

LEVELS OF WORK ENGAGEMENT AND ITS ASSOCIATED INDIVIDUAL FACTORS AMONG NURSES WORKING IN MACHAKOS LEVEL 5 HOSPITAL, KENYA

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ABSTRACT

Background: All over the world pneumonia is responsible for most of the ailments and mortalities among the under five years population. (Perin et al., 2022). Recent research conducted in Kenya revealed showed there is low seeking of care among the under five years population with respiratory diseases like pneumonia as parents attempt to self-medicate the children first. Additionally, due to lack of timely and appropriate treatment, the respiratory conditions complicate leading to need for admission and longer hospital stay for pediatric patients. (Emukule et al., 2023)

Study objective: To establish the determinants of health seeking behavior for pneumonia among caregivers of children under five years at Embu Teaching and Referral Hospital.

Methods: This was a cross-sectional study where 196 caregivers were consecutively sampled. Interviewer administered questionnaire was used. Frequencies and percentages were used for descriptive analysis. Bivariate analysis was done using chi-square test for association. Significant variables from bivariate analysis were subjected to multivariable analysis using binary logistic regression. SPSS version 29.0 was used.

Results: Average age of the caregivers was 32.3 years (SD = 9.0).

Of the caregivers, 51% (n=100) were aged 30 years or older. 88.3% (n=173) of caregivers were female. Overall analysis of the health seeking behavior established that 70.9% (n=139) of caregivers had inappropriate health seeking behavior, while 29.1% (n=57) had appropriate health seeking behaviour. Married caregivers (aOR = 2.92, 95% CI: 1.15, 10.40, P = 0.009), those with children were not referred for care (aOR = 4.33, 95% CI: 1.23, 15.21, P = 0.022), who had children aged 1-24 months (aOR = 3.86, 95% CI: 1.35, 11.06, P = 0.012) and caregivers of firstborns (aOR = 5.18, 95% CI: 1.43, 18.78, P = 0.012) were more likely to have appropriate HSB. Caregivers who had SHIF insurance cover were more likely to seek appropriate healthcare (aOR = 1.89, 95% CI: 1.12, 3.13, P < 0.001).

Conclusion and recommendations: There is inappropriate health seeking behavior among caregivers of children with pneumonia. Factors such as marital status, referral status, child age, and birth order significantly influence HSB for pneumonia in children. Therefore, there is need to implement interventions to focus on educating caregivers, especially those with older children, to encourage timely healthcare access.

INTRODUCTION

Background of the Study

Work engagement is considered as a challenging goal for any organization to achieve and is one of the personal resources that employees bring to an organization that enables them to achieve the set objectives and goals and improve an organizations' overall performance (Ghazawy et al., 2021). Schaufeli et al. (2010) defines work engagement as 'a positive and fulfilling state of mind related to work that is characterized by Vigor, dedication and absorption'. Vigor refers to a high level of energy and mental resilience while at work. Dedication is characterized by being strongly involved, proud and enthusiastic in one's work. Absorption refers to being fully engrossed and focused in one's work.

Slåtten et al., (2022) ascertains that work engagement is a dynamic mental state which has the ability to change and can vary either positively or negatively within a certain period of time. Therefore, this means that work engagement is a characteristic that can be influenced among employees and can be studied at an individual level and assessed on how it relates to other factors that are thought to be its' antecedents and major outcomes.

According to survey done by Gallup (2017) only 27% of nurses and doctors globally are fully engaged at their places of work, this implies that majority of them have either an average or lower levels of work engagement. According to Michas (2021) work engagement levels among nurses in the USA in the year 2020 were 48% high, 44% moderate and 8% had low levels of work engagement. A study done in Saudi Arabia involving 289 nurses found that those who had very low work engagement among them were 4.8% and 20.1% had a low work engagement. Majority of the nurses had an average work engagement which was 49.1%, 20.8% of those who scored well had high work engagement level and only 5.2% had very high work engagement (Alfifi et.al., 2019).

A study done in Egypt among 535 nurse participants showed that 42.9% of nurses had moderate engagement and 32.1% had low physical engagement. (Mohamed et al., 2022). This shows that the level of work engagement varies across different nursing populations with very few recordings of high levels of work engagement.

Pennbrant & Dåderman, (2021) state that work engagement is an individual resource that nurses bring to work that have a direct effect on their work engagement levels. According to the Job-Demands Resource (JD-R) model that guided this study, by Bakker & Demerouti (2018), job demands are those 'physical, psychological, social or organizational aspects of a job' that cost the employee physically or psychologically.

They require cognitive or emotional effort or skills from the employee in order for them to be able to maintain their general well-being. These factors have been equated to and put under the category of individual factors in this study. This is because they are experienced intrinsically and response to their effects is highly determined by an individual's potential to manage and get a customized to their work environment as assumed in the JD-R model which may vary amongst employees e.g., burnout, job satisfaction or turnover intention. These factors are also dependent on their individual level of cognitive skills and capabilities which inform ones' decision and are therefore considered to be subjective.

These factors are therefore viewed as precursors of work engagement and have a direct impact on work engagement and turnover intention that can either be positive or negative (Szilvassy & Širok 2022).

Research gaps

A study done in the year 2020 across four major national referral health facilities in Kenya showed an overall coefficient variation 25% of nurses had a very good level of work engagement which was the similar finding coefficient of variation 25% in all three categories studied (physical, emotional and cognitive work engagement). This was the highest level of rating in the study that concluded nurses in Kenya had a high level of work engagement (Chumba 2020).

However, the study done previously on levels of work engagement among nurses in Kenya did not study work engagement under its three domains of vigor, dedication and absorption. It did not also delve into the association of work engagement and some of the common individual factors among nurses and their effect on nurses organizational behaviour.

Justification

The voluntary turnover in ML5H in 2022 was at 20% compared to 16% in 2021 and 6.4% in 2018, showing an increase in percentage over the past subsequent years of nurses' voluntary turnover within the facility (Human Resource 2023).

Based on the above data, there was need to measure the levels of work engagement among nurses and examine its association with some individual factors like their intent to turnover among others. This was important because nurses made up the majority of the health workers population in any hospital and a high turnover rate among them would negatively affect the health services being offered and the overall performance of an organization (Zhu et al. 2023). This information was important as previous studies had shown that 25% of intent to turnover ended up accounting for the actual voluntary turnover in organizations (Smokrović et al., 2022). This information could help the employer under the guidance of the hospital nursing leadership and management to come up with potent mitigating measures that would help to significantly improve the level of work

engagement among nurses which in turn would directly increase their retention rate and overall performance of the organization.

Research Objectives

To measure the levels of work engagement among nurses at ML5H.

To establish how individual factors associated with the levels of work engagement among nurses at ML5H.

To evaluate the relationship between levels of work engagement and turnover intention among nurses at ML5H.

Significance of the study

The study findings add to the prevailing body of knowledge on the level of work engagement, and nurse turnover intent and how the two associated in the county. This could inform the employer who is the county government of Machakos and nurse leaders and managers within the facility on what needed to be done to increase the level of work engagement and dedication among nurses so as to in turn increase their retention rate within the facility.

Once the actions are taken to improve the organizational factors that increase work engagement, the nurses would individually benefit by working in a healthy environment that brought them job satisfaction and motivation thus increasing their quality of work. Increase in the retention rate of nurses could in turn reduce the nurse shortages within the facility thereby increasing the quality of nursing care being offered to patients. Patient health outcomes and satisfaction would also significantly improve, consequently impacting positively the general wellbeing of the community served by the facility

RESEARCH METHODOLOGY

Research design.

The study adopted a descriptive correlational study design. The design was suitable as it enabled different variables to be measured with no manipulation and their statistical relationship to be evaluated. It enabled correlation of the data from different groups of subjects simultaneously and aided in describing how the nurses' different levels of work engagement related with the other variables (Mugenda & Mugenda 2019).

Study setting

The study was done at Machakos Level 5 Hospital which is a government owned teaching and a referral facility located in Machakos County. It had a total number of 300 nurses out of the 1,040 nurses population within the entire county. The facility is the largest health care facility within the county with a 500-bed capacity. It has 15 in-patient wards and seven major daily outpatient clinics and specialized services. It offers medical and surgical services, maternal and child health care

services and specialized services like intensive care and oncology clinic. The nurses came from the different departments of the hospital and were of varied specialties.

Study population

The population from which the sample was selected from was made up of qualified nurses who have been permanently employed by the county government of Machakos or contracted by the national government of Kenya under the universal health care program and stationed at ML5H. The nurses had different levels of qualifications varying from certificate, diploma, higher diploma, bachelor of science in nursing and master of science in nursing.

Sampling procedures

Stratified random sampling was used in the study. Nurses were selected randomly in any stage of the sampling process from the eleven different departments within the facility. All eligible participants were given a chance to pick a yes or a no ballot paper randomly, the participants who picked yes ballot participated in the study. Participants were only allowed to pick once until the sample size was reached. This sampling method was used since it gave all the participants an equal and fair chance of being sampled and to get selected for the study.

Sample size determination

The sample size was calculated using the Cochran's formular (Cochran 1977). The target population was less than 10,000 therefore the projected sample size was smaller. Hence, the final sample size was adjusted using the finite correction formular to get a sample size of 189 nurses.

Data collection methods

Instruments

Data was collected via self-administered questionnaires that were issued by the primary researcher. The tool was divided into three sub-sections, the first section had demographic data with the exclusion of participants' name and contacts. The second section had questions on work engagement based on the UWES-17 version, which included 17 items in total. It comprised of three subsets of work engagement: 6-vigor, 6-absorption and 5-dedication, that were used to assess work engagement level on a 7-point Likert scale that ranged from least 0 (never) to the most 6 (always). Its total score ranges from 0 to 102. A total score of 60 or above signified a high level of work engagement, total score of 40 to 59 depicted a moderate level of work engagement while a total score of below 40 signified a low work engagement level. UWES internal consistency for all subscales is greater than .70 (Schaufeli & Bakker, 2004). The third section had questions on turnover intention, individual factors.

Data analysis

Data was analysed by use of Statistical Package for Social Sciences (SPSS) version 28.00. Data cleaning was done after which data analysis was done with the use of descriptive statistics and

inferential statistics. Inferential analysis was used to assess the association between levels of nurses engagement and independent variables. Variables that were significantly associated with work engagement after chi-square test were included in multiple variate analysis variables with a p-value of less than 0.05 were considered statistically significant.

Ethical consideration

Permission and authority to conduct the research were obtained from ML5H, Kenyatta University Ethics and Research Committee and National Commission for Science, Technology and Innovation (NACOSTI). Informed consent was sought from the nurses before participating in the study and the purpose of the study was explained to them both verbally and in written. Privacy and confidentiality were assured to the participants and anonymity was maintained throughout the study. Safety of returned questionnaires was also ensured.

RESEARCH RESULTS

Introduction

Out of the 189 nurses who were sampled and given questionnaires, 131 responded by filing and returning the forms. A response rate of 70.4% was achieved which is statistically acceptable.

Socio-demographic characteristics

Majority of the nurses were female (74.8%, n = 98) and were married (70.2%, n = 92). Most were aged 31 - 40 years (59.5%, n = 78). Half of the nurses were Diploma holders (50.4%, n = 66), 23.7% (n = 31) had Higher Diplomas while 16% (n = 21) were Bachelor's Degree holders. Additionally, the nurses worked in different departments within the ML5H with the most notable being Surgical (17.6%, n = 23), Maternity(16.8%, n = 22), OPD/AE/Special Clinics (16%, n = 21) and Medical (13%, n = 17). Most of the nurses had also worked in the hospital for 6 or more years (65.6%, n = 86).The results are shown in Table 4.1.

Table 4.1: Demographic characteristics of the nurses

Demographic attributes		Frequency (n)	Percentage (%)
Gender	Male	33	25.2
	Female	98	74.8
	Total	131	100.0
Age	21 - 30 years	22	16.8
	31 - 40 years	78	59.5
	41 - 50 years	15	11.5
	51 - 60 years	16	12.2
	Total	131	100.0
Marital status	Single	28	21.4
	Married	92	70.2
	Separated/Divorced	7	5.3
	Widowed	4	3.1
	Total	131	100.0
Training level	Certificate	5	3.8
	Diploma	66	50.4
	Higher Diploma	31	23.7
	Bachelor's Degree	21	16.0
	Postgraduate	8	6.1
	Total	131	100.0
Department	Medical	17	13.0
	Surgical	23	17.6
	Maternity	22	16.8
	Paediatrics	8	6.1
	Theatres	8	6.1
	NBU	6	4.6
	Orthopaedic	6	4.6
	OPD/AE/Special Clinics	21	16.0
	Specialized (ICU/Renal)	11	8.4
	Mental Health	9	6.9
	Total	131	100.0
Years worked at ML5H	Less than 1 year	5	3.8
	1 - 5 years	40	30.5
	6 - 10 years	56	42.7
	Over 10 years	30	22.9
	Total	131	100.0

Levels of work engagement among the nurses

The study assessed the levels of work engagement among the nurses at Machakos Level 5 Hospital using the Utrecht Work Engagement Scale 17- item version. Results on the nurses' work

engagement level on the 3 sub-scales of (vigor, dedication and absorption) are as described in the subsequent sub-section, on a 7-point Likert scale that ranged from least 0 (never) to the most 6 (always)

Vigor subscale

The vigor sub-scale had an overall mean of 3.73 with a standard deviation of 0.372 which is classified as a high score as per the UWES 17 scale. The results are outlined in Table 4.2

Table 4.2: Vigor subscale results on the nurses' level of work engagement

	Never	Almost never	Rarely	S/times	Often	Very often	Always	Mean (SD)
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	
I feel that I am bursting with energy while at work	4 3.1%	1 0.8%	15 11.5%	64 48.9%	32 24.4%	11 8.4%	4 3.1%	3.28 (1.097)
I feel strong and vigorous while at work	1 0.8%	1 0.8%	13 9.9%	45 34.4%	28 21.4%	22 16.8%	21 16%	3.89 (1.320)
I feel like going to work when I get up in the morning	2 1.5%	3 2.3%	22 16.8%	31 23.7%	34 26%	22 16.8%	17 13%	3.73 (1.409)
I can work continuously for a long period at a time	5 3.8%	10 7.6%	23 17.6%	42 32.1%	19 14.5%	20 15.3%	12 9.2%	3.28 (1.531)
I am very mentally resilient while at work	3 2.3%	2 1.5%	9 6.9%	31 23.7%	37 28.2%	23 17.6%	26 19.8%	4.06 (1.413)
I always persevere, even when things do not go well while I am working	4 3.1%	1 0.8%	11 8.4%	26 19.8%	37 28.2%	21 16%	31 23.7%	4.12 (1.483)
Overall								3.73 (0.372)

Dedication Subscale

The dedication sub-scale had an overall mean of 4.53 (SD = 0.580). Which is classified as a very high score as per the UWES 17 scale. Table 4.3 illustrates the findings.

Table 4.3: Dedication subscale results on the nurses' level of work engagement

	Never	Almost never	Rarely	S/times	Often	Very often	Always	Mean (SD)
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	
I find the job that I do full of meaning and purpose	1 0.8%	1 0.8%	4 3.1%	12 9.2%	24 18.3%	23 17.6%	66 50.4%	4.98 (1.286)
I am enthusiastic about my work	1 0.8%	2 1.5%	4 3.1%	26 19.8%	23 17.6%	27 20.6%	48 36.6%	4.60 (1.379)
My work inspires me	2 1.5%	1 0.8%	6 4.6%	21 16%	28 21.4%	23 17.6%	50 38.2%	4.60 (1.418)
I take pride in the work that I do	2 1.5%	0 0%	5 3.8%	19 14.5%	16 12.2%	19 14.5%	70 53.4%	4.93 (1.404)
I find my job to be challenging	4 3.1%	5 3.8%	19 14.5%	45 34.4%	23 17.6%	16 12.2%	19 14.5%	3.54 (1.505)
Overall								4.53 (0.580)

Absorption Subscale

Absorption subscale results on the nurses' level of work engagement

The Absorption sub-scale had an overall mean of 3.73 (0.49), classified as a very high score for absorption as per the UWES- 17 scale.

Table 4.3 illustrates the findings.

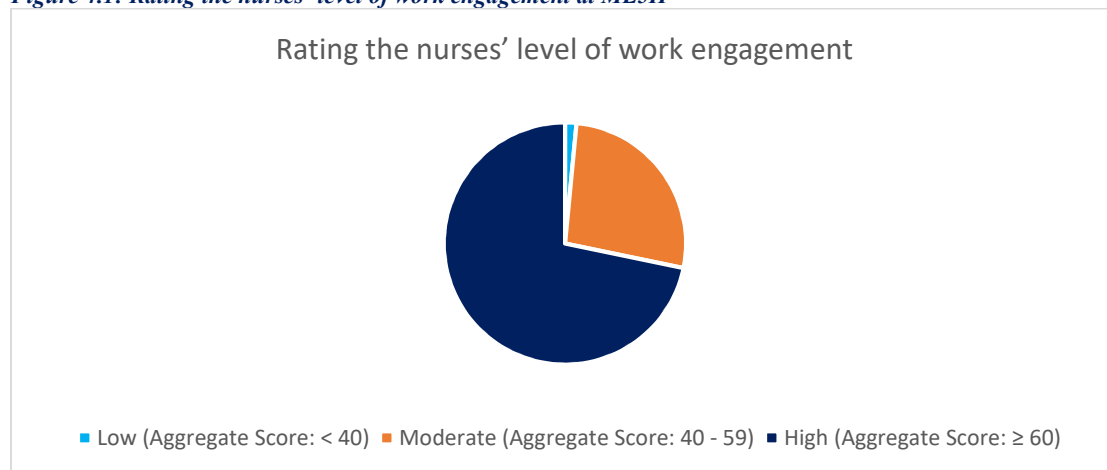
	Never	Almost never	Rarely	S/times	Often	Very often	Always	Mean (SD)
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	
Time flies when I'm working	1 0.8%	4 3.1%	8 6.1%	20 15.3%	29 22.1%	26 19.8%	43 32.8%	4.46 (1.453)
I forget everything else around me while am working	11 8.4%	9 6.9%	18 13.7%	28 21.4%	26 19.8%	18 13.7%	21 16%	3.43 (1.789)
I feel happy while I am	7 5.3%	6 4.6%	10 7.6%	33 25.2%	27 20.6%	27 20.6%	21 16%	3.77 (1.625)

working intensely								
I am engrossed in my work	3 2.3%	3 2.3%	14 10.7%	27 20.6%	33 25.2%	28 21.4%	23 17.6%	3.98 (1.462)
I get excited while I'm working	4 3.1%	5 3.8%	14 10.7%	33 25.2%	36 27.5%	18 13.7%	21 16%	3.76 (1.499)
I find it hard to separate myself from my work	9 6.9%	11 8.4%	28 21.4%	42 32.1%	15 11.5%	16 12.2%	10 7.6%	3.00 (1.574)
Overall								3.73 (0.49)

Levels of work engagement

From the aggregate UWES-17 scores, majority 71.8% (n = 94) of the nurses had a high level of work engagement, 26.7% (n = 35) had a moderate level of work engagement while 1.5% (n = 2) had a low level of work engagement. The results are presented in Figure 4.1.

Figure 4.1: Rating the nurses' level of work engagement at ML5H



Individual factors influencing work engagement among the nurses

The study evaluated individual factors that influenced work engagement levels among nurses working at Machakos Level 5 Hospital and which included work-family life balance, autonomy, role clarity, job satisfaction, burnout and turnover intention.

Work-Family Life Balance

Table 4.5: Descriptive findings on work-family life balance

	Never	Rarely	S/times	Often	Almost always	Always	Mean (SD)
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	
My family offers me the support I require to perform well at work	1 0.8%	2 1.5%	9 6.9%	16 12.2%	33 25.2%	70 53.4%	4.20 (1.077)
My work shift/hours do not affect my work-family life balance	4 3.1%	11 8.4%	45 34.4%	29 22.1%	18 13.7%	24 18.3%	2.90 (1.352)
I am often able to perform my family and social duties optimally	2 1.5%	7 5.3%	36 27.5%	38 29%	19 14.5%	29 22.1%	3.16 (1.282)
Overall							3.42 (0.687)

The aggregate mean for work-family life balance was 3.42 (SD = 0.687). Results are presented in Table 4.5.

Autonomy

The aggregate mean for autonomy was 3.55 (SD = 0.822) as illustrated in Table 4.6.

Table 4.6: Descriptive findings on autonomy

	Never	Rarely	S/times	Often	Almost always	Always	Mean (SD)
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	
I am often not told which activities to perform at work	27 20.6%	35 26.7%	18 13.7%	10 7.6%	15 11.5%	26 19.8%	2.22 (1.841)
I am allowed to make my own decisions on patient care	2 1.5%	7 5.3%	32 24.4%	22 16.8%	35 26.7%	33 25.2%	3.37 (1.320)
I do not require direct supervision in order to perform my tasks at work	5 3.8%	11 8.4%	9 6.9%	7 5.3%	32 24.4%	67 51.1%	3.92 (1.489)

I am allowed to set my own individual work objectives and goals	1 0.8%	12 9.2%	7 5.3%	20 15.3%	36 27.5%	55 42%	3.86 (1.313)
My primary assigned roles and responsibilities at work are clear to me	1 0.8%	3 2.3%	3 2.3%	15 11.5%	26 19.8%	83 63.4%	4.37 (1.018)
Overall							3.55 (0.822)

Role Clarity

The aggregate mean for role clarity was 4.38 (SD = 0.108). Results are shown in Table 4.7.

Table 4.7: Descriptive findings on role clarity

	Never	Rarely	S/times	Often	Almost always	Always	Mean (SD)
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	
I know the boundaries and limitations of my role as a nurse	1 0.8%	3 2.3%	3 2.3%	9 6.9%	21 16%	94 71.8%	4.50 (0.9796)
I perform roles and responsibilities that are within my scope of practice	2 1.5%	2 1.5%	6 4.6%	9 6.9%	35 26.7%	77 58.8%	4.32 (1.062)
I know how my role fits into the overall structure and organizational goals	1 0.8%	2 1.5%	6 4.6%	14 10.7%	31 23.7%	77 58.8%	4.31 (1.023)
Overall							4.38 (0.108)

Job Satisfaction

The aggregate mean for job satisfaction was 2.79 (SD = 0.556), as is shown in Table 4.8.

Table 4.8: Descriptive findings on job satisfaction

	Never	Rarely	S/times	Often	Almost always	Always	Mean (SD)
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	
I derive joy from my work	2 1.5%	11 8.4%	30 22.9%	34 26%	26 19.8%	28 21.4%	3.18 (1.317)

I often do not experience frustration from my work	7 5.3%	23 17.6%	48 36.6%	25 19.1%	20 15.3%	8 6.1%	2.40 (1.263)
Overall							2.79 (0.556)

Burnout

The aggregate mean for burnout was 2.46 (SD = 0.499). Results are presented in Tables 4.9.

Table 4.9: Descriptive findings on burnout

	Never	Rarely	S/times	Often	Almost always	Always	Mean (SD)
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	
I feel physically fatigued	0 0%	10 7.6%	69 52.7%	20 15.3%	28 21.4%	4 3.1%	2.40 (1.006)
I feel emotionally drained	5 3.8%	8 6.1%	71 54.2%	23 17.6%	18 13.7%	6 4.6%	2.55 (1.076)
I experience mental exhaustion	2 1.5%	19 14.5%	66 50.4%	22 16.8%	16 12.2%	6 4.6%	2.63 (1.069)
My work affects my overall wellbeing	16 12.2%	39 29.8%	45 34.4%	19 14.5%	7 5.3%	5 3.8%	3.18 (1.212)
I experience work overload	5 3.8%	10 7.6%	58 44.3%	25 19.1%	19 14.5%	14 10.7%	2.35 (1.246)
My work station is short staffed	3 2.3%	8 6.1%	32 24.4%	22 16.8%	27 20.6%	39 29.8%	1.63 (1.404)
Overall							2.46 (0.499)

Turnover Intention

The aggregate mean for turnover intention was 2.63 (SD = 0.204). Results are outlined in Table 4.10.

Table 4.10: Descriptive findings on turnover intention

	Never	Rarely	S/times	Often	Almost always	Always	Mean (SD)
	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	
I often seriously consider quitting my current job		35 26.7%	42 32.1%	19 14.5%	27 20.6%	8 6.1%	2.47 (1.255)
I intend to leave my current job in the near future		28 21.4%	24 18.3%	33 25.2%	30 22.9%	16 12.2%	2.86 (1.323)
I have started to seek for other jobs		34 26%	43 32.8%	13 9.9%	28 21.4%	13 9.9%	2.56 (1.342)
Overall							2.63 (0.204)

Association between individual factors and the nurses’ work engagement level

Table 4.4: Association between individual factors and the nurses’ work engagement level

Individual factors		Work engagement level			Chi-square	
		Moderate to low (n = 37)	High (n = 94)	Total	Statistic (χ^2)	Sig. (p)
Autonomy	High	15	82	97	30.12	< 0.001*
	Low	22	12	34		
Role clarity	High	32	88	120	1.76	0.185
	Low	5	6	11		
Work-family life balance	High	18	80	98	18.73	0.000*
	Low	19	14	33		
Job satisfaction	High	11	52	63	6.96	0.008*
	Low	26	42	68		
Burnout	High	24	45	69	3.08	0.079
	Low	13	49	62		

* Statistically significant at 0.05 significance level

Multivariate logistic regression results on the association of individual factors with the nurses’ levels of work engagement

From the omnibus tests of model coefficients, the model results (chi-square statistic value = 38.914, df = 5, p = 0.000) indicated that the adopted logistic regression model was fit. Further, a Nagelkerke R Square value of 0.369, in the model summary results, signified that the predictor variables (namely autonomy, role clarity, work-family life balance, job satisfaction and burnout) explained 36.9% of variation in the dependent variable (work engagement level among the nurses). Results are shown in Table 4.12.

Table 4.5: Omnibus Tests of Model Coefficients and Model Summary

		Chi-square	Df	Sig.
Step 1	Step	38.914	5	.000
	Block	38.914	5	.000
	Model	38.914	5	.000
<i>Model summary</i>				
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square	
1	117.040 ^a	.257	.369	

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

From the findings, the individual factors established to have a statistically significant association with the levels of work engagement among the nurses were work-family life balance ($\beta = 1.636$, p = 0.001) and job satisfaction ($\beta = 1.591$, p = 0.004), signifying that both work-family life balance

and job satisfaction were predictors of the nurses' level of work engagement. Results are presented in Table 4.13.

Table 4.6: Multivariate logistic regression results on the association between individual factors and the levels of work engagement among the nurses

	B	S.E.	Wald	Df	Sig.	Exp(B)	95% CI for EXP(B)	
							Lower	Upper
Step 1 ^a								
AUT (1)	.356	.522	.465	1	.495	1.427	.513	3.971
WFLB (1)	1.636	.498	10.778	1	.001*	5.133	1.933	13.629
JS (1)	1.591	.556	8.179	1	.004*	4.910	1.650	14.610
Constant	-1.716	.961	3.187	1	.074	.180		

a. Variable(s) entered on step 1: AUT-autonomy, WFLB-work-family life balance, JS-job satisfaction.

* Statistically significant at 0.05 significance level

Association between turnover intention and the nurses' work engagement level

From the findings, a statistically significant association was established between the nurses' work engagement level and turnover intention ($\chi^2 = 22.79$, $df = 1$, $p < 0.001$), as illustrated in Table 4.14

Table 4.7: Association between turnover intention and the nurses' work engagement level

		Work engagement level		Total	Chi-square	
		Moderate to low	High		Statistic	
		(n = 37)	(n = 94)		(χ^2)	Sig. (p)
Turnover intention	High	20	13	33		<
	Low	17	81	98	22.79	0.001*

* Statistically significant at 0.05 significance level

Bivariate logistic regression results on the association between turnover intention and the nurses' work engagement level

From the omnibus tests of model coefficients, the model results (chi-square statistic value = 11.059, $df = 1$, $p = 0.001$) indicated that the adopted logistic regression model was fit. Further, a Nagelkerke R Square value of 0.116, in the model summary results, signified that the predictor variable (turnover intention) explained 11.6% of variation in the dependent variable (work engagement level among the nurses). Results are shown in Table 4.15

Table 4.8: Omnibus Tests of Model Coefficients and Model Summary

		Chi-square	Df	Sig.
Step 1	Step	11.059	1	.001
	Block	11.059	1	.001
	Model	11.059	1	.001

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	144.895 ^a	.081	.116

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

From bivariate logistic regression analysis, a statistically significant negative relationship was found between the nurses’ level of work engagement and turnover intention ($\beta = -1.422, p = 0.001$) signifying that turnover intention was a negative predictor of the nurses’ level of work engagement. Results are presented in Table 4.16.

Table 4.9: Bivariate logistic regression results on the association between turnover intention and the nurses’ work engagement level

		B	S.E.	Wald	Df	Sig.	Exp(B)	95% CI for EXP(B)	
								Lower	Upper
Step 1 ^a	TI (1)	-1.422	.429	10.975	1	.001*	.241	.104	.560
	Constant	1.361	.251	29.485	1	.000	3.900		

a. Variable(s) entered on step 1: TI-turnover intention.

* Statistically significant at 0.05 significance level

RESEARCH DISCUSSION

Levels of work engagement among the nurses

Results indicated that majority of the nurses working at ML5H had a high level of work engagement 71.8% (n=94) versus 26.7% (n = 35) had a moderate level of work engagement while 1.5% (n = 2) had a low level of work engagement. To categorize the nurses’ overall level of work engagement, their responses on each of the 17 statements on the UWES-17 were summed up with a total score of 60 or above signifying a high level of work engagement, total score of 40 to 59 depicted a moderate level of work engagement while a total score of below 40 signified a low work engagement level as espoused by Schaufeli and Bakker (2004), the tool’s developer. On the overall, most of the nurses were found to be deeply engrossed in their work and were highly dedicated to their work. Additionally, most of the nurses felt energized, enthusiastic and resilient in their work. Hence, a majority of the nurses exhibited a high level of work engagement as marked by attributes of vigor, dedication and absorption in their work that ranged between high and very high.

In Alfifi et.al. (2019) study, close to half of the surveyed nurses demonstrated an average work engagement while about 21% demonstrated a high work engagement level while only a few demonstrated a low work engagement which collaborates the current findings. Similarly, in an Egyptian study carried out by Ghazawy et al. (2021), a considerable proportion of the nurses were found to have a high level of work engagement while the remaining were reported to have had average to low levels of work engagement. In contrast, though, in studies by Charlie et al. (2022), Rastogi and Saikia (2019) along with Alhadidi et al. (2023), most of the nurses were reported to have an average to low level of work engagement while few were found to have a high level of work engagement. Hence, it’s clear that levels of work engagement among nurses are likely to differ in different settings and hence there’s need to understand what drives work engagement among this important cadre of healthcare providers.

Individual factors and work engagement levels among the nurses

Autonomy, most of the nurses acknowledged that they were allowed to make their own decisions on patient care; they did not require direct supervision in order to perform their tasks at work; they were allowed to set their own individual work objectives and goals and that their primary assigned roles and responsibilities at work were clear to them. Most however disagreed with the assertion that they were often not told which activities to perform at work. An overall mean of 3.55 and a standard deviation of 0.822 signified that the nurses had autonomy at work. Despite the relationship between autonomy and the nurses' level of work engagement being found as not being statistically significant, it was observed that nurses that had high autonomy had a high level of work engagement compared to those who had low autonomy. The findings implied that autonomy had some influence on the level of work engagement among nurses at ML5H albeit not a significant way. Similarly, Bhatti et al. (2018) also found that nurses' autonomy positively influenced their work engagement level. Autonomy was also positively associated with enhanced levels of work engagement among nurses in studies by Janita and George (2022), Ghazawy et.al (2021) and Falguera et al. (2022). However, in their studies, Patience et al. (2020) alongside Alkorashy and Alanazi (2023) reported that autonomy had no notable influence on work engagement levels among nurses.

Role clarity

Most of the nurses acknowledged that they knew the boundaries and limitations of their role as a nurse, they performed roles and responsibilities that were within their scope of practice and that they knew how their role fits into the overall structure and organizational goals. An overall mean of 4.38 and a standard deviation of 0.108 signified a high level of role clarity for nurses at their work. The relationship between role clarity and the nurses' level of work engagement was however found not to be statistically significant though high role clarity seemed to go with exhibiting a high level of work engagement and vice-versa. The findings implied that role clarity did influence the level of work engagement among nurses at ML5H though not in a notable way. Pericak et al. (2020) argued that higher job autonomy helps foster increased or better work engagement among nurses while low job autonomy correlated with their decreased level of work engagement. On their part, Orgambidez and Almeida (2020) also found role clarity to be a favourable predictor of work engagement among nurses. Likewise, Dong et al. (2020) and Li et al. (2019) reported that enhanced role clarity did, indeed, lead to improvements in nurses' work engagement levels, a view also supported by Bowen et al. (2024).

Work-family life balance

Most nurses acknowledged that their families offered them the support they required to perform well at work, their work shift/hours did not affect their work-family life balance and that they were often able to perform their family and social duties optimally (often = 29%, sometimes = 27.5%). An overall mean of 3.42 and a standard deviation of 0.687 signified that the nurses had a good

work-family life balance. The relationship between work-family life balance and the nurses' level of work engagement was statistically significant. Nurses who had a good work-family life balance were observed to have a high level of work engagement compared to those who had a poor work-family life balance. The findings implied that work-family life balance was a significant predictor of the level of work engagement among nurses at ML5H. Similar findings were reported by Patience et al. (2020) and Zhu et al. (2023) who also identified a positive work-family life balance as being a significant predictor of high work engagement and especially among female nurses which they attributed to mainly their family related caregiving roles as mothers. Al Mamari & Groves, (2023) along with Pericak et al. (2020) did also attribute high levels of work engagement among nurses to a healthy work-life balance. Likewise, Akinyemi et al. (2022) and Ni et al. (2023) also shared the view that a healthy work-life balance notably influenced nurses' work engagement levels favourably and in a significant way.

Job satisfaction

Most of the nurses acknowledged that they derived joy from their work and that they often did not experience frustration from their work. An overall mean of 2.79 and a standard deviation of 0.556 signified that most of the nurses regularly experienced job satisfaction. The relationship between job satisfaction and the nurses' level of work engagement was also statistically significant with nurses that experienced high job satisfaction observed as having a high level of work engagement compared to those who experienced low job satisfaction. The findings implied that job satisfaction was a significant predictor of the level of work engagement among nurses at ML5H. Akinyemi et al. (2022) and Ge et al. (2021) shared similar views by identifying high levels of job satisfaction as being a significant positive predictor of enhanced work engagement level among nurses. Similarly, in studies by Othman and Nasurdin (2019), Ghazawy et al. (2021) and Wei et al. (2023) job satisfaction were reported as being a significant predictor on work engagement among nurses with high job satisfaction positively correlating with higher levels of work engagement while low job satisfaction correlated with low work engagement among the nursing staff. According to Rastogi and Saikia (2019), nurses that derive satisfaction from their work are much more likely to have high work engagement levels compared to those who derive low or no satisfaction from their work.

Burnout

Most of the nurses acknowledged that they felt physically fatigued; they felt emotionally drained; they experienced mental exhaustion; their work affected their overall wellbeing; they experienced work overload and that their work station was short staffed. An overall mean of 2.46 and a standard deviation of 0.499 signified that the nurses experienced burnout regularly. The relationship between burnout and the nurses' level of work engagement was, however, not statistically significant though nurses who experienced low burnout were observed to have better work engagement compared to those who experienced higher burnout. The findings implied that burnout did influence the level of work engagement among nurses at ML5H albeit not significantly. Similar

observations were made by Li et al. (2019) and Slåtten et al. (2022) in whose review's high levels of burnout among nurses, expressed as being emotionally exhausted and depersonalized, were significantly associated with the nurses' reduced work engagement. Similarly, Mohamed et al. (2022) and Alkorashy and Alanazi (2023) also attributed reduced work engagement among nurses to their experiences of burnout with increasing burnout levels strongly correlating with the nurses' lower work engagement level. Falguera (2022) and Ge et al. (2021) concurred that burnout had an adverse effect on nurses' work engagement level hence it should be addressed.

Turnover intention and work engagement levels among the nurses

On turnover intention, as to whether they often seriously considered quitting their current job, 32.1% disagreed while 26.7% strongly disagreed. As to whether they intended to leave their current job in the near future, 25.2% said they were unsure, 22.9% agreed while 21.4% strongly disagreed. As to whether they have started to seek for other jobs, 32.8% disagreed while 26% strongly disagreed. An overall mean of 2.63 and a standard deviation of 0.204 signified that most of the nurses had a low turnover intention. A statistically significant relationship was established between turnover intention and the nurses' level of work engagement with nurses that had high turnover intention observed as having lower work engagement while those with low turnover intention had better work engagement. The findings implied that turnover intention was a significant negative predictor of the level of work engagement among nurses at ML5H. As such nurses who were highly engaged in their work were less likely to be intending to leave while those that had high intention of leaving were likely to be less engaged in their work. Similarly, Ayalew et al. (2021) also reported a significantly negative association between nurses' increasing turnover intention and reduced work engagement level. Zhu et al. (2023) also observed that work engagement level among nurses was negatively affected by their turnover intention with rising turnover intention significantly correlating with reduced work engagement and vice-versa. Bowen et al. (2024) also established that nurses' work engagement level correlated negatively with their intent to leave their work. An adverse relationship between turnover intention and work engagement was also reported in studies by Li et al. (2019), Opinion et al. (2021), Akinyemi et al. (2022) as well as Rastogi and Saikia (2019).

Conclusions

The deductions made were as follows:

- i. Majority of the nurses working at Machakos Level 5 Hospital had a high level of work engagement.
- ii. Work-family life balance, autonomy and job satisfaction were the individual factors found to be significantly associated with the levels of work engagement among nurses at ML5H.
- iii. The level of work engagement among nurses at ML5H was adversely influenced by turnover intention.

Recommendations

Recommendations from the study

To further enhance work engagement among the nurses, the management of ML5H should institute appropriate policies and interventions that would support the nurses to achieve autonomy in their work, a positive work-family life balance and job satisfaction.

To foster the nurses' work engagement level, the management of ML5H should also give due consideration to other important individual characteristics like role clarity, burnout

The hospital's management should also pay attention to turnover intention among the nurses and take effort and action to resolve any work and organizational related matters that would spur nurses' intention to leave their work at the hospital.

Recommendations for Further Research

Other suggested research areas include;

- i. Exploration of other determinants of levels of work engagement among nurses at ML5H not covered in the current study.
- ii. Evaluation of the relationship between work engagement and nurses' job performance at ML5H.
- iii. The effect of nurses' work engagement and turnover intention on patient care outcomes at ML5H.

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