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Work engagement, resilience and turnover intentions among nurses: a mediation analysis

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Abstract

Introduction Healthcare organizations experience difficult challenges as a result of nursing staff turnover. This is because it not only interrupts continuity of service but also its financial implications.

Aim The purpose of the study was to find out the effects of work engagement on nurses' intentions to leave their jobs while considering resilience as a mediating factor.

Methods The study used a descriptive-analytical design using a survey questionnaire on nurses working in different healthcare settings. The Utrecht Work Engagement Scale, the Brief Resilience Scale, and the Turnover Intention Scale were among the validated scales that were employed. The hypothesized relations were tested using descriptive and mediation analyses at a significance of <0.05 .

Results Though the turnover intention ($n = 3.83 \pm 1.42$) and the level of work engagement ($n = 4.03 \pm 1.32$) among nurses were high, their level of resilience of nurses was average ($n = 2.48$, SD: 0.63). Resilience had a negative association with turnover intention ($\beta = -0.5699$, $p < .0001$), and there was also a significant negative association between work engagement and turnover intentions among nurses with resilience mediating the relationship ($\beta = -0.0367$, $p < .05$).

Conclusion Disengaged nurses are more likely to leave their jobs. Moreover, resilience acts as a mechanism through which work engagement influences turnover intentions. The study emphasizes the need to encourage work engagement among nurses to lessen intentions to leave the profession. Among factors that can improve work engagement and resilience to reduce turnover include conducting regular engagement assessments, fostering positive workplace cultures, employing flexible scheduling practices, and offering resources for personal and professional development.

Keywords Healthcare organizations, Nurses, Resilience, Retention, Turnover intentions, Work engagement

Introduction

An adequate health workforce is fundamental to the realization of positive health outcomes, and this is collaborated by the World Health Organization (WHO) as a means of achieving health indicators [1–3]. Meanwhile, globally, we are confronted with close to 5.9 million nursing workforce shortages as a result of turnover [4]; and the health-related Sustainable Development Goals (SDGs) are significantly hampered by this gap, particularly in low- and middle-income countries (LMICs) [2, 5].

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Turnover, defined as the employees' voluntary or involuntary leaving a job or their positions in an organization [6], has a detrimental impact on healthcare organizations, patients, and the healthcare system at large. Turnover of nurses can be assessed using their turnover intentions rate, and it has become quite prevalent in the nursing profession [7, 8]. The turnover rate per year for nurses in Australia; 8.8% [9], the United States and United Kingdom rate it to be 18% and 20% respectively [10], South Africa, 33.0% [11] and Ethiopia, 64.9% [12]. Moreover, the turnover intention for nurses in Ghana is estimated to be high [13].

Several factors have been identified to contribute to turnover intentions among nurses globally. According to Hallaran et al. [14], nurses who perceived their workplaces as unsupportive and lacking in resources were more likely to leave their jobs. Personal factors such as work-family conflict have also been linked to nurse turnover [15]. However, these factors are often influenced by job-related factors, such as lack of work engagement, long work hours or inadequate pay [16].

Globally, studies show that nurses who are disengaged from their work are more likely to leave their current jobs, leading to increased turnover rates [17, 18]. Moreover, heavy workloads, inadequate compensation and resources (including lack of essential medical supplies and staffing), training and lack of professional autonomy lead to turnover intentions among nurses [19, 20]. The inability of healthcare organizations to provide a supportive work environment and adequate resources to nurses often results in them seeking alternative employment opportunities. Furthermore, globalization has led to the migration of nurses from LMICs to high-resourced countries in search of better opportunities, leading to increased turnover rates in the countries of origin [21, 22].

In Ghana, turnover intentions among nurses have become a significant concern, with the country experiencing a shortage of experienced and specialised nurses. The low salaries paid to nurses in Ghana compared to their counterparts in high-resourced countries have resulted in nurses seeking employment opportunities elsewhere, leading to increased turnover [23]. Furthermore, inadequate professional development opportunities and poor working conditions have all contributed to the high turnover rates among nurses in Ghana [24].

A high nurse turnover rate has a negative cost on patient care outcomes, staff morale, and organizational effectiveness. It is an expensive issue, as organizations have to invest in the recruitment, orientation, and training of new nurses [25, 26]. Furthermore, when experienced nurses leave, it may lead to a loss of

institutional knowledge and skills that cannot be easily replaced [19]. According to Eblin [27], replacing a certified nurse averagely costs between \$22,000 and \$64,000, and these costs can be significant for healthcare organizations, particularly those with high turnover rates. This position is inveterate by Stemmer et al. [28] that higher nurse turnover rates are associated with increased patient mortality, medication errors, and patient dissatisfaction. Additionally, it can lead to staffing shortages, which may result in increased nurse workload, burnout, job dissatisfaction, a decline in job performance and increased absenteeism [29, 30].

Globally, different strategies have been proffered in the past on ways to reduce nurse turnover. These strategies include providing opportunities for professional development, creating a positive work environment, fostering a supportive workplace culture, and promoting work-life balance [31]. Another important concept of importance to reducing turnover rate is resilience among nurses [32]. Resilience is the ability to bounce back from adverse events and cope with stress effectively [33]. Nursing is a demanding profession that involves long working hours, complex patient care, and dealing with patients' emotional needs, which can be emotionally and physically draining. Excessive stress might cause nurses to leave their profession or organization [34], however, resilient nurses are less likely to abandon their job because they are better able to handle stress by adjusting to changes and difficulties at work, making them more effective in their roles [35].

Similarly, work engagement, which is a complex concept that involves the cognitive, emotional, and behavioural aspects of the nursing profession [36] is a critical factor in the healthcare industry. Work engagement involves job satisfaction, commitment, and motivation to deliver high-quality patient care. Engaged nurses are more likely to stay in their jobs and exhibit positive behaviours that benefit their patients, colleagues, and organizations [37].

In recent times, nurse turnover has become a significant problem in Ghana, and it needs to be researched because of its adverse effects on healthcare delivery in the country. According to Adjei-Mensah [23], the turnover of nurses in Ghana is likely to worsen in the coming years due to an ageing nursing workforce and a lack of incentives to retain nurses. To reduce turnover rates among nurses, healthcare organizations must prioritize the provision of a supportive work environment and also understand all other factors that contribute to the phenomenon to essentially assist in developing strategies to improve it. Meanwhile, the role of work engagement and resilience in reducing turnover intention in Ghana has not been adequately researched.

Job Embeddedness Theory (JET) [38], a useful framework used for comprehending how different elements affect an individual's attachment to their job and organization served as a theoretical foundation for this study. Within the nursing setting, JET helps clarify the connections between work engagement, resilience, and turnover intentions relative to the practice environment by offering a helpful lens through which to view these intricate relationships [39].

Nurses' work engagement can be improved through strengthening one's sense of belonging and involvement in their work and organization [40]. Nurses who have a sense of engagement in their work are more likely to find fulfilment in their responsibilities, feel a sense of community, and be more driven to support organizational objectives. Various elements, including opportunities for professional growth, supportive connections with coworkers and managers, and alignment with the organization's values, can enhance nurses' feelings of embeddedness and, in turn, raise their degree of work engagement [41, 42].

The capacity to adjust and overcome obstacles and failures is resilience [43]. In the face of demands and pressures at work, work engagement can operate as a buffer to strengthen nurses' resilience [43, 44]. To effectively manage stress, nurses may view their work environment as more supportive when they feel a sense of belonging to their job and organization. The sense of support that nurses get can strengthen their resilience, making it easier for them to handle the demands of their jobs and keep their well-being intact in the face of hardship. Moreover, nurses who are integrated into the organization may have access to social support networks that support their efforts to cope and develop resilience [45].

Meanwhile, because work engagement creates barriers to leaving and fosters a sense of commitment to the job and organization [46], it can have a substantial impact on nurses' intentions to leave [41]. Nurses who are deeply committed to their work are more likely to view quitting as an expensive and disruptive process, both personally and professionally [47]. Strong relationships with coworkers, commitment to organization objectives, and positive work attributes are some of the factors that can lower nurses' propensity to quit their current post and raise the perceived costs of turnover [48, 49]. Additionally, work engagement has the potential to improve nurses' organizational commitment and job happiness, which could further reduce intentions to leave by improving their total job retention [46].

Policymakers can identify measures to promote good outcomes, such as greater work engagement, better resilience, and reduced turnover intentions within nursing work settings, by taking into account the degree to

which nurses feel rooted in their jobs and organizations. Again, they can close a significant knowledge gap in the dynamics of staff retention in Ghana's nursing workforce by using the findings of this study. Such strategies could be fostering a supportive work environment, offering chances for professional growth, and advocating for organizational values that sync up with the goals and aspirations of nurses in their workplaces. All things considered, this research can be used to guide actions and policies that try to enhance healthcare service by fostering nurses' well-being and retention.

Aim and hypothesis

The study examined the effects of work engagement on turnover intentions among nurses as mediated by resilience in Ghana. The study is structured on the following four hypotheses:

Hypothesis 1: Work engagement has a direct negative association with turnover intention among nurses

Hypothesis 2: Work engagement has a direct positive association with resilience among nurses

Hypothesis 3: Resilience has a direct negative association with turnover intention among nurses

Hypothesis 4: Work engagement has an indirect negative association with turnover intention mediated by resilience among nurses

Materials and methods

Design

The study used a descriptive-analytical design to examine the mediating role of resilience on work engagement and turnover intention of nurses in Ghana.

Study setting

The study was carried out in 25 selected hospitals in the Ashanti region. The region is located in Ghana's middle belt and has 43 districts. According to the 2014 Demographic Health Survey [50], the region has 153 facilities, of which two-thirds are government-owned; 72 are operated by faith-based groups and the rest are privately owned. The region was chosen due to its cosmopolitan nature.

Study population

The participants included Registered Nurses (RNs) in hospitals in the Ashanti region. The participants included RNs who work in the various departments of the hospitals, and had worked in their units for at least 1 year.

Inclusion criteria

The study included all RNs with permanent posts in their hospital.

Exclusion criteria

Any RNs who had not worked for at least 1 year at their current post were excluded from the study.

Sample size and sampling

Using Slovin's method (a margin of error of 4% and a confidence level of 95%), a total of 571 registered nurses were estimated and recruited for the study [51]. A multi-stage sampling strategy was employed to sample the participants. Five districts were randomly selected from the Ashanti region. Five health facilities were chosen by simple random sampling from each of the five districts (25 facilities overall). Based on the size of the nursing workforce at each of the 25 facilities, a proportionate number was assigned to each hospital. The researchers employed a simple random sampling to select participants from the 25 hospitals.

Measures

A scale comprising the Brief Resilience Scale (BRS), the Utrecht Work Engagement Scale (UWES), and the Turnover Intention scale (TIs) was used.

Nurse work engagement

The UWES [52] was used to measure the level of work engagement of nurses. Three work engagement subscales were included in the measure: vigour (3 items), dedication (3 items), and absorption (3 items). The values of the items ranged from 0 (never) to 6 (always) on a 7-point scale. The final score for engagement was the sum of all the items divided by the number of items on the scale. The work engagement score above average was categorised as high. The scale has acceptable alpha ($\alpha = 0.59$ to 0.91) in previous studies [53, 54]

Resilience

The resilience of RNs was measured using the 6-item BRS [55]. The scale measures how well a person can recover or bounce back from stress. On a Likert scale of 1-Strongly disagree to 5-Strongly agree, participants gave each item a rating. The sum of the scores for the six items was used to indicate the level of resilience. With a composite mean score between 1 and 5, a score of 2.5 or above indicates that RNs are highly resilient, and below 2.5 is low resilience. Numerous studies have used BRS, and have reported Cronbach alpha ratings of 0.80 to 0.95 [56, 57].

Turnover intention

The turnover intentions of RNs were assessed using six-item TIs designed by Mobley et al [58]. The scale was on a five-point Likert ranging from 1= "Strongly disagree" to 5= "Strongly agree". The composite mean score was

measured by summing up the 6 items and dividing by the number of test items (with a range between 1 and 5). The higher turnover intention was indicated by a score of 2.5 or greater and vice versa. Cronbach alpha ratings of 0.80 and 0.90 for the scale have been reported in other studies [59, 60].

Data collection procedure

The study's aim was communicated to all sampled participants. The study enrolled anyone who gave their consent to participate. Participants were given self-administered surveys, and after they were finished, the completed forms were promptly gathered. The data was collected between May and August 2022.

Data analysis

SPSS version 26 was used to analyse the data using descriptive and inferential statistics. The demographics of the individuals were analysed using the frequency, mean and standard deviation. Associations between the nurse's work engagement, turnover intention, resilience, age and duration at the current hospital were analyzed using Pearson Moment Product Correlation. The Hayes' macro-PROCESS model 4 with a 95% confidence interval based on 5000 bootstrap samples [61] was used to examine the indirect effect of nurses' work engagement on turnover intentions through resilience. The mediation analysis was conducted with work engagement as the independent variable, turnover intentions as the dependent variable, and resilience as the mediator. The data fulfilled the assumptions for no multicollinearity. Data were analyzed at a significance level lower than 0.05.

Ethical consideration

Institutions and ethical approval were sought by the management of the selected hospital and the Noguchi Memorial Institute of Medical Research (IRB-NMIMR CPN 012/21–22) respectively. Written informed consent was also sought from all participants before data collection. Moreover, participants' anonymity and confidentiality were assured.

Results

Socio-demographic characteristics of participants

A total of 462 registered nurses responded to the questionnaires. The mean age of participants was 29.73 years ($SD = 4.48$), while the average duration in years in the current facility was 4.90 years. The majority of participants were female (66.7%), single (57.8.8%) and held a diploma in nursing (58.4%). Most of the participants worked at the wards (44.8%) with a mean daily attendance of 12 patients while running both 8-h and 12-h shifts. Most participants (69.3%) were paid an average monthly salary

below US\$500. Table 1 provides a detailed summary of the participants' sociodemographic characteristics.

Level of work engagement, resilience and turnover intentions among nurses

The details of the mean and standard deviation of the variables are presented in Table 2. The overall mean of work engagement was 4.03 (SD: 1.32). The composite score of vigour, dedication and absorption were 3.65 (SD:1.44), 4.57 (SD:1.32), and 3.87 (SD:1.60) respectively. While the composite score of the resilience of nurses was 2.48 (SD: 0.63), the turnover intentions of the nurse recorded a composite mean score of 3.83 (SD: 1.42).

Association between socio-demographic characteristics, turnover intentions, work engagement and resilience

Table 3 details the correlation between variables; nurses' turnover intentions had a significant negative correlation with work engagement ($r = -0.45$, $p < 0.05$) and resilience

Table 2 Descriptive statistics of work engagement, resilience and turnover intentions

Variables	Mean	SD
Work Engagement	4.03	1.44
Vigour	3.65	1.32
Dedication	4.57	1.41
Absorption	3.87	1.60
Resilience	2.48	0.63
Turnover intention	3.83	1.42

($r = -0.357$, $p < 0.01$). The age of the nurse was positively correlated to the duration at the facility ($r = 0.696$, $p < 0.01$), the salary of nurses ($r = 0.409$, $p < 0.01$) and resilience ($r = 0.142$, $p < 0.01$). Moreover, the duration at a facility had a significant positive correlation with salary ($r = 0.313$, $p < 0.01$) and resilience ($r = 0.159$, $p < 0.01$). Likewise, the salary of the nurse had a significant positive correlation with work engagement ($r = 0.099$, $p < 0.05$) while a positive correlation was found between work engagement and resilience ($r = -0.240$, $p < 0.01$).

Table 1 Socio-demographic and professional information of participants

Variable	Frequency (%)	Mean (SD)
Age		29.73 (4.48)
Gender		
Male	154 (33.3)	
Female	308 (66.7)	
Marital status		
Single	267 (57.8)	
Married	184 (39.8)	
Others	11 (2.4)	
Highest qualification		
Certificate	132 (28.6)	
Diploma	270 (58.4)	
Bachelor degree	60 (13.0)	
Unit of work		
Reproductive and Child Health Unit	38 (8.2)	
Maternity Unit	53 (11.4)	
Emergency Unit/Out-Patient Department	164 (35.5)	
Ward	207 (44.8)	
Duration at facility		4.90 (3.38)
Average Daily Attendance		12.06 (5.26)
Average monthly salary		
Below \$500	320 (69.3)	
\$500—\$750	139 (30.1)	
\$750	3 (0.6)	
Shift Attendance		
8-h shift	235 (50.8)	
12-h shift	17 (3.7)	
Both 8- and 12-h shift	210 (45.5)	

The effects of work engagement and resilience on turnover intentions of Nurses

The analysis results in Table 4 detail the mediating role of resilience on work engagement and turnover intentions. According to the model, work engagement had a direct positive association with resilience ($\beta = 0.0436$, $p < 0.0001$). Work engagement had a direct negative association with turnover intentions ($\beta = -0.0367$, $p < 0.05$). Resilience had a negative association with turnover intention ($\beta = -0.5699$, $p < 0.0001$). Therefore, hypotheses 1, 2 and 3 should be accepted. Furthermore, the results suggested an indirect effect; work engagement had an indirect effect on turnover intention ($\beta = -0.0118$, $p < 0.05$) through resilience, which supported hypothesis 4. Bootstrap confidence intervals (95%) had no zero between the lower and upper limits for both the direct effect of work, engagement on plans to leave the profession and the mediation effect of resilience. This finding, therefore, suggests that work engagement not only predicts turnover intentions but may also predict turnover intention indirectly through resilience as presented in Fig. 1.

Discussion

The competence and commitment of nurses to deliver high-quality patient care are significantly reliant on the human resource management of the health workforce [62]. Meanwhile, excessive nurse turnover rates have become a major problem, hurting healthcare organizations and patient outcomes. The intention of nurses to

Table 3 Pearson correlation of selected variables

	1	2	3	4	5	6
1. Turnover Intentions	1					
2. Age	-.017	1				
3. Duration at facility	-.053	.696 ^a	1			
4. Salary of nurses	.008	.409 ^a	.313 ^a	1		
5. Nurse Engagement	-.045 ^b	.004	-.030	.099 ^b	1	
6. Resilience	-.357 ^b	.142 ^a	.159 ^a	.057	-.240 ^a	1

^a Correlation is significant at the 0.01 level (2-tailed)^b Correlation is significant at the 0.05 level (2-tailed)**Table 4** Results of mediation analysis

Paths	Estimate	SE	t	p-value	95% CI	R ²
ENG → RES	.0436	.0082	-5.2961	.0000	(-0.0598, -0.0274)	0.0575
RES → TIs	-.5699	.0648	-8.7888	.0000	(-0.6973, -0.4425)	0.1457
ENG → TIs	-.0118	.0124	-.9575	.0050	(-0.0361, -0.0125)	0.0020
Direct effects of X on Y	-.0367	.0118	-3.1106	.0020	(-0.0598, -0.0135)	
Indirect effect	Effect	Boot SE	Boot LLCI	Boot ULCI		
ENG → RES → TIs	.0248	.0059	.0138	.0372		

NEG Work Engagement, TIs Turnover Intentions, RES Resilience, Boot SE bootstrap standard error, R² variance accounted for, LLCI lower limit confidence interval, SE standard error, ULCI upper limit confidence interval

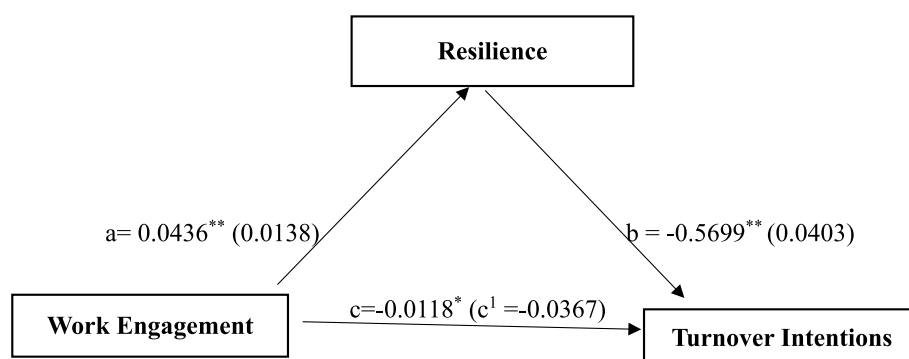


Fig. 1 Mediation model explaining the relationship between Work Engagement (ENG) and Turnover Intentions (TIs) among nurses through Resilience (RES) (in Table 4). $N = 462$; a = direct effect of ENG on RES; b = direct effect of RES on TIs; c = total effect of ENG on TIs; c^1 = direct effect of NEG on TIs. * $p < .05$, ** $p < .01$

leave their jobs has been partly linked to a lack of nurse engagement in their organizations [36, 63]. The study examined the relationship between work engagement and turnover intentions, assessing the mediating role of the resilience of nurses. The results of the study highlight the significance of fostering work engagement and resilience to reduce turnover intention, thereby improving nurse retention in healthcare settings.

Even though the current study projected adequate work engagement, which is similar to other studies in China [64], Egypt [65], Saudi Arabia [66] and the USA [34],

sustained effort is needed to include nurses in health-care system decision-making. According to McKenna and Jeske [63] and Huang et al. [67], giving nurses more opportunities to take the initiative and participate in hospital affairs can significantly increase their work engagement, which will improve other nursing job outcomes. Nurses who work in positive practice environments report higher job satisfaction and lower rates of turnover and thus increase their work engagement [68]. The result of nurses being more engaged in the current study can be attributed to them having worked at the hospital

for an average of 5 years. This is explained by Dempsey [69] as the '*honeymoon effect*' which has a significant consequence on employee empowerment and as such gets them more engaged. Moreover, nurses who work at the bedside are more engaged [70, 71] agrees with the findings of this study. Nurse managers must prioritize motivating bedside nurses to stay on course to improve their engagement.

The nurses' resilience was average, which has also been the case from findings in studies involving nurses working in public hospitals [72, 73]. Meanwhile, effective strategies for increasing resilience among nurses as reported by Wu et al. [74], Wei et al. [75] and Hart et al. [76] include the use of cognitive re-framing, work-life balance, critical reflection and reconciliation, and grounding connections. These strategies assist nurses in increasing psychological flexibility and adaptation by examining and retracing their internal and external environment. For instance, cognitive reframing enables nurses to re-create their work environment into a more productive workplace [77, 78].

The current study showed that turnover intention was widely prevalent. This result was higher than those of comparable research carried out in China, 78.3% [79], South Korea, 48.4% [8] and Iran, 64.0% [80]. This could be attributed to the variations in workload, hospital infrastructure, work environment, and job experience and the effect of the COVID-19 pandemic on the health workforce in these countries [81].

The findings of the study showed an association between duration at an organization and resilience. This position is corroborated by Delgado et al. [82] who reported a significant impact of work experience on the resilience of nurses. The ability of nurses to adapt, recuperate, and survive in the face of difficulties is influenced by the accumulation of skills, knowledge, and experience through time [78]. By offering assistance and putting in place strategies that support long-serving nurses' well-being, healthcare institutions play a critical role in helping them develop resilience. A healthier and more resilient nursing workforce can be achieved through comprehending and fostering the relationship between long service and nurse resilience [83].

According to the findings of this study, nurses' salaries can have a significant impact on their work engagement in an organization. This position is supported by González-Gancedo et al. [84] reporting that nurses are more likely to be absorbed in their job when they believe that their efforts are suitably recognized. Reducing financial stress through commensurate remuneration that supports a reasonable standard of living can improve work engagement [85], and this strategy should be a priority for all healthcare organizations. This position is

supported by Wang and Yuan [86] who stated with the relatively meagre salaries paid to nurses, there are high chances of nurses seeking other opportunities elsewhere, thereby increasing turnover.

Given the role of work engagement as a critical factor in predicting nurses' intention to leave the profession, the findings of the study are in line with global evidence [65, 87, 88]. According to Lin et al. [89] and Rai and Maheshwari [90], nurses who are engaged are more likely to report job satisfaction and organisational commitment. Likewise, low levels of nurse engagement have been linked to a higher intention to leave as there is a higher propensity to look for new employment opportunities [88]. Institutions that want to advance nurses' retention rates should pay attention to improving their work engagement. This can be achieved through fostering a conducive practice environment, chances for professional progression and ensuring a healthy work-life balance, and nurse managers must play a crucial role in ensuring it [91].

According to Gensimore et al. [92], resilience is essential for reducing the effect that work dissatisfaction, burnout, and other stresses have on the intention to leave one's employment job. The finding of this study is congruent with the position that resilient nurses are better able to manage demands at work, adjust to change, and recover from negative experiences as indicated by Badu et al. [83]. The resilience of the workforce has mediated the feelings of empowerment, self-efficacy, and personal accomplishment, which has a favourable impact on nurse engagement [35]. Resilience has also been observed to mediate the role of work engagement on turnover intention as reported by Cao et al. [93]. Health organizations should, therefore, integrate resilience-building interventions such as stress management programs, mentorship initiatives, and emotional support systems to overcome the debacle of nurse turnover. Healthcare institutions should reduce turnover intention and build a more sustainable staff by enhancing nurse engagement and resilience.

Implication for health services management

Healthcare organizations should create and put into place policies that encourage nurse engagement and deal with the root causes of turnover. This entails conducting regular engagement assessments, fostering positive workplace cultures, employing flexible scheduling practices, and offering resources for personal and professional development. Nurse managers can also emphasize the well-being of nurses by putting evidence-based plans in place to reduce burnout and enhance work-life balance.

Though long duration in an organization can boost nurses' resilience, it is crucial to be aware of the risks

and difficulties that could come with it. The resilience of nurses who have worked for a long duration may be impacted by protracted exposure to high-stress conditions, compassion fatigue, and the danger of burn-out. Nurse managers should be aware of the particular requirements of experienced nurses and offer resources to solve these difficulties.

Competitive remuneration can help nurses have more options for career advancement. Meanwhile, managers who prioritize competitive salaries in their organization are noted to fund continuous activities for professional progression. When nurses are paid well, they are more likely to participate in professional development events as they perceive a clear connection between their salary and prospects for continuous professional education. Nurse managers and stakeholders in the healthcare industry should, therefore, invest in compensation packages for nurses.

Limitation

The study has several limitations. First, the study concentrated in one particular region of Ghana, future study should include nurses from different regions of the country to yield more generalizable findings. Also, there was a high possibility of response bias from the use of self-report scales, however, validated tools were used to reduce the bias. Furthermore, due to the descriptive-analytical design used, a causal relationship between the variables cannot be established. Future studies should assess the effectiveness of nurse engagement and resilience interventions in lowering nurses' intentions to leave the profession using a more rigorous research design. Also, future studies should examine the organizational and individual factors that affect nurse engagement and the role of nurse engagement in patient outcomes and healthcare quality.

Conclusion

The turnover intention of nurses is significantly reduced by nurse engagement. This can be achieved through building a resilient nursing workshop which has a key role in the work engagement of nurses. Nurse managers through their healthcare organizations must prioritize the creation of policies that foster resilience to improve nurse engagement. Through sufficient organizational support, encouraging leadership, and the creation of a resilient work environment with an appropriate patient-nurse ratio as well as flexible work hours, nurse managers can promote resilience among nurses. By doing this, organizations can raise their overall success and increase the standard of patient care while lowering turnover costs.

Abbreviations

BRS	Brief Resilience Scale
LMICs	Low-middle-income countries
RNs	Registered Nurses
SDGs	Sustainable Development Goals
TIs	Turnover Intention scale
UWES	Utrecht Work Engagement Scale
WHO	World Health Organization

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Authors' contributions

C.A.P., J.B., and V.A.A. conceptualized and designed the study method. C.A.P., V.A.A., N.K.S. and J.B. collected, analysed and interpreted the data. V.B. and C.A.P. drafted the original manuscript. All authors read, revised, and approved the final manuscript for submission.

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Data availability

All data generated or analyzed during this study are included in this published article.

Declarations

Ethics approval and consent to participate

The research was conducted according to the Declaration of Helsinki. The ethics was approved by the Institutional Review Board of the Noguchi Memorial Institute of Medical Research, University of Ghana (NMIMR-IRB CPN 012/21–22). Before administering the questionnaire, written informed consent was obtained from all participants; confidentiality and anonymity were also ensured. Participants were made aware of their freedom to withdraw in the course of the study when the need be.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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