators. The findings have practical implications for developing strategies to improve WLB, reduce turnover and enhance the overall well-being of nurses in Iran. Ultimately, addressing WLB challenges is essential not only for nurses' health and job satisfaction but also for ensuring the sustainability and effectiveness of healthcare systems.

2 | Methods

2.1 | Design and Participants

This cross-sectional study was conducted in three specialised government teaching hospitals located in Tabriz, Northwestern Iran. These hospitals offer comprehensive services across various specialties, including internal medicine, surgery, oncology, cardiology and dermatology. They are known for their high patient density, which presents significant challenges for nursing staff. Nurses are typically assigned patients using the case method, a common practice in Iranian healthcare settings. Their work schedules rotate among morning, evening and night shifts; morning and evening shifts each last 6 h, while night shifts last 12 h. These hospitals exemplify the challenges faced by nurses in managing large patient loads amidst staffing shortages, which directly impact their work-life balance.

To ensure representation across different wards in this study, a stratified random sampling method was employed. The sample size was estimated at 190 participants using G*Power software based on results from a similar study (Bae et al. 2020), with an alpha level of 0.05, statistical power of 0.80, and a 95% confidence interval. Considering a 20% attrition rate, 210 nurses were invited to participate in the research. Ultimately, 205 questionnaires were completed (Response rate = 97.6%).

The required samples from each ward meeting the inclusion criteria were invited based on the percentage of nurses working in each hospital ward. Specifically, 84 nurses (40.98%) were sampled from Hospital A, 54 nurses (26.34%) from Hospital B and 67 nurses (32.68%) from Hospital C. Inclusion criteria included at least a bachelor's degree in nursing and 1 year of clinical experience. Nurses who worked in medical-surgical wards, critical care units and COVID-19 wards participated in this study. Operation rooms, clinics and emergency wards were excluded because nurses in these settings typically have different work patterns and patient interaction dynamics compared with medical-surgical, critical care and COVID-19 wards. For example, nurses in operation rooms and clinics often have shorter, more structured shifts with less continuous patient contact, while emergency wards involve high-intensity, unpredictable workloads that differ significantly from the settings included in this study. These differences could confound the assessment of work-life balance challenges specific to the included wards. By focussing on medical-surgical, critical care and COVID-19 wards, we aimed to capture a more homogeneous sample that reflects the work-life balance challenges faced by nurses in settings with prolonged patient care responsibilities and high emotional and physical demands. Questionnaires with more than 10% of items left blank were excluded from analysis.

2.2 | Instruments

The research tool was a questionnaire comprising two parts: The first part collected socio-demographic information (age, gender, education, work experience and type of service). The second part assessed the level of WLB using the work-life balance scale designed by Fisher (2001). This scale consists of 19

items with three subscales: Work Interference with Personal Life (WIPL), Personal Life Interference with Work (PLIW) and Work Personal Life Enhancement (WPLE). Each item was scored using a 7-point Likert scale (0 = never to 7 = almost always). In Fisher-McAuley et al. 2003, introduced the 15-item WLB scale with seven items for WIPL and four items for each of the PLIW and WPLE subscales. Hence, the scores range from 7 to 49 for WIPL and 4 to 28 for PLIW. Higher scores for each dimension indicate lower levels of WLB. The score for WPLE ranges from 4 to 28 with higher scores indicating higher WLB levels.

The Persian version of the WLB scale was developed through a rigorous translation and validation process. The original English version was translated into Persian by two independent bilingual experts and then back-translated into English by two other bilingual experts to ensure conceptual equivalence. Discrepancies were resolved through discussion with the research team. The translated scale was reviewed by 10 faculty members from Tabriz School of Nursing and Midwifery to assess its linguistic and cultural appropriateness for the Iranian nursing context, and their feedback was incorporated to refine the final version of the scale.

To evaluate the reliability of the scale, a pilot study was conducted with 30 nurses. Internal consistency was assessed using Cronbach's alpha, which yielded a coefficient of 0.92 for the entire scale and values ranging from 0.89 to 0.95 for its subscales, indicating excellent reliability. While construct validity was not assessed using confirmatory factor analysis, the scale's reliability and cultural adaptation were confirmed through expert review and pilot testing.

2.3 | Data Collection

Following approval from the ethics committee at Tabriz University of Medical Sciences (Ethics code: REDACTED), questionnaires were administered to eligible nurses from March to June 2022. To obtain informed consent, the purpose of the study and instructions on completing the questionnaire were explained to participants. It is important to note that all questionnaires were self-administered by the nurses themselves, ensuring that responses reflected their personal experiences and perspectives. Written informed consent was obtained from all participants, ensuring that participation was strictly anonymous to protect respondents' privacy.

2.4 | Statistical Analysis

Data were analysed using IBM SPSS Statistics (version 20) at an alpha level of 0.05. Categorical demographic characteristics (e.g., gender, marital status, education level) were reported as frequencies (percentages), while continuous variables (e.g., age, work experience) were expressed as mean $\pm$ standard deviation.

Participants' WLB scores and their dimensions were also expressed as mean $\pm$ standard deviation. Bivariate analyses were conducted to examine differences in WLB scores across demographic groups. Independent t-tests were used to compare WLB scores between two groups (e.g., male vs. female nurses),

and one-way ANOVA was used to compare scores across more than two groups (e.g., different work units). Post hoc tests (e.g., Tukey's HSD) were conducted to identify specific group differences when ANOVA results were significant. Pearson's correlation analysis was performed to explore relationships among WLB scores, their subscales and continuous demographic characteristics. All statistical tests were two-tailed, and p values < 0.05 were considered statistically significant.

3 | Results

Mean age of the participants was 36.42 ± 22.68 years. Majority of participants were female (80%), married (67.3%) and had a

bachelor's degree (93.7%). On average, 81.5% mentioned that they were thinking of retirement or leaving their job. The mean age of those who were thinking of retirement or leaving their job was lower than other nurses (35.19 vs. 41.48, $p > 0.05$). Some characteristics of the nurses who participated in this study are shown in Tables 1 and 2.

The relationship between the categorical variables and WLB is shown in Table 1. The results showed a significant relationship between educational degree and WIPL so that nurses with a bachelor's degree indicate a significantly higher WIPL compared to master's degree ($p < 0.05$). Also, nurses thinking about early retirement or leaving their job scored significantly higher for WIPL and lower for WPLE ($p < 0.05$).

TABLE 1 | Categorical and work-related characteristics of participating nurses in the study and their relationship with the work-life balance scale and subscales.

Characteristics	Subgroups	Frequency (percent)	WIPL	PLIW	WPLE	WLB
Gender	Male	41 (20%)	29.97 ± 10.34	9.02 ± 4.15	14.68 ± 5.82	53.68 ± 9.65
	Female	164 (80%)	30.30 ± 9.44	8.99 ± 3.66	13.82 ± 4.95	53.12 ± 10.54
Marital Status	Married	138 (67.3%)	29.89 ± 9.70	8.89 ± 3.76	14.47 ± 4.89	53.25 ± 10.44
	Single	61 (29.8%)	30.80 ± 9.46	9.22 ± 3.89	13.27 ± 5.63	53.31 ± 10.08
	Divorced/Widowed	6 (2.9%)	32.50 ± 9.58	9.16 ± 2.63	10.50 ± 3.27	52.16 ± 12.51
Education	Bachelor	192 (93.7%)	30.69 ± 9.52	9.03 ± 3.70	13.86 ± 5.03	53.59 ± 10.13
	Master	13 (6.3%)	$23.53 \pm 8.49^*$	8.46 ± 4.64	16.00 ± 6.35	48.00 ± 12.41
Work unit	Oncology	22 (10.7%)	31.09 ± 8.76	10.04 ± 4.34	12.68 ± 5.57	53.81 ± 10.17
	Intensive care unit	121 (59%)	30.19 ± 9.48	8.76 ± 3.50	14.05 ± 5.08	53.01 ± 10.31
	COVID	25 (12.2%)	30.00 ± 11.95	8.60 ± 3.61	15.08 ± 5.36	53.68 ± 11.98
	Medical surgery	37 (18%)	30.05 ± 9.06	9.40 ± 4.29	13.86 ± 4.90	53.32 ± 9.79
Think about retirement or leaving job ahead of time	Yes	167 (81.5%)	31.30 ± 9.34	9.09 ± 3.74	13.30 ± 4.74	53.70 ± 9.99
	No	38 (18.5%)	$25.55 \pm 9.43^*$	8.57 ± 3.84	$17.05 \pm 5.71^*$	51.18 ± 11.72
Work in COVID units	Yes	169 (82.4%)	30.58 ± 9.60	9.00 ± 3.73	13.97 ± 5.29	53.56 ± 10.37
	No	36 (17.6%)	28.61 ± 9.57	8.97 ± 3.94	14.11 ± 4.38	51.69 ± 10.23

Abbreviations: PLIW, Personal Life Interference With Work; WIPL, Work Interference With Personal Life; WPLE, Work and Personal Life Enhancement.

* $p < 0.05$, significantly different from other categories.

TABLE 2 | Continuous characteristics of participating nurses in the study and their relationship with work-life balance scale and subscales.

Characteristics	Mean (SD)	$r(p)^*$			
		WIPL	PLIW	WPLE	WLB
Age	36.42 ± 22.68	$-0.08 (0.251)$	$0.03 (0.655)$	$0.20 (0.004)$	$0.03 (0.610)$
Work experience in nursing (years)	11.30 ± 7.63	$-0.02 (0.712)$	$0.09 (0.899)$	$0.03 (0.601)$	$-0.03 (0.970)$
Patients in shift	5.29 ± 3.38	$0.03 (0.971)$	$0.10 (0.146)$	$-0.11 (0.109)$	$-0.01 (0.817)$
Work hours/week (hours)	50.51 ± 26.01	$-0.07 (0.277)$	$0.08 (0.914)$	$-0.04 (0.959)$	$-0.07 (0.320)$
Average income in month (IRR)	$9496585.37 \pm 8173884.64$	$0.02 (0.685)$	$-0.08 (0.912)$	$0.03 (0.649)$	$0.04 (0.574)$

Abbreviations: PLIW, Personal Life Interference With Work; WIPL, Work Interference With Personal Life; WLB, Work-Life Balance; WPLE, Work and Personal Life Enhancement.

*Results for Pearson's correlation coefficient.

The relationship between continuous characteristics of participating nurses in the study with WLB scale and subscales is shown in Table 2. According to the analysis, there was a significant relationship between age and WPLE ($r=0.20$, $p=0.004$). The scores for WPLE increased with increasing age of participants.

Table 3 shows the frequency of answers to items of the WLB scale. The mean score of total WLB was 53.23 ± 10.35 out of a maximum score of 105. In the subscales, the mean score for WIPL was 30.23 ± 9.60 out of a maximum score of 49. The mean scores for PLIW and WPLE were 9 ± 3.76 out of 28 and 14 ± 5.13 out of 28, respectively. For the item of 'Personal life suffers because of work', the participants in the study had a mean score of 3.92 ± 1.76 , while this was 1.99 ± 1.27 for the item of 'My work suffers because of my personal life'. The mean scores of participants for the item of 'Personal life gives me energy for my job' and 'Job gives me energy to pursue personal activities' were 3.96 ± 1.55 and 2.89 ± 1.53 , respectively.

Table 4 shows the relationship between the subscales of the WLB scale. A significant positive relationship was found between WIPL and PLIW ($r=0.29$, $p < 0.001$), while there was a significant inverse relationship between WIPL and WPLE ($r=-0.38$, $p < 0.001$). There was also a significant inverse relationship between PLIW and WPLE ($r=-0.23$, $p < 0.001$), showing that participants who scored higher for WIPL and PLIW scored lower for WPLE. Also, there was a significant relationship between WIPL and PLIW and the total score for WLB ($p < 0.001$).

4 | Discussion

The present study aimed to address two primary questions: (1) What is the status of WLB among nurses working in the teaching hospitals in Tabriz, Northwestern Iran? And (2) is there a relationship between their workplace and personal factors with WLB?

Our findings revealed that participating nurses scored an average of 30.23 out of 49 for WIPL and an average score of 9 out of 28 for PLIW, indicating a significantly higher level of work interference with personal life compared to personal life interference with work. This disparity highlights the extent to which nurses' professional responsibilities encroach upon their personal lives, leaving little room for family, social activities or self-care. These results align with studies such as Thilagavathy and Geetha (2021), who found that excessive work pressure often reduces employees' participation in social activities and creates challenges in fulfilling family expectations. Similarly, Kowitlawkul et al. (2019) reported that nurses frequently spend over 80% of their time at work, further exacerbating the imbalance. In our study, over 50% of participating nurses consistently reported that work adversely affected their personal lives, echoing findings from Gribben and Semple (2021b) and Makabe et al. (2015), who noted that a significant proportion of nurses struggle with work-life balance. The implications of these findings are profound: When work demands overshadow personal life, nurses' physical and mental health may deteriorate, leading to burnout, decreased job satisfaction and ultimately higher

turnover rates. This underscores the urgent need for both individual and organisational strategies to address this imbalance. For instance, hospitals could implement policies that promote flexible scheduling, encourage regular breaks and provide access to mental health resources. Additionally, fostering a culture that values work-life balance and recognises the importance of personal time could help mitigate the adverse effects of high WIPL scores.

Interestingly, while previous studies have indicated that shift work can negatively affect health and complicate family planning (Cyr et al. 2022; Kervezee et al. 2018; Lajoie et al. 2015; Rolston 2014; Williams 2008), our research found no significant relationship between shift work and WLB. This discrepancy may warrant further investigation into how cultural factors and organisational practices within Iranian hospitals influence this relationship.

Our study did not find a significant relationship between WLB and gender, which contrasts with existing literature suggesting that women typically experience greater work-family conflict due to traditional gender roles (Gerson 2004; Magadley 2021). While previous studies indicate that women face more challenges balancing home and family responsibilities (Duxbury and Higgins 1991; Reverberi et al. 2022; Sundaresan 2014), our findings suggest that in the context of Iranian nursing, these dynamics may differ. This discrepancy can be attributed to several cultural and societal factors unique to Iran. For instance, Iranian families, particularly in urban areas, are increasingly sharing household responsibilities between men and women, reducing the burden traditionally placed on women (Modiri et al. 2024). Additionally, the nursing profession in Iran is often perceived as a gender-neutral career, which may mitigate the pressure on female nurses to conform to traditional gender roles. Furthermore, the strong familial support systems prevalent in Iranian culture may help both male and female nurses manage work and personal life more effectively. As highlighted by Chandola et al. (2004), gender differences in WLB can vary significantly across contexts, and our findings underscore the importance of considering cultural and societal factors when interpreting WLB dynamics. Future research should explore these cultural nuances in greater depth to better understand how gender roles influence WLB in different settings.

Our results indicated that nurses with a master's degree experienced lower WIPL compared to those with a bachelor's degree, suggesting that higher educational attainment may be associated with better WLB. This finding aligns with studies showing that advanced education often provides nurses with greater job flexibility, autonomy and access to roles that are less physically and emotionally demanding (Fukuzaki et al. 2021). For example, master's degree holders may have opportunities to work in administrative, educational or specialised clinical roles, which typically offer more predictable schedules and reduced patient loads compared to general nursing positions. Additionally, advanced education equips nurses with enhanced problem-solving skills and time management strategies, and a deeper understanding of self-care practices, all of which contribute to better work-life balance. However, it is important to note that the relationship between education and WLB may also be influenced by organisational factors,

TABLE 3 | Results for work–life balance and its subscales.

Items I have felt...	Not at all	Rarely	Occasionally	Sometimes	Frequently	Usually	All the time	Mean ± SD
Personal life suffers because of work	16 (7.8%)	24 (11.7%)	58 (28.3%)	43 (21%)	18 (8.8%)	19 (9.3%)	27 (13.2%)	3.92 ± 1.76
Job makes personal life difficult	15 (7.3%)	15 (7.3%)	39 (19%)	55 (26.8%)	30 (14.6%)	20 (9.8%)	31 (15.1%)	4.24 ± 1.73
Neglect personal needs because of work	6 (2.9%)	19 (9.3%)	40 (19.5%)	44 (21.5%)	28 (13.7%)	30 (14.6%)	38 (18.5%)	4.52 ± 1.72
Put personal life on hold for work	26 (12.7%)	31 (15.1%)	48 (23.4%)	32 (15.6%)	21 (10.2%)	26 (12.7%)	21 (10.2%)	3.75 ± 1.86
Miss personal activities because of work	6 (2.9%)	24 (11.7%)	44 (21.5%)	48 (23.4%)	25 (12.2%)	33 (16.1%)	25 (12.2%)	4.27 ± 1.65
Struggle to juggle work and non-work	10 (4.9%)	21 (10.2%)	22 (10.7%)	5 7 (27.8%)	33 (16.1%)	23 (11.2%)	39 (19%)	4.50 ± 1.74
Happy with the amount of time for non-work activities	49 (23.9%)	57 (27.8%)	30 (14.6%)	31 (15.1%)	12 (5.9%)	14 (6.8%)	12 (5.9%)	2.95 ± 1.78
Subscale 1: WIPL								30.23 ± 9.60
Personal life drains me of energy for work	71 (34.6%)	56 (27.3%)	44 (21.5%)	18 (8.8%)	10 (4.9%)	1 (0.5%)	5 (2.4%)	2.33 ± 1.39
Too tired to be effective at work	41 (20%)	70 (34.1%)	56 (27.3%)	17 (8.3%)	6 (2.9%)	10 (4.9%)	5 (2.4%)	2.46 ± 1.43
My work suffers because of my personal life	91 (44.4%)	68 (33.2%)	23 (11.2%)	12 (5.9%)	6 (2.9%)	1 (0.5%)	4 (2%)	1.99 ± 1.27
Hard to work because of personal matters	77 (37.6%)	71 (34.6%)	40 (19.5%)	11 (5.4%)	3 (1.5%)	2 (1%)	1 (0.5%)	2.03 ± 1.09
Subscale 2: PLIW								9.00 ± 3.76
Personal life gives me energy for my job	9 (4.4%)	22 (10.7%)	57 (27.8%)	55 (26.8%)	21 (10.2%)	24 (11.7%)	17 (8.3%)	3.96 ± 1.55
Job gives me energy to pursue personal activities	42 (20.5%)	50 (24.4%)	53 (25.9%)	32 (15.6%)	9 (4.4%)	15 (7.3%)	4 (2%)	2.89 ± 1.53
Better mood at work because of personal life	10 (4.9%)	22 (10.7%)	49 (23.9%)	64 (31.2%)	16 (7.8%)	24 (11.7%)	20 (9.8%)	4.00 ± 1.59
Better mood because of my job	41 (20%)	39 (19%)	48 (23.4%)	37 (18%)	14 (6.8%)	18 (8.8%)	8 (3.9%)	3.15 ± 1.68
Subscale 3: WPLE								14.00 ± 5.13
Work-Life Balance Scale (WLB)								53.23 ± 10.35

Abbreviations: PLIW, Personal Life Interference With Work; WIPL, Work Interference With Personal Life; WPLE, Work and Personal Life Enhancement.

TABLE 4 | Relationship between work-life balance scale and its subscales.

Work-life balance scale	1	2	3	4
1. WIPL	1	0.29 (<0.001)	-0.38 (<0.001)	0.84 (<0.001)
2. PLIW		1	-0.23 (0.001)	0.52 (<0.001)
3. WPLE			1	0.06 (0.406)
4. Work-Life Balance Scale (WLB)				1

Abbreviations: PLIW, Personal Life Interference With Work; WIPL, Work Interference With Personal Life; WPLE, Work and Personal Life Enhancement.

such as the availability of supportive policies and resources for highly educated nurses. Future research should explore how educational attainment interacts with factors such as job flexibility, organisational support and workplace culture to shape WLB among nurses.

A concerning trend observed in our study was the inclination among participating nurses to leave their jobs or retire early. Notably, the average age of these nurses was approximately 6 years younger than other participants, and they reported higher WIPL scores and lower WPLE scores. This finding aligns with previous studies indicating that poor WLB can significantly reduce job satisfaction and increase turnover intentions (Dousin et al. 2021; Makabe et al. 2015). For instance, Kim and Windsor (2015) demonstrated that WLB and resilience at work are shaped by a dynamic process involving positive thinking, flexibility and empowerment, which collectively enhance nurse retention and foster a healthier work environment. The implications of these findings are particularly alarming given the aging nursing workforce in Iran and the global nursing shortage. If younger nurses continue to leave the profession prematurely, healthcare systems may face severe staffing crises, compromising patient care and increasing workloads for remaining nurses. To address this issue, healthcare organisations must prioritise interventions that promote WLB, such as flexible scheduling, mentorship programs and access to mental health resources. Additionally, fostering a workplace culture that values employee well-being and recognises the importance of personal time could help mitigate burnout and improve retention rates.

The findings of the study by Boamah and Laschinger (2016) showed that the intention of new graduate nurses to relocate can be reduced by improving work conditions and creating supportive work environments to reduce sensitivity to burnout in nurses. Given that a large part of the nursing workforce is nearing retirement, identifying aspects of the working life of new graduate nurses connected to relocation is important to deal with nursing shortages in future. Supportive methods, particularly flexible planning and support supervisors, have direct positive effects on personnel perception of control over work and family life. Enhanced social support by the

family, friends/colleagues and supervisors can help nurses to deal with work stress and increase their quality of life (Kowitlawkul et al. 2019).

In our study, the score for WPLE was seen to increase with increasing age of study participants, showing that older nurses can manage their job and personal life so that their work enhances their personal life and vice versa. In a study by Richert-Kaźmierska and Stankiewicz (2016), personnel in the older age groups maintained a better WLB. Although some previous studies (Aziz-Ur-Rehman and Siddiqui 2019; Rawashdeh et al. 2016; Shagvaliyeva and Yazdanifard 2014) found a significant relationship between a flexible work schedule and WLB, no such relationship was observed in the present study between nurses' work hours per week, number of patients per shift, or income and WLB. This finding is not unexpected given the inflexible organisational structure of employing nurses in Iran in which the work hours per week and work pressure are almost equal for all nurses due to nursing shortages.

Since nurses must work as a team in various shifts to meet patient demands, allocating nurses to appropriate wards and shifts based on human factors can strengthen teamwork and commitment to the organisation, increasing the efficiency of the healthcare system (Hamid et al. 2020). While managers with high management knowledge are needed for human resource planning in hospitals so that they can plan existing human resources and support their employees in a scientific way, hospitals with doctors who have not received any specialised management training as administrators sometimes have no understanding of nursing duties, have no idea about the process of transitioning a new graduate nurse, and creating a supportive environment for nurses (Ebrahimi et al. 2016). An integrative review by Gribben and Semple (2021a) showed that a high level of support by colleagues and managers can lead to a better WLB and reduced burnout.

The challenges faced by Iranian nurses are not unique; they are shared by nurses in other nations in the region and, to some extent, globally. These challenges include a significant shortage of nursing staff and nurse educators, an aging workforce and inadequate resources for recruitment, education and retention of competent nurses (Ahmadi Chenari et al. 2020). Addressing these issues requires a multifaceted approach. First, increasing the number of nursing personnel through targeted recruitment campaigns and incentives can help alleviate the current strain on healthcare systems. Second, implementing flexible work arrangements, such as part-time work, job sharing and telecommuting for administrative tasks, can improve WLB and job satisfaction. A study suggests that such arrangements not only enhance job satisfaction but also enable nurses to more effectively balance family responsibilities and personal well-being (Itesa 2023). Third, fostering a supportive work environment that prioritises employee well-being and recognises the importance of personal time is crucial for reducing burnout and improving retention rates. Policymakers and hospital administrators must collaborate to develop and implement these strategies, ensuring that nurses feel valued and supported in their roles. By addressing these challenges, healthcare systems can build a resilient nursing

workforce capable of meeting the demands of an ever-evolving healthcare landscape.

Moreover, enhancing organisational support is critical for improving work conditions. This can be achieved through the establishment of mentorship programs and access to stress management resources, such as counselling services or wellness programs, which can help nurses cope with the demands of their profession. Additionally, investing in ongoing professional development opportunities, such as workshops on time management, stress reduction, and advanced clinical skills, can empower nurses to better manage their work demands and enhance patient care. By creating an environment that prioritises mental health and well-being, healthcare organisations can cultivate a more resilient nursing workforce capable of delivering high-quality patient care while maintaining their own health and job satisfaction.

5 | Conclusion

The findings of this study reveal that work demands significantly impact nurses' personal lives, as evidenced by higher scores on the WIPL subscale compared to PLIW. Furthermore, an inverse relationship exists between WLB and the inclination to leave work prematurely or opt for early retirement, with younger nurses reporting greater work-life interference and a stronger desire to leave the profession. These results underscore the urgent need for targeted interventions to improve nurses' work-life balance.

Given the challenges facing Iran's nursing workforce—including retention issues, an aging demographic, and resource constraints—improving WLB is essential for addressing job dissatisfaction and reducing high turnover rates. Healthcare organisations should prioritise the implementation of flexible work arrangements, increased staffing levels, and stress management and psychological counselling programs to support nurses' well-being. Additionally, fostering management support systems and providing professional development opportunities can contribute to a healthier and safer work environment, promoting job satisfaction and career growth.

This study highlights the critical connection between nurses' work-life balance and their intention to leave the profession, emphasising the need for organisational and policy-level changes to support nurses' well-being and promote nurse retention. While this cross-sectional study provides valuable insights, further investigation is highly recommended to explore the long-term impact and effectiveness of WLB interventions in diverse healthcare settings. Future studies should also examine how WLB initiatives can be adapted to address the specific challenges faced by nurses during health crises, while considering the unique cultural and contextual factors within specific regions and healthcare systems.

5.1 | Limitations

This study has several limitations that should be acknowledged. First, the cross-sectional design limits our ability to establish causal relationships between assessed factors and WLB.

Longitudinal studies are needed to examine temporal relationships and to determine the direction of causality. Second, the study was conducted in a specific region of Iran (Tabriz), which may limit the generalisability of the findings to nurses in other regions or countries. Cultural and contextual factors can significantly influence WLB experiences, and our results may not fully apply to nurses working in different settings.

Third, the use of self-report questionnaires may introduce bias due to social desirability and recall errors. Nurses may have under- or over-reported certain behaviours or experiences, potentially affecting the accuracy of the results. Fourth, while the sample size of 205 nurses is sufficient for statistical analysis, it may not comprehensively represent the broader population of Iranian nurses working in clinical settings.

Finally, this study was conducted during the COVID-19 pandemic, a period of unprecedented stress and demands on healthcare systems globally. Most participants were involved in caring for COVID-19 patients, which likely exacerbated work interference with personal life and influenced their WLB experiences. The unique circumstances of the pandemic may have skewed the results, and further research is needed to examine the long-term effects of the pandemic on nurses' work-life balance.

Author Contributions

M.G., R.J. and A.G. conceived and designed the study and prepared the study protocol. R.J. assisted with data collection. A.G. supervised all data collection and study procedures. A.G. analysed data of the study. A.G. and T.O. interpreted the results, and all authors contributed to the preparation of the manuscript and approval of the final version.

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Ethics Statement

The study was approved by the ethics committee at **University of Medical Sciences (Ethics code: REDACTED) and implemented by the Declaration of Helsinki. All participants provided written informed consent.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available from the corresponding authors upon reasonable request.

References

Ahmadi Chenari, H., M. Zakerimoghadam, and S. L. Baumann. 2020. "Nursing in Iran: Issues and Challenges." *Nursing Science Quarterly* 33, no. 3: 264–267. <https://doi.org/10.1177/0894318420920603>.

- Aziz-Ur-Rehman, M., and D. A. Siddiqui. 2019. "Relationship Between Flexible Working Arrangements and Job Satisfaction Mediated by Work-Life Balance: Evidence From Public Sector Universities Employees of Pakistan." *International Journal of Human Resource Studies* 10: 104. <https://doi.org/10.5296/ijhrs.v10i1.15875>.
- Bae, J., P. F. Jennings, C. P. Hardeman, et al. 2020. "Compassion Satisfaction Among Social Work Practitioners: The Role of Work-Life Balance." *Journal of Social Service Research* 46, no. 3: 320–330. <https://doi.org/10.1080/01488376.2019.1566195>.
- Bighami, M., M. Sarlak, P. Koulivand, and A. Ahmadi. 2017. "Evaluation of the Key Factors Affect Work-Life Balance of Nurses in Tehran." *Shefaye Khatam* 5, no. 1: 29–39.
- Boamah, S. A., and H. Laschinger. 2016. "The Influence of Areas of Worklife Fit and Work-Life Interference on Burnout and Turnover Intentions Among New Graduate Nurses." *Journal of Nursing Management* 24, no. 2: E164–E174. <https://doi.org/10.1111/jonm.12318>.
- Brough, P., C. Timms, X. W. Chan, A. Hawkes, and L. Rasmussen. 2020. "Work-Life Balance: Definitions, Causes, and Consequences." In *Handbook of Socioeconomic Determinants of Occupational Health: From Macro-Level to Micro-Level Evidence*, edited by T. Theorell, 1–15. Springer International Publishing. https://doi.org/10.1007/978-3-030-05031-3_20-1.
- Chandola, T., P. Martikainen, M. Bartley, et al. 2004. "Does Conflict Between Home and Work Explain the Effect of Multiple Roles on Mental Health? A Comparative Study of Finland, Japan, and the UK." *International Journal of Epidemiology* 33, no. 4: 884–893. <https://doi.org/10.1093/ije/dyh155>.
- Cyr, M., D. Z. Artenie, A. Al Bikaii, D. Borsook, and J. A. Olson. 2022. "The Effect of Evening Light on Circadian-Related Outcomes: A Systematic Review." *Sleep Medicine Reviews* 64: 101660. <https://doi.org/10.1016/j.smrv.2022.101660>.
- de Bont, A., J. van Exel, S. Coretti, et al. 2016. "Reconfiguring Health Workforce: A Case-Based Comparative Study Explaining the Increasingly Diverse Professional Roles in Europe." *BMC Health Services Research* 16, no. 637: 1–14. <https://doi.org/10.1186/s12913-016-1898-0>.
- Dousin, O., N. Collins, T. Bartram, and P. Stanton. 2021. "The Relationship Between Work-Life Balance, the Need for Achievement, and Intention to Leave: Mixed-Method Study." *Journal of Advanced Nursing* 77, no. 3: 1478–1489. <https://doi.org/10.1111/jan.14724>.
- Duxbury, L. E., and C. A. Higgins. 1991. "Gender Differences in Work-Family Conflict." *Journal of Applied Psychology* 76, no. 1: 60–74. <https://doi.org/10.1037/0021-9010.76.1.60>.
- Ebrahimi, H., H. Hassankhani, R. Negarandeh, A. Azizi, and M. Gillespie. 2016. "Barriers to Support for New Graduated Nurses in Clinical Settings: A Qualitative Study." *Nurse Education Today* 37: 184–188. <https://doi.org/10.1016/j.nedt.2015.11.008>.
- Fisher, G. G. 2001. *Work/Personal Life Balance: A Construct Development Study*. Bowling Green State University.
- Fisher-McAuley, G., J. Stanton, J. Jolton, and J. Gavin. 2003. "Annual Conference of the Society for Industrial-Organizational Psychology." In *Modelling the Relationship Between Work Life Balance and Organisational Outcomes*, 1–26. ResearchGate GmbH.
- Fukuzaki, T., N. Iwata, S. Ooba, S. Takeda, and M. Inoue. 2021. "The Effect of Nurses' Work-Life Balance on Work Engagement: The Adjustment Effect of Affective Commitment." *Yonago Acta Medica* 64, no. 3: 269–281. <https://doi.org/10.33160/yam.2021.08.005>.
- Gerson, K. 2004. "Understanding Work and Family Through a Gender Lens." *Community, Work & Family* 7, no. 2: 163–178. <https://doi.org/10.1080/1366880042000245452>.
- Gribben, L., and C. J. Semple. 2021a. "Factors Contributing to Burnout and Work-Life Balance in Adult Oncology Nursing: An Integrative Review." *European Journal of Oncology Nursing* 50: 101887. <https://doi.org/10.1016/j.ejon.2020.101887>.
- Gribben, L., and C. J. Semple. 2021b. "Prevalence and Predictors of Burnout and Work-Life Balance Within the Haematology Cancer Nursing Workforce." *European Journal of Oncology Nursing* 52: 101973. <https://doi.org/10.1016/j.ejon.2021.101973>.
- Hamid, M., R. Tavakkoli-Moghaddam, F. Golpaygani, and B. Vahedi-Nouri. 2020. "A Multi-Objective Model for a Nurse Scheduling Problem by Emphasizing Human Factors." *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine* 234, no. 2: 179–199. <https://doi.org/10.1177/0954411919889560>.
- Itesa, U. 2023. *Leadership Styles, Flexible Work Arrangements, and Turnover Intentions*. Columbia Southern University.
- Kalateh Sadati, A. K., S. Hemmati, F. Rahnavard, K. B. Lankarani, and S. T. Heydari. 2016. "The Impact of Demographic Features and Environmental Conditions on Rates of Nursing Burnout." *SEMJ* 17, no. 3: e37882.
- Kamrani, M. A., A. N. Amiri, S. H. A. Alavi, and A. Hamidizadeh. 2018. "Factors Affecting Work-Life Balance of Nurses in Hospitals Affiliated to Jiroft University of Medical Sciences in 1396." *Journal of Nursing Education* 7, no. 4: 54–63.
- Kelliher, C., J. Richardson, and G. Boiarintseva. 2019. "All of Work? All of Life? Reconceptualising Work-Life Balance for the 21st Century." *Human Resource Management Journal* 29, no. 2: 97–112. <https://doi.org/10.1111/1748-8583.12215>.
- Kervezee, L., A. Shechter, and D. B. Boivin. 2018. "Impact of Shift Work on the Circadian Timing System and Health in Women." *Sleep Medicine Clinics* 13, no. 3: 295–306. <https://doi.org/10.1016/j.jsmc.2018.04.003>.
- Kim, M., and C. Windsor. 2015. "Resilience and Work-Life Balance in First-Line Nurse Manager." *Asian Nursing Research* 9, no. 1: 21–27. <https://doi.org/10.1016/j.anr.2014.09.003>.
- Kowitlawkul, Y., S. Yap, S. Makabe, et al. 2019. "Investigating Nurses' Quality of Life and Work-Life Balance Statuses in Singapore." *International Nursing Review* 66, no. 1: 61–69. <https://doi.org/10.1111/inr.12457>.
- Lajoie, P., K. Aronson, A. Day, and J. Tranmer. 2015. "A Cross-Sectional Study of Shift Work, Sleep Quality and Cardiometabolic Risk in Female Hospital Employees." *BMJ Open* 5, no. 3: e007327. <https://doi.org/10.1136/bmjopen-2014-007327>.
- Magadley, W. 2021. "Moonlighting in Academia: A Study of Gender Differences in Work-Family Conflict Among Academics." *Community, Work & Family* 24, no. 3: 237–256. <https://doi.org/10.1080/13668803.2019.1678458>.
- Makabe, S., J. Takagai, Y. Asanuma, K. Ohtomo, and Y. Kimura. 2015. "Impact of Work-Life Imbalance on Job Satisfaction and Quality of Life Among Hospital Nurses in Japan." *Industrial Health* 53, no. 2: 152–159. <https://doi.org/10.2486/indhealth.2014-0141>.
- Matsuo, M., E. Suzuki, Y. Takayama, S. Shibata, and K. Sato. 2021. "Influence of Striving for Work-Life Balance and Sense of Coherence on Intention to Leave Among Nurses: A 6-Month Prospective Survey." *Inquiry* 58: 1–9. <https://doi.org/10.1177/00469580211005192>.
- Mishra, P., and V. Bharti. 2020. "Impact of Perceived Organizational Support on Work Life Balance During Covid-19 Era." *International Journal of Management (IJM)* 11, no. 12: 1602–1610.
- Modiri, F., R. Sadeghi, and A. Rahimi. 2024. "The Gendered Division of Household Labor and Decision-Making in Tehran, Iran." *IJPS* 3212: 109. <https://doi.org/10.36922/ijps.3212>.
- Oludayo, O., H. Falola, A. Obianuju, and F. Demilade. 2018. "Work-Life Balance Initiative as a Predictor of Employees' Behavioural Outcomes." *Academy of Strategic Management Journal* 17, no. 1: 1–17.

- Ramarajan, L., and E. Reid. 2013. "Shattering the Myth of Separate Worlds: Negotiating Nonwork Identities at Work." *Academy of Management Review* 38, no. 4: 621–644. <https://doi.org/10.5465/amr.2011.0314>.
- Rawashdeh, A. M., M. S. Almasarweh, and J. Jaber. 2016. "Do Flexible Work Arrangements Affect Job Satisfaction and Work-Life Balance in Jordanian Private Airlines?" *International Journal of Information, Business and Management* 8, no. 3: 172.
- Reverberi, E., C. Manzi, C. Van Laar, and L. Meeussen. 2022. "The Impact of Poor Work-Life Balance and Unshared Home Responsibilities on Work-Gender Identity Integration." *Self and Identity* 21, no. 5: 588–607. <https://doi.org/10.1080/15298868.2021.1914715>.
- Richert-Kaźmierska, A., and K. Stankiewicz. 2016. "Work-Life Balance: Does Age Matter?" *Work* 55, no. 3: 679–688. <https://doi.org/10.3233/WOR-162435>.
- Rolston, J. S. 2014. *Mining Coal and Undermining Gender: Rhythms of Work and Family in the American West*. Rutgers University Press.
- Sakthivel, D., and J. Jayakrishnan. 2012. "Work Life Balance and Organizational Commitment for Nurses." *Asian Journal of Business and Management Sciences* 2, no. 5: 1–6.
- Shagvaliyeva, S., and R. Yazdanifard. 2014. "Impact of Flexible Working Hours on Work-Life Balance." *American Journal of Industrial and Business Management* 4, no. 1: 20–23. <https://doi.org/10.4236/ajibm.2014.41004>.
- Silva, T. A., G. F. de Freitas, M. H. Takashi, and T. de Araújo Albuquerque. 2019. "Professional Identity of Nurses: A Literature Review." *Enfermería Global* 18, no. 2: 589–600. <https://doi.org/10.6018/eglobal.18.2.324291>.
- Souza, E. A., C. F. Teixeira, D. S. Souza, H. Silva-Santos, T. Araújo-dos-Santos, and J. L. C. Ramos. 2020. "The (Re) Construction of Own Identity in Nurses' Work in Brazil: Exploratory Study." *Revista Brasileira de Enfermagem* 73, no. 6: e20180928. <https://doi.org/10.1590/0034-7167-2018-0928>.
- Suleiman-Martos, N., L. Albendín-García, J. L. Gómez-Urquiza, et al. 2020. "Prevalence and Predictors of Burnout in Midwives: A Systematic Review and Meta-Analysis." *International Journal of Environmental Research and Public Health* 17, no. 2: 641. <https://doi.org/10.3390/ijerph17020641>.
- Sundaresan, S. 2014. "Work-Life Balance—Implications for Working Women." *OIDA International Journal of Sustainable Development* 7, no. 7: 93–102.
- Tejero, L. M. S., R. R. Seva, and V. F. F. Fadrilan-Camacho. 2021. "Factors Associated With Work-Life Balance and Productivity Before and During Work From Home." *Journal of Occupational and Environmental Medicine* 63, no. 12: 1065–1072. <https://doi.org/10.1097/JOM.0000000000002377>.
- Thilagavathy, S., and S. Geetha. 2021. "Work-Life Balance—A Systematic Review." *Vilakshan - XIMB Journal of Management* 20: 258–276. <https://doi.org/10.1108/XJM-10-2020-0186>.
- Varasteh, S., M. Esmaili, and M. Mazaheri. 2022. "Factors Affecting Iranian Nurses' Intention to Leave or Stay in the Profession During the COVID-19 Pandemic." *International Nursing Review* 69, no. 2: 139–149. <https://doi.org/10.1111/inr.12718>.
- Williams, C. 2008. "Work-Life Balance of Shift Workers." *Perspectives on Labour and Income* 9, no. 8: 10677.