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Determinants of Health Worker Motivation in Public Hospitals in Baring County, Kenya

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Abstract:
Broad Objective: *To establish how motivational factors influence Health worker motivation in public Hospitals in Baringo County, Kenya. This study examined how Individual, Financial and Non-Financial factors influence health worker motivation in 4 sub-County Hospitals and Baringo County Referral Hospital.*
Materials and Methods: *A descriptive cross-sectional design with mixed qualitative and quantitative approaches of data collection was employed. The study enrolled 466 health workers drawn from five public hospitals in Baringo County. The sample comprised of Doctors, Nurses, Pharmacists, Laboratory scientists, Nutritionists, Health records officers, Public health officers, Technical staff, Health managers, Financial officers and Supportive staff who have worked for at least one year. Data was collected using self-administered questionnaire, where responses on each statement were based on a 5-point likert scale and key informant interviews conducted. The (SPSS) version 20 was used to enter data and R-Statistical software was used in data analysis. Descriptive statistical summaries were generated and presented inform of frequency tables. Bivariate relationships were assessed by Chi-square tests, symmetric measures and Odds ratios. Logistic regression models were used to assess predictors of motivation.*
Results: *Achievement of personal goals and utilization of personal resources were variables in the Individual factor category that influenced motivation the greatest with $p<0.05$. Monthly salary was found to be the only independent variable in the Financial factor Category that influenced health worker motivation the greatest with $p<0.05$. Several Non-financial variables found to influence health worker motivation the greatest with $p<0.05$ include: Career and skills development, Departmental resource allocation, Recognition and appreciation.*
Conclusion: *This study recommends County government of Baringo to incorporate these six key variables into the development of Health Sector Strategic plan in order to address Health worker motivation challenges. This strategy upon implementation will enhance health worker motivation resulting to a well- functioning health system with better Health outcomes.*

Key Words: *Determinants, motivation, factors, strategic plans, health*

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I. Introduction

The World Health Organization [45] framework for Action breaks down the functions of the health systems into six essential building blocks (pillars) needed to improve health outcomes. These pillars include; Service delivery; Health workforce; Information; Medical products, Vaccines and Technologies; Financing; Leadership and Governance [45]. However, the health workforce pillar in low and middle income countries has a key constraint where there is absence of a motivated health workforce that works in ways that are responsive, fair and efficient to achieve the best health outcomes possible, given available resources and circumstances [45]. Health literature reviews in most African countries indicate that low motivation has led to migration of health workers from low income countries to developed countries. Low motivation has also had negative impact on performance of individual health workers, facilities and the health system as a whole. Results from a study undertaken by German Technical Corporation (GTZ) involving representatives of ministries of health and GTZ staff from 29 countries (18 in Africa) showed that low motivation is the second most important workforce problem after staff shortages [13]. Regional disparities of staff shortages exist between countries with sub-Saharan Africa requiring an almost 140% increase to correct the deficit [39]. However, migration of health

workers in low income countries to developed countries has further increased the deficit due to push factors such as poor remuneration, underfunding of health facilities, poor working conditions, lack of established posts and career opportunities and pull factors that include opportunities for further training and career development, greater financial rewards, improved working conditions, better quality of life and personal safety [13]

World Health Organization recommends staffing levels for key health workers (doctors, nurses and midwives) in developing countries to be 2.3 per 1000 population considered necessary to support the achievement of better health outcomes [44]. Kenya has 1.5 per 1000 population which fall below the recommended standards. Following the promulgation of the new constitution in 2010, Kenya moved to a devolved system of Governance where health sector functions were devolved from National Government to the County levels. This has promoted inequitable distribution of available health workforce where some leave certain counties in favor of others that have better working conditions, better financial packages and those with promotion prospects among others [24]-HRH- strategy, 2014-2018. Baringo County has 1.4 health workers per 1000 population compared with WHO 2.3 per 1000 populations (BHSSP2013-2017).

Evidence of low motivation and poor health sector performance in Baringo County is clearly indicated by hospitals service assessment report in Kenya where its overall performance for public hospitals was 38% according to Nicholas (2014)[29]. Inke and Ingo (2006)[1], confirm that any comprehensive motivational strategy to maximize health worker motivation in low income countries has to involve a mix of individual, financial and non-financial determinants. Evidence and experience as recommended by (WHO, 2006)[39] shows that a mix of individual, financial and non-financial determinants will improve performance of health organizations and motivate the existing health workforce, slow down the rate of migration, attract and retain essential and highly sought after health professionals in developing countries.

However on the contrary, the Kenya health sector Strategic and Investment Plan, July 2014-2018 and (BHSSP, 2013-2017) does not provide comprehensive documentation on motivational strategies needed to improve the level of health worker motivation. Lack of well-developed motivational strategies at County levels has exposed medics to poor pay, salary delays, poor working conditions, lack of recognition and appreciation, lack of fair structures for career progression, increased workloads, poor turnaround time, inadequate skill mix, shortage of medical supplies, poor management practices and poor working relationships [29]. The frustrated health workers have always been left with the last resort of service withdrawal, while others leave the county to seek employment elsewhere. When health workers withdraw their services, many preventable deaths occur, many thousands of patients with chronic conditions such as diabetes, hypertension, tuberculosis and HIV have limited access to care and as a result default on their treatment. When emergency and essential health services are interrupted, often leads to increased mortality rates. All these inadequacies in public health facilities have increased the frequency of referral cases to Moi Teaching and Referral Hospital (MTRH) and to Kenyatta National Hospital (KNH)[9].

This study seeks to establish how motivational factors influence health worker motivation in public hospitals in Baringo County. In particularly, this study answers one specific question which is "How do non-financial factors influence health worker motivation in Public hospitals in Baringo County? "

II. Materials and Methods

This study was carried out in 5 public hospitals in Baringo County, comprising of Baringo County referral hospital, Kabartonjo, Eldama Ravine, Marigat, and Mogotio sub County hospital. The hospitals have a population of 466 health service providers (BHSSP 2013-2017). The sample comprised of Doctors, Nurses, Pharmacists, Laboratory scientists, Nutritionists, Health records officers, Public health officers, Technical staff, Health managers, Financial officers and Supportive staff who have worked for at least one year.

A descriptive cross-sectional design was employed, adopting a combination of qualitative and quantitative approaches of data collection. Yamane's (1967) formula was used to determine the sample size and with a desire to achieve a confidence level of 95% and $\pm$ 0.05 level of precision

$$n = \frac{N}{1 + Ne^2} = \frac{466}{1 + 466 * (0.05)^2} = 215 \quad \text{(Yamane's formula)}$$

N= 466 - Population size
e = 0.05- level of precision

Simple random sampling technique was used to recruit 215 service providers into the study. Data was collected from respondents using self-administered questionnaire. Key Informant Interviews (KII) were conducted on the health management teams comprising of Medical superintendents, administrators, matrons, and departmental in-charges, doctors and County health management team.

Overall reliability of the test instrument was determined using responses from 21 participants enrolled during the pre-test. Individual question analysis was done to ensure that all the questions in the instrument were relevant to the study. Content Validity was established using well designed questionnaire appropriate for target population. The validity of the instrument was improved by ensuring that objectives of the study were clearly defined and operationalized. R-Statistical software was used in data analysis. SPSS version 20 was used to enter data. Descriptive statistical summaries were generated and presented inform of frequency tables. Bivariate relationships were assessed by Chi-square tests, symmetric measures and Odds ratios. Logistic regression models were used to assess predictors of motivation.

Ethical clearance for the study was sought from Kenya Methodist University, Board of Scientific and Ethics review Committee (SERC). Also, a written Consent was sought from Director of Medical Services and Medical superintendents of the study hospitals. The respondents were assured of confidentiality on the Research information collected and oral consent was sought from individual respondents prior to administering questionnaires and holding Key informant interviews (KII). All the study questionnaires were assigned identification numbers before issuing to respondents to answer.

III. Results

This section presents results of data analysis and discussion of the research findings. Data was analyzed and presented using chi-square tables (Tested association of relationships between independent and dependent variables), symmetric measures (Determined direction of relationships between independent and dependent variables), odds ratio (Quantified the relationship between independent and dependent variables) and logistic regression models (Measured adjusted magnitude of relationships between independent and dependent variables). The qualitative data collected by use of key informant interviews was used to complement the tabulated results presented in this study. Total number of 197 respondents participated in the study, which gave a response rate of 91.6% of the calculated sample size. The response rate of respondents per facility was tabulated as shown in table 3.1 below

Table 3.1 Study **Sites and response rate**

Name of Facility	**No. of Respondents**	**Percent (%)**
Baringo County Referral Hospital	82	38.1
Marigat Sub County Hospital	37	17.2
Kabartonjo Sub County Hospital	36	16.7
Mogotio Sub County Hospital	8	3.7
Eldama Ravine Sub County Hospital	34	15.9
Total	**197**	**91.6**

Majority of the respondents 82 (41.6 %) were from Baringo county Referral Hospital followed by those from Marigat S. C. Hospital with 37 (18.8%) while minority were from Mogotio Sub County Hospital accounting for only 8 (4.1%).

Table 3.2 Demographic distribution

Characteristics	**Frequency**	**Percent (%)**
Age (years)		
20-25	11	5.6
26-30	34	17.3
31-35	34	17.3
36-40	39	19.8
41-45	49	24.9
46-50	22	11.2
51-55	3	1.5
56 & Above	5	2.5
Gender		
Male	91	46.2
Female	106	53.8
Marital status		
Single	27	13.7
Married	167	84.8
Widowed	3	1.5
Education		
Degree	61	30.9
Diploma	93	47.3
Certificate	43	21.8

Table 3.2 indicates the age, gender, marital status and education level of the respondents**.**

Majority of the respondents were aged between 41-45 years, accounting for (24.9%). The category with the least respondents was those above 51 years representing (4%). Most of the workers 152 (77.1%) were over 31 years of age.

In this study, majority of the respondents 106 (53.8%) were females while 91 (46.2%) were males. On marital status, majority of the respondents 167 (84.8%), were married while the single respondents were 27 (13.7%), and with the least being widowed accounting for 3 (1.5%). The respondents were further categorized according to level of education. A higher proportion of health workers 93 (47.2%) were diploma holders, followed by degree holders 61(30.9), while the least were certificate holders 37(21.9%). This study shows that majority of the health workers were diploma holder pointing to the critical need for the County government to develop strategic plans that addresses career and skills progression.

Non-Financial factor influence rated with health worker motivation

Table 3.3: Association of non-financial factors with motivation

Non-financial factors rated with worker motivation in the institution	Pearson Chi-Square tests of significance		
	χ^2 Value	Df	Sig. (2-sided)
Availability of standard procedures/treatment guidelines	23.057	16	.112
Supervisors provision of corrective feedback	45.600	16	.000
Hospital management has created more freedom	60.684	16	.000
My department has acute shortage of staff/modern equipment	15.031	16	.522
My department has shortage of drugs, non-pharmaceuticals and modern equipment	27.547	16	.036
Acquired new skills, knowledge and positive attitude through training programs	38.121	16	.001
Attended at least an average of 1-3 seminars each year	58.921	16	.000
Health workers are given equal opportunities for trainings	60.632	16	.000
Having increased access to career and skills development	67.639	16	.000
Reward programs supported through County health sector strategic plans	47.842	16	.000
Exemplary performances are rewarded.	36.750	16	.002
Supervisors recognize and appreciate health workers for good work done	68.974	16	.000
Measuring and rewarding performance is fairly done	58.261	16	.000
If supervisor assists me if a problem arises	89.520	16	.000
Hospital management gives me an opportunity for independent decision making	96.838	16	.000
Managers have acquired managerial skills on supervisory roles	39.938	16	.001
Fair resource allocation to my department	48.878	16	.000

Table 3.3 above is an assessment of relationship between non-financial factors with the level of motivation in the institution using chi-square tests. Availability of standard operating procedures /treatment guidelines rated with motivation indicates absence of significant relationship, where $p > 0.05$. Acuteness of staff in the department and having a feel that remuneration of health workers has improved rated with level of motivation in the institution points to existence of independence, where $p>0.05$. The table also illustrates that other non-financial factors rated with level of motivation in the institution depicts existence of a significant relationship, where $p<0.05$

The non-financial factors which were found to influence health worker motivation the highest were: Career and skills development, Departmental resource allocation, Recognition and appreciation. The odds of motivation among the group that agreed with perceived increase of access to career and skills development was 9.2 times more than the odds of those who disagree. Thus this study suggests that perceived increase of access to career and skills has an influence on the rating of motivation in the institution. From the fitted logistic regression model, there was a very high probability of 0.726 of getting an individual who was motivated for having access to career and skills development.

The odds of motivation among the group that agreed with perceived Supervisors' recognition and appreciation of health workers for good work done was 26.7 times more than the odds of those who disagree with this assertion. Thus this study suggests that perceived supervisors' recognition and appreciation of health workers for good work has influence on motivation of health workers. From the fitted model, there was a very high probability of 0.877 of getting an individual who gets motivated when recognized and appreciated.

The odds of motivation among the group that agreed with perception of fairness of resource allocation to departments was 22.5 times more than the odds of those who disagree with this assertion. Thus perceived fairness in resource allocation to departments has an influence on the level of motivation in the institution. From the fitted model, there was a very high probability of 0.84 of getting an individual who is motivated from among those who agree that fair allocation of resources to Departments has improved service delivery.

IV. Discussion

Most of the non-financial factors had significant relationship with health worker motivation. However, further quantification with logistic regression models, the following three variables jointly pointed out very strong relationship with health worker motivation: Career and skills development, recognition and appreciation and fair departmental resource allocation. Access to career development was a significant predictor of individual's motivation among the set of non-financial factors with an associated p=0.000. From the fitted logistic model, there was a very high probability of 0.789 of getting an individual who was motivated for having access to career and skills development.

Health worker recognition and appreciation was a significant predictor of individual's motivation with an associated p=0.000. From the fitted model, there was a very high probability of 0.99 of getting an individual who gets motivated when recognized and appreciated.

Fair resource allocation was found to be a significant predictor of individuals motivation with an associated p=0.000. From the fitted model, there was a very high probability of 0.905 of getting an individual who gets motivated with fair resource allocation to the department.

This research found that there is low motivation among health workers in Baringo County. The results indicated that 40.6% of the respondents were motivated while majority of the health workers 59.4% in Baringo County were de-motivated. This low outcome of health worker motivation serves as an indicator to the need for the County government to develop motivational strategy needed to improve health worker motivation in the County.

V. Conclusions and Recommendations

From the statistical analysis, we conclude that majority of the independent variables show varying degrees of influence on health worker motivation. Few of the independent variables had no influence on health worker motivation. Based on findings of this study, the following Non-financial variables found to influence health worker motivation the greatest included: Career and skills development, Departmental resource allocation, Recognition and appreciation. This study therefore recommends the County government of Baringo incorporate these three key variables into the development of Health Sector Strategic plan in order to address Health worker motivation challenges. This strategy upon implementation will enhance health worker motivation resulting to a well- functioning health system with better Health outcomes.

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Competing interests

All the authors of this Thesis declare that they have no competing interests.

Authors' contributions

All the authors acknowledged in this research have fully participated in sharing their knowledge and experiences towards the development of this Thesis. Each of the Authors has read the soft copy of the manuscript and have all agreed that this is a fair copy for submission.

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