Retention of Human Resources for Health in the Decentralised Health System in Tanzania: Does Training matter?

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Abstract

Employee retention is crucial for enhancing organisational performance, particularly in the healthcare sector, which faces a global shortage of workers. This study examines the influence of training on the retention of human resources for health within the decentralised health system of Dodoma City, Tanzania. The research employs a mixed-methods approach to collect quantitive data from 230 human resources for health and qualitative data from key informants. Quantitative data collected through survey questionnaires were analysed using descriptive statistics and multiple linear regression. Qualitative data from interviews were analysed using content analysis to complement the quantitative findings. The study revealed that retention among human resources for health in the decentralised system under the LGAs is high. Moreover, the findings revealed that training significantly influences employee retention, with skills acquisition, knowledge acquisition, training opportunities, and training duration all positively associated with retention rates. The findings underscore the importance of continuous professional development and training programs in retaining healthcare workers under LGAs. The study recommends that local government authorities prioritise employee training to improve retention and enhance the overall quality of healthcare services. Further research should explore additional factors influencing retention and expand the study to other regions in Tanzania for broader generalizability.

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1. Introduction

Employee retention is an important aspect in the modern management practices. Retaining employees not only enhances organisational performance but also signifies effective management practices (Damei, 2020). Employee retention plays a crucial role in influencing job performance within organisations. When employees feel valued, supported, and motivated to stay with the company, they are more likely to perform at their best. This is especially true for skilled and experienced personnel who bring significant expertise and knowledge to their roles (Wachira, 2019). High retention rates ensure competent workers remain in the organisation, thereby improving individual and collective performance. This helps in improving productivity and to have the maximum utilisation of resources, therefore, companies regularly keep effective employees from searching for employment elsewhere, and holding those who are efficient not become easy nowadays (Jaseel, 2019). Also, a greater retention rate saves the expenses incurred on recruiting and training new employees, and the cost could be used for employee performance improvement measures (Agarwal & Mehta, 2024). Similarly, retention of employees saves the organisation to maintain customers who were once loyal and known to the employees (Biason, 2020). Thus, employees retention is central to the sustainability of the organisation's performance and reputation.

Globally, the turnover rate in 2020 was estimated at 42 million workers, with nearly 70% preventable by employers (Workers Institute Retention Report, 2022). The economic impact of turnover was substantial, with costs projected to rise from $600 billion in 2021 to $680 billion by 2025. In the healthcare sector, employee retention is particularly critical due to the global shortage of healthcare workers. The World Health Organization (WHO) predicts an 18 million shortfall in health workers by 2030, disproportionately affecting low- and middle-income countries (WHO, 2020). In developing countries in Africa, such as Senegal, Ghana, and Nigeria, the issue of employee retention is of great concern to business leaders (Ldama & Bazza, 2020).

In the similar case, training plays significant role on the performance of employees and organisation as well. Scholars assert that training entails skills, knowledge, opportunities, and duration for preffessional growth and improved service delivery (Shella, 2019; Gautam & Poudyal, 2018). Effective training programs should aim to enhance employees' skills and knowledge, provide opportunities for continuous learning and development, and ensure that training is comprehensive and long-lasting. This approach improves job performance and fosters a positive work culture that encourages employee engagement and retention (Agarwal, & Mehta, 2024). Meanwhile training is considered as a good strategy to achieve employee retention. Effective training plays a pivotal role in staff retention, enhancing skills, knowledge, and job satisfaction (Koteswari *et al.*, 2020; Agarwal & Mehta, 2024). Lack of training and career development opportunities contribute significantly to turnover rates in various African countries, highlighting the need for robust retention strategies (Ldama & Bazza, 2020; Karimi, 2019).

The Tanzanian government has made efforts to encourage retention for employees in healthcare (URT, 2021. The efforts include providing hardship allowances for medical professionals stationed in remote locations (Sirili et al., 2018). The government has invested in continuous professional development (CPD) programs to enhance the skills and knowledge of healthcare workers, organising training workshops, seminars, and conferences to update their clinical expertise (Mboera et al., 2020). Similarly, the local government reforms and health sectors reforms of 1990's decentralise health services to Local Government Authorities (LGAs) (Msacky & Assey, 2024).

Following the reforms, the district hospitals, health centres and dispensaries were decentralise to LGAs (URT, 2021). Likewise, the reforms aim to improve training, recruitment practices, compensation, work environment, and career advancement among human resource for health in LGAs (Mbemba et al., 2020).

Despite the efforts, retention of human resource for health remains a challenge especially in the LGAs (Sirili & Simba, 2020). Studies show that even with health sector reforms and other efforts, human resources for health under LGAs experience poor working environment with low salary, lack of supplies, poor safety, inflexible work schedule, and inadequate funding from the national budget (Bolan et al., 2021; Sirili et al., 2021). Shemode et al. (2016) added that providing health services amid challenges like this may push some highly trained, talented, and experienced staff in the decentralized level to seek employment in the private sector or outside the country, leaving the LGAs with a demotivated and dissatisfied workforce. Furtherly, the Health Sector Strategic Plan (HSSP V) pointed out that Tanzania experiences 52 percent shortage of human resources for health of the actual need (URT, 2021). Such a high shortage threatens the government's efforts to achieve sustainable development goals (SDGs) and universal health coverage (WHO, 2020), especially in healthcare under LGAs. Scholars revealed the high employee shortage is partly due to employees quitting the health sector due to training, safety, and poor management (Shemdoe, et al., 2016).

Previous studies, though conducted in the United States, Nigeria, Kenya and Brazil where policies and strategies for retention are different from Tanzania, showed that training is a key factor in retention of human resource for health (Lopes & Santos, 2023; Kimani, et al., 2022; Abba, 2018; Martineli, 2018). Available studies in Tanzania mainly focused on challenges of retention of human resource for health (Sirili, et al., 2021; Mboera, et al., 2020; Sirili, et al., 2020; Sirili & Simba, 2020; Msacky, et al., 2017). A notable study from the LGAs in Tanzania concentrated on influence of managerial and leadership on retention of employees in all the sector (Lameck, 2021). Thus, there are scant studies focusing on training and retention of human resources for health in decentralised set-up in Tanzania. A study on training and retention in Tanzania is essential for designing strategies for motivating human resources for health to continue working in the healthcare facilities under the LGAs. Also, the study of training and retention is important to policy and decision-makers for instituting sustainable programs to attract highly trained employees to the public sector especially in the LGAs. Likewise, a study like this is salient for providing insights that could help improve retention strategies and ultimately enhance the performance of the healthcare sector in Tanzania. Therefore, this study is set to assess the influence of training on the retention of human resources for health in the decentralised health system in Tanzania, picking experience from Dodoma City.

2. Review of Related Literature

2.1 Theoretical literature

2.1.1 Training

Training refers to the structured process of imparting and enhancing skills, knowledge, and competencies essential for effective performance within the decentralised health system of Dodoma City. It aims to improve employees' capability, productivity, and job performance, aligning their skills with the specific demands and competencies required in their roles (Koteswari *et al.,* 2020). This includes developing job-specific skills, acquiring relevant knowledge, fostering competency in healthcare practices, providing continuous learning opportunities, and evaluating

the effectiveness of training initiatives. Effective training enhances employee skills and reduces turnover costs by ensuring that employees are well-prepared and motivated to contribute effectively to healthcare delivery (Nguyen & Duong, 2020).

2.1.2 Employee retention

This refers to the strategies and practices implemented within the decentralised health system of Dodoma City to maintain skilled healthcare professionals within their roles over time. It encompasses the policies aimed at creating a supportive and motivating work environment that encourages employee engagement, commitment to organisational goals, and a sense of job satisfaction (Gorde, 2019). Indicators of retention in this study include factors such as training opportunities, career development prospects, work-life balance initiatives, competitive compensation and benefits, recognition and rewards for performance, and supportive leadership. These indicators collectively measure the effectiveness of organisational strategies in reducing turnover and retaining healthcare professionals in Dodoma City's decentralised health system.

2.1.3 Decentralised health system

This refers to a healthcare structure where decision-making authority and resources are distributed from central government agencies to local or regional levels. According to Sreeramareddy and Sathyanarayana (2019), decentralisation in healthcare aims to improve efficiency, responsiveness, and equity in service delivery by bringing decision-making closer to the communities served.

2.2 Theoretical framework

2.2.1 Human Capital Theory

Human Capital Theory (HCT), originally formulated by Becker (1962), posits that individuals' skills, knowledge, and experiences can be enhanced through investments in education and training. This theory views employees as valuable assets whose development can lead to increased productivity and loyalty within organisations (Becker, 2017). In the context of your study on human resource training and employee retention in Dodoma City's decentralised health system, HCT is highly relevant. It suggests that investing in training and development programs for healthcare professionals can enhance their skills, job satisfaction, and commitment to the organisation, thereby reducing turnover rates. Previous studies have applied Human Capital Theory to various contexts, demonstrating its versatility. For instance, Mutua (2019) found that healthcare organisations investing in continuous professional development experienced improved retention rates among their staff. Similarly, studies in other sectors have shown that organisations that invest in employee training and development tend to have higher retention rates and improved organisational performance (Becker, 2017; Mutua, 2019).

However, Human Capital Theory also has its limitations when applied to the study of employee retention in healthcare settings. One limitation is that it tends to focus heavily on individual investments and may not fully account for broader systemic factors that influence retention, such as organisational culture, leadership effectiveness, and external economic factors affecting healthcare professionals. Additionally, measuring the return on investment in human capital development can be challenging, especially in settings with complex healthcare delivery systems and diverse workforce needs.

Therefore, while Human Capital Theory provides a valuable framework for understanding the importance of investing in employee training and development to enhance retention, it is essential to consider its limitations and complement it with other theoretical perspectives to achieve a comprehensive understanding of retention dynamics in the decentralised health system of Dodoma City.

2.3 Empirical literature

Training plays a crucial role in employee retention, particularly in healthcare settings. For instance, Martineli (2018) conducted a study in the United States, highlighting that healthcare organisations with robust training programs experienced significantly lower turnover rates. It is important to note that the context and environment under which this study was conducted differ significantly from Tanzania's. In Tanzania, where healthcare practices are often influenced by a historical background of self-reliance and socialism, such findings underscore the need for locally situated studies. This would help tailor training initiatives to the specific needs and challenges faced within Tanzania's decentralised health system, which may differ from those in more economically developed countries.

Building on this, Agarwal and Mehta's (2024) meta-analysis of 50 studies across various countries emphasised that structured training programs led to higher retention rates in healthcare. While this study provides valuable insights into the benefits of training, it primarily relies on empirical data from diverse global contexts. Thus, there's a gap in knowledge from primary sources that combine quantitative and qualitative approaches, which is essential for understanding how these findings apply to Tanzania's unique healthcare landscape.

However, the relationship between training and retention is not always straightforward. Abba (2018) found in Nigerian banks that training could have a negative impact on retention if not aligned with career progression. This finding suggests the importance of strategic alignment between training programs and career advancement opportunities, a consideration crucial for Tanzanian healthcare settings aiming to maximise the impact of training investments on retention.

Expanding on this theme, Kimani et al. (2022) conducted a longitudinal study in Kenyan hospitals, showing that sustained retention benefits from training require ongoing development opportunities and clear career pathways. This insight is pertinent for Tanzania, where long-term career prospects and professional growth opportunities are crucial factors in retaining healthcare professionals within the decentralised health system of Dodoma City.

In the context of decentralised health systems, Shella (2019) studied local government health workers in Uganda and found that while training was valued, it wasn't the primary factor influencing retention. Factors such as job security, retirement benefits, and work relationships held greater sway. This finding underscores the need for a holistic approach to retention in Tanzania, balancing investments in training with improvements in working conditions and benefits to enhance overall job satisfaction and retention rates.

Further exploring this theme, Lopes and Santos (2023) conducted a mixed-methods study in Brazil's decentralised health system, revealing that the effectiveness of training in improving retention depended heavily on the local context. In Tanzania, where resource constraints and limited career advancement opportunities are prevalent, integrating training initiatives with broader health system strengthening efforts is essential. This approach can create an environment

conducive to both professional development and employee retention within Dodoma City's healthcare sector.

3. Material and methods

This study employed a mixed-methods approach to assess the influence of human resource training on employee retention in the decentralised health system of Dodoma City, Tanzania. A cross-sectional design was adopted, allowing for data collection within a fixed period (Henry, 2015). The research was conducted in the Dodoma region, focusing on four health centers and five dispensaries within Dodoma City Council. This area was chosen due to its healthcare challenges, including a shortage of human resources for health and medical facilities (Msacky et al., 2017) and the recent population growth reported in the 2022 national census (NBS, 2022).

The target population consisted of 541 health workers in Dodoma City, including medical doctors, clinical officers, nurses, pharmacists, dentists, technicians, radiologists, and medical attendants. Support staff not directly involved in healthcare delivery were excluded from the study. The sample size was determined using Yamane's formula (1967) expressed in equation 1, with a 95% confidence level and a 5% margin of error:

$$n = \frac{N}{1 + N(e^2)} \quad \text{…….. …….. ……..} \quad (1)$$

Whereby
N = Target population (541 employees)
e = is an acceptable error (5%)
$n = sample\ size$

$$= \frac{541}{1+541(0.05)^2}$$

$$= \frac{541}{2.3525}$$

$$= 230$$

Thus, the sample size was calculated to be 230 health workers.

Both probability and non-probability sampling techniques were employed in the selection of the sampled units of the study. The study employed stratified sampling to create three strata of human resources for health in the decentralised service delivery system. The strata created were district hospital, health centers, and dispensaries in Dodoma City. Table 1 presents the proportionate sample from each stratum. Then, human resources for health from each stratum were selected using simple random techniques.

Table1: Population strata and sample size

Decentalized health facility	Number of employees	Proportion	Sample size

District hospital	165	165/541*230	70
Health centers	315	315/541*230	134
Dispensaries	61	61/541*230	26
Total	**541**	**541/541*230**	**230**

Source: CHMT report (2024)

Also, the study used a purposive sampling technique to select 10 key informants. The key informants selected were Dodoma City Medical Officer, health secretaries, and supervisors of the healthcare facilities under LGAs. The key informants provided expert insights and detailed information on training and retention for human resource health in the LGAs.

The study collected quantitative and qualitative data using surveying questionnaire and interview methods. Structured questionnaires were administered to human resources for health to gather quantitative data for the study. The questionnaires were designed using a five-point Likert scale to examine the influence of training on human resource retention for health in the LGAs. The questionnaire development involved a thorough review of existing literature on employee retention and human resource training and consultations with experts in the field of human resources and management on the relevance of the questions. Similarly, face-to-face interviews were conducted with key informants for the study's qualitative data. The key informants were 10, including Dodoma City Medical Officer, health secretaries, and supervisors of the healthcare facilities under LGAs. These interviews aimed to gather expert opinions on training and retention strategies of human resources for health in the LGAs.

Data analysis involved both quantitative and qualitative methods. Quantitative data from questionnaires were analysed using descriptive statistics and inferential analysis. Descriptive statistics summarised the main features of the data, including frequencies, percentages, means, and standard deviations for demographic information and employee retention. Inferential analysis involved multiple linear regression to examine the relationships between training (independent variable) and employee retention (dependent variable). SPSS software was employed for all statistical analyses, facilitating a rigorous examination of how different aspects of training such as skill, knowledge, opportunities, and duration influenced retention rates. The indicators of the dependent variable (employee retention) were turnover intentions, job satisfaction, intention to stay and leave. Equation (2) presents the multiple linear regression for examining the influence of training on retention of human resources for health.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Whereby Y= Employee retention

X_1= Skills acquisition

X_2= Knowledge acquisition

X_3= Training opportunities

X_4= duration of training

Qualitative data from interviews captured detailed insights on training and retention. The interview data were analysed using content analysis. The content analysis allowed for the qualitative data to complement the quantitaitive data.

Ethical considerations and reliability test

Ethical considerations were paramount in this study. The study obtained permission from the relevant authorities, including the College of Business Education and Dodoma City. All participants were informed about the purpose of the study, their rights, and the voluntary nature of their participation. The study obtained oral consent from each participant. Also, participants' identities and responses were kept confidential, and data were anonymised to protect privacy.

Reliability test

The reliability of the questionnaire was tested using Cronbach's Alpha to measure internal consistency. Cronbach's Alpha is a measure of internal consistency, indicating how well the items in a scale measure the same underlying construct. The following are commonly accepted thresholds for interpreting Cronbach's Alpha values:- $\alpha \geq 0.9$: Excellent (high-stakes testing), $0.8 \leq \alpha < 0.9$: Good (adequate for most research purposes), $0.7 \leq \alpha < 0.8$: Acceptable (minimum acceptable level), $0.6 \leq \alpha < 0.7$: Questionable (may need improvement), $0.5 \leq \alpha < 0.6$: Poor (unacceptable, needs revision), $\alpha < 0.5$: Unacceptable (consider discarding or revising items)
Table 2 indicates the reliability value scores for training and retention variables. The reliability statistics results showed that reliability for training and retention was good and adequate for this research.

Table 2: Reliability statistics

Variables	Numbre of items	Cronbach's Alpha
Training	4	0.891
Retention	4	0.862

4. Findings and discussion

This section presents and discusses the findings on the influence of human resource training on retention of employees in the decentralised health system of Dodoma City. The analysis is based on data collected from 230 respondents who are health workers in the Local Government Authority of Dodoma City. The section begins by presenting demographic and status of retention of human resources for health in Dodoma City. Also, this section examines the influence of training on retention of human resources for health in the decentralised healthcare facilities under the LGAs.

4.1 Demographic characteristics of human resource for health

Understanding the demographic characteristic of respondents provides context for interpreting the study's findings and assessing their generalizability (Pickering, 2017). The demographic characteristics of human resources for health was captured from 230 respondents in Dodoma City using the closed-ended question. Table 3 presents the characteristics captured, including age, gender, academic qualifications, and current designation of the respondents.

Table 3: Demographic characteristics of human resource for health (n = 230)

Variable	Measurement	Frequency	Percent
Age	20-29 Years	62	26.96
	30-39 Years	118	51.30
	40+ Years	50	21.74
Gender	Male	118	51.30
	Female	112	48.70
Education	Certificate	17	7.39
	Diploma	113	49.13
	Degree	100	43.48
Experience	1-5 Years	104	45.21
	6-10 Years	83	36.09
	10+ Years	43	18.70
Designation	Pharmaceutical technician	24	10.43
	Medical officer	34	14.78
	Assistant nurse officer	42	18.26
	Laboratory technician	19	8.26
	Nurse officer	41	17.83
	Radiographer	4	1.74
	Medical attendant	24	10.43
	Clinical officer	35	15.22
	Health secretary	7	3.04

Source: Field survey (2024)

Most respondents (51.30%) were between 30-39 years old, indicating a workforce primarily composed of early to mid-career professionals. This age distribution allows for insights from both younger and more experienced health workers. Also, the gender breakdown of respondents was relatively balanced as 118 were male respondents (51.30%) and 112 were female respondents

(48.70%). This near-equal representation of genders enhances the study's ability to capture diverse perspectives across the health workforce. Similarly, most respondents (92.61%) held either a diploma or degree, suggesting a well-educated workforce. This high level of education implies that respondents likely understand human resource training practices and their implications on retention. The study also included diverse representation across various health professions, enhancing its ability to capture a comprehensive view of retention issues across different roles within the health system.

4.2 Status of retention of human resources for health

The status of retention of human resources for health was measured using four indicators expressed in percent form. The four indicators were employee satisfaction, turnover, intention to leave, and intention to stay. The percent scores were used to express the level of retention. The study considers that a score below 50% was considered low retention, while a score above 50% was considered high retention. The findings presented in Table 4 revealed that most retention scores were above 50%. The findings suggest a high retention of human resources for health at Dodoma City.

Table 4: Retention of employees

Variables	Higher	Lower
Employee satisfaction	61.3	38.7
Employee turnover	59.13	40.87
Intention to leave	55.65	44.35
Intention to stay	62.17	37.83

Source: Field survey, (2024)

These results suggest that employee retention of health workers in the Local Government Authority at Dodoma City is high. The results are higher than those conducted by Pesambili (2016) regarding the level of employee retention in Coca-Cola Kwanza Limited, which revealed that the retention rate was 30 %. Also, study's results deviate from those of Chatzipetrou et al. (2018) from Western companies in Finland revealed that 90% of employees were leaving the company in their first year and 50% in the second year. The results from Western countries like Finland suggest that workforce mobility is high in developed countries, which could be linked to democracy and technology compared to the deficit in developing countries like Tanzania.

Furthermore, the study revealed the retention level in relation to employee satisfaction, employee turnover and intention to leave or stay. As presented in Table 4, employee retention is high because employees are satisfied at 61.30%, employee turnover at 59.13%, and the intention to leave at 55.65%. The results concur with the study of Biason (2020) in Oman, who found that job satisfaction greatly impacts employee retention. Similarly, a study by Magaisa & Musundire, (2022) from Zimbabwe found that 80% of the employees were not satisfied with their jobs, thus leading to low retention of human resources in public healthcare facilities. Also, the study of (Sabbagha, Ledimo, & Martins, 2018) from South Africa shows that 54% of employees were unsatisfied with their daily work, resulting in low retention. Thus, the results of the studies from Oman, South Africa, and Zimbabwe suggest that the higher the satisfaction level, the higher the

retention level of employees. This assertion invites LGAs to emphasise leadership and management techniques that satisfy the employees and achieve high retention of human resources for health.

Moreover, the study of Deloitte (2014) from Kenya reveals that 68% of Kenyan organisations have a high staff turnover rate that undermines their performance. Similarly, a study by Alias et al. (2018) from Malaysia indicates that 52% of employee turnover exists. Also, a study of Ikhwan and Wahyuni (2022) showed that there was high employee turnover in several countries such as India to be 26.9%, Russia 26.8%, Indonesia 25.8%, Brazil 24.4%, US 21.8%, China 21.3%, and UK 14.6%. This calls attention to the government and all responsible organs to ensure that employee retention of these health workers gets higher by improving strategies to improve employee satisfaction and reducing employee turnover in Local Government Authority at Dodoma City.

Comparing these results to other contexts provides further insight; a study by Magaisa and Musundire (2022) in Zimbabwe found that 80% of employees were dissatisfied with their jobs, while only 20% were satisfied. In South Africa, Sabbagha et al. (2018) reported employee satisfaction at 46%. The higher satisfaction levels in Dodoma City (61.30%) suggest that the local health system may be doing things right regarding employee engagement and job satisfaction. However, the turnover rate of 59.13% is alarming when compared to global benchmarks. A study by Ikhwan and Wahyuni (2022) reported turnover rates in various countries between 2010-2018, ranging from 14.6% in the UK to 26.9% in India. The significantly higher turnover rate in Dodoma City indicates a critical need for improved retention strategies.

4.3 Diagnostic test for regression analysis

Before conducting the regression analysis to examine the influence of training on employee retention, it was crucial to check certain assumptions. The check on the assumptions ensured that the statistical model accurately represented how training influenced retention. To check the assumptions, the study conducted a data test through variance inflation factor (VIF) to establish if there is no multicollinearity (no correlation among independent variables). Also, the study conducted a heteroskedasticity test (Breusch Pagan test) to determine whether the error terms have equal variances. Likewise, the study tested for normality and autocorrelation prior to regression. This process helped interpret coefficients correctly and identify any influential outliers that could affect the findings. Overall, validating these assumptions before running the regression helped draw accurate conclusions about how training influences employee retention in the analysis.

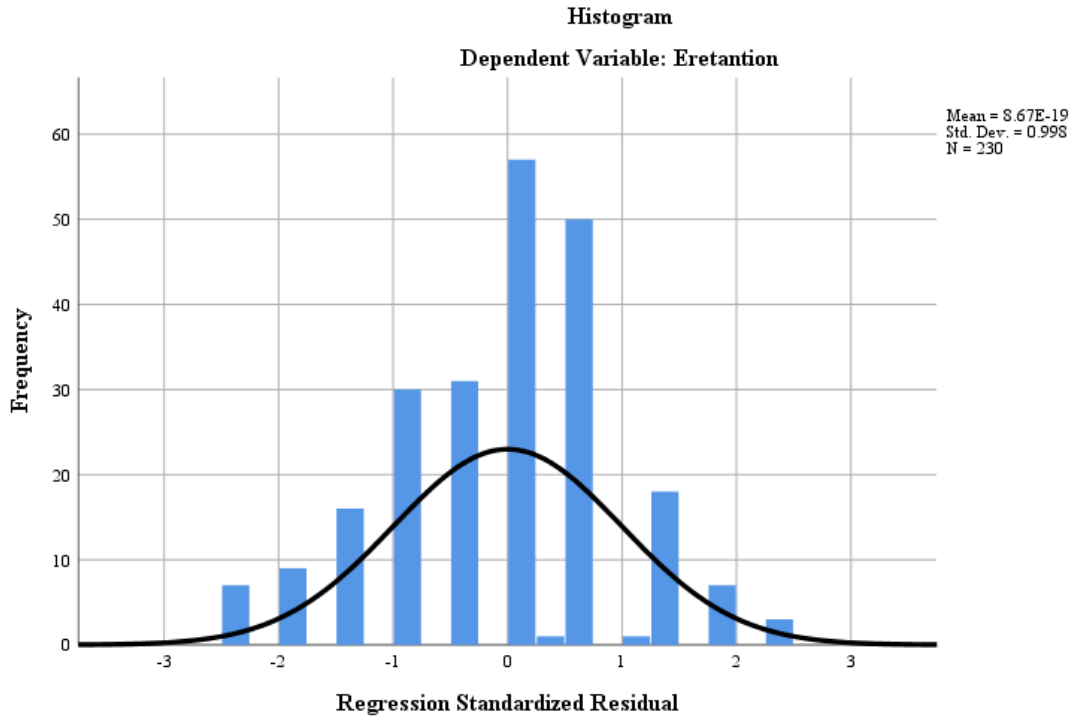
Multicollinearity: The analysis in Table 5 shows that training has a moderate positive correlation with employee retention (Pearson's r = 0.432). The Tolerance and VIF statistics indicate the presence of multicollinearity. While the VIF value of 1.319 for training suggests low multicollinearity (since it is below the threshold of 10), the tolerance value of 0.758 indicates that about 24.2% of the variance in "training" is predictable from other predictor variables, suggesting some level of redundancy or correlation. This suggests that training contributes independently to explaining employee retention without being redundantly correlated with other predictors.

Table 5: Collinearity statistics

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Training	.758	1.319

Normality: Figure 1 presents standardised residual test for normality. The residuals' histogram and normal probability plot, the graph where the x-axis represents different levels of training provided to employees, and the y-axis shows the residuals the differences between actual and predicted values of employee retention. In an ideal scenario, this graph would display a distribution of residuals that resembles a bell-shaped curve centered around zero on the y-axis. This bell-shaped curve signifies a normal distribution of residuals, where most data points cluster near zero difference, tapering off symmetrically towards both positive and negative sides.

Figure 1: Standardised residual test for normality



Autocorrelation: The Durbin-Watson statistic in Table 6 is 0.933, which suggests a slight positive autocorrelation. Typically, values close to 2 indicate no significant autocorrelation. Further investigation or adjustment may be needed if autocorrelation significantly affects the regression model's reliability. The correlation table reveals a moderate positive relationship between

employee retention and training, with a Pearson correlation coefficient of 0.632, which is statistically significant ($p < 0.001$). This indicates that employee retention tends to increase as training levels increase, suggesting that organisations investing more in training may potentially see higher employee retention rates.

Table 6: Correlation

		Employee retention	Training
Pearson correlation	Employee retention	1.000	.632
	Training	.632	1.000
Sig. (1-tailed)	Employee retention	.	.000
	Training	.000	.
N	Employee retention	230	230
	Training	230	230

4.4 Regression outputs

Table 7 shows the parameter estimates, standard error, t-value, and p-values of the fitted linear regression model for the influence of training on employee retention. The analysis was carried out using the indicators of training namely skills acquisition, knowledge acquisition, training opportunities and duration of training on retention of human resources for health. The results revealed that skills acquisition (p=<.0001), knowledge acquisition (p=<.0001), training opportunities (p=0.0016), duration of training (p=<.0001) were significantly associated with employee retention.

The regression analysis revealed a significant positive relationship between skills acquisition and employee retention ($\beta = 0.24998$, $p<0.0001$). This indicates that for every unit increase in skills acquisition score, employee retention increased by 0.24998 units. This finding aligns with previous research highlighting the importance of skills acquisition in fostering employee retention. Gautam and Poudyal (2018) found that skills acquisition equips employees to perform their duties more effectively. Also, Table 7 shows that the unit increase in knowledge acquisition score, the employee retention score increased by 0.29738 units ($\beta = 0.29738$, $p<0.0001$). Similarly, results reveal that a unit increase in training opportunity score influences employee retention by 0.23393 units ($\beta = 0.23393$, $p=0.0016$). Likewise, findings in Table 7 affirm that a unit increase in training duration influences employee retention by 0.31593 units ($\beta = 0.31593$, $p<0.0001$). The R-square of the model was 0.6400 which means that the variables included in the model explained about 64% of the variability on employee retention

Table 7: Linear regression results

Variable	Parameter	Standard	t-value	P-value	R-square
Intercept	0.95649	0.3483	2.75	0.0065	0.6400
Skills acquisition	0.24998	0.04579	5.46	<.0001	
Knowledge acquisition	0.29738	0.07312	4.07	<.0001	
Training opportunities	0.23393	0.07312	3.2	0.0016	

Duration of training	0.31593	0.03427	6.17	<.00001

Source: Field survey (2024)

Similarly, Shella (2019) emphasised that the skills, knowledge, and training opportunities provided to employees are crucial for their professional growth and improved service delivery. The positive relationship between training and retention can be attributed to several factors. First, training demonstrates an organisation's investment in its employees, which can foster a sense of loyalty and commitment. Second, it enhances employees' skills and knowledge, potentially increasing their job satisfaction and confidence in their abilities. Third, ongoing training opportunities can provide a sense of career progression and personal development, which are often key factors in an employee's decision to remain with an organisation.

Qualitative data from interviews supported these quantitative findings. Interviewee participants indicated that various training initiatives, including induction, on-the-job, and off-the-job training, have enhanced health workers' knowledge and skills. However, challenges persist in providing sufficient training opportunities for all employees. One respondent noted: -

> "*The department of health is affected by losing health workers because of poor service delivery, which was partly due to having few training opportunities. Outreach services were also cancelled, yet training employees for these services is still needed*." (KI, February, 2024, Dodoma City)

The participants added that human resources providing healthcare in decentralized levels (district hospitals, health centres, and dispensaries) wish to work in referral or national hospitals where there are more opportunities for receiving on-the-job training from super specialists in healthcare. Similarly, key informants revealed that human resources for health remain loyal to working under the LGAs where there is a compressive schedule for long-term training.

The finding justifies the critical role of ongoing training in maintaining service quality and, by extension, employee retention. Cancelling outreach services due to insufficient training highlights how inadequate human resource planning can directly impact service delivery and employee retention in the LGAs. It suggests that training should not be viewed merely as a cost, but as a crucial investment in maintaining a skilled and motivated workforce.

The interpretation of the findings and subsequent conclusion of the study should be understood considering some limitations. This paper considers only training as an important dimension in human resources that influences the retention of human resources for health. However, several other dimensions that were not considered in this paper, including leadership, compensation, work-life balance, and organisation culture, according to scholars, could influence employees' retention in healthcare (Lameck, 2021; Damei, 2020; Gorde, 2019; Shemdoe, et al., 2016). Additionally, the study was limited to the decentralised health system of Dodoma City, which may not represent other regions in Tanzania. Thus, the study may not be generalised to other areas of Tanzania. Also, the study analysis relies on self-reported data from human resources for health and key informants from Dodoma City. This could introduce response bias, as participants might have provided socially desirable answers.

5. Conclusion and recommendation

The study concludes that retention among human resources for health is high. Also, the study found that retention of human resources for health in the LGAs, including Dodoma City, is significantly associated with the training of employees. Moreover, it is concluded that training not only influences human resource retention but also the overall quality of health service delivery provided in healthcare facilities. The study recommends that local government authorities, through human resource planning, give special attention to employee training for improved retention of human resources for health and outcomes in health service delivery. Also, it is recommended that LGAs establish mentorship programs and continuous education initiatives that foster a culture of learning and growth within the health system. Concerning areas for further research, the study recommends that a longitudinal study design be conducted to understand better the causal relationship between training and employee retention over time. Similarly, future studies could expand the study area to include other regions across Tanzania for the generalisability of the findings in Tanzania. Additionally, incorporating other variables such as organisational culture, leadership styles, and employee engagement could offer a more holistic view of retention determinants.

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