ORIGINAL ARTICLE

COMPETENCY LEVEL OF HUMAN RESOURCE MANAGEMENT AND ASSOCIATED FACTORS AMONG MANAGERS IN PUBLIC HOSPITALS OF TIGRAY, NORTH ETHIOPIA

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ABSTRACT

Background: *Competency gap is the difference between the current competency level of managers and the required level. Incompetent managers cannot be successful even if the organization has perfect plans and a sound organizational structure. The World Health Organization report shows that in many low and middle-income countries, managerial capacity at all levels of the health system is one of the contributory factors to the failure to scale up effective health service. In Ethiopia, managers have competency gaps in knowledge and skills to carry out many of their human resource functions. However, there is only limited evidence on the leadership gap of managers. Therefore, knowing the competency level of managers could be a great input in improving health service delivery in the country.*

Objective: This study aimed to estimate the competency level and associated factors of hospital managers in public hospitals of Tigray region, north Ethiopia.

Methods: *An institution-based cross-sectional study was conducted among 229 hospital managers working in all public general and referral hospitals of Tigray region from March to May 2016. All hospital managers in the region were included in the study. A self-administered questionnaire was used to collect data, which was entered into Epifo-7 and transferred to SPSS version 20 for further analysis. Descriptive and summary statistics were done, and the competency level of managers was estimated by using standardized criteria. A binary logistic regression model was used to identify factors associated with competency. Variables which had less than 0.05 p-value in the multi-variable model were considered statistically significant.*

Result: *The study involved 16 hospitals and 229 managerial personnel; 60 (26.2%) of the participants were female, and 126 (55.5%) of the total were competent. Factors significantly associated with the levels of competence were 31-35 years of age (AOR= 2.35,95% CI: 1.24, 4.45), salary ranging fromETB.3551- 5000 (AOR= 3.01, 95 % CI: 1.07, 8.51), first degree and above education (AOR=3.95, 95% CI: 1.67, 13.56), on the job training in leadership skills (AOR=1.95, 95% CI: 1.05, 3.00), and direct employment (AOR= 3.40, 95% CI: 1.80,6.40).*

Conclusion: *The level of competency of managers was low. Age, salary, educational status, on the job training on leadership skills, and direct employment were significantly associated with competency. Hiring managers with better experience and level of education, and enhancing strategies to build the capacity of hospital managers through different short and long-term trainings would improve the existing competence gap.*

Keywords: *Competency, human resource management, managers, public hospitals, Tigray, Ethiopia.*

INTRODUCTION

Competent health managers are important in health organizations to align human resource activities with organizational needs (1). Managerial or management competency frameworks are developed to improve the performance of organizations by identifying the key competency factors that contribute tothe effective performance of managers(2).The World Health Organization (WHO) report shows that in many low and middle-income countries, managerial capacity at all levels of the health system is one of the contributory factors to failure to scale up effective health services(3). Worldwide, one of the reasons why least developed countries did not meet the health-related Millennium Development Goals (MDGs) is lack of appropriate managerial competencies among health

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managers (4).

A study in a least developed country showed that human resource development (HRD) encountered problems, like lack of training and career development, limited organizational development, lack of effective performance appraisal, employee motivation and awareness, clear strategies, and limited managerial capacity in the public sector(5).Competent hospital managers must be in the post to ensure that organizational goals are attained.

Competencies are defined as a bunch of knowledge, characteristics, attitudes that have a great impact on occupation relating to individuals and can be assessed as an element associated with the performance standard of training and development to be improved and chased(6).Managerial competency is frequently used to refer to the competencies possessed by successful managers, and there is a strong relationship between managerial and organizational competency (7)**.** However, poor managers cannot be successful even if the organization has perfect plans and a sound organizational structure (8)**.** Manager level of competence significantly affects the quality of service provided in health facilities(9, 10). A study that included Ethiopia, Kenya, Tanzania, and Uganda showed that 68% to 75% of health managers had a competency gap in knowledge and skills to carry out many of their human resource functions and to address many challenges in their jobs(11). Similar studies in different regions of Ethiopia showed that on average 37.7%to 40%of hospital managers had competency gaps in six critical human resource management functions(12, 13)

Different factors determine managers' level of competence. Some of the major factors which affect managers' competency are age, salary, marital and educational status, on the job training, and work experience (1, 14, 15)**.** The competence level of managers significantly increases with age, and experienced managers are more competent(12).

Recently, public health organizations have been operating in a complex and highly changing environment that greatly influences their growth and expansion; to cope with this changing environment, they need to develop the competency of health managers. This is because the survival and growth of any organization highly depend on the quality of the management (16)**.**

In Ethiopia's health sector, there are various problems of competency, and lack of effective personnel to perform all-around management that would help to deliver effective health services (17)**.** Furthermore, the Ethiopian Federal Ministry of Civil Service quarterly bulletin shows that the result-oriented performance appraisal system suffers from poor competency, lack of transparency, weak follow-up, and loose linkage between performance and reward that could hamper the system (18)**.**

The Government of Ethiopia Ministry of Health is introducing and implementing an important health sector reform to fill leadership gaps and to ensure human resource capacity and development. However, the problem of leadership competency and good governance among health managers has remained a fully unaddressed top agenda and the main concern of the national and regional health institutions. Particularly, hospitals are not only facing competency gaps of their managers but also challenges in finding evidence to select and focus on intervention strategies that address selected competency and good governance gaps (19)**.**

Despite the high magnitude of the competency gap of managers and serious consequences related to human resource management, few studies have been done to measure the extent of competency gaps and associated factors in Ethiopia. Therefore, this study aimed to determine the competency level of managers and

associated factors in of hospitals in Tigray region, and to inform policymakers to design effective strategies and interventions.

METHODS

Study setting: Tigray is one of the nine regional states of Ethiopia, located in the northern part of the country about 787 km from the capital Addis-Ababa. It is bounded by Afar region in the east, Eretria in the north, Sudan in the west and Amhara in the south. The region is administratively divided into seven zones, 52 districts(34 rural and 18 urban), and 763 (702 rural and 61 urban) *kebeles* (the smallest administrative units of the country). All of the 16 (15 general, one referral) hospitals in the region were included in this study. The total health workforce of the regional health bureau comprised 12,724 individuals,65% (8,279) health professionals and 35% (4,445) support staff. Of the total workforce,25% (3,166) were found in the hospitals (20).

Participants: An institution based-cross sectional study was conducted from March to May 2016. All managers who had positions and human resource management responsibilities were the study population. Managers who had such positions and human resource management responsibilities recognized by the hospital boards for at least one year were included, but managers who were severely ill at the time of data collection were excluded. According to the Ethiopian Hospital Reform Implementation Guidelines (EHRIG), 13 health managers or department heads ran each general hospital (21) and 50 managers each referral hospital. Therefore, the total number of hospital managers in the region was = (15 general hospitals x 13 managers = 195, and 1referral hospital x 50= 50) = 195 +50 = 245. All of them were included in the survey. Thus, 188 general and 41 referral, 229 (93.5%) hospital managers participated in the study.

Variables: The dependent variable was level of competency with six domains, like personnel policy and planning, performance appraisal, training, human resource information system (HRIS), retention strategy, and general leadership and management. The independent variables were socio-demographic characteristics (age, sex, work experience, level of education, marital status, salary), organizational factors (roles and responsibilities of human resource (HR), challenges related to HR), and training received (human resource planning, disciplinary measures, recruitment and selection, employee health and safety, benefit administration, leadership skills, team building, performance appraisal and grievance handling). A manager is a person who is assigned in hospital managerial position and has human resource management responsibilities.

Competent managers: Are persons who have managerial positions and achieved good performance in their respective hospitals by implementing the six competency domains and have 75% and above cumulative scores(22).

Incompetent managers: Are managers who scored less than 75% in the six competency domains.

Personnel policy and planning competency: A manager was labeled competent if they properly implemented the human resource-related personnel policy and planning and scored 75% and above.

Performance appraisal competency: A manager was labeled competent if they properly measured or evaluated employees based on their given plan/ job description and scored 75%. It includes appraising the job expected from them, what they actually do, where they lack capacity and how they can be updated by providing proper feedback and supervisions.

Training and development competency:

A manager was labeled competent if they properly developed human resource related plan to capacitate

hospital employee capacity and their career development, and provid need-based training to narrow employee skill gaps and scored 75% and above.

Human resource information system (HRIS):A manager was labeled competent if they recorded or documented employee profiles and use them for different human resource related decisions and scored 75% and above.

Retention strategy: A manager was labeled competent if they properly used strategies to prevent employees from unwanted turnover and let them stay longer in their organizations and scored 75% and above.

General Leadership and management: A manager was labeled competent if they cultivate accountability and transparency in the organization by creating positive relationships with employees and scored cumulatively 75% and above.

Training development: A manager was labeled competent if they **r**eceived training related to human resource management and scored 75% and above (22).

P**rofessional category:** health workers who are categorized in similar duties and responsibilities**; Paramedics** are health workers in laboratories, pharmacies, and environmental health.

Clinical are health workers like medical doctors, nurses, and midwives.

Non-Clinicals: are health workers whose duty is related to administrating and maintaining resources (Chief Executive Office, finance, HR, HMIS, audit, public relation (PR)).

Data collection procedures: The data were collected using a standardized self-administered questionnaire. The questionnaire which was used to measure competency level was adopted from the African Medical and Research Foundation (AMRF) and Management Sciences for Health (MSH)((23), and personal questions were prepared after reviewing literature. The questionnaire was initially prepared in English and translated to the local language, Tigrigna, and back to English to ensure consistency in the meanings of words and concepts. Eight degree graduate nurse collectors and 4 public health professional supervisors were involved. The data collectors and supervisors were trained on the objective and data collection procedures, and the questionnaire was pretested on 25 people (5% of the sample) working outside the study area, and modifications on the order and translation of questions were made accordingly. On-site supervision during the whole period of data collection was made and completed copies were checked daily.

Data management and statistical analysis: The data obtained from the study were checked visually for completeness and consistency and entered into EPI-info version 7 and transferred to SPSS version 20 statistical software for further analysis. Descriptive statistics and the binary logistic regression model were used to know the level of competency and associated factors. The questions used to measure competency were a five-point Likert scale. The task value ranged from 1 (no competence) to 5 (very competent). To calculate the competency level of each competency domains the questions used under each category were summed and taken out of a hundred percent. The scores from the responses of participants were taken as a proportion of the total sum of the questions. To know the overall competency level, the scores of the whole domains were summed and divided by the total marks on the whole questions. The data were presented using tables, graphs, charts, and texts. Variables which had p-values of <0.2 in the bivariable logistic regression model were entered

into the multivariable model. We used a 95% confidence interval to present the major study outcomes and associated factors. Finally, variables which had p -values of <0.05 in the multivariable logistic regression model were considered statistically significant.

Ethics: Ethical clearance was initially obtained from the University of Gondar, College of Health Sciences, Institute of Public Health. Official permission letter was secured from Tigray Regional Health Bureau. Respondents were informed about the purpose of the study, and the interview was held only with those who gave verbal consent to participate. The rights of participants to withdraw from the study at any time without any precondition was disclosed to the respondents. Confidentiality of the information was ensured.

RESULT

Socio-demographic and organizational characteristics: A total of 16 hospitals and 229 personnel-participated in the study with a response rate of 93.5%. Of the respondents, 60(26.2%) were female. The age of respondents ranged from 23-58 years with a mean age of 35+7.8 years, and 104(45.4%) managers were in the age group of 31-45 years(Table 1).

Table 1: Scio-demography and economic characteristics of hospital managers in Tigray, north Ethiopia (N=229), 2016

Variables	Category	Frequency	Percentage
Sex	Male	169	73.8
	Female	60	26.2
Age	<=30	101	44.1
	31-45	104	45.4
	>=46	24	10.5
Marital status	Single	77	34.0
	Married	152	66.0
Experience in the health sector	<3 years	68	29.7
	≥ 3Years	161	70.3
Professional category	Clinical	100	43.7
	Paramedics	46	20.1
	Non-clinical	83	36.2
Educational level	Diploma	21	9.2
	Degree and above	208	90.8
Salary in ETB	<3550	29	12.7
	3551-5000	90	39.3
	>5000	110	48.0

Organizational characteristics

Challenges faced by managers: Managers of hospitals faced challenges relating to human resources. The respondents indicated that lack of staff satisfaction (55.9%), understaffing(51.5%), lack of skilled staff (50.2%), and lack of commitment (42.4%) were the main challenges (Table 2).

Table 2: Challenges of managers at hospitals of Tigray region, north Ethiopia,2016(N=229)

Challenge of Hospital Managers	Frequency	Percentage
Lack of Staff Satisfaction	128	55.89
Understaffing	118	51.5
Lack of Skilled Staff	115	50.2
Lack of Commitment	97	42.4
Budget Inadequacy	81	35.4
Lack of Participation	44	19.2
Poor Working Condition	43	18.8
Staff Grievance	40	17.5
Lack of Team Spirit	40	17.5
Limited Decision-making Power	34	14.8
Top Management Interference	16	7.0

Roles and responsibilities of hospital managers

The responsibility of hospital managers in human resource management: Respondents indicated their responsibilities for human resource management. Administration(72.9%)and supervision (57.2%) were the two high responsibilities of managers (Figure 1).

Training received by hospital managers: Respondents received different HRM related trainings, like leadership skill (44.5%) and employee health and safety (18.8 %) (Table 3).

Figure 1: Proportion of high responsibility of hospital managers in human resource management at all hospitals of Tigray region, north Ethiopia, 2016 (N=229)

Table 3: Training received in human resource management by managers at all hospitals of Tigray region, north Ethiopia, 2016(N=229)

	Received Training	
Variables (training types)	Frequency	Percentage
Leadership Skill	102	44.5
Employee Health and Safety	43	18.8
Human Resource Planning	41	17.9
Disciplinary Measures	41	17.9
Recruitment and Selection	39	17
Administration	33	14.4
Performance Appraisal	32	14
Team Building	28	12.2
Grievance Handling	26	11.4

Competency domains among hospital managers: Overall, 55.5% of the managers were competent, 49.8%in policy and human resource planning, 71.2 % in performance appraisal, and31.0 % in training and development (Figure 2).

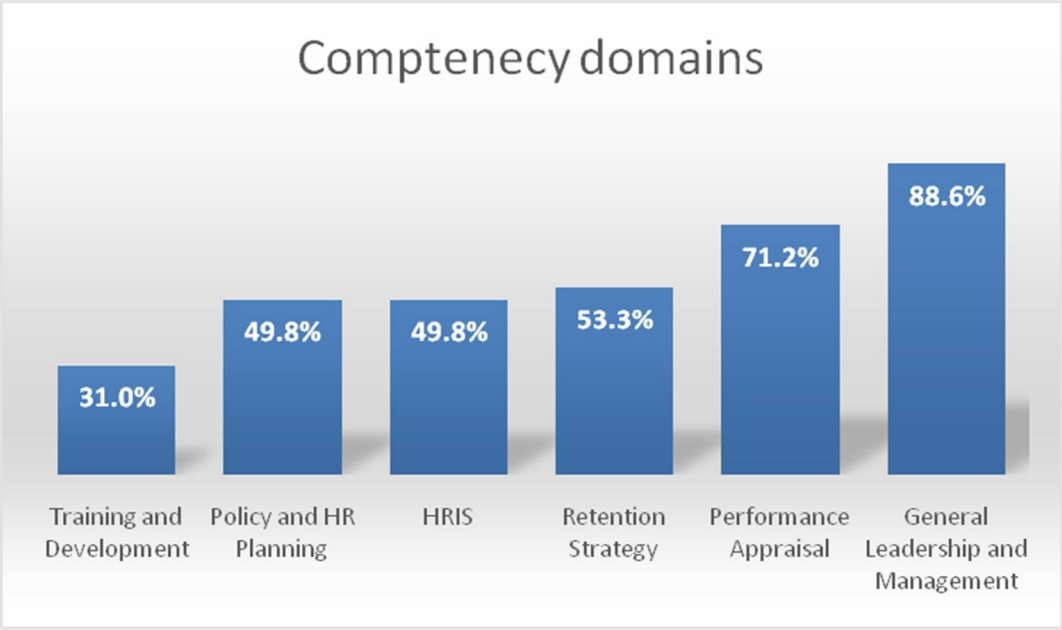

Figure 2: *Proportion of competency level of managers in the six domains at all hospitals of Tigray region, north Ethiopia (N=229), 2016*

Factors associated with competency of managers: Age, salary, level of education, means of holding position, and training on leadership skills were significantly associated with competency in the final model. Participants in the age group of 31-35 years were 2.35 times (AOR= 2.35, 95% CI (1.24, 4.45)) more likely to be competent than those in the age group of < 30 years. Participants who were paid ETB of 3551- 5000 were 3 times (AOR= 3.01, 95 % CI (1.07, 8.51)) more likely to be competent than those with a monthly salary of <ETB 3550. Participants who had first degree and above were 3.95 times (AOR=3.95, CI 95% (1.67, 13.56)) more likely to be competent than diploma graduates. Managers who were trained in leadership skills were 1.95 times (AOR=1.95, 95% CI (1.05, 3)) more likely to be competent than managers who were not trained. Managers who held their positions by direct employment were 3.4 times (AOR= 3.40, 95% CI: 1.80, 6.40) more likely to be competent than those who were promoted.(Table 4).

Table 4: Factors associated with the competency of hospital managers of Tigray region, north Ethiopia, 2016 (N=229)

Variables	Competency Status			
	Competent (%)	Incompetent(%)	COR (95%CI)	AOR (95 %CI)
Age				
≤ 30	49(41.6)	52(58.4)	1	1
31-45	69(66.3)	35(33.7)	2.09(1.19, 3.66)*	2.35(1.24,4.45)*
≥ 46	16(66.7)	8(33.3)	2.12(0.84, 5.76)	2.88(0.97,8.58)
Educational level				
Diploma	6(28.6)	15(74.4)	1	1
Degree and above	121(58.2)	87(41.8)	3.48(1.30,9.32)*	3.93(1.67,13.56)*
Holding position				
Promotion	38(41.8)	53(58.2)	1	1
Direct Employment	89(64.5)	49(35.5)	2.53(1.47,4.36)*	3.40(1.80,6.40)**
HRM Responsibility				
< 2 years	50(47.2)	56(52.8)	1	1
≥ 3 years	77(62.6)	46(37.4)	1.88(1.11,3.18)*	0.96(0.50,1.82)
Salary				
<3550	8(27.6)	21(72.4)	1	1
3551-5000	52(57.8)	38(42.2)	3.59(1.44,8.97)*	3.01(1.07,8.51)*
>5000	67(60.9)	43(39.1)	4.09(1.66,10.06)*	2.01(0.68,5.97)
Experience year in Health sector				
<=2 Years	29(42.6)	39(57.4)	1	
>=3 Years	98(60.9)	63(39.1)	2.09(1.18,3.72)*	1.67(0.78,3.57)
Trained on Benefit Administration				
No	24(72.7)	9(27.3)	1	1
Yes	103(52.6)	93(47.4)	2.41(1.07,5.44)*	1.84(0.73,4.66)
Trained on Leadership skill				
No	65(63.7)	37(36.3)	1	1
Yes	62(48.8)	65(51.2)	1.84(1.08,3.14)*	1.95(1.05,3.61)*
Trained on Grievance Handling				
No	20(76.9)	6(23.1)	1	1
Yes	107(52.7)	96(47.3)	2.99(1.15,7.76)*	2.96(0.95,9.25)

** Significant at P-value <0.05 ** Significant at P-value < 0.000*

DISCUSSION

This study revealed that the proportion of hospital managers who had competence was55.5%. The result was higher than those of studies conducted n Africa including Ethiopia, Kenya, Tanzania and Uganda and showed 25 to 32% of the health managers had a good level of competency in implementing the six domains of human resource management (11). The difference was because of variations in approach and socio-demographic characteristics. In this study, we involved all managers in the study area while the other studies included managers from different countries by selecting randomly, and that could have caused the difference. However, our finding was lower than those of studies done in Oromia Regional State and Addis-Ababa public hospitals and reported 62.3 %and 60%, respectively (13, 24). This might be due to differences in the socio-demographic characteristics of participants and infrastructural variations among hospitals. The other studies were done in the central parts of Ethiopia where there were many referral hospitals with relatively adequate manpower and other resources. Most of the turnover of senior health professionals in peripheral sites was due to migrations to join facilities in the central parts of the country, and that could be one possible reason for the high level of competency in such facilities.

The study showed that the age of respondents was significantly associated with competency. Managers in the age group of 31-45 years were 2.35 times (AOR=2.35, 95 % CI (1.24, 4.45)) more likely to be competent than those in the age group of < 30 years. This may be due to the fact that middle age groups are eager to accept new ideas and technologies and to improve their experience. On the other hand, under 30 years of age groups have less experience and may be frustrated due to their lack of managerial skills(12, 25-27).

In this study, participants with salary range of ETB 3551- 5000 were 3 times (AOR= 3.01, 95 % CI (1.07, 8.51)) more likely to be competent than those with monthly salary of <ETB 3550. This result is similar to those of South Africa, Oromia and Addis-Ababa hospitals(11, 13, 24). This could be due to the motivation managers get from high salaries. Managers could have eternal motivation by the money they earn and that would result in commitment to their jobs and facilities (12, 28).

Educational status was significantly associated with the competency of hospital managers, i.e. managers who had initial degrees and above were 3.9 times (AOR=3.93, CI 95% (1.67-13.56)) more likely to be competent than diploma levels. As the level of education of managers increased, their knowledge and skills also increased. Moreover, managers who had better educational qualifications could have prior practices in teaching, research and community services, and that would help them to cope with different managerial challenges and be competent (29).

This study also showed that managers who trained on leadership skills were 1.95 times (AOR=1.95, 95% CI (1.05, 33.61)) more likely to be competent than managers who did not train. This is similar to the report of a study conducted in Addis- Ababa (9). It is clearly known that continuous professional development has a great effect on improving one's capacity and performance. If managers appropriately train on leadership skills, their competency would improve significantly(25, 26).

Managers who held their position by direct employment were 3.4 times (AOR=3.4, 95% CI (1.8, 6.4)) more likely to be competent than managers who were promoted. This finding is different from a report in Addis Ababa in which position by promotion was significantly associated with the competence of managers (9). This might be explained by the internal

motivation managers get when they are assigned to a high position. When a person is hired by high officials, that might create a sense of responsibility and recognition and could make managers commit themselves and be competent. In addition, high officials may recruit managers based on their prior better performance and activity which would make them to perform well in their new positions.

CONCLUSION

The level of competency of hospital managers in Tigray Regional State was low. Age, salary, educational status, training, and manner of holding position were significantly associated with competency. Managers recruited by the virtue of their experience and educational qualification would be capable of designing strategies to enhance hospital management through long and short term trainings.

Competing interest: We declare we have no competing interests.

Author's contribution: ATT, GG Conceived the idea and the research designed by GG, ATT, and AT. ATT, GG coordinate the process. GG and ATT analyzed the data. Wrote the paper: ATT, GG and AT. All authors read and approved the final manuscript.

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