FACTORS ASSOCIATED WITH MOTIVATION AMONG HEALTH CARE WORKERS IN PUBLIC PRIMARY HEALTH CARE FACILITIES IN DAR ES SALAAM, TANZANIA

By

Sia Ellison Malekia

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Arts in Health Policy and Management of the Muhimbili University of Health and Allied Sciences

November, 2009

CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by the Muhimbili University of Health and Allied Sciences a dissertation entitled: **Factors associated with motivation among health care workers in public primary health care facilities in Dar-es-Salaam, Tanzania** in partial fulfillment of the requirements for the degree of Master of Arts in Health Policy and Management of the Muhimbili University of Health and Allied Sciences.



Dr Mughwira Mwangu
Muhimbili University of Health and Allied Sciences, Tanzania
(Supervisor)

Date: 9th NOVEMBER 2009

DECLARATION AND COPYRIGHT

I, **Sia E. Malekia,** declare that this dissertation is my original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

Signature _____

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ACKNOWLEDGEMENT

I praise the Lord Almighty, who strengthened and guided me all these years.

Glory be to His Mighty Name!!

The accomplishment of this dissertation was a long process that was made possible because of individuals in different institutions and of different capacities both in Tanzania and in Norway.

I am grateful to the Norwegian Masters program (NOMA), for its' financial and administrative support during my academic period at Muhimbili University of Health and Allied Sciences (MUHAS) and at University of Bergen (UiB). Without this support it would have been impossible for me to pursue my masters' studies.

I am greatly indebted to my supervisors Dr. Ottar Mæstad, Dr. Mughwira Mwangu and Prof. Gunnar Kvale, for their tireless efforts, academic guidance, constructive criticism and patience during my study. This dissertation would not have been possible without their immense contributions. I highly appreciate and acknowledge their role.

Next, I thank Dr Aziza Mwisongo for giving me permission to carry out my studies. I also thank my colleagues at the National Institute for Medical Research (NIMR) for their support throughout my study period. I am grateful to my classmates MA.HPM 2007/2009, for their companionship.

I also thank Prof. M. T. Leshabari, Mrs. R.C. Mpembeni and all the lecturers and staff of the School of Public Health and Social Sciences, MUHAS, Tanzania for their support and advice.

I thank the District Medical Officers of Ilala, Kinondoni and Temeke municipality for their assistance during the fieldwork process. I am also grateful to all the health workers who participated in this study.

My heartfelt appreciations go to Prof. N. Mbembati, Leah, and Amana for keeping my spirit up throughout my study period. I would like to thank Beatrice, Abdallah, Deogatias and Fagerson who assisted me in the field work; and Dr. Jeremiah Kidola for his assistance in data analysis and endless encouragement. I feel highly grateful to my godparents Mr. and Mrs. F. Shao, for their sincere encouragement, special support and above all love.

Finally, I am deeply grateful to my loving mother and father for their inspiration; I am everything because of their love. My brothers Terry, Axel, Neeny, Moses and their families; and my dear grandmother for their prayers.

DEDICATION

I dedicate this work to my loving parents Mr. and Mrs. Ellison and Maria Malekia for their inspiration. Never would I have made it without them.

Abstract

Health workers' motivation is an important workforce challenge in Africa, which leads to a serious public health problem as far as delivery of health care services is concerned. Tanzania's health care system is foundationally built upon Primary Health Care Facilities (PHCF's). However, factors that motivate health workers to perform well at these essential facility levels are not clearly understood. Understanding the level of motivation to perform and associated factors among health workers at PHCF's is crucial in order to provide empirical bases for policy decisions and interventions to improve the quality of service especially in the light of ongoing Primary Health Service Development Program (PHSDP).

A cross-sectional survey using a structured interview guide was carried out among 326 health care workers in the three municipalities of Dar es Salaam to assess the level of motivation to perform among health care workers working at public primary health care facilities. Data were analyzed using Stata program where univariate and multivariate analyses by Ordinal Least Square model was used to assess the factors associated with health workers motivation.

The study results revealed that 71.8% of the health workers were motivated to perform their tasks well while 28.2% were de-motivated. Factors associated with motivation were observed at three main levels: the individual, organizational and socio-cultural levels. Both financial and non-financial incentives were seen to influence motivation. However, the main factors were found to be: community recognition/appreciation, fairness in performance assessment, reward system and education level.

It is recommended that efforts be made by the MoHSW and PMO-RALG to formulate national guidelines for motivating the health workforce, council authorities to work out reward schemes for health workers; and health facility managers to establish mechanisms for good relations with communities and fair assessment procedures among health workers working at public primary health care facilities in Dar es Salaam.

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LIST OF ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
BOD	Burden of Diseases
DMO	District Medical Officer
FI	Financial Incentives
HIV	Human Immunodeficiency Virus
HRH	Human Resources for Health
HRHSP	Human Resources for Health Strategic Plan
MA.HPM	Masters in Health Policy and Management
MDG's	Millennium Development Goals
MoHSW	Ministry of Health and Social Welfare
MNH	Muhimbili National Hospital
MMAM	Mpango wa Maendeleo ya Afya ya Msingi
MUHAS	Muhimbili University of Health and Allied Sciences
NBS	National Bureau of Statistics Tanzania
NFI	Non-financial Incentives
NIMR	National Institute for Medical Research
NOMA	Norwegian Masters program
OLS	Ordinary Least Squares
PHCF's	Primary Health Care Facilities

PHSDP	Primary Health Service Development Program
RAS	Regional Administrative Secretary
SPSS	Statistical Package for Social Sciences
SSA	Sub Saharan Africa
WHO	World Health Organization

Definition of terms:

The following terms were commonly used throughout this study. Having been borrowed from a vast array of literature they carry the following meaning:

1. **Health workers** - "also known as Human Resources for Health (HRH) or health care providers, comprise all people whose main activity is to enhance health by providing health services in a socially desired and technically/professionally standard quality. Such workers include: doctors, nurses, pharmacists, laboratory technicians, the management team, supporting staff such as financial officers, cooks, drivers and cleaners." (WHO Fact Sheet, 2006)

2. **Incentive** – "rewards and punishments that providers face as a consequence of the organizations in which they work the institutions in which they operate and the specific interventions they provide." (World Health Report, 2000)

3. **Motivation** – "is an individual's degree of willingness to exert and maintain an effort towards organizational goals." (Franco, 2002)

4. **Performance** - "is the combination of health care providers being available (retained and present), competent, productive and responsive." (WHO, 2006)

5. For the purpose of this study **Primary Health Care Facility** - is defined as health units such as dispensary and health center which provide basic health care services, made accessible to individuals and families at the community level. (An operational definition for the study).

CHAPTER ONE

1.0 Introduction

1.1 Background

The Human Resources for Health (HRH) crisis is a major concern to many governments worldwide. The World Health Organization (WHO) estimates the global health workers shortage to be 4.3 million of which Sub-Saharan Africa (SSA) is the hardest hit (WHO, 2006). With 11% of the world's population and a quarter of the global burden of disease (BOD), SSA has only 1.3% of the world's health workers (WHO, 2004).

In Tanzania, (as it is common with other African countries) there is an increased understanding that health care workers' motivation is important. Tanzania is among the 57 countries worldwide with a critical shortage of skilled health workers (WHO, 2006). Mathauer and Imhoff (2006) pointed out that, after the shortage of HRH, low health workers' motivation is the second most important workforce challenge that follows. This in itself leads to a serious public health problem as far as delivery of health care services is concerned and this continually raises concerns in Africa's health sector (Padarath, 2003).

According to the Ministry of Health and Social Welfare (MoHSW), the available health work force in Tanzania is about 35,202 which is only 28% of the total required 125,924 health workers (MoHSW-PHSDP, 2008). Moreover, low health workers' motivation is thought to threaten the yet available workforce. Several studies have been conducted on health care workers' motivation in Tanzania and revealed that some of the consequences related to this problem were: health workers' external and internal migration (Dussault and Franceschini, 2006), health workers' low productivity (Mæstad, 2006), poor performance despite availability of skills and resources (Leonard et al, 2002); and poor quality care among Primary Health Care Facilities (PHCF's) (Manongi et al, 2006; Chandler et al, 2009).

Furthermore, 49.2% of the total available health workers in Tanzania are based in public PHCF's (MoHSW-PHSDP, 2008). Primary health care facilities are composed of health centers and dispensaries which form the backbone of the health care structure in Tanzania. Primary health care facilities contribute towards reducing the burden of diseases, as they cater

for basic diseases in the community. These diseases include: diseases of infants and children under the age of five, maternal conditions and other major diseases such as HIV/AIDS, Malaria and Tuberculosis. Primary health care facilities are the most numerous and widespread health care facilities in Tanzania which make up a total of 4,679 dispensaries and 481 health centers both public and private (this excludes 219 other public and private hospitals) (MoHSW-PHSDP, 2008). For this reason, Primary health care facilities are referred to as the frontline for health services at the community level (Manongi, et al, 2006).

A recent study conducted by The Touch Foundation, found that low health workers' motivation in primary health care facilities led to poor service provision in terms of delays in diagnosis and management of early childhood illnesses and maternal related conditions leading to increase in the burden of diseases and even death. Poor service provision was also linked to the bypass of some of these very essential facilities, which in turn led to the congestion of patients at district, regional and referral hospitals (Touch Foundation, 2009).

Motivation at the workplace has been defined as "the willingness to exert and maintain an effort towards organizational goals" (Franco et al; 2002). According to Franco (2002), motivation develops in an individual as a result of the interaction between the individual, organizational and socio-cultural environment. Major factors believed to influence health workers' motivation in developing countries include: financial (salary and allowances), career development and continuing education (opportunity to specialize or attend seminars/workshops), facility infrastructure (physical condition described as the "work environment"), resource availability (equipments and medical supplies necessary for job performance), facility management (relationship among health care providers and management) as well as personal recognition or appreciation (from management, colleagues, clients and the community) (Willis-Shattuck et al, 2008).

The government of Tanzania has put in place various measures in the public sector which focus at improving health services and performance in the country. Measures include: on job training through seminars/workshops as well as continuing education and upgrading of health workers, provision of staff housing and supportive supervision every three months (Manongi et al, 2006). Despite these measures, available literature on health workers' motivation in Tanzania reveal that health workers' motivation is still a problem (Muhondwa and Fimbo

2006; Manongi et al, 2006; Leshabari, 2008). Moreover, a study conducted by Leshabari at Muhimbili National Hospital revealed that a gap remained in the understanding of factors associated with health workers' motivation to perform at the primary health care facility level.

This dissertation presents results that explain factors associated with motivation to perform among health care workers in public PHCF's in Dar es Salaam. It is organized in the following manner. Chapter one contains: the background information, statement of the problem, study objectives and conceptual framework. Chapter two contains: the literature review. Chapter three contains: the study methodology, while Chapter four explains the study results. The dissertation concludes with Chapter five which has the discussion, conclusion and recommendation on health workers' motivation to perform.

1.2 Statement of the problem

Health workers' motivation remains an important workforce challenge in Africa (Mathauer and Imhoff, 2006 and Padarath, 2003). Commonly understood, health workers' motivation influences their role in improving accessible and quality health services to the community (Dieleman, 2003). Health care providers at primary health care facilities are the initial contacts to health care services in the community due to the wide distribution of PHCF's in every ward and village (MoHSW-PHSDP, 2008). Building on the fact that the health care structure in Tanzania is foundationally built upon the PHCF's, understanding the factors that are associated to health care workers' motivation to perform at this level of facility is highly necessary for a better functioning of the entire health system (Chandler et al, 2009).

Despite various financial and non-financial interventions made by the government towards addressing health workers' motivation e.g. salary increase, training opportunities and supportive supervision, knowledge on the factors that influence health workers' motivation to perform and especially at PHCF's is still limited. The predominant idea has been that salary increase and allowance would increase health workers' motivation to perform. However, there has been increasing evidence that salary is only part of the solution (Mathauer and Imhoff, 2006; Manongi et al, 2006). Because, even well paid health care workers are still not motivated to perform tasks well. The reason may be due to various factors occurring at the

individual, organizational or socio-cultural level such as: the availability of working equipments and drugs, relationship with management and colleagues, fairness issues at the workplace as well as patient and community recognition or appreciation.

However, most studies done on health care workers' motivation in low income countries such as Tanzania have focused on the higher level facilities such as Referral hospitals (Muhondwa and Fimbo, 2006; Chandler et al, 2009; Leshabari, 2008) or at PHCF's in Kilimanjaro Region and have based on qualitative methods in assessing motivation to perform among health care workers (Manongi, et al, 2006). A gap remains in the understanding of factors that influence health workers' motivation at the lower health care facility levels. For this reason it was worthwhile exploring the wider understanding of factors associated with health workers' motivation to perform at primary health care facilities in Dar es Salaam.

1.3 Rationale of the study

The government of Tanzania has undertaken a 10 year program "Primary Health Services Development Program" (PHSDP) also known as "*Mpango wa Maendeleo ya Afya ya Msingi" (MMAM)* from 2007/2008 to 2016/2017 with the aim of accelerating the provision of fair, equitable and quality health care services to the community. The program is also expected to bring health care services closer to the majority by building primary health facilities within the reach of 5 kms, hand in hand with generating skilful health care workers though training of different cadres (MoHSW-PHSDP, 2008).

Findings from this study may give a better understanding of factors associated with motivation to perform among health care workers at the primary health care facilities in Dar es Salaam. The information gathered could be used by health stakeholders and decision-makers to plan future interventions to improve health care workers' motivation to perform tasks well and thus contribute towards the improvement of quality health care services at the primary level of health care. Furthermore, understanding of factors associated with health workers' motivation to perform in PHCF's will help to further accelerate the long term efforts towards attaining the stipulated Millennium Development Goals (MDG's) of universal coverage and delivery of

primary health care services to the needy population, more effectively and with greater coverage in Tanzania.

1.4 Research Questions

1. What is the level of motivation to perform among health care providers at public primary health care facilities in Dar es Salaam?

2. What factors are associated with health care providers' motivation to perform at public primary health care facilities in Dar es Salaam?

1.5 Research Objectives

1.5.1 Broad Objective

To provide analytical assessment of the extent to which health care providers are motivated to perform and associated factors at public primary health care facilities in Dar es Salaam Region, Tanzania.

1.5.2 Specific objectives

1. To assess the level of motivation to perform among health care providers.

2. To understand the association between motivation to perform and background characteristics among health care providers.

3. To study the association between motivation to perform and financial incentives.

4. To study the association between motivation to perform and non-financial incentives.

1.6 Conceptual framework

The conceptual framework used in this study borrows from Bennett and Franco's (1999) model on determinants that explains various motivational determinants. Figure 1 illustrates Bennett and Franco's (1999) model which summarizes the motivation determinants of health workers at three main levels i.e. the individual, organizational and socio-cultural level (Bennett and Franco, 1999 & Franco et al, 2004). Bennett and Franco's model also reflects on Willis-Shattuck et al, (2008) seven motivation themes commonly found in low income countries that include: financial (salary and allowances), career development and continuing education (opportunity to specialize or attend seminars/workshops), facility infrastructure (physical condition described as the 'work environment'), resource availability (equipments and medical supplies necessary for job performance), facility management (relationship among health care providers and management) as well as personal recognition or appreciation (from management, colleagues) (Willis-Shattuck et al, 2008).

Figure 1 illustrates the conceptual framework on the motivational determinants to perform among health care workers.

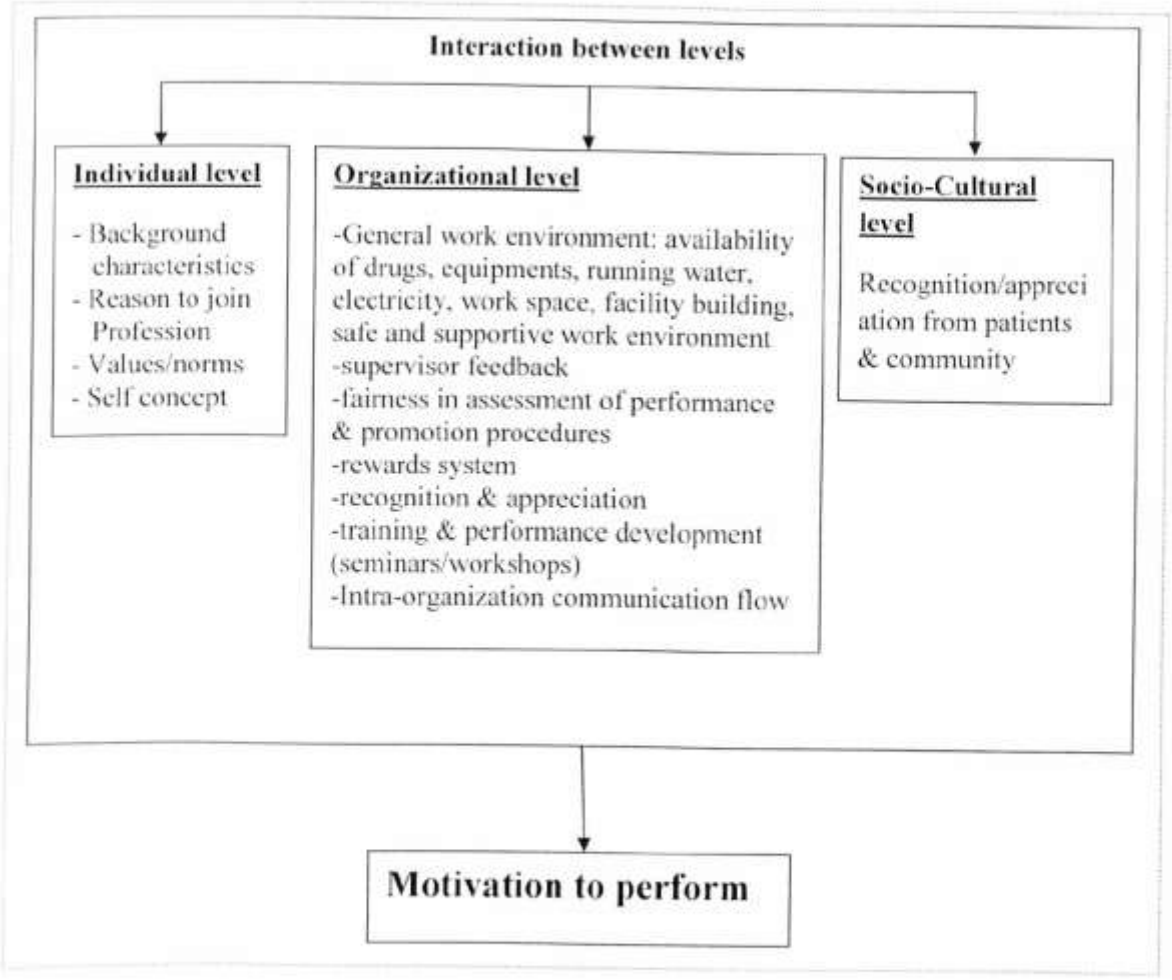


Figure 1 Conceptual framework on Motivational determinants

Source: Adopted and modified from Bennett & Franco, (1999) model.

CHAPTER TWO

2.0 Literature Review

2.1 Motivation Theories

Various theories have tried to explain the complex process on workers' motivation at the workplace so as to help understand the different priorities held among health workers.

According to Kanfer (1999), work motivation involves a set of psychological processes which influence an individual to share his or her personal resources towards goals that affect workplace behavior, effectiveness and productivity. Kanfer points out that motivation of health workers requires a two-stage process of the "*will do*" which is the extent to which the health worker is able to adopt the organizational goals and "*can do*" which is the extent to which the health worker is competent to mobilize goal-directed action to achieve performance (Kanfer, 1999; Mathauer, and Imhoff, 2006).

Herzberg's (1966) Motivation-Hygiene Theory elaborates on factors at the workplace that cause satisfaction and/or dissatisfaction to perform among workers. The main concept in this theory is that motivation comes from within an individual, but operates from felt needs and wants that are externally determined. The external factors at the workplace that influence satisfaction or motivation include: achievement, recognition, work itself, responsibility and advancement while dissatisfaction or de-motivation factors include: organizational policy and administration, supervision, salary, interpersonal relations and working conditions (D'Souza, 2007). An individual expresses his or her internal feelings as a result of the external work environment which enables the employer to realize various measures to adjust in the broad organization culture that may influence and further motivate health workers.

Moreover, Maslow (1943) developed a systematic motivation theory based on five major needs arranged in a hierarchy order according to their importance. The five levels of needs arranged in a hierarchy manner from the most important to the least important need are as follows:

1. Self-actualization (the feeling that you have reached to the top pinnacle) **[High level]**
2. Esteem Needs (Feeling good about yourself)
3. Social Needs (someone to talk to)
4. Safety Needs (feeling safe)
5. Physiological Needs (basic needs: food, salary, cloths, shelter and sex) **[Low level]**



Maslow believed that the lower level must first be minimally satisfied before motivation can be taken to satisfy a higher level or need. According to Maslow, the lowest level of unsatisfied needs are the most powerful need which must first be attained before going to another higher level. However, empirical evidence to these theories remains to be provided especially within the African context.

2.2 Motivational determinants

It has been clearly noted that health care workers' motivation, satisfaction and performance are closely related to one another: as motivated health workers are more likely to be satisfied with their work in general and thus perform tasks much better than dissatisfied health workers (Herzberg, 1945; Dieleman, 2003; and Franco et al, 2004). Bennett and Franco (1999) relate health workers' motivation to perform with an internal process which needs certain stimulus from the external work environment such as: rewards, feedback (both positive and negative), directives and consequences of previous efforts or actions. These external stimuli/factors are thought to combine with internal stimuli/factors such as personal needs and self concept and hence reveal the willingness of one to apply personal resources to perform a specific work conduct (Bennett and Franco, 1999).

The process of motivation is complex and involves many disciplines such as: Psychology, Economics, Sociology and Human Resource Management. Operating at an individual level,

motivation is thought to be composed of two parallel components. First, the extent to which health care workers adapt to the organizational goals and second, the extent to which health care workers are able to mobilize personal resources to achieve joint goals (Kanfer, 1999).

Having drawn from theories of various disciplines, Franco (2002) presents a model has several determinant levels with various factors that affect workers willingness and ability to perform tasks well. These levels include: the individual, organizational and systems, socio-cultural environment and health sector reform level (Bennett and Franco, 1999; Franco et al, 2002). However, the focus in this study is made on the first three levels, that is, the individual, organizational and socio-cultural level.

2.2.1 Individual level

At the individual level, factors like the individuals background/demographic characteristics, self-concept, beliefs, values, norms and expectations in the different outcomes in the job like: salary, career development and promotion are thought to influence the individuals' technical and intellectual capacity to perform tasks well; as well as the choice to join and continue to stay in the particular job (Bennett and Franco, 1999; Franco et al, 2002). This level also influences the individual's willingness to go to work on regular bases and carry out the necessary tasks at the workplace. Furthermore, Tawfik and Kanoti (2003), suggest that intrinsic factors within individual worker may play an important role in motivating workers' performance. This may occur for example, when the health worker feels a sense of responsibility for his/her patient, family and community through simply feedback indicators such as: recognition or appreciation and respect from management, colleagues, patients or the community at large (Tawfik and Kanoti, 2003).

2.2.2 Organizational and System level

At the organizational and system level, factors such as the organizational culture, structure and processes jointly influence workers' motivation to perform. Furthermore, the general work environment with both financial and non-financial incentives such as: allowances, salary, availability of drugs and equipments, feedback from supervisors, supervision procedures, promotion, reward system, recognition/appreciation, fairness assessment, training and performance development, leadership, participation mechanisms and the intra- organization communication processes may directly/indirectly contribute to the individuals' level of commitment and motivation to perform at the facility level (Mathauer and Imhoff, 2006; Bennett and Franco, 1999). For example, Marquez and Kean (2002) noted that the lack in some organizational factors such as supportive supervision and feedback from the management led to health workers' failure to align their personal goals well with those of the organization.

2.2.3 Socio-cultural level

Nonetheless, the socio-cultural level may seem a little distal to the other two levels mentioned above, however, recognition or appreciation from patients and community members may also influence the individuals' level of motivation to perform required tasks well. Likewise, poor service from health workers may affect community members and patients' trust in the health workers which results to negative feedback on health workers performance which may lower their motivation to perform (Bennett and Franco, 1999). However, these three motivational determinant levels mentioned above may overlap with one another at some point.

2.3 Health workers' motivation globally

Health workers' motivation has recently been a number one agenda at the national, regional and global levels. At the First Global Conference on HRH held in Kampala Uganda in 2008, participants from different nations declared that both financial and non-financial incentive measures were important factors towards influencing health workers' motivation, ability and willingness to act productively and efficiently so as to remain in their job (Global HRH Forum, 2008). While both financial and non-financial incentive measures are important to synergistically motivate health care providers, recent developments in policy and practice of managing health care providers have overemphasized the importance of financial incentives and underplay the non-financial incentives in motivating health workers (Mathauer and Imhoff, 2006).

A study done in Georgia on HRH challenges of public health system reforms found that health workers in the public sector where poorly motivated to the extent of wanting to leave their job due to organizational factors such as low salary, poor management and poor investment in efficient human resources infrastructure (Djibuti et al, 2008). Another study done among nurses in the United States of America was found to support Herzberg's theory on the notion that primary motivators such as job satisfaction and recognition (non-financial incentive) tend to be internal (intrinsic) factors which are concerned with quality of working life and are much more likely to have a deeper and longer effect from the external (extrinsic factors) such as pay (financial incentives). More than 50% of the nurses were reported to be morally committed to their job due to non-financial organizational incentives compared to the 12% who were committed due to material benefits (Bennett and Franco, 1999).

In another study in Cambodia, public salary was found to be a minor component of health workers' motivation, whereby 80% of the interviewed public health care providers reported to have looked for extra income at private clinics due to low salary, but would not leave the public sector due to various reasons such as: developing a strong professional reputation, job security, training opportunity and career progress (Henderson and Tulloch, 2008).

A study done in Zimbabwe however, revealed that, despite the provision of conditions such as job security reassurance, additional or further training and advancement opportunity, supervision and recognition and the work itself, were not enough to provide health workers with motivation to perform as long as remuneration was low. However, Zimbabweans were thought to have focused more on money rather than other issues due to the high inflation and dependency rate at that time (Mutizwa-Mangiza, 1998).

2.4 Health workers' motivation in Tanzania

In Tanzania, a study conducted at Muhimbili National Hospital (MNH) found that there was reduced health care providers' morale to perform whereby about fifty percent (50%) of the doctors and nurses interviewed were not satisfied with the tasks they performed due to various factors. Among the factors contributing to low health workers' motivation included three prominent themes which were: low salary, heavy workload and lack of working gears. (Leshabari, 2008) These findings were also found to be consistent with another study, which shows a decline in health care providers' morale in both public and private health facilities (Manzi, 2004).

Another study was done by Manongi et al (2006), on motivation in relation to job satisfaction and frustration among health care providers in PHCF's in Kilimanjaro Region. In this study several themes were reported to have led to low health workers' motivation. These themes included: lack of staff training, under staffing, lack of supportive supervision, feedback, recognition/appreciation, promotion and the poor referral system. Financial incentives were important but not as highly valued as supportive supervision, performance appraisal, career development and transparent promotion procedures towards motivating health care providers perform well and improve services delivery in PHCF (Manongi et al, 2006).

The two studies reveal how health care providers at different health facility levels responded differently to financial and non-financial incentive measures. This indicates the complexity in understanding the whole process of health workers' motivation. Another extensive review on

non-financial incentives and retention, found that non-financial incentives similar to financial incentives also required money to retain and motivate health care providers (Munga, 2008).

CHAPTER THREE

3.0 Methodology

3.1 Study area

The study was conducted in Dar es Salaam, Tanzania from March to April 2009. Dar es Salaam, the largest city in Tanzania, has a total population of about 3,016,302 and three administrative municipalities namely; Ilala (population of 754,758), Temeke (population of 861,544) and Kinondoni (population of 1,400,000) (DSM Vital Statistics, 2007). Dar es Salaam Region was selected because it has a total of 390 health facilities both public and private during the study period (the highest number of health care facilities compared to other regions in Tanzania) (MoHSW-PHSDP, 2008). The city has a total of 80 public PHCF's in which 75 are dispensaries and 5 health centers. Distributions of these health facilities per municipality are as follows: Temeke: 27 dispensaries and 1 health center, Ilala: 17 dispensaries and 2 health centers, and Kinondoni: 31 dispensaries and 2 health centers. PHCF's are easily accessible to the population as they extend to all wards and serve even the marginalized poor. Additionally, the city has three municipal hospitals, a National hospital and 23 other private hospitals where the city dwellers can also access health care services. Dar es Salaam also has the highest number of health care workers per capita compared to other regions in Tanzania of which 74% of the available health workers are working in the public health sector (MoHSW-HRHSP, 2007). The total number of health workers estimated to be working in Dar es Salaam is 2,715 distributed in the three municipalities as follows: 917 in Ilala, 1,164 in Kinondoni and 634 in Temeke (DSM Vital Statistics, 2007).



Figure 2 Map of Dar es Salaam and the three municipalities

Source: Adapted from (http://maps.google.com/maps)

3.2 Study Design

The study design used was cross-sectional, covering the three municipalities in Dar es Salaam Region, Tanzania.

3.3 Study population

The study population constituted of health care providers of different cadres working in public PHCF's in Dar es Salaam. These cadres included four main groups namely: Clinicians, Nurseing Staff, Clinical supporting staff and supporting staff. Clinicians included: assistant medical officers, clinical officers, assistant clinical officers and dental therapists. Nurse Staff

included: nurse officers, nurse midwives, public health nurses and maternal and child health aides (MCHA). Clinical supportive staff included: nutritionists, physiotherapists, optometrists and staff from laboratory, pharmacy, X-ray and medical records department. And finally, the supportive staff included: medical attendants, secretaries, receptionists, drivers and watchmen.

3.4 Sample size and sampling technique

The sample size was calculated by using the formula by Corlien M, (2003):

$$n = \frac{Z^2 P (1-P)}{E^2}$$

Where: n = the required minimum sample size

Z = is the standard normal deviation corresponding to 95% confidence interval = 1.96

P = estimated proportion of the health workers who were not satisfied with their task performance is 50%. This figure is obtained from a study conducted by Leshabari at Muhimbili National Hospital (MNH), on Motivation of Health care workers in Tanzania. (Leshabari, 2008)

E = is the margin of error estimated to be 5%.

Hence:

$$n = \frac{1.96^2 * 0.5 (1-0.5)}{0.05^2}$$

Therefore sample size (n) = 385 health care workers

According to the Tanzania's Staffing Level Requirement (1999), the approximated number of health workers in an urban health center is 20 or 22 while those required in a dispensary is 6 or 10 health workers.

All five public health centers (which were the only registered public health centers during the study period) were purposively included that is, 2 from Ilala, 2 from Kinondoni and 1 from Temeke municipalities while dispensaries were selected by using a simple random sampling technique.

From the assumption that 20 health workers would be found in each of the 5 health center i.e. 100 health workers were recruited from the health centers. The remaining 285 health workers were obtained from dispensaries on the assumption that 6 health workers were to be found in each dispensary. Therefore; 285/6 = 48 dispensaries. However, only 33 dispensaries were selected due to financial and time constraints.

A list of all active public dispensaries as recorded by the municipal authorities was used as a sampling frame. Each dispensary was assigned a single number. The selection procedure was done by picking a number at a time from a small box. Selected dispensaries (as proportional to each municipal) were: 9 from Ilala, 11 from Temeke and 13 from Kinondoni making a total of 33 dispensaries. The picking procedure was done by one of the research assistants, while labeling and assigning block numbers to each dispensary was done by the principal investigator. Only health workers who were available and willing to participate (from the selected health facilities) were recruited. At the end of the study only 326 health workers were interviewed against the initially planned 385 health workers.

3.4.1 Eligibility criteria:

a) Inclusion: Health care workers working in registered public PHCF's actively providing service in Dar es Salaam who were willing to participate in the study during the study period.

b) Exclusion: Health care workers not willing to participate as well as those who were not present during the study period e.g. those on vacation, sick, off duty and attending seminars/workshops.

3.5 Data collection plan

3.5.1 Research Tool

A semi structured questionnaire with both open and close ended questions (Appendix 1 and 2) was used to obtain information from health care workers. The information collected was on health workers' motivation to perform and the associated factors such as: satisfaction with the availability of both the physical and social work environment. Background characteristics such as: age, gender, marital status, educational level, professional cadre and the reason in choice of profession were inquired. Also, organizational and social factors such as financial and non-financial rewards, the general work environment i.e. resource availability, recognition/appreciation from colleagues and management, supervision (feedback), promotion procedure and information on the satisfaction with recognition/appreciation from patients and the community were inquired.

3.5.2 Training of research assistants

The Principal Investigator (PI) with the help of two other research assistants did the data collection which lasted for twenty days. A two days training was done in order to orient the research assistants with the research topic, background and study objectives. Further training on the use of the research tool was also done during the pilot study.

3.5.3 Pilot study

A pilot study was done in order to test the clarity of questions and study logistics. This also helped the research assistants to pre-test the interview guide in terms of understanding the wording of questions and estimate time required for interviews. The pilot study was carried out in Kijitonyama and Mwenge public dispensaries that were not included in the main study. A total of thirty respondents were interviewed during the pilot study.

3.5.4 Data collection process

Health workers were interviewed in a sequence that did not affect their daily duties. Those who had fewer tasks were first interviewed followed by those who were either changing duty or had accomplished their duties. All eligible participants were given verbal explanation on the study before being asked for written or verbal consent.

3.6 Study Variables

3.6.1 Dependent variable

1. Health workers' motivation to perform.

3.6.2 Independent variables

1. Background characteristics (age, sex, marital status, education level, professional group and reason of choice in profession).
2. General work environment (physical condition, resource availability and information flow).
3. Recognition/appreciation (from management, colleagues, clients and society).
4. Career development (seminars/workshops).
5. Financial rewards (salary and allowances).

3.7 Data management and analysis

During the whole field work process, data was daily cleaned and checked for quality. Open ended information from the semi-structured questionnaires was labeled and coded in relation to the conceptual framework theme before being double-entered by the use of EpiData software version 3.1. Data were then transferred to and analyzed by Stata software program Version 10.1.

LIBRARY

3.7.1 Measures used in analysis

Questions on motivation to perform and on satisfaction with various work related factors were ranked on a 4 - point response scale from lowest to highest score, that is, from 1 to 4. For the dependent variable (motivation to perform), 1= Very much de-motivated 2= De-motivated 3= Motivated and; 4= Very much motivated. Likewise, for the independent variables (the factors related to the satisfaction of various incentives) were categorized on a similar scale from lowest to highest whereby: 1= Very much dissatisfied 2= Dissatisfied 3= Satisfied and; 4= Very much satisfied. However, questions on satisfaction were further categorized into two main categories in the analysis process, that is, 0 and 1, whereby 0= Dissatisfied and 1= Satisfied. For the purpose of the regression analysis, dummy variables were used for independent variables with more than two categories while all binary categorical variables were coded as 0 and 1. Questions on the level of satisfaction of various factors, i.e. Qns. number 31, 34 and 35 were further scaled whereby each Qn was scaled against the total number of questions and the total number of possible responses i.e. from 1 to 4.

3.7.2 Statistical analysis

Frequency tables were first tabulated to assess for different proportions between the level of motivation to perform (the dependent variable) with various independent variables. The chi-square test was used to compute the significant levels for categorical variables. However, the difference among proportions was further assessed for significance by running a univariate coefficient regression test to determine the association between motivation to perform among

health workers and other independent variables taking into consideration the p – value at a significant level of 5% i.e. ($p \leq 0.05$).

The Ordinary Least Squares (OLS) univariate regression was used to compute for p –value in order to give an easy interpretation of the relationship in motivation to perform among the different groups in the independent variables. The OLS regression model was used to study the relationship between the dependent variable (motivation to perform) and the independent variables (health workers background characteristics, financial and non-financial incentives).

A multivariate OLS regression analysis was further performed in the analysis process to assess for association between the dependent variable with various independent variables. Variables which were found to be significantly associated to motivation in the univariate analysis and other factors noted to be associated to health workers motivation from literature were all put in the multivariate analysis model.

3.8 Ethical considerations

Ethical approval was obtained from Muhimbili University of Health and Allied Sciences (MUHAS) Research and Publication Committee. Permission to conduct the study was attained from the District Medical Officers (DMOs) of Ilala, Temeke and Kinondoni respectively. Participants were assured anonymity throughout the study period whereby the information provided by them was only going to be used for the intended research purposes. In addition, respondents were assured that no name would appear on the questionnaire and that only the identification number would be used instead. Confidentiality was maintained throughout the whole study process.

CHAPTER FOUR

4.0 Results

4.1 Overview

This study examined factors associated with motivation among health care workers in public primary health care facilities in Dar es Salaam. The findings indicate that health workers at the public primary health care facilities are highly motivated to perform tasks well. Moreover, the results suggest that financial incentive such as salary and allowance are not the only important factors that influence motivation to perform, but also non-financial incentives at individual, organizational and socio-cultural levels related to the physical and social work environment such as recognition/appreciation and reward system also play an important role.

For purpose of clarity on the response of motivation to perform in the results section, positively motivated refers to very much motivated and (fairly) motivated, while negatively motivated refers to very much de-motivated and (averagely) de-motivated.

4.2 Background characteristics of study population

Data in Table 1 illustrates background characteristics of the study sample. Out of the total 326 respondents involved in the study, 83.7% were females and 16.3% males. The mean age of all respondents was 42 years (20 to 60 years). Fewer respondents 11.0% had attained secondary education (equivalent to twelve years of education with an additional certificate course) while the remaining 31.0% had diploma/degrees education and 58.0% had primary education (equivalent to seven years of education with an additional certificate course). Out of all interviewed staff, 77.0% were either married or cohabiting. The nursing staff constituted 45% of the interviewed health professional groups. The rest were clinicians (22.0%), clinical supporting staff (8.5%) and other supporting staff (24.5%). Most respondents (86.8%) joined the health profession as calling to serve people.

The respondents were drawn from different municipalities as follows: 32.3% from Ilala, 25.0% from Temeke and 42.7% from Kinondoni. Considering the health facility levels where the respondents were recruited, the majority (66.2%) were from the dispensary level and the rest (33.8%) were from the health center level. The average salary level among the respondents was 238,913 Tshs (approximately $200) ranging from (65,000 Tshs to 600,000 Tshs).

Table 1. Background characteristics of study population

	Total 326 = n (%)
Sex	
Male	53(16.3)
Female	273(83.7)
Age (years)	42(20 to 60)*
Marital status	
Single	32(10.0)
Married/Cohabiting	250(77.0)
Separated/divorced, &widow/er	44(13.0)
Education level	
Primary education	190(58.0)
Secondary education	35(11.0)
Diploma/Degree education	101(31.0)
Professional category	
Clinician	72(22.0)
Nursing staff	147(45.0)
Clinical supporting staff	28(8.5)
Supporting staff	79(24.5)
Reason to join the profession	
Had a call to serve people	283(86.8)
Lack of other opportunity to study	13(4.0)
Influenced by relative /friend	11(3.4)
To get money	7(2.1)
For job security	12(3.7)
Salary (Tshs)	238,913 (65,000 to 600,000)*
Type of health facility	
Dispensary	217(66.2)
Health center	111(33.8)
District	
Ilala	106(32.3)
Kinondoni	140(42.7)
Temeke	82(25.0)

*Data are provided as mean (range) for Age and Salary

4.3 Health care workers' motivation to perform

Figure 3 shows that 37.4% of the total respondents were very much motivated and 34.4% were moderately or fairly motivated. Generally, this is 71.8% of the total respondents who were positively motivated to perform tasks well. On the other hand, 13.2% of all the respondents were very much de-motivated and 15.0% were de-motivated, which makes 28.2% of the total respondents who were negatively motivated to perform task well. The reasons for the level of motivation are detailed in the subsequent section.

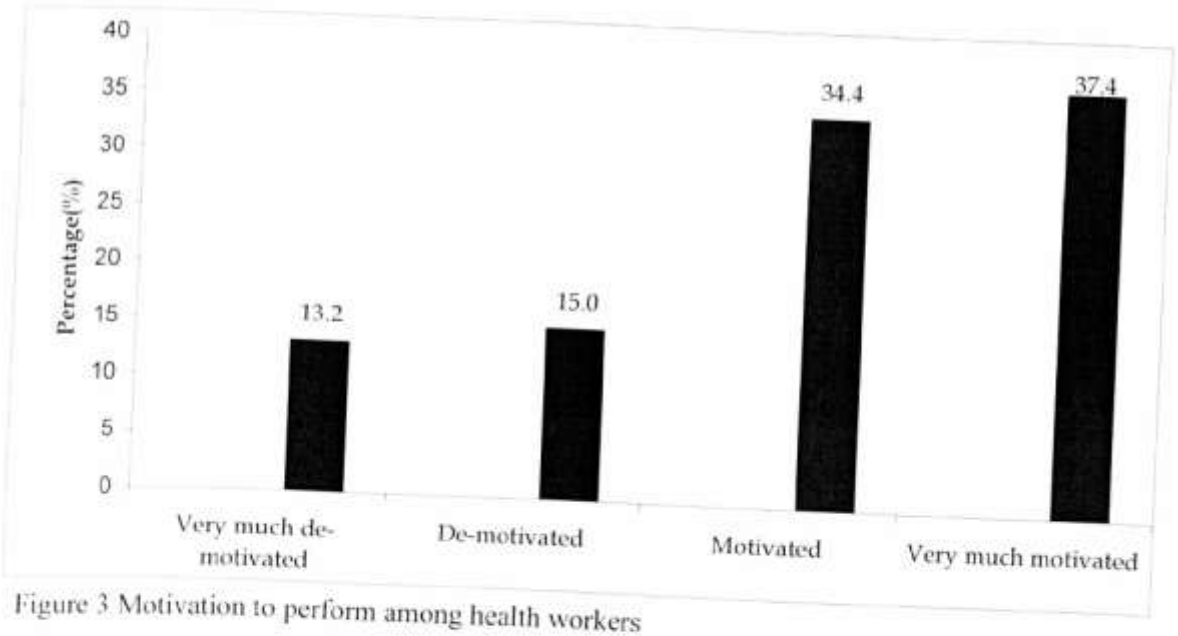


Figure 3 Motivation to perform among health workers

The reasons for the different levels of motivation among health workers are detailed in the subsequent section.

4.4 Health care workers' satisfaction with work environment

Respondents were asked about their satisfaction with various work related conditions which included: the physical work environment and availability of working equipments, the social work environment as well as the socio-cultural environment. In general, the majority of the respondents were satisfied with nearly all of the working conditions and only a few were dissatisfied with some of the working conditions. (Table 2) However, the majority of the respondents 79% were dissatisfied with promotion procedures, while 55% were dissatisfied with recognition/appreciation from employer. Moreover, 51% of the total respondents were dissatisfied with the availability of running water in their facilities.

Table 2 Satisfaction with work environment

	Total = n	Satisfied (%)
Physical work environment		
Availability of drugs supply	324	86
Availability of electricity	326	83
Quality of working gears	326	68
Availability of working gears	326	66
Satisfaction with safe work environment	326	60
Satisfaction with Facility building	326	54
Availability of working space (privacy with patients)	324	54
Availability of running water	326	49
Social work environment		
Satisfaction with information flow among colleagues	326	97
Satisfaction with recognition/appreciation from colleagues	326	92
Satisfaction with supportive supervision	322	81
Satisfaction with information flow among management	326	81
Satisfaction with participation in decision-making meetings	326	79
Satisfaction with feedback from supervisors	323	74
Satisfaction with recognition/appreciation from immediate supervisor	323	74
Satisfaction with fairness in performance assessment	321	71
Satisfaction with recognition/appreciation from employer	315	45
Satisfaction with fairness in promotion procedures	312	21
Socio-cultural environment		
Satisfaction with recognition/appreciation from patients	321	93
Satisfaction with recognition/appreciation from community members	318	92

The level of health workers' satisfaction with the work environment was further scaled. Table 3. On average most health workers were moderately satisfied with the work environment. 61.2% were moderately satisfied with the physical work environment, 62.5% with the social work environment and 47.2% with recognition/appreciation.

Table 3 Health workers' level of satisfaction with the work environment

Work Environment	Total n (%)	Satisfaction levels			
		Very Dissatisfying	Moderately Dissatisfying	Moderately Satisfied	Very Satisfied
Physical work environment (Qn 31)	325	1(0.3)	104(32.1)	200(61.2)	20(6.4)
Social work environment (Qn 34)	325	4(1.2)	80(24.6)	203(62.5)	38(11.7)
Recognition/appreciation(Qn 35)*	320	6(1.9)	22(6.9)	151(47.2)	141(44.1)

*Do not add up to 325 due to the fact that some respondents did not wish to disclose information.

4.5 Individual level determinants

There is a common understanding that the level of education a person attains influences their motivation to perform. Education is often associated with a sense of achievement of skills and competence to perform which may indirectly influence health workers' performance of a particular task (Mathauer and Imhoff, 2006). The higher the education level one attains, the more likely they are to be confident and thus motivated to perform tasks well compared to one with a much lower or middle level education.

Difference in age group has also been associated with workers' motivation to perform. A study done on workers' motivation revealed that workers of the younger age group were less likely to be motivated to perform than those of the older age group. Income and promotion opportunities were found to be of greater importance among the younger age groups (Warr, 1992). However, findings from this study are slightly different from Mathauer and Imhoff's (2006) finding on education level but tend to concur with Warr's (1992) observation on age group.

Data in Table 4 show a statistical significance between motivation to perform and secondary education ($p = 0.03$). Those who had attained secondary education were on average very much motivated compared to those who had diploma/degree education by (0.42). Moreover, those who had joined the health profession due to the fact that they had a call to serve were on average more motivated to perform compared to those who joined the profession so as to earn money by (0.59). However, the association between motivation to perform and reason of choice in profession was not statistically significant ($p = 0.12$).

Data in Table 4 also show that respondents of the younger age group were less motivated to perform tasks well than to those in the age group of 50 and above by (0.21). Though the association of motivation to perform and age group was not statistically significant ($p = 0.33$), this finding is a bit surprising due to the common understanding that the younger age group tends to be new in the job and/or fresh from school thus eager to practice their skill, while the older age groups tend to be more experienced and used to the job (Kolstad, 2008).

Table 4 Motivation to perform categorized by background characteristics of the study population.

Background characteristics	Total n (%)	Motivation to perform					
		Very much De-motivation	De-motivation	Motivated	Very much motivated	Coef(95%CI)	p-value*
Sex							
Male	53	9(17.1)	7(13.2)	18(33.9)	19(35.8)	Reference	
Female	273	32(11.7)	43(15.7)	95(35.1)	103(38.0)	0.10(-0.19;0.40)	0.50
Age (years)							
20-29	30	4(13.4)	6(20.0)	12(40.0)	8(26.6)	-0.21(-0.64;0.22)	0.33
30-39	97	12(12.4)	13(13.4)	35(36.1)	37(38.1)	-0.01(-0.32;0.29)	0.93
40-49	126	16(12.7)	20(15.8)	42(33.3)	48(38.2)	-0.04(-0.34;0.24)	0.76
50 and above	73	9(12.3)	10(13.7)	25(34.3)	29(39.7)	Reference	
Marital status							
Single	32	4(12.5)	5(15.6)	13(40.6)	10(31.3)	0.01(-0.44;0.48)	0.93
Married/Cohabiting	250	32(12.8)	36(14.4)	83(33.2)	99(39.6)	0.10(-0.21;0.43)	0.51
Separated/divorced or Widow/er	44	5(11.5)	8(18.1)	18(40.9)	13(29.5)	Reference	
Education level							
Primary education	190	21(11.1)	30(15.8)	68(35.7)	71(37.4)	0.16(-0.08;0.40)	0.19
Secondary education	35	5(14.3)	1(2.8)	9(25.7)	20(57.2)	0.42(0.03;0.81)	0.03
Diploma/Degree	101	15(14.8)	18(17.8)	37(36.7)	31(30.7)	Reference	
Professional category							
Clinician	72	8(11.2)	13(18.1)	28(38.8)	23(31.9)	Reference	
Nursing staff	147	20(13.6)	21(14.4)	52(35.3)	54(36.7)	0.03(-0.25;0.32)	0.81
Clinical Support staff	28	4(14.3)	6(21.5)	9(32.1)	9(32.1)	-0.09(-0.54;0.34)	0.67
Supporting staff	79	9(11.4)	9(11.4)	25(31.6)	36(45.6)	0.19(-0.12;0.52)	0.23
Choice of profession							
Had a calling to serve	283	34(12.1)	37(13.1)	99(34.9)	113(39.9)	0.59(-0.15;1.35)	0.12
Lack of opportunity	13	2(15.3)	5(38.5)	4(30.8)	2(15.4)	0.03(-0.89;0.96)	0.94
Influenced by another	11	1(9.1)	1(9.1)	7(63.6)	2(18.2)	0.48(-0.47;1.43)	0.32
To get money	7	1(14.3)	3(42.8)	2(28.6)	1(14.3)	Reference	
For job security	12	3(25.0)	3(25.0)	2(16.7)	4(33.3)	0.15(-0.78;1.09)	0.78
All-n (%)	326	41(13.2)	49(15.0)	114(34.4)	122(37.4)		

*value of univariate regression

4.6 Organizational level determinants (non-financial incentives)

4.6.1 The physical work environment

Data in Table 4 refers to the general physical work environment and non-financial incentives. There was a negative and statistically significant association between motivation to perform and satisfaction with availability of electricity ($p = 0.03$). Those who were satisfied with the availability of electricity were less motivated to perform than those who were dissatisfied with the availability of electricity by (0.32). However, there was no association between motivation to perform and satisfaction with availability of working gears, drugs, facility building and; safe and supportive work environment. The results here are a bit surprising because working gears, drugs, facility building, safe and supportive work environment were thought to be very important and highly required to enable and motivate one to perform tasks well.

Table 5. Motivation to perform categorized by the general physical work environment

		Motivation to perform					
General physical work environment	Total n (%)	Very much De-motivation	De-motivation	Motivated	Very much motivated	Coef (95% CI)	p-value*
Availability of working gears							
Dissatisfied	108	7(6.5)	22(20.4)	40(37.0)	39(36.1)	Reference	
Satisfied	218	34(15.6)	27(12.4)	74(33.9)	83(38.1)	-0.08(-0.31;0.15	0.48
Quality of working gears							
Dissatisfied	101	11(10.9)	20(19.8)	36(35.7)	34(33.6)	Reference	
Satisfied	225	30(13.3)	29(12.9)	78(34.7)	88(39.1)	0.07(-0.16;0.31)	0.53
Availability of running water							
Dissatisfied	165	19(11.5)	23(13.9)	63(38.2)	60(36.4)	Reference	
Satisfied	161	22(13.7)	26(16.1)	51(31.7)	62(38.5)	-0.04(-0.26;0.17)	0.69
Availability of electricity							
Dissatisfied	54	4(7.4)	6(11.1)	17(31.5)	27(50.0)	Reference	
Satisfied	272	37(13.6)	43(15.8)	97(35.7)	95(34.9)	-0.32(-0.61;-0.02)	0.03
Availability of working space*							
Dissatisfied	149	13(8.7)	29(19.5)	49(32.9)	58(38.9)	Reference	
Satisfied	174	28(16.1)	18(10.3)	64(36.8)	64(36.8)	-0.07(-0.30;0.14)	0.49
Satisfaction with facility building							
Dissatisfied	148	14(9.5)	23(15.5)	49(33.1)	62(41.9)	Reference	
Satisfied	178	27(15.2)	26(14.6)	65(36.5)	60(33.7)	-0.18(-0.40;0.03)	0.09
Satisfaction with safe & supportive work environment							
Dissatisfied	129	15(11.6)	21(16.3)	39(30.2)	54(41.9)	Reference	
Satisfied	197	26(13.1)	28(14.1)	75(38.4)	68(34.4)	-0.08(-0.31;0.14)	0.46
Availability of Drugs**							
Dissatisfied	42	7(16.7)	10(23.8)	10(23.8)	15(35.7)	Reference	
Satisfied	281	34(12.0)	39(13.8)	102(36.6)	106(37.6)	0.21(-0.12;0.54)	0.21
Total – n (%)	326	41(13.2)	49(15.0)	114(34.4)	122(37.4)		

* – value of univariate regression

** Do not add up to 326 due to the fact that 4 respondents did not wish to disclose information.

4.6.2 The social work environment

Many factors were seen to influence respondent's motivation to perform with respect to the social work environment (Table 5). There was a positive and statistical significant association between motivation to perform and satisfaction with fairness in performance assessment ($p = 0.001$), feedback from supervisor ($p = 0.04$) and supportive supervision ($p = 0.05$). Motivation to perform was higher among those who were satisfied with fairness in performance assessment by (0.42), feedback from supervisors by (0.26) and supportive supervision by (0.27) compared to those who were dissatisfied with fairness in performance assessment, feedback from supervisor and supportive supervision respectively. However, there was no significant association between motivation and satisfaction with fairness in promotion procedures.

Data in Table 5 also show a statistical association between motivation to perform and satisfaction with information flow from management to workers ($p = 0.006$). Those who were satisfied with information flow from management to workers were much more motivated to perform than those who were dissatisfied with information flow from management to workers by (0.40). Interestingly, there was no association between motivation to perform and satisfaction with information flow among colleagues themselves.

Moreover, it was also noted (Table 5) that a statistically significant difference existed between motivation to perform and satisfaction with recognition/appreciation from immediate supervisor ($p = 0.05$), as those who were satisfied with recognition/appreciation from their immediate supervisor were much more motivation to perform than those who were dissatisfied with recognition/appreciation from their immediate supervisor by (0.24). However, there was no association between motivation to perform and satisfaction with recognition/appreciation among colleagues themselves.

Though there was a marginal association between motivation to perform and opportunity to attend seminars/workshops ($p = 0.06$), it was worthwhile reporting this finding because motivation to perform is often associated with knowledge gained from seminars/workshops (as well as allowances obtained by attending). Those who had the opportunity to attend seminars/workshops were much more motivated to perform than those who did not get the opportunity to attend by (0.25). (Table 5)

: 6. Motivation to perform categorized by the social work environment

		Motivation to perform					
l work environment	Total n (%)	Very much De-motivation	De-motivation	Motivated	Very much motivated	Coef (95% CI)	P-value*
ortive supervision rnal)**							
atisfied	60	8(13.3)	16(26.7)	19(31.7)	17(28.3)	Reference	
fied	261	32(12.2)	33(12.6)	92(35.3)	104(39.9)	0.27(-0.01;0.56)	0.05
ack from supervisor**							
atisfied	82	12(14.6)	19(23.2)	26(31.7)	25(30.5)	Reference	
fied	240	28(11.7)	30(12.5)	85(35.4)	97(40.4)	0.26(0.01;0.51)	0.04
ss in performance ment**							
atisfied	93	18(19.3)	20(21.5)	29(31.2)	26(28.0)	Reference	
fied	227	23(10.1)	25(11.1)	85(37.4)	94(41.4)	0.42(0.18;0.66)	0.001
ss in promotion lures**							
atisfied	243	29(12.0)	38(15.6)	88(36.2)	88(36.2)	Reference	
fied	68	12(17.7)	7(10.3)	20(29.4)	29(42.6)	0.003(-0.27;0.28)	0.98
pation in meetings with ement**							
atisfied	66	9(13.7)	15(22.7)	20(30.3)	22(33.3)	Reference	
fied	259	32(12.36)	34(13.13)	93(35.91)	100(38.60)	0.17(-0.10;0.44)	0.21
ation flow from ement to workers							
tisfied	59	10(17.0)	15(25.4)	20(33.9)	14(23.7)	Reference	
fied	267	31(11.6)	34(12.7)	94(35.2)	108(40.5)	0.40(0.11;0.68)	0.006
ation flow among ues							
tisfied	7	1(14.3)	0(0.0)	4(57.1)	2(28.6)	Reference	
fied	319	40(12.5)	49(15.4)	110(34.5)	120(37.6)	-0.02(-0.79;0.73)	0.94
ver(recognition ciation)**							
isfied	172	22(12.8)	27(15.7)	69(40.1)	54(31.4)	Reference	
fied	142	14(9.9)	20(14.1)	44(31.0)	64(45.0)	0.21(-0.01;0.43)	0.06
iate supervisor tion & appreciation)**							
isfied	82	12(14.6)	17(20.7)	28(34.2)	25(30.5)	Reference	
ed	240	26(10.8)	32(13.3)	86(35.8)	96(40.1)	0.24(-0.01;0.49)	0.05
ue (recognition & tion)**							
isfied	25	4(16.0)	3(12.0)	11(44.0)	7(28.0)	Reference	
ed	300	36(12.1)	46(15.3)	103(34.3)	115(38.3)	0.15(-0.26;0.56)	0.47
adership role** No	239	35(14.6)	28(11.7)	85(35.6)	91(38.1)	Reference	
Yes	86	6(7.0)	20(23.3)	29(33.7)	31(36.0)	0.01(-0.23;0.26)	0.89
d: Low	1	0(0.00)	1(100.0)	0(0.00)	0(0.00)	Reference	
Moderate	155	14(9.1)	17(11.0)	59(38.0)	65(41.9)	1.12(-0.85;3.11)	0.26
Heavy	170	27(15.9)	31(18.2)	55(32.4)	57(33.5)	0.83(-1.14;2.82)	0.40
given opportunity to minars/workshops? No	69	10(14.6)	15(21.7)	25(36.1)	19(27.6)	Reference	
Yes	257	31(12.1)	34(13.2)	89(34.6)	103(40.1)	0.25(-0.01;0.52)	0.06
) (%)	326	41(13.2)	49(15.0)	114(34.4)	122(37.4)		

lue of univariate regression

t add up to 326 due to the fact that some respondents did not wish to disclose information.

4.7 Organizational level determinants (financial incentives)

With regard to financial incentives at the organizational level (Table 6), there was a positive and statistically significant association between motivation to perform and reward system for tasks well done (p = 0.02). Those who were given rewards for tasks well done were much more motivated to perform tasks well than those who were not given any rewards by (0.26). Surprisingly, there was no significant statistical association found between motivation to perform and salary levels or allowances.

ble 7 Motivation to perform categorized by financial incentives

		Motivation to perform					
ancial Incentives	Total n (%)	Very much De-motivation	De-motivation	Motivated	Very much motivated	Coef(95% CI)	p-value*
ary level (Tshs)**							
ss than 200,000	23	1(4.4)	5(21.7)	12(52.2)	5(21.7)	0.01(-0.43;0.46)	0.95
1,000 - 400,000	107	11(10.3)	14(14.0)	41(38.3)	40(37.4)	0.12(-0.12;0.38)	0.31
1,000 and above	158	26(16.5)	22(13.9)	52(32.9)	58(36.7)	Reference	
you satisfied h your salary? **							
	289	38(13.2)	43(14.9)	103(35.6)	105(36.3)	Reference	
s	36	3(8.3)	6(16.7)	11(30.6)	16(44.4)	0.15(-0.19;0.51)	0.37
you given wances?							
	147	19(12.9)	23(15.7)	50(34.0)	55(37.4)	Reference	
s	179	22(12.3)	26(14.5)	64(35.8)	67(37.4)	0.02(-0.19;0.24)	0.83
you given ards for tasks l done?							
	178	27(15.2)	28(15.7)	67(37.6)	56(31.5)	Reference	
s	148	14(9.4)	21(14.2)	47(31.8)	66(44.6)	0.26(0.04;0.48)	0.02
l = n (%)	326	41(13.2)	49(15.0)	114(34.4)	122(37.4)		

Value of univariate regression

o not add up to 326 due to the fact that some respondents did not wish to disclose information.

4.8 Socio-cultural level determinants

Data in Table 7 show results with respect to the socio-cultural level determinants. There was a significant association between motivation to perform and satisfaction with recognition/appreciation from the community members (p = 0.01). Those who were satisfied with recognition/appreciation from the community members were more positively motivated than those who were dissatisfied with recognition/appreciation from the community by (0.50). However, there was no association found between motivation to perform and recognition/appreciation from patients.

ble 8 Motivation to perform categorized by socio- cultural determinants

cio- cultural lerminates	Total n (%)	Motivation to perform: Very much De-motivation	De-motivation	Motivated	Very much motivated	Coef (95% CI)	p-value*
cognition/appreciation m Patient**							
ssatisfied	21	3(14.2)	3(14.2)	9(43.0)	6(28.6)	Reference	
isfied	299	37(12.3)	44(14.7)	103(34.5)	115(38.5)	0.13(-0.31;0.58)	0.56
cognition/appreciation m Community**							
ssatisfied	25	8(32.0)	3(12.0)	7(28.0)	7(28.0)	Reference	
isfied	292	31(10.6)	44(15.1)	104(35.6)	113(38.7)	0.50(0.09;0.91)	0.01
al – n (%)	326	41(13.2)	49(15.0)	114(34.4)	122(37.4)		

– value of univariate regression

)o not add up to 326 due to the fact that some respondents did not wish to disclose information.

4.9 Multivariate regression analysis

An OLS multivariate regression model was used to control for omitted variables (as common in univariate regression) and assess for the association between motivation to perform and independent variables. Data showed that there was a statistically significant difference in the univariate analysis and those commonly explained in literature to influence motivation to perform at the different levels i.e. individual, organizational, and socio-cultural level. However, only a few variables which appeared to be statistically significant at the univariate analysis e.g. being given rewards for tasks well done, satisfaction of fairness in performance assessment and recognition/appreciation from community members remained to be statistically significant with the multivariate analysis. Variables such as age group, education level, feedback from supervision, supportive supervision and information flow from management to staff were seen to be marginally significant, that is, p-value greater than 0.05 and less or equal to 0.10 i.e. ($p > 0.05 \leq 0.10$), while variables such as satisfaction with availability of electricity, recognition/appreciation from immediate supervisor and attendance of seminars/workshops were no longer statistically significant.

With respect to the individual level determinants, age group and education level appeared to be marginally significant ($p = 0.10$) (Table 8). Respondents in the younger age group were less motivated to perform than those in the age group above 50 years by (0.14) ($p = 0.07$). Respondents with secondary education were much more motivated to perform than those with diploma/degree by (0.11).

At the organizational level (Table 8), motivation to perform was found to be statistically significant with satisfaction in fairness in performance assessment ($p = 0.01$) whereby motivation to perform was high among respondents who were satisfied with fairness in performance assessment by (0.38). Likewise, motivation to perform was found to be statistically significant with the availability of a reward system ($p = 0.05$) whereby, motivation to perform was high among those respondents who were given rewards for tasks well done by (0.23). With respect to the socio-cultural level, motivation to perform was statistically found to be significantly associated with satisfaction of recognition/appreciation from the community members ($p = 0.01$). Those who were satisfied with recognition/appreciation from the community were highly motivated to perform by (0. 63).

Table 9 Multivariate regression analysis

Independent Variable	Coeif (95%CI)	p-value
Individual level		
Age group		
20-29	-0.14(-0.32;0.02)	0.07**
30-39	0.01(-0.11;0.13)	0.80
40-49	-0.02(-0.13;0.08)	0.73
50 and above	Reference	
Salary (Tshs)		
Less than 200,000	0.05(-0.12;0.23)	0.46
201,000- 400,000	-0.01(-0.11;0.07)	0.80
401,000 and above	Reference	
Education level		
Primary education	-0.009(-0.11;0.09)	0.98
Secondary education	0.11(-0.03;0.26)	0.10**
Diploma/Degree	Reference	
Organizational level		
Allowance (availability)	-0.04(-0.13;0.04)	0.33
Seminar (availability)	0.04(-0.28;0.38)	0.77
Rewards (availability)	0.23(-0.04;0.52)	0.05*
Working gear (satisfaction with availability)	-0.04(-0.35;0.27)	0.79
Quality of working gear (satisfaction with availability)	-0.10(-0.42;0.21)	0.53
Running water (satisfaction with availability)	-0.06(-0.33;0.20)	0.63
Electricity (satisfaction with availability)	-0.16(-0.50;0.16)	0.33
Working space (satisfaction with availability)	-0.039-0.30;0.23)	0.81
Drugs (satisfaction with availability)	0.19(-0.18;0.56)	0.31
Facility building (satisfaction)	-0.23(-0.50;0.03)	0.41
Safe and supportive work environment (satisfaction)	-0.01(-0.30;0.27)	0.90
Supportive supervision (satisfaction)	0.30(-0.08;0.68)	0.10**
Feedback back from supervision (satisfaction)	-0.32(-0.71;0.07)	0.08**
Fairness in performance assessment (satisfaction)	0.38(0.08;0.69)	0.01*
Fairness in promotion procedure (satisfaction)	-0.22(-0.55;0.11)	0.19
Participation in decision-making meetings (satisfaction)	-0.03(-0.38;0.32)	0.84
Information flow from management to workers (satisfaction)	0.27(-0.07;0.61)	0.10**
Information flow among colleagues (satisfaction)	0.16(-0.68;1.01)	0.70
Satisfaction with recognition/appreciation from employer	0.14(-0.14;0.43)	0.33
Satisfaction with recognition/appreciation from supervisor	0.15(-0.18;0.49)	0.36
Satisfaction with recognition/appreciation from colleagues	-0.24(-0.80;0.49)	0.39
Socio-cultural level		
Satisfaction with recognition/appreciation from patients	-0.14(-0.70;0.41)	0.60
Satisfaction with recognition/appreciation from community	0.63(0.08;1.18)	0.01*

*Significant level at 5%
** Significant level at 10%

CHAPTER FIVE

5.0 Discussion

5.1 Overview

Factors associated with health care workers' motivation to perform were assessed at three main levels; the individual, organizational and socio-cultural level. In a situation with shortage of health workers, it is most likely to expect that the shortage would negatively affect the motivation to perform tasks well among existing health care workers, especially at the primary health care facilities which are the frontline of health care services in the community. Moreover, financial incentives are commonly thought to help improve workers' motivation to perform well, especially in low income countries such as Tanzania (Mathauer and Imhoff, 2006; Willis-Shattuck et al, 2008). However, findings from this study revealed otherwise.

Findings in this study have revealed that, health workers at public health care facilities in Dar es Salaam were motivated to perform tasks well, whereby the majority, that is, 71.8% of respondents were positively motivated. However, this finding maybe due to the fact that most of the health care workers were also satisfied with the availability of a good number of motivational determinants at the organizational and socio-cultural level. Moreover, motivation to perform tasks well relied on health workers response, thus they may have given a slightly over rated assessment as a way of pleasing the investigators who might have been believed to be sent by government authorities.

5.2 Factors associated with health workers' motivation to perform

Findings from the study suggest that the factors associated with health workers' motivation to perform in public primary health care facility in Dar es Salaam were mainly; fairness in assessment of performance procedures, availability of reward system for tasks well done and recognition/appreciation from the community members at large. However, factors such as education level, age group, supportive supervision, feedback from supervisor and information

flow from management to workers were also seen to be important to influence health workers' motivation to perform.

With regard to the individual level determinants, motivation to perform was seen to be lower among the younger age group 20 to 29 years. Findings from a study done in Jordan revealed similar results whereby, staff less than 35 years of age had significantly lower motivational outcome than the older age groups. Reduced motivation to perform among the younger age group may be due to the higher expectations in which the younger age group have (as they join the job after completing their studies) which are not immediately met at the organizational level e.g. high salary or further opportunity for upgrading. Their personal goals and expectations are not in alignment with those of the organization (Franco et al, 2004).

Respondents with secondary school education were much more motivated to perform than those with primary or diploma/degree education. According to the governments' ongoing campaign for mandatory upgrading of civil servants from primary education to secondary education, health workers with primary education (who were the majority in this study) would need further upgrading to secondary education so as to meet the governments' regulation for better position and salary. This could have as well contributed to low motivation to perform among health workers who had attained only primary education. However, a study done by Manzi, revealed no clear difference in the levels of education training and motivation among health workers. (Manzi et al; 2004)

Assessment with the organizational level determinants revealed that health workers were highly motivated to perform tasks well with respect to fairness in assessment of performance procedures. These results were similar to those found in Benin, where health workers were found to highly value the social relations at the workplace such as transparency and fair assessment of performance procedures towards increasing their motivation to perform tasks well (Manzi et al; 2004).

The nature of reward system both financial and non-financial was also seen as an important factor towards increasing health workers' motivation to perform tasks well. The reward system being different from the normal salary or allowances, includes: verbal and/or written praises from management, material goods e.g. bicycle, cloth, building materials or money which was

sometimes given to health care workers on special occasions such as Labor Day "*Siku kuu ya wafanyakazi*" who showed outstanding performance in their duties. Health workers who were given such rewards were more likely to be motivated to perform than those who were not given any kind of reward for tasks well done. This finding is similar to those found in various studies (Mathauer and Imhoff, 2006; Tulloch and Henderson, 2008; and Franco et al, 2004).

With regard to the socio-cultural level, it has been noted from the present study that motivation is highly associated with recognition or appreciation from community members. Respondents who were satisfied with community recognition/appreciation to the work they did were motivated to perform tasks well. Similar findings were found in a study conducted in Kilimanjaro among health care workers at primary health care facilities, where health care workers' motivation to perform was positively associated with community recognition and/or appreciation rather than financial or material rewards (Manongi et al 2006).

5.3 Study Limitations

Findings from this study do not go without few limitations as follows:

The interview guide was in Swahili to enable study participants to easily understand the questions so as to give responses. Swahili might have made it difficult for the respondents to understand the meaning of some of the questions translated from English for example, the meaning of motivation to perform, even though efforts were made by the data collectors on explaining the questions to the respondents. Motivation is a psychological process which may be perceived differently by individuals on different circumstances.

The study was conducted in Dar es Salaam whereby participants were conveniently chosen on the premises of their presence at the time of the study and their willingness to participate hence the study results may not be generalized to other health workers in the same health facility or from other PHCF's in other regions.

Only 33 dispensaries were surveyed of the selected 48 dispensaries due to financial and time constraints.

Some responses may have been given by the respondents as a way of pleasing the investigators or showing a particular situation was undesirable if the respondent felt that by so doing they would pass on the message of their desire to the higher authorities concerned.

CHAPTER SIX

6.0 Conclusion and Recommendations

6.1 Conclusion

This study generally assessed the motivation to perform tasks well and associated factors among health care workers at public primary health care facilities in Dar es Salaam. The interaction between different levels of determinants, that is, the individual, organizational and socio-cultural level, were seen to have effects towards improving health workers' motivation to perform. Interventions towards improving health workers' motivation should therefore focus on factors within these three levels of determinants. Though financial rewards have been widely associated with health workers' motivation to perform, concern should also be taken to improve the non-financial rewards necessary, for the increase in salary or allowance alone does not always improve the quality of care or performance. Factors such as fairness in assessment procedures, recognition/appreciation from community members and a reward system at the workplace also need to be considered and addressed due to the important influence they have on health workers' motivation to perform.

6.2 Recommendations

Health care workers' motivation involves different factors between individual, organizational and socio-cultural levels. This study provides results on the factors associated with health workers' motivation to perform at public primary health care facilities in Dar es Salaam. From the findings, it is recommended that the following interventions be considered by different health stakeholders at the national level i.e. the Ministry of Health and Social Welfare (MoHSW) and Prime Minister's Office Regional Administration and Local Government (PMO-RALG) as well as at the local levels through health facility managers.

Specifically the following are recommended:-

At the National level

- There is a need for the MoHSW and PMO-RALG to formulate national guidelines for motivating the health workforce. Such guidelines should take into account sustainable factors towards attracting and retaining the health workforce to ensure better health service provision.

At the Council level

- Since public health facilities are under their respective council authorities, it is recommended that the Dar es Salaam City council in consultation with its municipal authorities i.e. Ilala, Kinondoni and Temeke municipalities, work out a more specific reward/incentive schemes for public health care facility workers in Dar es Salaam. This could be done by developing an incentive system which will award good work performance for tasks well done at the PHCF level. The recommended awards need not only be financial rewards or material goods, but also verbal appreciation, written letters of appreciations for example, a certificate of outstanding performance which could be given on Workers' Day (1st of May each year).

At the Health facility level

- Facility managers should consider establishing mechanisms for good relations with their respective communities through community awareness programs so as to get feedback from community members regarding what service is good and what service needs to be improved. Facility managers should also fairly assess health care workers performance whereby feedback should be given to workers after their assessment so as to have transparency in the evaluation of job performance at PHCF's.

Finally it is recommended that further research be conducted on health workers' motivation by comparing those in a) Public vis-à-vis private facilities; and b) Different staff cadres e.g. nurse vis-à-vis clinicians or supportive staff.

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