

**THE EFFECT OF WORKING ENVIRONMENT ON WORKERS
PERFORMANCE: THE CASE OF REPRODUCTIVE AND CHILD
HEALTH CARE PROVIDERS IN TARIME DISTRICT**

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By

Asigele Oswald

**A Dissertation Submitted in Partial Fulfilment of the Requirement for
the Degree of Master of Public Health of the Muhimbili University of
Health and Allied Sciences**

Muhimbili University of Health and Allied Sciences

November, 2012

CERTIFICATION

The undersigned certifies that he has read and hereby recommends this dissertation for acceptance by the Muhimbili University of Health and Allied Sciences, a dissertation entitled *The Effect of Working Environment on Workers Performance: The case of Reproductive and Child Health care providers in Tarime district*, presented in partial fulfilment of the requirement for the degree of Master of Public Health of the Muhimbili University of Health and Allied Sciences.

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(Supervisor)

Date: _____

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I **Asigele Oswald**, hereby declare that this **dissertation** is my original work and has never been submitted for a diploma or degree award in any other University.

Candidate's signature..... Date.....

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DEDICATION

This dissertation is dedicated to my family; father Mr. Oswald Mpate, mother Anna Mwasangwale and my Sisters, Betty and Pendo for their prayers and support that encouraged me to do my research thoroughly.

Also to my fiancé, Simon Sonelo, for his support and patience throughout the study.

ABSTRACT

Background: The problems of inadequate working environment coupled with low performance of health workers in the health sector in low and middle-income countries like Tanzania, is receiving increased global attention. Some of the reviewed studies done in the country have looked at health worker performance and working environment factors with limited information on the role of working environment and performance of health workers especially focusing on how working environment affect the availability, competence, productivity and responsiveness combined as they affect elements of performance of health workers in reproductive and child health care. So the study looked at the effect of working environment on the performance of reproductive and child health care providers in Tarime district taking into consideration the four indicators of performance which are availability, competence, productivity and responsiveness.

Objective: the main objective of this study was to determine the effect of working environment on the performance of reproductive and child health care providers in Tarime district.

Materials and methods: A cross sectional exploratory study was conducted in 12 health facilities in the district. One hospital, three health centres and eight dispensaries were involved the study. Data was collected using closed and open ended questionnaires. The main variables in the questionnaire were socio- demographic characteristics (sex, age, marital status and education level), availability of drugs, office building space, presence of privacy, availability of medical supplies. 30 health providers and 147 clients were interviewed. Analysis of data was done by using SPSS version 15.0.

Result: The result reveals that the working environment elements have a significant effect on the performance of health providers in the Reproductive and Child Health unit. These elements are presence of office building with the standardized coefficient of 0.369 ($p= 0.014$), availability of drugs with the standardized coefficient of 0.362 ($p= 0.016$) and availability of equipment with the standardized coefficient of 0.369 ($p = 0.012$).

Conclusion: The work environment has effect on the performance level of employees. Absence of office building, drugs, equipment can affect the performance of the employees.

Recommendation: Tarime District authority should provide good working environment to its employees, so as to enable them to perform better.

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ABBREVIATIONS

BCC	:	Behaviour Change Communication
FP	:	Family Planning
FBO	:	Faith Based Organisation.
HR	:	Human Resource
IEC	:	Information Education Communication
IUD	:	Intra Uterine Device
JLI	:	Joint Learning Initiative
LMICs	:	Low and Middle Income Countries
M & E	:	Monitoring and Evaluation
MCH	:	Maternal and Child Health
MDGs	:	Millennium Development Goals
MHSW	:	Ministry of Health and Social Welfare
MUHAS	:	Muhimbili University of Health and Allied Sciences
NGOs	:	Non Government Organizations
OPRAS	:	Open Performance Review and Appraisal System
PIF	:	Performance Improvement Fund
PIM	:	Performance Improvement Model
RBM	:	Result Based Management
RCH	:	Reproductive and Child Health

OPERATIONAL DEFINITIONS

For the purpose of this study:

1. Performing health providers is defined as a workforce that “works in ways that are responsive, fair and efficient to achieve the best health outcomes possible, given the available resources and circumstances” [1].
2. Performance is considered as the Composite of the four elements namely availability, productivity, competences and responsiveness of health provider .Improvement of these four elements indicate improved performance [2, 3].
3. Availability refers to as presence of health worker measured by presence of health provider in his place of work as well as availability of working tools and drugs [3].
4. Productivity is defined as the relationship between health outcomes and human resource input measured by the health worker work load [3].
5. Competence is defined as ability, knowledge and traits of health provider to perform given work measured by Adherence to standard operating procedures and communication with patients [3].
6. Responsiveness is considered as how well the health system meets the legitimate expectation of both clients and health providers, measured by health workers’ satisfaction and clients’ satisfaction [3].
7. Working environment is considered as the composite of the two components; physical and behavioral. The physical environment consists of elements that relate to the office occupiers’ ability to physically connect with their office environment. The behavioral environment consists of components that relate to how well the office occupiers connect with each other [4].
8. Comfort level is defined as the degree to which health provider is comfortable in his work measured by availability of Office building space, Infrastructure (water and electricity), availability of working tools and medical supplies [4].
9. Office layout is considered as the way office is arranged measured by presence of privacy [4].
10. Level of interaction is considered as the way health worker interacts with fellow worker and his/her employer [4].

CHAPTER ONE

1.0 INTRODUCTION

The human resources crisis coupled with poor performance of health workers in the health sector in low and middle-income countries (LMICs) like Tanzania, is receiving increased global attention [1]. This has resulted into policymakers and planners realizing that it is simply not possible to achieve the Millennium Development Goals (MDGs) if health workers' availability and performances are not addressed more effectively [1]. Poor performance leads to inappropriate care, which contributes to reduced health outcomes, as people do not use services or are mistreated when they do.

In the process of improving healthcare system, Tanzania faces challenges such as shortage of health workers, increased case loads for health workers due to migration of skilled health personnel, double burden of disease and the HIV/AIDS scourge that affect both the general population and health personnel hence it is vital for Tanzania to have a well function health system with a well motivated staff that carries out their work according to standard set by the system [3], within the existing organizational structure.

The working environment in health care comprises of two major components, namely, physical and psycho-social. During early days of development of health organization psychology only physical environment in work place was given importance and was considered as a predominant determinant of employees' performance. Earlier studies examined the effect of illumination, temperature, noise, and atmospheric conditions on performance of the workers [5]. However, no consistent relationship could be noted between these components of physical work environment and performance. Studies in health care psychologists have further examined social and psychological environment and its effects on employees' performance [5].

The recognition of the significant role of psycho-social environment led to the emergence of organizational psychology, and furthers the concept of 'quality of work

life'. The importance of physical work environment has now been realized. Therefore, the modern health care industries are making all possible efforts to make work environment more comfortable, safe and healthy.

In Tanzania, the government through the Ministry of Health and Social Welfare (MoHSW) has the same concern as other African countries which are to ensure health and social welfare services are of high quality, effective, accessible and affordable, delivered by a well performing and sustainable national health and welfare system that encourages responsiveness to the needs of the people [6]. One of the strategies used was the introduction of a Result Based Management (RBM) using a home grown rubric referred to as Performance Improvement Model (PIM). This is an integrated approach to performance management. This approach, among other things, requires all public service institutions to plan, implement, monitor, evaluate, and report on performance, and finally carry out performance reviews. From the year 2000 to 2006 performance improvement model was installed in all Ministries, independent Departments, Executive Agencies and Regional Secretariats [4].

Also the public service introduced a number of processes, tools and mechanisms in order to facilitate the institutionalization of a performance management system. The specific tools for performance management include strategic and operational planning, client service charters, service delivery surveys, self assessment programmes, performance budgets, the introduction of Open Performance Review and Appraisal System (OPRAS) and comprehensive Monitoring and Evaluation (M&E) system. Furthermore the Performance Improvement Fund (PIF) was established and implemented to support changes identified in Strategic Plans however all these seem to be failing into improving health workers performance [4]. Taking this fact into consideration this study focused on working environment factors which have positive or negative effect on health care performance in Reproductive and child health services the question which the researcher was trying to answer was, what is the effect of working

environment on performance level of Reproductive and child health care provider in Tarime District?

This dissertation is therefore organized as follows: It starts with the introduction, review of available literature concerning the study, study methodology, results, and discussion of results and finally it ends with conclusion and recommendation.

1.1 Statement of the Problem

Poor health-worker performance in low and middle income countries is particularly exacerbated by human resources (HR) shortages that reached critical levels in many resource-poor settings, especially in rural areas like Tarime and has been a major concern in these countries health sector.

Since the start of the Joint Learning Initiative (JLI), in 2003, the human resources crisis in low-income countries (LICs) has received global attention, particularly the crisis in sub-Saharan Africa. In Tanzania less than 50% of the required staff is available to serve rural populations; while at times health care is provided by non-qualified staff [7, 8]. This situation seriously compromises the health status of the communities. The poor performance has been attributed to poor diagnosis and even death of the sick people.

Although there is no conclusive evidence concerning the relationship between health outcomes and the number of human resources (HR) available for health care, it is clear that qualified and motivated human resources are essential for adequate health service provision[9]. Low performance can be determined by poor knowledge to perform a given work, poor working condition and poor communication between employer and employee and employee themselves.

Determinants of poor performance can be influenced in a variety of ways, The 2006 World health report describes three levels to influence workforce performance this include job-related interventions that focus on individual occupations, support-system

related interventions and interventions that create an enabling environment and focus on managerial culture and organizational arrangements [7].

To improve the performance of health care, supportive working environment is needed. This encompasses more than just having sufficient equipment and supplies. It also includes systems issues, such as decision-making and information-exchange processes, and capacity issues such as workload, support services and infrastructure [10]. Although it is logical to link poor performance to poor working conditions, there is limited documentation showing how poor working conditions influence health provider productivity, competence and responsiveness.

While some of the reviewed studies done in the country have looked at health worker performance and working environment factors, most of these studies focus on how motivation, supervision, skills to perform the given work, and availability of working tools affect performance [11,12,13],and rarely into the role of working environment and performance of health workers especially focusing on how working environment affect the availability, competence, productivity and responsiveness combined as they affect elements of performance of health workers in reproductive and child health care. This study tried to examine whether there is a relationship between working environment and performance level of the health care provider or otherwise.

Therefore, specifically, this study investigated the effect of working environment on performance level of health care providers in Tarime district. The study examined how working environment affects workers performance and evaluated the extent to which working environment would contribute to encouraging or discouraging health care provider to perform well.

1.2 Rationale of the Study

This study has produced information on the relationship between working environment and health worker performance that might be used to understand how performance of

health workers in the Reproductive and Child Health care is affected by working environment that need special attention in the reduction of maternal and infant mortality on health care provider's area. Furthermore, the research findings could be used to inform the district on working environmental factors influencing performance of health care provider. It also serves as background information for promoting and advocating good environment for improved performance of health care worker in Tarime district. More over it serves as background information for future research of the same topic.

1.3 Conceptual Framework

This conceptual framework tries to explain how working environment influences health workers performance. It assumes that working environment consists of two components that are physical environment and behavior component.

Physical environment comprises the comfort level (presence of office building and working tools) which influences health provider's availability, productivity and competence. Also there is an office layout (presence of privacy) which influences health workers productivity and competence. The behavior component of environment (how workers interact with each other and absence of noise) tends to influence productivity and responsiveness, and in totality they may improve or decrease health workers performance. (See illustration in figure 1)

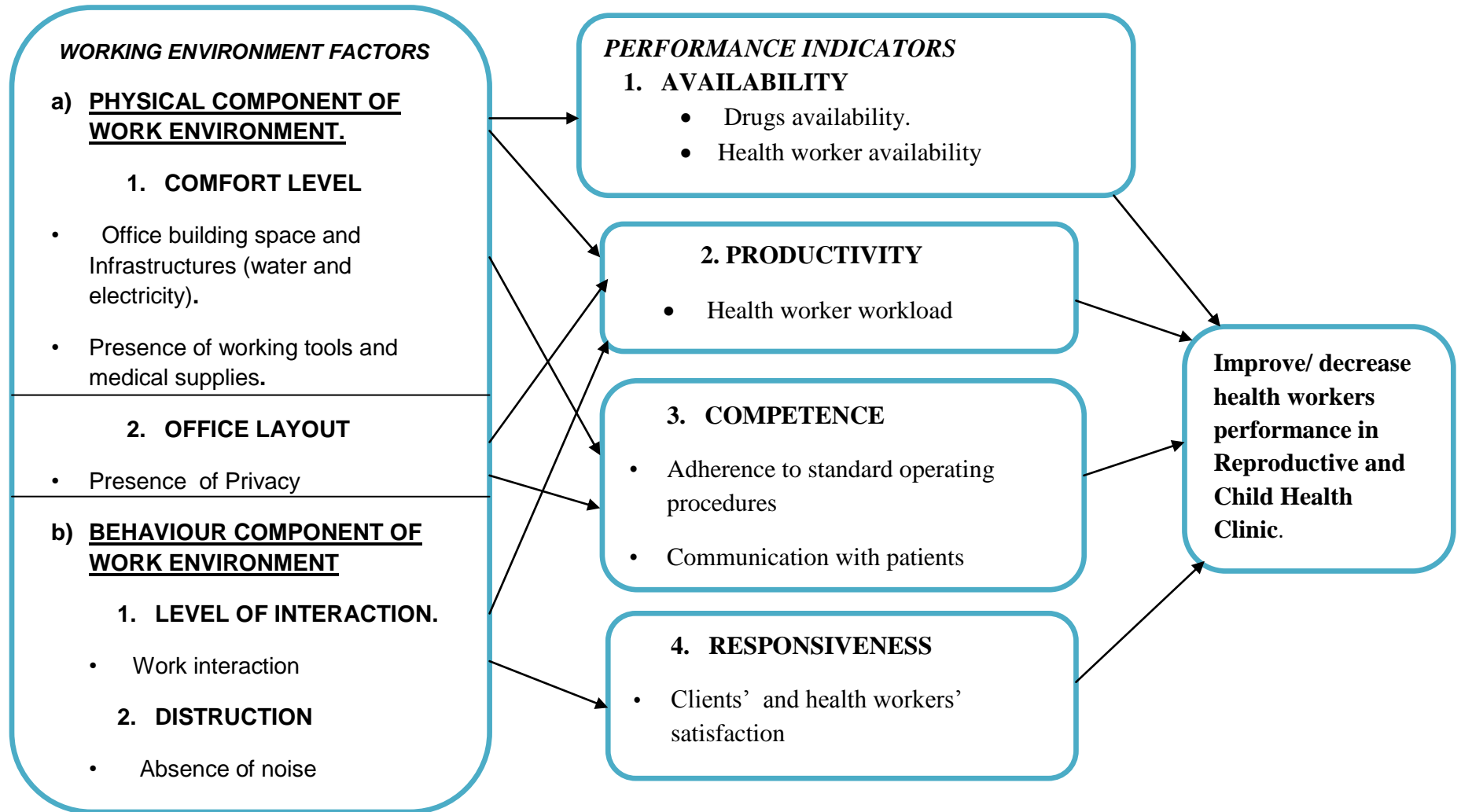


Figure 1: Conceptual Framework: Effects of Working Environment on RCH Health Workers Performance

1.4 Research Question

What is the effect of working environment on performance level of the health care providers?

Specifically the research aims at answering the following questions:

1. What is the effect of office building space on health providers' availability performance in Tarime district?
2. How does health provider interaction with fellow worker affect health workers' productivity performance in Tarime district?
3. How availability of drugs affect the competence performance of reproductive and child health care providers in Tarime district?
4. How availability of equipment (BP – machine) affect the competence performance of reproductive and child health care provider in Tarime district?
5. What is the effect of presence of privacy on health workers' competence performance in Tarime district?
6. What is the effect of noise on health workers' responsiveness performance in Tarime district?
7. What are the Clients' perceptions on elements of performance (availability, competence, productivity and responsiveness)?

1.5 Objectives

This study focused on the following broad and specific objectives.

1.5.1 Broad Objective

To explore the relationship between working environment and performance level of health care provider working in reproductive and child health unit (RCH) in Tarime district.

1.5.2 Specific Objectives

1. To explore the effect of office building space on availability performance of reproductive and child health care provider.
2. To assess how health provider interaction with fellow worker affects health workers' productivity performance.
3. To explore availability of drugs in relation to competence performance of reproductive and child health care provider.
4. To explore availability of equipment (BP- machine) in relation to competence performance of reproductive and child health care provider.
5. To assess presence of privacy in relation to health provider competence performance.
6. To find out how noise affects health workers' responsiveness performance.
7. To explore Clients' perception on elements of performance (availability, competence, productivity and responsiveness).

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Working environment

An attractive and supportive work environment can be described as an environment that attracts individuals into the health professions, encourages them to remain in the health workforce and enables them to perform effectively. The purpose of providing attractive work environments is to create incentives for entering the health professions (recruitment) and for remaining in the health workforce (retention). In addition, supportive work environments provide conditions that enable health workers to perform effectively, making best use of their knowledge, skills and competences and the available resources in order to provide high-quality health services [11]. This is the interface of the work environment and quality of care.

Working environment can be divided into two components namely physical and behavioral components [14]. The physical environment consists of elements that relate to the office occupiers' ability to physically connect with their office environment. The behavioral environment consists of components that relate to how well the office occupiers connect with each other, and the impact the office environment can have on the behavior of the individual. According to Haynes (2008), the physical environment with the productivity of its occupants falls into two main categories office layout (open-plan verses cellular offices) and office comfort (matching the office environment to the work processes), and the behavioral environment represents the two main components namely interaction and distraction.[15]

These components can further be divided in major attributes and operationalised in the form of different independent variables. These variables will be used for analysis of their impact on dependant variable [14]. It is generally understood that the physical design of offices and the environmental conditions at work places are important factors

in organizational performance. The empirical research by Stall [14] has also shown that when human needs are considered in office design, employees work more efficiently.

One survey conducted by Brill [16] in particular has suggested that improvements in the physical design of office buildings may result in a 5-10 percent increase in productivity and eventually increase performance.

Other studies have examined the effect of physical work environment on workers' job satisfaction, performance, and health. For example Scott, (2000) reported that working conditions associates with employees' job involvement and job satisfaction [17]. Strong et al (1999) in a study observed that social, organizational and physical context serve as the impetus for tasks and activities, and considerably influence workers' performance [18]. Researches on quality of work life have also established the importance of safe and healthy working conditions in determining employees' job performance [19].

The influence of working environment, which is mostly composed of physical, social and psychological factors, has been extensively examined in past two decades. In a number of studies, employees' motivation, job satisfaction, job involvement, job performance, and health have been found to be markedly influenced by psycho-social environment of work organization [20].

According to Franco performance relies on internal motivation but presence of internal factors such as necessary skills, intellectual capacity and resources to do the job clearly have an impact. As a consequence employers are supposed to provide appropriate working conditions in order to make sure the performance of employees meet the required standards [21].

2.2 Health provider performance.

Performing service providers are defined according to the WHO definition in the World Health Report of 2006: as a workforce that “works in ways that are responsive, fair and

efficient to achieve the best health outcomes possible, given the available resources and circumstances” [7]. Performance can be defined as a combination of equipments and staffs being available, competence, productive and responsiveness [7, 22].

Health care is a labour intensive making human resources one of the most important inputs in health care delivery [2]. The 2006 World Health Report and a range of other reports find that the performance of health workers in many low income countries including Tanzania is sub-optimal[1], Hence, African countries including Tanzania, are trying to improve the functioning of healthcare delivery system to ensure that the populations they serve receive timely quality care using qualified and enough human resources. In health care, the problem of increasing performance and making the work environment more pleasant has been approached through the introduction of changes in working environment.

Furthermore Alfredo summarize a model which can be used to influence workers performance in low income countries including Tanzania, this model outlines the five key factors believed to influence performance outcomes. These factors include job expectations, performance feedback, environment and tools, motivation and incentives, and knowledge and skills. Each of these factors should be supplied by the health organization in which the provider works, and thus, organizational support is considered as an overarching element for improving performance [23].

2.3 Performance indicators as per WHO definition

2.3.1 Availability

Improved performance is assessed by looking at the availability of staff, in terms of presence at work (as opposed to absence). Absenteeism by health providers is a frequently occurring phenomenon in many health facilities, especially in resource-poor areas. When staff cannot concentrate and stay on their work because of poor working condition, it can benefit a health facility to offer support. A study done by WHO reports that one of the way to improve retention is by increasing job satisfaction at facility

level and by addressing the living and working conditions of health workers. It further suggest that opportunities to improve retention include addressing the needs of specific groups of health workers [1]

2.3.2 Competence

Competence encompasses knowledge, skills, abilities, and traits. It is gained in the healthcare professions through pre-service education, in-service training, and work experience. Competence is a major determinant of provider performance as represented by conformance with various clinical, non-clinical, and interpersonal standards. Measuring competence is essential for determining the ability and readiness of health workers to provide quality services. [24]

Although competence is a precursor to doing the job right, measuring performance periodically is also crucial to determine whether providers are using their competence on the job. A provider can have the knowledge and skill, but use it poorly because of individual factors (abilities, traits, goals, values) or external factors (unavailability of drugs, equipment, organizational support).

The study conducted in Somalia on competence of health worker in detecting malnutrition, shows that Maternal and Child Health (MCH) clinic workers showed deficiency in their competence to detect malnourished children. They misclassified 10 percent of the children, which was worse among the malnourished, due to incorrect plotting of the child's current weight on the growth chart This was due to lack of training skills on how to plot weight on growing chart so this study associate performance of these worker with their skills to perform the job (competence) and conclude that the performance was suboptimal and hence there is a need to conduct in service training so as to improve performance of these worker[25] Furthermore a study conducted in Malaysia reports that In any workplace, consistent employee absenteeism can be a potential problem. Consistent absenteeism can be a result of a poor performance [26].

2.3.3 Responsiveness

Responsiveness is considered as how well the health system meets the legitimate expectation of both clients and health providers for the non-health enhancing aspects of the health system.

It includes seven elements which are dignity, confidentiality, autonomy, and prompt attention, social support, basic amenities, and choice of provider.

Another way of looking at responsiveness as a measure of health system performance is to compare it to health measures. When assessing health one looks at health outcomes or reviews the clinical processes of care or health systems' disease prevention and health promotion programs. With the current state of the art in measuring responsiveness, one asks consumers within the health system to report on their experience with elements of care and other health system services that are as much measures of system performance, as are health measures. Within the WHO framework for assessing health system performance, the measurement of responsiveness is restricted to those elements that relate to the individual's well-being and do not account for any health enhancing aspect. This is done so as to measure the achievement of the responsiveness goal apart from its impact on achieving the health goal. [27]

2.3.4 Productivity

Defined in terms of the relationship between health's outcomes achieved (health status protection or improvement for individuals or populations) and the health human resource inputs (time, effort, skills and knowledge) required.

The modern healthcare sector makes up roughly one-tenth of the economic activity of modern economies, and labour inputs make up a relatively large share of its costs, relative to other industries. It is thus understandable that the measurement, tracking and improvement of labour productivity in this industry, or if one prefers, Health Human Resources Productivity should be of policy concern [28]. An employee's workplace

environment is a key determinant of their level of productivity. How well the workplace engages an employee impacts their level of motivation to perform. [26].

2.4 Working environment factors that influence Health provider performance

Research has shown that working environment factors has a direct impact on the health provider performance. These factors are as explained below.

2.4.1 Goal-setting

Employees are involved in setting meaningful goals and performance measures for their work. This can be done informally between the employee and their immediate supervisor or as part of an organization's formal performance management process.

A study done in Agalapa India shows that workplace environment plays a vital role in motivating employees to perform their assigned work. Given that money is not a sufficient motivator in encouraging the workplace performance required in today's competitive business environment. Managers and supervisors will need to be comfortable with working with the whole range of workplace factors that influence employee performance. Skills required include the ability to engage employees in mutual goal setting clarify role expectations and provide regular performance feedback. Time and energy will also need to be given to providing relevant performance incentives, managing processes, providing adequate resources and workplace training .It also advice that in order to drive their organizations to peak performance managers and supervisors must put out front the human face of their organization. Principle here is the human-to-human interaction through providing individualized support and encouragement to each and every employee. [29] Also research done by Erez report that Specific goals are more effective than generalized goals, difficult goals lead to greater performance than do easy goals, as long as the goals are accepted [30], moreover Latham report that frequent, relevant feedback is important for goal setting effectiveness [31]. Effective goals, those with the above characteristics, are likely to promote a greater frequency of the work style behaviors. They help generate commitment, both to the goals and to the organization, which results in people doing more than they are required to do that is increased performance [31, 32].

2.4.2 Physical factors (Office building)

Physical factors in the workplace such as poor layout or overcrowding can lead to common types of accident such as tripping or striking against objects.

Among the factors affecting health workers performance, Physical factors like office building space have also been strongly associated with workers performance in the private sector office employees. These environmental factors like office layout, level of interaction and the comfort level of office have had a significant effect on workers performance in Pakistan [11].

2.4.3 Performance feedback

Performance feedback is an information exchange and conflict resolution process between the employee and supervisor. This consists of both positive feedback on what the employee is doing right as well as feedback on what requires improvement. Managers and supervisors will need to be comfortable with working with the whole range of workplace factors that influence employee performance [29]. A study done by Chandrasekhar report that performance feedback is an information exchange and conflict resolution process between the employee and supervisor. While the supervisor gives his/her feedback and requirements, the employee enables to give his her feedback regarding his/her requirements. Although this process is formal, it could be managed informally by gaining closer relations for two sides [33].

2.4.4 Workplace incentives

The organization determines what motivates its employees and sets up formal and informal structures for rewarding employees behaving in the way required.

Studies in some Sub-Saharan countries show that the overall performance of professional nurses is poor not only due to working environment factors but also due to lack of human resource management aspect such as recognition of employee who performs well, poor working condition, absence of performance appraisal system and poor feedback on performance outcome [12] . Also a study from Malaysia report that

significant changes in promotions, compensation and benefits helps in keeping employees satisfied and in turn increases production.[26].

2.4.5 Comfort level

Comfort level factors such as temperature, lighting, presence of privacy and ventilation can have a direct impact on employees' health; for example very high temperatures can lead to heat stress and heat exhaustion as a result poor performance. A study conducted in Malaysia report that the brightness of office light effects alertness, concentration, and task performance. Adjusting the type and quality of light can significantly improve working experience and performance [26, 34].

Study done in Mbeya city showed that 14 percent of health staff had a good perceived performance of reproductive and child health care and the rest which is 86 percent didn't perform well due to poor working conditions. [13] While a study in Muhimbili National Referral Hospital showed that 50 percent of workers were not satisfied with their working condition and as a result leads to decrease morale for work hence suboptimal performance [11].

2.4.6 Supervisor support

This is crucial for employees to complete the job. Supervisors' interpersonal role is important to encourage positive relations and increase self-confidence of the employee and in return improve employee performance [33, 35]. Skilled and respected people are available to employees to help them to perform better in their current role and to assist them develop further into a future role. Immediate supervisors act as advocates for employees, gathering and distributing the resources needed by the employees for them to be able to do a good job and providing positive encouragement for a job well done [33]. A study conducted by Namuba report that supportive supervision is very crucial for the employee to perform better in his or her tasks [48].

2.4.7 Job aids

Health workers need to be supplied with job aids so that their work is to be made easier and help minimize error rates and patients dissatisfaction. These can include templates, guidelines, equipments, medicines and models. A study done in Nigeria shows that working environment factors such as interpersonal relationships, availability of tools and equipment to work with, managerial fairness and support for staff welfare appear to play a significant role in affecting health worker performance and this agree with findings done in Ghana and Mali. [36, 37] Psychological methods of improving employee productivity are great, but they're useless without the right tools. And the right tools mean the right technology. For an employee to be efficient and productive in today's job environment means equipping employees with the right gear. Health facilities, which ignore the necessity for tools like drugs, equipments, will run the risk of diminished employee productivity [26, 34].

Furthermore a study done in Armenia show that Human Resources Management (HRM) interventions like improved working condition and availability of medical supplies can contribute positively to health workers' performance and the most important results established were that combined interventions of participatory, interactive training, job aids and strengthening health systems can be successful in improving health workers' performance.[1]

Also a study that has focused on health workers' experience of working conditions in Mbulu district in Tanzania shows that all cadres of health workers were dissatisfied with the working conditions, Salary level, promotion, recognition of work experience, allowances and upgrading opportunities, as well as human resource management and as a result their performance was suboptimal. The experience of not seeing the realization of the expected working conditions clearly generates strong perceptions of unfairness which perpetuates low performance, the author argued that the dialogue of unfairness pertaining to working conditions that was revealed in the study must be understood in a

specific historical and political context so as to develop measures to improve health workers performance. [38]

Given the fact that, most of the studies have been conducted in towns and rural area settings and have not addressed working environment in relation to the availability, competence, productivity and responsiveness combined as they affect performance of health workers in reproductive and child health care. It is therefore important to conduct a study on the effect of working environment on the performance of reproductive and child health care providers in Tarime district.

CHAPTER THREE

3.0. METHODOLOGY

3.1 Study Site

The study was conducted from July to August 2012 in 12 public health facilities in Tarime District, which is one of the six districts in Mara Region. The district is situated in the North-West of Tanzania and lies between latitudes 1⁰.00" - 1⁰.45" S and longitudes 33⁰30' – 35⁰ 00' E, with a total area of 1,636.9 km².

The district is boarded by Kenya (Trans-Mara and Kurya- district) to the North, Serengeti district to the East, Musoma Rural District to the Southern and Rorya District to the west. The district comprises of 4 divisions, 20 wards, and 77 villages with 405 hamlets. [15].

The District has a total of 32 health facilities owned by government, Faith Based Organizations (FBOs), private and Non-governmental organisation (NGOs).

Table 1: Type of health facility by ownership

Type of Health facility	Government	FBO	private	NGO	Total
Hospital	1	0	0	0	1
Health centres	5	1	1	1	8
Dispensaries	12	6	5	0	23
Total	18	7	6	1	32

Source: compiled by the researcher.

From table 1, One (1) hospital, Eight (8) health centers and 20 dispensaries provide Reproductive and Child Health service (RCH). For the case of this study, Only 12 public health facilities were included as sample study.

3.2. Study type

A cross sectional exploratory study was conducted using closed and open ended questionnaires and exit interview to clients.

Cross-sectional studies can be defined as studies that are carried out at one time point or over a short period [39].

They are usually conducted to estimate the prevalence of the outcome of interest for a given population, commonly for the purposes of public health planning. Data can also be collected on individual characteristics, including exposure to risk factors, alongside information about the outcome. In this way cross sectional studies provide a ‘snapshot’ of the outcome and the characteristics associated with it, at a specific point in time.

3.3 Study Population

Study population included two target populations which are the health care providers working at Reproductive and child health (RCH) unit in chosen public health facilities in Tarime district and Clients receiving Reproductive and Child Health (RCH) services in those public health facilities in Tarime district.

3.4 Sample size estimation for Clients receiving RCH services.

The Sample size for clients was calculated as follows:

$$n = \frac{Z^2 P (100-P)}{\epsilon^2}$$

z= Confidence Interval (95% or 1.96)

p= Expected proportional of clients seeking RCH service 77% adopted from [35, 36]

ϵ = Margin error of proportional 6 %

$$\text{If } P=50\% \text{ then } n = 1.96 \times 1.96 \times \frac{77(100-77)}{6^2} = 6803.5$$

$$n=189.$$

However due to the fact that it was the season for farm preparation the researcher was able to get 147 clients, hence the sample used in this study was 147.

3.5 Inclusion and exclusion criteria

3.5.1 Inclusion and exclusion criteria for Health facilities.

1. Inclusion criteria for health facility.

All the public health facility offering RCH services were included in the study.

2. Exclusion criteria for health facility.

Health facility which belongs to FBO and NGO's were not included in the study, due to the fact that the interest of the researcher was to study government health facility only.

3.5.2 Inclusion and exclusion criteria for clients

1. Inclusion criteria for clients.

All clients who accepted to be interviewed on exit from RCH service during the study were eligible to be included in the study.

2. Exclusion criteria for clients

Clients who were not able to respond to the questionnaire were not included from the study.

3.5.3 Inclusion and exclusion criteria for Nurses.

1. Inclusion criteria for Nurses

Nurses who had worked in RCH clinic for more than six month were included in the study.

2. Exclusion criteria for Nurses

Nurses who had worked in RCH clinic for less than six month were excluded from the study; this was because the questionnaires were designed in such a way that respondents need to have at least an experience on her job. It was assumed

that six month would be enough time for a nurse to answer the questions in the questionnaire.

3.6 Sampling Procedure

All health facilities in the district were stratified into three (3) strata as per level of service delivery (hospital, health centre and dispensary). Thereafter a stratified simple random selection was done from each strata.

The district hospital was included in the study because there is only one (1) hospital in the study area. Therefore out of five(5) health centers three (3) health centers were chosen randomly (using lottery method) and out of 12 dispensaries, eight (8) dispensaries were chosen randomly (using lottery method).

3.6.1 Selection of Healthcare providers

All health care providers working in Reproductive and Child Health (RCH) unit in the chosen health facility was included in the study, 3 health care providers at each health facility. A total of 30 health workers were selected for the study.

3.6.2 Selection of Clients

The study conveniently selected the clients who participated in the study. From each RCH facility selected, clients were recruited from the clients attending the RCH unit during the field work. All exit clients (the clients who had gone through the service), were asked to be interviewed until the sample required from that facility was obtained. A total of 147 clients were interviewed from all facilities involved in the study.

3.7 Selection and training of research assistants

Research assistants with previous experience in data collection were recruited after being interviewed for the task; the research assistants were oriented for two days focusing on understanding the study objectives, understanding questions, recording the responses in order to avoid or minimize mistakes. Furthermore these research assistants

were involved in pre testing of the research instruments so as to enable them to be familiar with the work and made modifications where possible.

These research assistants were supervised everyday in the field to ensure accuracy and completeness of the questionnaires and interview. At the end of each day, principal researcher and research assistants checked the entire questionnaire to ensure that there was no missing information.

3.8 Data collection techniques and Instruments

Data was collected using closed and open ended questionnaires and a checklist.

- i. Open/close ended questionnaires :
 - a) Was used to obtain information of the clients in the RCH unit as they exit from the health facility.
 - b) Another Questionnaire was used to obtain data from health providers in RCH unit.

The questionnaires were produced in English and then they were translated into Kiswahili and retranslated again in English in order to establish the right translation of both versions (All translations were made by the help of imTranslator [42]. After establishment of right translation, a Kiswahili version was used for interview because it is the language which the respondents were comfortable with.

3.9 Questionnaires

Primary data were collected by using structured questionnaires with open and closed ended questions which were written in English then translated to Swahili for easy understanding to all respondents. Questions were asked on socio demographic characteristics whereby age, marital status, and level of education were gathered from respondents. Then information on performance related factors was collected through structured questionnaires whereby respondents were asked on health providers availability, competence, productivity and responsiveness (see appendix 3 and 4).

3.10 Reliability test of instruments

To assess the reliability of the testing instrument in this study, Cronbach's Alpha was used. Overall, it was found that the testing instrument of the study demonstrates reliability as all items related to health worker performance (dependent variable) shows an alpha of 0.788 whereas the independent variables of work performance returned an alpha of between 0.434 and 0.788. [34] It said that whenever the alpha value is equal or more than 0.4, the corresponding variable should then be deemed as reliable data. Therefore, from the 27 variables pertaining to work environment factors contained in the questionnaire, all variables showed reliability to be used for further analysis (see appendix 7).

3.11 Pre-testing

Before starting data collection, pretesting of the research instrument was done to determine the strengths and weaknesses of the questionnaire on question format, relevance, reliability, wording and order. This was done by the investigator and 2 research assistants. The pre test questionnaires and a checklist were administered to 4 nurses and 6 clients from 2 health centers found in Rorya district which is near to Tarime district. After pre testing tools, data collected were reviewed and where necessary modifications were made.

3.12 Data collection Procedure

Field work lasted for 14 days, from 22nd July 2012 up to 7th August 2012. During the field work interview was done by Principal investigator and research Assistants in a private room where it was found to be a more suitable place for collecting data of this study. Tools used to collect data were questionnaires and a health facility checklist.

In charge of the selected health facility were visited by the research team to explain for the purpose of the study and ask for their assistance in identifying the questionnaire respondents, as well as providing a space for the interviews within the clinic.

Eligible workers were asked to fill their questionnaire in their place of work after they were asked for their written consent and upon acceptance. For the case of clients receiving the services from the respective health facilities, the health facility in charges talked to the clients and told them that they had to see the research assistant after completion of the service because they have important things to share with them. The research assistants waited for those clients who were exiting the service and when they came researchers asked them for their consent (written or verbal) to conduct the interview and upon acceptance, the clients were interviewed in a private room, interview took place from 9.30 am to 4.00 pm. The interview lasted for about 10 minutes per participant.

3.13 Data Management

The process of editing data was done during and after data collection. Principal investigator closely supervised the research assistants to ensure that the questionnaires were fully completed and data collected contained the needed information. If it was found that the questionnaire is not fully completed the questionnaire was given a special code and treated as missing data.

3.14 Study variables

Dependent Variable

Health worker performance (Measured by productivity, availability, competence and responsiveness) .It is called dependent because it "depends" on the independent variables.

Independent Variables

1. Age of respondent(in complete year)
2. Sex of respondent(male ,female)
3. Marital status(married, single, widowed, divorced)
4. Education level of respondent(no education, primary education, secondary education ,university)

5. Medical supplies (Present ,absent)
6. Availability of drugs(Yes, No)
7. Office building space(Present, Not present)
8. Presence of privacy(Yes, No)
9. Work interaction. (How worker interact with fellow worker and employee).
10. Presence of noise. (Yes, No)

3.15 Data processing and Analysis

After completion of the field work in all the selected areas, questionnaires were given serial numbers before data entry. Data were entered and analyzed by using SPSS version 15.0 whereby frequency tables were run and mean and standard deviation were calculated. Also the researcher use correlation and regression analysis to measures the association between two variables (independent and dependent variables) and the strength of their relationship.

Health worker performance was measured by using four job performance indicators which are availability, productivity, competence and responsiveness.

3.16 Ethical consideration

The research proposal was submitted to the Research and publication Committee at the Muhimbili University of Health and Allied Sciences (MUHAS) so as to obtain ethical clearance to conduct research. (See appendix 8).

Also permission to conduct research was requested from relevant authority, District executive officer of Tarime district.

Moreover written consent was sought from the nurses and clients of the study health facilities. Purposely, participants were informed about the objectives of the study and they were informed that their participation is voluntary and that there is no any kind of force that will be employed to have them participate (see appendix 1 and 2). When a

client refuse to provide a written consent, oral consent was sought and upon acceptance the client was interviewed.

3.17 Limitation of the study

1. This research relied on self-report surveys to measure employees' perceptions of their work environment, which raises the potential for reporting bias. This was minimized by asking the respondents to refer on the current situation (short period) during the research period.
2. This study looked at nurses working in Reproductive and Child Health clinic in Tarime district which raises potential for sampling bias. However these limitations could be considered as an opportunity for future research on the effect of work environment on the performance of health care providers which may include all nurses working in different units. It may also include both public and private health facility.

CHAPTER FOUR

4.0 RESULTS

This chapter presents the results of the study. It starts by describing the socio-demographic characteristics, and then followed by substantive findings of the study.

4.1 Socio- demographic characteristic of the study population

4.1.1 Socio- demographic characteristic of Health workers respondents

A total of 30 nurses working in the Reproductive and Child Health (RCH) units from 12 health facilities (1 hospital, 3 health centre and 8 dispensaries) were interviewed. Most of female respondents were of between 45 years of age and above (91.7%) while most of male respondents were aged between 41- 45 years.

Furthermore the Table shows that among male respondents 7.7 percent and among females 92.3 percent had completed primary education.

Additionally, Table 2 indicates that majority of the female respondents were nurse midwives (100%) and most of male respondents were clinical officers (75%). Out of 25 respondents 84 percent of female respondents were married and 4(16%) of male respondents were married (Table 2).

As for years of experience, 57.7 percent of female respondents had the experience of 10 years and above while for male respondents those who had the experience of 10 years and above were 50 percent.

Table 2: Socio –demographic characteristics of the Reproductive and Child Health Care provider by sex

CHARACTERISTICS	MALE n (%)	FEMALE n (%)	TOTAL n (%)
Age group in years			
25-30	0(0)	6(100)	6(100)
31-35	0(0)	2(100)	2(100)
36-40	1(25)	3(75)	4(100)
41-45	2(33.3)	4(66.7)	6(100)
45 and above	1(8.3)	11(91.7)	12(100)
Total	4(13.3)	26(86.7)	30(100)
Education level			
Primary school	1(7.7)	12(92.3)	13(100)
Secondary school	1(8.3)	11(91.7)	12(100)
College/University	2(40)	3(60)	5(100)
Total	4(13.3)	26(86.7)	30(100)
Profession			
Nurse midwife(NM)	0(0)	14(100)	14(100)
Clinical officer(CO)	3(75)	1(25)	4(100)
Public health nurse(PHNB')	0(0)	3(100)	3(100)
Medical attendant/nurse auxiliary	1(11.1)	8(88.9)	9(100)
Total	4(13.3)	26(86.7)	30(100)
Marital status			
Married	4(16)	21(84)	25(100)
Divorced	0(0)	3(100)	3(100)
widowed	0(0)	2(100)	2(100)
Total	4(13.3)	26(86.7)	30(100)
Years of experience			
<1Year	0(0)	3(100)	3(100)
2-5 years	1(20)	4(80)	5(100)
6-9 years	1(20)	4(80)	5(100)
10years and above	2(11.8)	15(88.2)	17(100)
Total	4(13.3)	26(86.7)	30(100)

Source: Study data.

4.1.2 Socio- demographic characteristic of the Exit interview Respondents

A total of 147 clients were interviewed in 12 health facilities (1 hospital, 3 health centre and 8 dispensaries).

Table 3 shows the summary of Socio- demographic characteristics of Clients who were interviewed in RCH unit. Majority of the respondents 88(59.9%) were aged between 15-25 years. Respondent interviewed at the hospital were 19(76%), 14(43.8%) from health centers and 55(61.1%) from dispensaries. The table also shows that out of married clients interviewed 22 (88%) were from hospital, 29(90.6%) from health centre and 85(94.4%) from dispensaries. Among respondents who had attained primary school education 14(56%) were interviewed in the hospital, 24(75%) from health centers and 55(61.1%) from dispensaries. Additionally, the table shows that among pregnant clients respondents, 12(48%) were from hospital, 9(28.1%) from health centers and 32(35.6%) from dispensaries.

Table 3: Socio- demographic characteristic of Clients who were interviewed in RCH unit by level of health facility

CHARACTERISTICS	LEVEL OF HEALTH FACILITY n=147			
	Hospital n (%)	Health centre n (%)	Dispensary n (%)	Total n (%)
Age group in year				
15-25	19(76)	14(43.8)	55(61.1)	88(59.9)
26-35	5(20)	17(53.1)	27(30)	49(33.3)
36-45	1(4)	1(3.1)	7(78)	9(6.1)
46 years and above	0(0)	0(0)	1(1.1)	1(0.7)
Total	25(100)	32(100)	90(100)	147(100)
Education level				
No education	8(32)	3(9.4)	32(35.6)	43(29.3)
Primary school	14(56)	24(75)	55(61.1)	93(63.3)
Secondary school	3(12)	5(15.6)	3(3.3)	11(7.5)
Total	25(100)	32(100)	90(100)	147(100)
Marital Status				
Single	2(8)	2(6.3)	0(0)	4(2.7)
Married	22(88)	29(90.6)	85(94.4)	136(92.5)
Widowed	1(4)	1(3.1)	5(5.6)	7(4.8)
Total	25(100)	32(100)	90(100)	147(100)
Pregnancy status				
Yes	12(48)	9(28.1)	32(35.6)	53(36.1)
No	13(52)	23(71.9)	58(64.4)	94(63.9)
Total	25(100)	32(100)	90(100)	147(100)

Source: study data.

4.2 Validity and Reliability analysis of Health Workers Performance Concepts

Validity and reliability analysis were done so as to check if the items explain the health provider's performance measures, (Availability performance, Competence performance, Productivity performance and Responsiveness performance) in the chosen health facilities and whether the scale is uni-dimensional. If the Cronbach's Alpha correlation of the concept is below 0.3, the item was dropped from the scale [16]. (See appendix 7)

Appendix 7 shows that for the Availability Performance measure, five items out of eight items were dropped, For the Competence Performance measure four items out of seven items were dropped, for the Productivity Performance measure three items out of six items were dropped and for the Responsiveness Performance measure three items out of six items were dropped because the Cronbach's Alpha correlation was less than 0.3.

After dropping the items and repeat the analysis without them, the Cronbachs' Alpha of the Availability Performance measure increased from 0.603 to 0.783 meaning the scale had a high internal consistency. The Cronbachs' Alpha of the Competence Performance measure increased from 0.782 to 0.886 meaning the scale had a high internal consistency.

The Cronbachs' Alpha of the Productivity Performance measure increased from 0.234 to 0.775 which means the scale had a high internal consistency. The Cronbachs' Alpha of the Responsiveness Performance measure increased from 0.544 to 0.865 which means the scale had a high internal consistency. Also the Cronbachs' Alpha of the Composite Performance measure increased from 0.541 to 0.827 meaning the scale had a high internal consistency. Item total correlation for health workers performance is summarized in Table 4.

Also Table 4 shows that the mean score for Availability Performance measure was 3.32 which indicate that most respondents agreed to the statements that were presented to measure Availability Performance. The mean score of Competence Performance

measure was 4.17 indicating that most respondents agreed to the statements that were presented to measure Competence Performance. The mean for Productivity Performance measure was 3.04 which indicate that most respondents agreed to the statements that were presented to measure Productivity Performance. The mean score of responsiveness performance measure is 3.82 which indicate that most respondents agree with the statements that were defining responsiveness.

Table 4: Validity and Reliability Analysis of Health Workers' Performance Measures after dropping some of the items

Statements	Mean	Std. deviation	Cronbach's Alpha(α)	Corrected item total Correlation
Availability(3 items)	3.32	0.688	0.783	0.746
To what extent absence of drugs (Anti malarial), affect your performance?	4.17	1.367	0.700	0.679*
Does availability of equipment (BP machine) influence your performance?	2.77	1.331	0.775	0.712*
Does the office buildings and infrastructure influence you to stay in the office and work comfortably?	3.53	0.776	0.668	0.846*
Competence(3 items)	4.17	0.095	0.886	0.605
Presence of privacy influences your communication with patients.	4.27	0.450	0.719	0.563**
Presence of working tools influences your adherence to standard operating procedure.	4.10	0.712	0.689	0.654*
Gives client feedback on findings of physical, obstetric and any other procedures done	4.10	0.481	0.659	0.597*
Productivity(3 items)	3.04	0.879	0.775	0.692
How would you describe the workload you have?	3.47	0.776	0.687	0.665*
How does your perception of the	2.23	1.006	0.709	0.567**

workload affect your performance in general?				
If you were to judge your own performance, how would you rate yourself	3.20	0.664	0.765	0.844*
Responsiveness(3 items)	3.82	0.568	0.865	0.696
How would you describe your relationship with fellow workers?	4.23	0.568	0.655	0.682*
How would you describe your relationship with your supervisor?	2.73	1.143	0.666	0.712*
How does noise affect your working environment?	4.03	0.964	0.767	0.695*
Performance composite (4 item)	3.33	0.558	0.827	0.685

*Correlation is significant at level of 0.05(two tailed).

** Correlation is significant at level of 0.01 (two tailed).

Source: study data.

4.3 The effect of office building space on availability performance of reproductive and child health care provider

Regression analysis was done to estimate the effect of office building on the Availability Performance.

Table 5 shows the uni -variate analysis between the explanatory variable (office building space) on the health workers' Availability Performance. The table shows that the standardized coefficient of office building space to be 0.369 (p=0.014) meaning that office building space significantly affects health workers' Availability Performance.

Table 5: Coefficients of regression on the effect of office building space on availability performance of reproductive and child health care provider
Coefficients ^a

	Unstandardized Coefficients		Standardized Coefficients		P-Value
	B	Std error	Beta	t	
Availability Performance					
Constants	1.542	0.430		3.585	0.000
Office building space	0.234	0.140	0.369	2.541	0.014

a. Dependent variable: Health workers' availability performance.

Source: study data

4.4 How health provider interaction with fellow worker affects health workers' productivity performance

Regression analysis was done to estimate how health provider interaction with fellow worker affects health workers' Productivity Performance.

Table 6: Coefficients of regression of how health provider interaction with fellow worker affects health workers' productivity performance
Coefficients ^a

Productivity Performance	Unstandardized Coefficients		Standardized Coefficients		P-Value
	B	Std error	Beta	t	
Constants	1.542	0.430		3.585	0.000
Work interaction	-.50	0.122	-.058	-.410	0.683

b. Dependent variable: health workers' productivity performance.

Source: study data.

Table 6 shows the uni -variate analysis between the explanatory variable (work interaction) on the health workers' productivity performance. The table shows that the

standardized coefficient of work interaction to be -0.058 ($p=0.683$) meaning that work interaction did affect Productivity Performance negatively, however the effect was not statistically significant.

4.5 Availability of drugs in relation to competence performance of Reproductive and Child Health care provider

Regression analysis was done in order to estimate availability of drugs in relation to Competence Performance of Reproductive and Child Health care provider.

Table 7: Coefficients of regression availability of drugs in relation to competence performance of reproductive and child health care provider
Coefficients ^a

Competence Performance	Unstandardized Coefficients		Standardized Coefficients		P-Value
	B	Std error	Beta	t	
Constants	1.280	0.172			0.000
Availability of drugs	0.389	0.159	0.362	2.453	0.016

b. Dependent variable: health workers competence performance.

Source: study data.

Table 7 shows the uni -variate analysis between the explanatory variable (availability of drugs) on the health worker competence performance. The table shows that the standardized coefficient of availability of drugs to be 0.362 ($p=0.016$) meaning that availability of drugs significantly affects health worker Competence Performance.

4.6 Availability of equipment in relation to competence performance of Reproductive and Child Health care provider

Regression analysis was done in order to estimate the on availability of equipment in relation to competence performance of reproductive and child health care provider.

Table 8 shows the uni -variate analysis between the explanatory variable (availability of equipment) on the health workers' competence performance. The table shows that the standardized coefficient of availability of equipment to be 0.369 (p=0.012) meaning that availability of equipment significantly affects health workers' Competence Performance.

Table 8: Coefficients of regression on availability of equipment in relation to competence performance of reproductive and child health care provider
Coefficients ^a

Competence Performance	Unstandardized Coefficients		Standardized Coefficients		P-Value
	B	Std error	Beta	t	
Constants	1.542	0.430		3.585	0.000
Availability of Equipment	0.234	0.140	0.369	2.541	0.012

b. Dependent variable: health workers' competence performance.

Source: study data.

4.7 Presence of privacy in relation to competence performance of reproductive and child health care provider

Regression analysis was done in order to estimate Presence of privacy in relation to competence performance of Reproductive and Child Health care provider.

Table 9 shows the uni -variate analysis between the explanatory variable (Presence of privacy) on the health workers' competence performance. The table shows that the standardized coefficient of presence of privacy to be 0.241 (p=0.101) meaning that

presence of privacy does not significantly affects health workers' Competence Performance.

Table 9: Coefficients of regression on presence of privacy in relation to health provider competence performance

Coefficients ^a

Competence Performance	Unstandardized Coefficients		Standardized Coefficients		P-Value
	B	Std error	Beta	t	
Constants	1.318	0.883		1.492	0.000
Presence of privacy	0.233	0.141	0.241	1.659	0.101

b. Dependent variable: Health workers' Competence Performance.

Source: study data.

4.8 The effects of Noise on health workers' Responsiveness Performance

Regression analysis was done in order to estimate how noise affects health workers' Responsiveness Performance.

Table 10 shows the uni-variate analysis between the explanatory variable (level of distraction (noise) on the health workers' responsiveness performance. The table shows that the standardized coefficient of level of distraction (noise) to be 0.07 (p=0.946) meaning that level of distraction (noise) does not significantly affects health workers' Responsiveness Performance.

Table 10: Coefficients of regression on how noise affects health workers' responsiveness performance

Coefficients ^a

Responsiveness Performance	Unstandardized Coefficients		Standardized Coefficients		P-Value
	B	Std error	Beta	t	
Constants	1.299	0.239		5.433	0.000
Level of distraction(noise)	0.005	0.071	0.07	0.068	0.946

b. Dependent variable: Health workers' responsiveness performance.

Source: study data.

4.9 Relationship between Composite Performance and working environment factors and socio-demographic characteristics of RCH workers

We combine all four measures of performance to obtain a Composite Performance measure. Then Regression analysis was done in order to estimate the relationship between composite performance and independent variables. These independent variables includes Office building space, Availability of drugs, Availability of equipments, Presence of privacy(office layout), Work interaction, Level of distraction (noise), Age, Level of education , Profession and Years of experience.

Table 11 shows that out of nine variables only three variables were statistically significant. These variables are office building space with the standardized coefficient of 0.345(p=0.015) meaning that office building space significant affect health worker composite performance, availability of drugs which has the standardized coefficient of 0.363(p=0.018) meaning that availability of drugs significant affect health worker composite performance, and availability of equipment which has the standardized coefficient of 0.154(p=0.013) meaning that availability of equipment significant affect health worker composite performance. Also the Table shows that the remaining variables didn't show any significant effect on health workers composite performance (age has the standardized coefficient of-.122(p=0.85), level of education has the

standardized coefficient of -.015 (p=0.970), profession has the standardized coefficient of 0.141 (p=0.901) and years of experience has the standardized coefficient of 0.306 (p=0.560).

Table 11: Relationship between composite performance, working environment factors and socio-demographic characteristics of RCH workers

Coefficients^a

Composite performance (AP+PP+CP+RP)	Unstandardized		Standarized		
	coefficients		Coefficients		
	B	Std error	Beta	t	P-Value
Constants	1.785	0.386		4.622	0.000
Office building space	0.244	0.150	0.345	2.540	0.015*
Availability of drugs	0.379	0.169	0.363	2.456	0.018*
Availability of equipments	0.364	0.154	0.359	2.454	0.013*
Presence of privacy (office layout)	0.253	0.140	0.243	1.657	0.109
Work interaction	-.50	0.122	-.058	-.410	0.683
Level of distraction (noise)	0.005	0.071	0.07	0.068	0.946
Age	-.035	0.185	-.112	-.189	0.853
Level of education	-.09	0.232	-.015	-.038	0.970
Profession	0.015	0.119	0.141	0.127	0.901
Years of experience	0.141	0.237	0.306	0.595	0.560

Key: **AP**= Availability Performance, **PP**= Productivity Performance, **P**=Competence Performance and **RP**= Responsiveness Performance.

Source: study data.

4.10 Relationship between health workers' self rated performance, their socio-demographic characteristics and working environment factors

Uni-variate regression analysis was done in order to estimate the relationship between health workers self rated performance and other independent variables. These independent variables were classified into two that is variables which represents

working environment factors (Office building space, Availability of drugs, Availability of equipments, Presence of privacy (office layout), Work interaction, Level of distraction (noise) and variables representing socio demographic characteristics (Age, Level of education, Profession and Years of experience). The meaning of these variables has been summarised in Table 12.

Table 12: Definition of variables

VARIABLES	MEANING
1. Working Environment Factors	
• Office building space	Availability of a good office with enough space for workers to work comfortably.
• Availability of drugs	Availability of Ant malaria drugs
• Availability of equipments	Availability of BP machine
• office layout	Presence of privacy
• Work interaction	The way health provider interacts with his fellow workers.
• Level of distraction (noise)	Absence of noise
2. Socio- demographic Characteristics.	
• Age	The age of respondent in years
• Level of education	The highest level of education obtained
• Profession	The cadre of the health provider
• Years of experience	The years in which the worker had worked for a specific job.

Source: Compiled by researcher.

Table 13: Relationship between health workers' self rated performance, their socio-demographic characteristics and working environment factors

Coefficients ^a

Health workers' self rated performance	Unstandardized coefficients		Standardized Coefficients		
	B	Std error	Beta	t	P-Value
Constants	2.783	0.386		0.203	0.000
Office building space	-.50	0.122	-.058	-.410	0.683
Availability of drugs	0.389	0.159	0.362	2.453	0.010*
Availability of equipments	0.141	0.237	0.306	0.595	0.03*
Presence of privacy (office layout)	0.233	0.141	0.241	1.659	0.209
Work interaction	0.234	0.140	0.369	2.541	0.006*
Level of distraction (noise)	0.005	0.071	0.07	0.068	0.946
Age	-.035	0.185	-.112	-.189	0.853
Level of education	-.09	0.232	-.015	-.038	0.970
Profession	0.015	0.119	0.141	0.127	0.901
Years of experience	0.384	0.151	0.367	2.451	0.012*

Source: study data.

Table 13 shows that out of nine variables the significant test was only four variables were statistically significant. These variables are availability of drugs with the standardized coefficient of 0.362(p=0.010) meaning that availability of drugs significant affect health workers' self rated performance. Availability of equipment with the standardized coefficient of 0.306(p=0.03) meaning that availability of

equipment significant affect health workers' self rated performance. Work interaction with the standardized coefficient of 0.369($p=0.006$) meaning that work interaction significant affect health workers' self rated performance and years of experience with the standardized coefficient of 0.367 ($p=0.012$) meaning that years of experience significant affect health workers' self rated performance.

4.11 Clients' Perception on Elements of Performance (Availability, Competence, Productivity and Responsiveness)

Exit interviews were conducted to find out Patients' perceptions on availability, competence, productivity and responsiveness of RCH worker.

4.11.1 Clients' Reporting on RCH Workers Availability

Patients' perceptions on availability of RCH worker were asked, about 54% of respondents reported that the health providers were available in their place of work. (Figure 2)

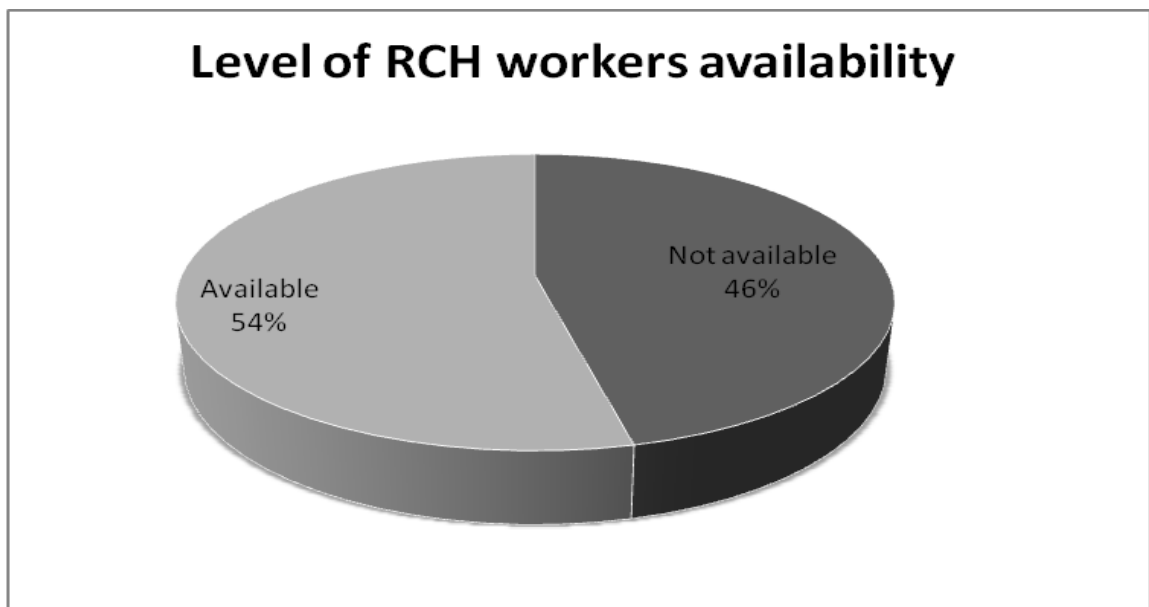


Figure 2: Clients Reporting on RCH health providers' availability

4.11.2 Clients' Reporting on RCH Workers Competence

Patients' perceptions on competence of RCH worker were asked; about 73% of the respondents reported that they were not competent. (Figure 3).

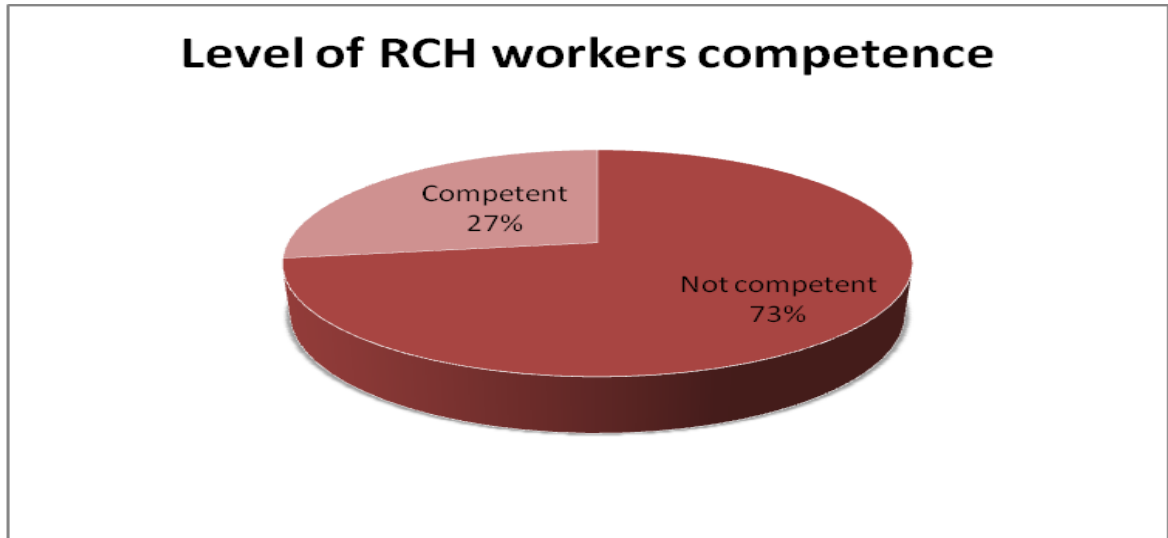


Figure 3: Clients Reporting on RCH health providers' competence.

4.11.3 Clients' Reporting on RCH Workers Productivity

Patients' were asked how they perceived the productivity of RCH workers, Most of the clients (97%) perceive RCH workers to be productive. (Figure 4)

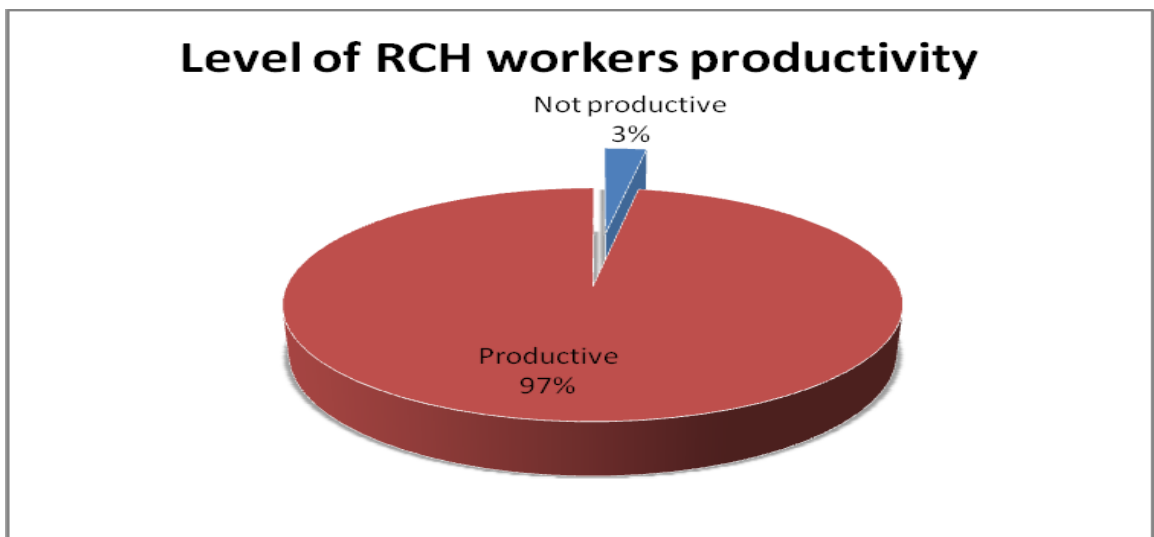


Figure 4: Clients Reporting on RCH health providers' productivity.

4.11.4 Clients' Reporting on RCH Workers Responsiveness

Figure 5 depicts Patients' perceptions on responsiveness of RCH workers, whereby 60% reported that they were not satisfied by their service meaning poor responsiveness.

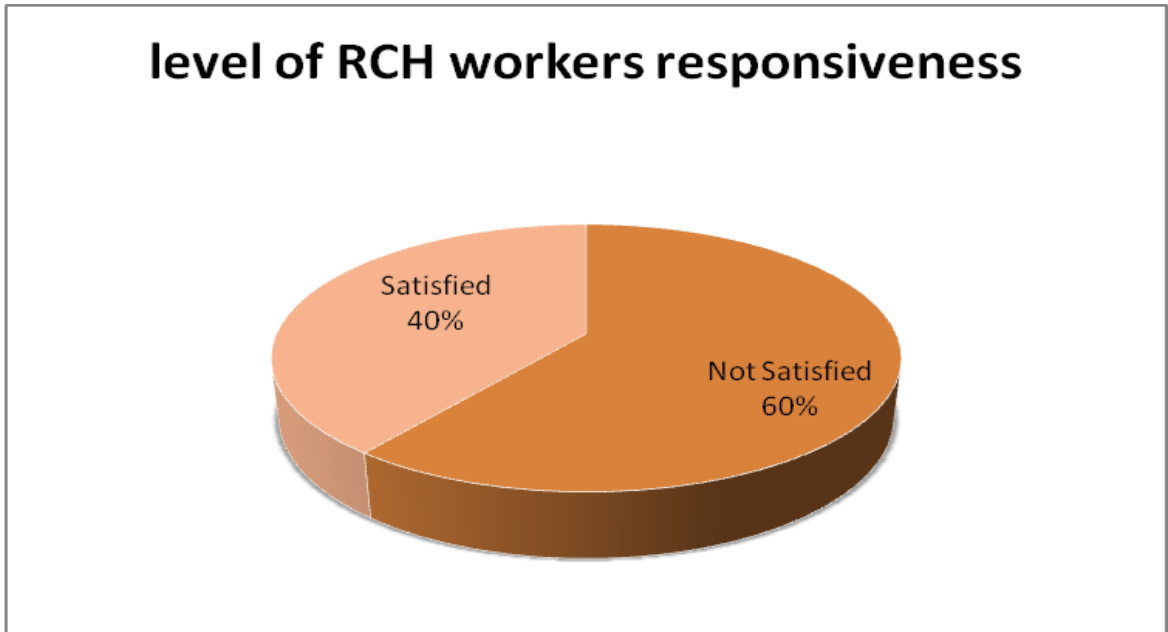


Figure 5: Clients Reporting on RCH health providers' Responsiveness

4.12 Summary of major findings from the health worker questionnaires and clients exit interview

Major findings of the study were:

There is a positive significant relationship between performance of the Reproductive and Child Health providers and the working environment elements; for example presence of office building, availability of drugs and availability of equipment. These results indicates that the physical component of the work environment have the strongest affect on the performance level of employees. Element such as level of distraction (noise), work interaction and privacy are not considered important by the RCH workers, but presence of building, availability of drugs and availability of equipment are considered important in term of better performance of Reproductive and Child Health (RCH) workers as these have significantly effect on the output(performance). However apart from working environmental factors, socio demographic factor like years of experience seem to have an effect on employees' self rated performance hence this need to be

handled through improved motivation to health workers so as to improve health workers performance. Also Clients were not satisfied with health workers' Responsiveness Performance.

CHAPTER FIVE

5.0 DISCUSSION

This study explored the effect of working environment on workers' performance among Reproductive and child Health care providers in Tarime district.

5.1 Working Environment factors affecting performance of Health care providers

Working environment represented in this study has different effect on individuals' performance measures. Also, combined together, some of them cease to affect the composite performance measure.

5.1.1 The effect of comfort level (office building space) on Availability Performance of reproductive and child health care provider

In this study the health care providers seem to be influenced by office building to stay in the office and work comfortably. The study done by Chandrasekar [33] demonstrates that employee's performance at the workplace is influenced by physical aspect of environment which includes office space (building) and furniture's. Also by Srivastava found related results whereby perceived adequacy or inadequacy of work environment (physical component like office building and electricity) extends noticeable effect on employees' job satisfaction and performance [43].

These results imply that there is a significant relationship between office building space and performance. Therefore, health workers do not only require being motivated financially but also non monetary motivation like presence of a good office with quality furniture can help to motivate workers to perform well.

5.1.2 The effect of level of interaction (interaction with fellow worker) on health workers Productivity Performance

Interaction with fellow worker has effect to health workers' performance. This study shows that it actually did not influence. This result implies that good relation with fellow worker does not influence health worker performance in Tarime district. This may be due to the fact that good relation between employee and his fellows need to be backed up with presence of job aids, goal setting and feedback; presence of good worker interaction with fellow worker without these things cannot help improve the performance of health providers. The findings of Haynes found different result, it state that the level of interaction significantly affects the performance of the office employees. [16]. Equally Chandrasekar [33] found that employee's performance at the workplace is influenced by factors like interpersonal relationships, control over environment, shift, emotional factors, overtime duty, and physical aspect which include office space and furniture's. More over the findings of the study done in Pakistan by Faiza and Shamim [4] yield different result, it was found that level of interaction in the private sector offices can greatly affect the output of the workers. It can be explained in terms of social interaction, work interaction, creative physical environment, overall atmosphere, and position relative to colleagues, position relative to equipment, overall office layout and refreshments. If these entire factors are favorable for office employees then they can perform much better. This will contribute towards enhanced output and exceptional performance .The difference between these findings and present study may be due to different geographical area whereby the present study was conducted in Tarime while the other study was conducted in Pakistan.

5.1.3 Availability of drugs in relation to the Competence Performance of Reproductive and Child Health care provider

The result of this study indicates that most respondents reported that presence of drugs influences health provider Competence Performance. Hence Tarime district management needs to find ways to make sure that drugs are sufficiently available whenever they are needed so as to improve health worker competence performance.

Without availability of drugs, even the best trained providers cannot perform effectively and this may jeopardize the quality of service offered by health providers and as a result it may lead to prolonged diseases and even death of patients.

A study done in Mbeya come up with different results, it report that although half of respondents reported drugs to be rarely available, availability of drugs had no significant relationship with the performance of maternal health care providers. [13]. The different result was due to different sample population that is a study done in Mbeya include Assistant Medical Officers and Medical Doctors Who specialize in maternal health while the present study included only nurses and clinical officers working in RCH unit as it is very rare to find a specialized health personnel working in remote areas like Tarime.

5.1.4 Availability of equipment in relation to the competence performance of Reproductive and Child Health Clinic

The results of this study showed that most respondents reported that absence of equipment (BP machines) affects health provider Competence Performance. This implies that for an employee to be efficient and productive in today's job environment she needs to be equipped with the right gear. Health facilities, which ignore the necessity for tools like equipments run the risk of diminished employee competence performance as employee by themselves cannot perform better without the working tools.

The study done in Armenia by Alfredo et al [44]found similar result , where they found out that lack of important structural and furniture such as water, electricity, toilets, examination tables affect performance .

The similarity between the study done in Armenia and the present study may be due to the same study design where by both studies use cross -sectional study and both investigated the performance of health providers in RCH unit.

5.1.5 The availability of office layout (presence of privacy) in relation to health provider Competence Performance

The results of this study showed that most respondents reported that presence of privacy did not influence health provider Competence Performance. This result implies that even in places where there is no privacy health workers are willing to perform better provided they are supplied with sufficient drugs and equipment. This may be due to the nature of their work especially those who work in rural areas like Tarime. , (health personnel are obliged to help people even in places where there are no privacy provided that they save peoples' lives.)

A study done in Pakistan found different result, it point out that there is a positive significant relationship between performance of the private sector office employees and the environmental elements; for example office layout, level of interaction and the comfort level of office [4]. The different result may be due to different sample population; the study done in Pakistan uses sample population of employees in private sector while the present study uses employees in public sector as a study population.

5.1.6 The effect of noise on health workers' responsiveness performance.

The finding of this study shows that absence of noise positively affects health provider Responsiveness Performance. This result implies that in the Tarime environment, workers are use to with a certain level of noise and as a result it does not disturb them to the extent of decreasing their Responsiveness Performance.

Shamimu and Faiza [4] report similar result, they report that the level of distraction is not considered important by the private sector office employees of Pakistan and it does not affect their performance level as well. The findings of Haynes [16] found different result, it state that level of distraction is negatively correlated and has significant impact on the performance of the employee.

The difference between a study done by Haynes and this present study may be due to different sample population whereby the present study uses health provider in public health facility while that of Haynes uses workers in private sector. Also the study findings differ with a study done by Emanuel which showed that the absence of noise increased workers productivity due to less distractions and reduction in job-related stress [45].

5.1.7 Relationship between composite performance and working environment factors and social demographic characteristics of RCH workers

The findings from this study report that a number of variables namely office building space, availability of drugs and availability of equipment has significant effect on health worker s' composite performance. Previous studies report different result, they states that availability of drugs and equipment had no significant relationship with the performance of maternal health care providers [13, 46]. On the other hand the study done by Edna [13] seems to report similar result when it comes to the question whether socio demographic characteristics of respondent had significant effect on health worker composite performance. It reports that level of education had no effect on health worker performance, provided they are highly motivated and given enough opportunities for career development. The similarity of these studies may be due to same study design and analysis methods. Both previous and present studies use crosssectional study design and regression analysis in their studies.

5.1.8 Relationship between health workers' self rated performance, working environment factors and their socio- demographic characteristics

The findings from this study report working availability of drugs, availability of equipment, work interaction and years of experience had significant effect on health workers' self rated performance. This result implies that Tarime District Authorities must provide working environment to its employees which is conducive in terms of facilities, motivation and equipments in order to improve performance. Also policy makers needs to emphasize on educating employer and employee how to measure

performance .This is because most employee tend to think that as their experience increase their performance also increases a situation which is not always be true because some workers as the years increases they get old and bored with their work and as a result their performance declines. It sometimes differ with the findings of the composite performance because self rated performance may involve bias whereby employee tend to rate themselves as good performers while they might not be perform well.

Previous researchers [13, 16, 33, and 43] reports similar results, They insists that it is the behavioral environment (work interaction) and physical work environment factors like availability of drugs and availability equipments which have the greatest impact on employees' self rated performance. Also as far as socio demographic effect on employees' self rated performance was concerned, the findings from the study done by Namuba [47] found different result, it report that years spent on the job (years of experience) does not matter because health worker who had been employed in less than 1 year had better perceived performance compared to those employed in 2 years.

5.1.9 Clients' perception on elements of performance (availability, competence, productivity and responsiveness)

Most respondents interviewed reported that the health providers were available in their place of work and that they were productive.

However, the interviews indicated gaps in the area of Competency and Responsiveness especially in the area of client provider interactions; The results implies that health provider sometime prescribing iron pills without telling the client what are its uses and sometimes they did not offer any advice to expecting mothers on what to eat to ensure good health during pregnancy and mentioning important potential complications of pregnancy which clients need to be aware of. Therefore, Tarime District Authority needs to conduct training on code of ethics to its workers so as to improve client- provider interaction which in turns will eventually increase clients' responsiveness and health worker competency.

The finding from a study conducted in Armenia by Alfredo et al [44] found the same results whereby the study show that Eighty-seven percent of clients report that most tasks were indeed performed but they were not comfortable asking health provider questions, no enough privacy during the consultation, iron/folate pills were not prescribed as required and educational material were not provided to them.

Common suggestions made by clients to improve availability, competence, productivity and responsiveness of health worker accounted for 69% of total suggestions. These include increasing the number of health worker, improvements to the physical environment of the clinic (space and hygiene/cleanliness) and on equipment and supplies (availability of medicines for pregnant women and children who are under five years).

This study used cross sectional study design as one of its methodology, which was relatively inexpensive and takes up little time to conduct and as a result enable the researcher to obtain a 'snapshot' of the outcome and the characteristics associated with it, at a specific point in time. Also the type of analysis used included Regression analysis and Cronbach's Alpha which may have influenced the result in such a way that it enables the researcher to obtain reliable data which had a high internal consistency.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The result reveals that there is a positive significant relationship between performance of the Reproductive and Child Health providers and the working environment elements; such as presence of office building, availability of drugs and availability of equipment. These results indicates that the physical component of the work environment have the strongest effect on the performance level of employees. Element such as level of distraction (noise), work interaction and privacy are not considered important by the RCH workers.

6.2 Recommendations

This study draws baseline information on the effect of working environment on health workers performance, since it is an increasing problem in Tarime district. Therefore the following recommendations are proposed.

1. Tarime district authority is advised to provide working environment to its employees, which is conducive in terms of facilities, equipments, drugs, better interaction opportunities and good refreshment.
2. Since physical components can enhance the performance level of Reproductive and Child Health employees, Tarime district authority is advised to take appropriate steps for providing better office building and sufficient drugs and equipment. This will contribute towards increase in output and exceptional improvement in employees' performance.
3. Future research can be done on the effect of work environment on the performance of private health care providers and can be compared with the findings of this study.

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APPENDICES

Appendix 1 : Informed consent (English Version)

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES



DIRECTORATE OF RESEARCH AND PUBLICATIONS.

INFORMED CONSENT FORM.

ID-NO

Consent to participate in this study

Greetings! My name is I am working on this research project with the objective of determine relationship between working environment and performance level of health care provider working in reproductive and child health unit (RCH) in Tarime district.

Purpose of the study

This study has the purpose of collecting information concerning relationship between working environment and performance level of health care provider working in reproductive and child health unit (RCH) in Tarime district. You are being asked to participate in this study because you have particular knowledge and experiences that may be important to the study.

What Participation Involves

If you agree to participate in this study the following will occur:

1. You will sit with a trained interviewer and answer questions what is the relationship between working environment and performance level of the health care provider and finally your comments on what should be done to improve the situation. The interviewer will be recording your responses in the questionnaire.
2. No identifying information will be collected from you during this interview, except your age, level of education and marital status.
3. You will be interviewed only once for approximately 10 minutes.

Confidentiality

I assure you that all the information collected from you will be kept confidential. Only people working in this research study will have access to the information. We will be compiling a report, which will contain responses from several clients without any reference to individuals. Your name or other identifying information will not appear on the records of the information you provide.

Risks

We do not expect that any harm will happen to you because of participating in this study.

Rights to Withdraw and Alternatives

Taking part in this study is completely voluntary. You can stop participating in this study at any time, even if you have already given your consent. Refusal to participate or withdrawal from the study will not involve penalty or loss of any benefits to which you are otherwise entitled.

Benefits

The information you provide will help to increase our understanding on how working environment influence workers performance and hence develop measures for better performance.

In Case of Injury

We do not anticipate that any harm will occur to you or your family as a result of participation in this study.

Who to contact

If you ever have questions about this study, you should contact the study Coordinator or the **Principal Investigator, Asigele Oswald**, Muhimbili University of Health and Allied Sciences (MUHAS), P.O. Box 65001, Dar es Salaam (Tel. no. 0717486735). If you ever have questions about your rights as a participant, you may call **Prof. M. Aboud Chairman of the College Research and Publications Committee**, P. O. Box 65001, Dar es Salaam. Tel: 022-2150302-6 and **Prof. Phare G. Mujinja who is the supervisor** of this study (Tel .no 0754-271171)

Signature

Do you agree?

Participant Agrees Participant disagree

.....

I _____ have read/understood the contents in this form. My questions have been answered. I agree to participate in this study.

Signature of Participant _____

Signature of witness/thumb mark (if participant cannot read) _____

Signature of research assistant _____

Date of signed consent _____

Appendix 2 : Informed Consent (Swahili version)**CHUO KIKUU CHA SAYANSI YA TIBA MUHIMBILI****KURUGENZI YA UTAFITI NA UCHAPISHAJI.****FOMU YA RIDHAA**

Namba ya Utambulisho

Ridhaa ya Kushiriki katika utafiti huu

Habari! Jina langu naitwa nafanya kazi katika mradi huu wa utafiti wenye lengo la kuangalia uhusiano kati ya mazingira ya kufanya kazi na kiwango cha utendaji kwa watoa huduma ya afya ya uzazi na mtoto katika kitengo cha afya ya uzazi (RCH) katika wilaya ya Tarime.

Malengo ya Utafiti

Utafiti huu una lengo la kukusanya taarifa juu ya uhusiano kati ya mazingira ya kufanya kazi na kiwango cha utendaji cha watoa huduma ya afya ya mzazi na mtoto katika wilaya ya Tarime. Unaombwa kushiriki katika utafiti huu kwa sababu una uelewa na uzoefu ambao unaweza kuwa muhimu katika utafiti huu.

Ushiriki.

Ukikubali kushiriki katika utafiti huu yafuatayo yatatokea:

Kama unakubali kushiriki katika utafiti huu zifuatazo kutokea:

1. Unaweza kukaa pamoja na Imtafiti aliyepewa mafunzo na kujibu maswali yahasuyo uhusiano kati ya mazingira ya kufanya kazi na kiwango cha utendaji ya mtoa huduma za afya. maoni yako juu ya nini kifanyike ili kuboresha hali hiyo yatachukuliwa. mtafiti atakuwa ananukuu majibu yako katika dodoso.
2. Hakuna taarifa zozote za utambulisho zitakazokusanywa kutoka kwenu wakati wa mahojiano haya, isipokua umri wako, kiwango cha elimu na hali ya ndoa.
3. Utahojiwa mara moja tu kwa wastani wa dakika 10.

Usiri

Nakuhakikishia kwamba taarifa zote zitakazokusanywa kutoka kwako zitakua ni siri, ni watu wanaofanya kazi katika utafiti huu tu ndio wanaweza kuziona taarifa hizi. Hatutaweka jina lako au taarifa yoyote ya utambulisho kwenye kumbukumbu za taarifa utakazotupa.

Madhara

Hatutarajii madhara yoyote kutokea kwako kwa sababu ya kushiriki katika utafiti huu.

Haki ya kujitoa na mbadala wowote

Kushiriki katika utafiti huu ni uchaguzi wako, Unaweza kusimamisha kushiriki katika tafiti hii muda wowote hata kama ulisharidhia kushiriki. Kukataa kushiriki au kujitoka katika utafiti hakutasababisha adhabu yoyote au upotevu wa faida yoyote unayotakiwa kupata.

Faida

Taarifa utakayotupatia itasaidia kuongeza uelewa wetu juu ya ushawishi wa mazingira ya utendaji na kiwango cha utendaji kazi na hivyo kuweza kutoa ushauri ili kuboresha utendaji wa wafanyakazi.

Endapo Utadhurika

Hatutegemi madhara yoyote kutokea kwa kushiriki kwako katika tafiti hii.

Watu wa kuwasiliana nao

Kama una maswali katika utafiti huu unaweza kuwasiliana na **Mtafiti mkuu, Asigele Oswald** wa Chuo Kikuu cha Afya na Sayansi ya jamii Muhimbili, S.L. P 65001, Dar es Salaam (Simu. no.0717486735). Kama utakua na maswali yoyote kuhusu haki zako kama mshiriki unaweza kupiga simu kwa **Prof.M. Aboud**, ambaye ni **Mwenyekiti wa kamati ya chuo ya utafiti na machapisho**, S.L.P 65001, Dar es Salaam. Simu namba: 022-2150302-6 na **Prof. Phare G. Mujinja** ambaye ni **msimamizi wa utafiti huu** (Simu nambari: 0754-271171.)

Sahihi

Unakubali?

Mshiriki amekubali Mshiriki amekataa

Mimi _____ nimesoma/nimeielewa hii fomu, maswali yangu yamejibiwa. Nakubali kushiriki katika utafiti huu.

Sahihi ya mshiriki _____

Sahihi ya shahidi / dole gumba (kama hawezi kusoma na kuandika) _____

Sahihi ya mtafiti muandamizi _____

Tarehe ya makubaliano _____

Appendix 3: QUESTIONNAIRE (English version)

Questionnaire number:

Name of health facility:

What is the level of Health facility.....

1. Hospital
2. Health centre
3. Dispensary

Date.....

SECTION A: SOCIAL DEMOGRAPHIC INFORMATION

S/n	Question/Statement	Choices	Responses
1.	Sex	1. Male 2. Female	1. Male () 2. Female ()
2.	Age...	
3.	Educational level	1. No education, 2. Primary school 3. Secondary school 4. University 5.college	1. () 2. () 3. () 4. () 5. ()
4	Years of experience in this job (RCH)	Number of years
5	Profession/cadre/title	
6	Marital status	1.Single 1. Married 2. Divorced 3. Widowed	1. () 2. () 3. () 4. ()

SECTION B: PERFORMANCE MEASURES**1. AVAILABILITY**

Rate the following questions with respect to frequency (Circle the correct answer)

s/n	Statement	Not at all	Slightly	Moderate	Considerably	Extensively
7	To what extent availability of vaccines (VIT.A), affect your performance?	1	2	3	4	5
8	To what extent availability of drugs (Magnesium Sulphate) affect your performance?	1	2	3	4	5
9	To what extent availability of drugs (Anti malarial), affect your performance?	1	2	3	4	5
10	To what extent availability of drugs (Ferrous sulphate) affect your performance	1	2	3	4	5
11	Does availability of equipment (BP machine) influence your performance?	1	2	3	4	5
12	Does availability of electricity influence your performance?	1	2	3	4	5
13	Does availability of water Influence your performance?	1	2	3	4	5
14	Does the office buildings space influence you to stay in the office and work comfortably?	1	2	3	4	5

2. COMPETENCE

Rate the following questions with respect to frequency (Circle the correct answer)

s/n	Statement	Strongly disagree	Disagree	I don't know	Agree	Strongly agree
15	Presence of privacy influences your communication with patients.	1	2	3	4	5
16	Presence of working tools influences your adherence to standard operating procedure.	1	2	3	4	5
17	Communicate with client throughout the procedure	1	2	3	4	5
18	Gives client feedback on findings of physical, obstetrical and any other procedures done	1	2	3	4	5
19	Orient women on importance of vaccination to the baby are important.	1	2	3	4	5
20	Conducts pelvic assessment to expecting mother is important.	1	2	3	4	5
21	You have been trained in the use of clinic tools (FP, adult scale, BP Machine)	1	2	3	4	5

3. PRODUCTIVITY

a) Rate the following questions with respect to frequency (Circle the correct answer)

s/n	Statement	Very low	Low	Moderate	Heavy	Very heavy
22	How would you describe the workload you have?	1	2	3	4	5
23	How does your perception of the workload affect your performance in general?	1	2	3	4	5
24	How can you describe the average number of patients you seen per day	1	2	3	4	5

b) Rate the following questions with respect to frequency (Circle the correct answer)

s/n	Statement	None of the time	A little of the time	Some of the time	Most of the time	All of the time
25	How often do you find yourself not working as carefully as you should?	1	2	3	4	5

26. If you were to judge your own performance, how would you rate yourself on the scale from 1 to 5, 1 being the poorest performance and 5 being the best performance?

Very poor	Poor	Neutral	High	Very high
1	2	3	4	5

27. If I had to ask your supervisor would she/he rate your performance on the scale from 1 to 5, 1 being the poorest performance and 5 being the best performance?

Very poor	Poor	neutral	High	Very high
1	2	3	4	5

4. RESPONSIVENESS.

Rate the following questions with respect to frequency (Circle the correct answer)

s/n	Statement	Very bad	Bad	Moderate	Good	Very good
28	How would you describe your relationship with fellow workers?	1	2	3	4	5
29	How would you describe your relationship with patients/clients?	1	2	3	4	5
30	How would you describe your relationship with your supervisor?	1	2	3	4	5
31	How does noise affect your performance?	1	2	3	4	5
32	What is the level of support that you receive from your supervisor in performing your work?	1	2	3	4	5
33	What is the level of feedback that you receive from your supervisor?	1	2	3	4	5

34. What do you suggest should be done by supervisor so as to improve performance?

.....

‘THANK YOU FOR YOUR PARTICIPATION’

Appendix 4: EXIT INTERVIEW GUIDE (English version)

Interview number:

Name of health facility:

What is the level of Health facility.....

1. Hospital
2. Health centre
3. Dispensary

Date.....

SECTION A: SOCIAL DEMOGRAPHIC INFORMATION

S/n	Question/Statement	Choices	Responses
1.	Sex	1. Male 2. Female	1. Male () 2. Female ()
2.	Age...	
3.	Educational level	1. No education, 2. Primary school 3. Secondary school 4. University 5.college	1. () 2. () 3. () 4. () 5. ()
4	Marital status	1.Single 2. Married 3. Divorced 4. Widowed	1. () 2. () 3. () 4. ()
5	Are you pregnant now? If No , you are not supposed to answer question 13 and 14	1. Yes 2. No	1. () 2. ()

SECTION B: PERFORMANCE MEASURES.**1. AVAILABILITY**

Rate the following questions with respect to frequency (Circle the correct answer)

s/n	Statement	Strongly disagree	Disagree	I don't know	Agree	Strongly agree
6	Are your medical needs usually met?	1	2	3	4	5
7	You take a lot of time waiting for services today	1	2	3	4	5
8	The health provider is always available at the facility.	1	2	3	4	5
9	The midwife start clinic according to schedule	1	2	3	4	5

2. COMPETENCE

Rate the following questions with respect to frequency (Circle the correct answer)

s/n	Statement	Strongly disagree	Disagree	I don't know	Agree	Strongly agree
10	Today you were counseled in a privacy room.	1	2	3	4	5
11	Today you were examined in a privacy room	1	2	3	4	5
12	The RCH nurse was not rushed	1	2	3	4	5
13	During this pregnancy, a provider gave or Prescribe any iron or folic acid pills?	1	2	3	4	5
14	During this pregnancy, a provider advice you what to eat to ensure proper nutrition during your pregnancy?	1	2	3	4	5
15	Did a provider tell you today, when to come back for your next visit?	1	2	3	4	5

3. PRODUCTIVITY

Rate the following questions with respect to frequency (Circle the correct answer)

s/n	Statement	Very bad	Bad	Moderate	Good	Very good
16	How do you rate the productivity of nurses in RCH unit?	1	2	3	4	5
17	During this visit to the clinic, how did the other staff treat you	1	2	3	4	5

4. RESPONSIVENESS

a) Rate the following questions with respect to frequency (Circle the correct answer)

s/n	Statement	Very bad	Bad	Moderate	Good	Very good
18	How would you describe your relation with RCH nurse?	1	2	3	4	5
19	How can you rate the care that you received today from RCH unit?	1	2	3	4	5
20	When you arrived how would you rate the assistance from RCH reception?	1	2	3	4	5
21	How would you rate the cleanliness of this health facility?	1	2	3	4	5
22	How would you rate the cleanliness of the washrooms?	1	2	3	4	5

b) Rate the following questions with respect to frequency (Circle the correct answer)

s/n	Statement	Strongly disagree	Disagree	I don't know	Agree	Strongly agree
23	Did you have enough privacy during your Exam today?	1	2	3	4	5
24	When meeting with the provider during your visit today, do you think that other clients Could hear what you said?	1	2	3	4	5
25	Do you think the information you shared about yourself with the provider will be Kept confidential?	1	2	3	4	5
26	During this visit, did the provider give you any material to take home for reading	1	2	3	4	5

27. How do you rate the performance of health worker in this clinic, 1 being low performance and 5 being best performance?

Very low	Low	moderate	High	Very high
1	2	3	4	5

28. What do you suggest should be done by management so as to improve performance of Reproductive and child health care providers?

.....

‘THANK YOU FOR YOUR PARTICIPATION’

Appendix 5: QUESTIONNAIRE (Swahili version)

Namba ya muhojiwa

Jina la kituo

Ngazi ya kituo cha Afya.....

1. Hospitali
2. Kituo cha afya
3. Dispensari

Tarehe.....

SEHEMU A -TAARIFA BINAFSI:

No	Maswali/Sentesi	Uchaguzi	Majibu
1.	Jinsia	1. M/me 2. M/ke	1. () 2. ()
2.	Umri...	
3.	Kiwango cha elimu	1.Sikusoma 2. Elimu ya Msingi 3. Elimu ya sekondari 4. Elimu zaidi ya sekondari	1. () 2. () 3. () 4. ()
4	Uzoefu katika kazi hii	Miaka ya uzoefu
5	Ujuzi/kada/cheo	
6	Hali yako ya ndoa kwa sasa....	1. Ameoa/ olewa 2. Hajaoa/ olewa 3. Ametalikiwa 4. Mjane 5. Wametengana 6. Kimada	1. () 2. () 3. () 4. () 5. () 6. ()

SEHEMU B: VIPIMO VYA UTENDAJI KAZI**1. UPATIKANAJI**

Tumia viwango vifuatavyo kujibu maswali yafuatayo (Zungushia jibu sahihi)

No	Sentensi	Hapana	Kidogo	Wastani	Mno	Kwa kina
7	Je, upatikanaji wa chanjo (vitamini A,) ku naathiri utendaji wako wa kazi?	1	2	3	4	5
8	Je, upatikanaji wa dawa (Magnesium sulphate,) ku naathiri utendaji wako wa kazi?	1	2	3	4	5
9	Je, upatikanaji wa dawa za Kupambana na malaria, ku naathiri utendaji wako wa kazi?	1	2	3	4	5
10	Je, upatikanaji wa dawa (ferrous sulphate) ku naathiri utendaji wako wa kazi?	1	2	3	4	5
11	Je upatikanaji wa vifaa tiba kunaathiri utendaji wako wa kazi?	1	2	3	4	5
12	Je, upatikanaji wa umeme unaathiri utendaji wako wa kazi?	1	2	3	4	5
13	Je, upatikanaji wa maji uathiri unaathiri utendaji wako wa kazi?	1	2	3	4	5
14	Je nafasi ya eneo lako la kazi ina kufanya ukae kituoni na kufanya kazi kwa amani?	1	2	3	4	5

2. UMAHIRI WA KAZI

Tumia viwango vifuatavyo kujibu maswali yafuatayo(Zungushia jibu sahihi)

No	Sentensi	Sikubali kabisa	Sikubali	Sijui	Nakubali	Nakubali kabisa.
15	Uwepo wa faragha ushawishi mawasiliano yako na wagonjwa kuwa mazuri	1	2	3	4	5
16	Uwepo wa vitendea kazi huchangia uzingatiaji wako wa taratibu za kazi.	1	2	3	4	5
17	Huwasiliana na mteja katika utaratibu	1	2	3	4	5
18	Anatoa maoni yake juu ya matokeo ya kimwili, uzazi na taratibu nyingine zozote zilizofanyika	1	2	3	4	5
19	Anamfundisha mama umuhimu wa chanjo kwa mtoto	1	2	3	4	5
20	Je anafahamu jinsi ya kupima nyonga ya mwanamke.	1	2	3	4	5
21	Je , umepata mafunzo juu ya utumiaji wa zana za kliniki (kutumia uzazi wa mpango, kupima uzito,)	1	2	3	4	5

3. TIJA

a) Tumia viwango vifuatavyo kujibu maswali yafuatayo(Zungushia jibu sahihi)

No	Sentensi	Chini sana	Chini	Wastani	Nzito	Nzito sana
22	Utaelezeaje mzigo wa kazi ulionao?	1	2	3	4	5
23	Ni kwa jinsi gani mtazamo wako wa mzigo wa kazi huathiri utendaji kazi wako kwa ujumla?	1	2	3	4	5
24	Je unaelezeaje idadi ya wagonjwa unaowahudumia kwa siku	1	2	3	4	5

b) Tumia viwango vifuatavyo kujibu maswali yafuatayo(Zungushia jibu sahihi)

No	Sentensi	Hakuna kabisa	Hakuna	Sijui	Karibu muda wote	Muda wote Kabisa
25	Ni mara ngapi ulijigundua mwenyewe kuwa hufanyi kazi kwa umakini kama unavyotakiwa?	1	2	3	4	5

26. Kama ukipewa nafasi ya kujipima utendaji kazi wako mwenyewe, je unaweza kujipa kiwango gani, kati ya kiwango 1-5, 1 ikimaanisha utendaji kazi hafifu zaidi na 5 kuwa utendaji bora?

Mbaya sana	Mbaya	Wastani	Mzuri	Mzuri sana
1	2	3	4	5

27. Kama ningemuuliza msimamizi wako wa kazi ,je unadhani angekupa kiwango gani kati ya 1-5 . 1 ikimaanisha utendaji kazi hafifu zaidi na 5 kuwa utendaji bora?

Mbaya sana	Mbaya	Wastani	Mzuri	Mzuri sana
1	2	3	4	5

4. MWITIKIO WA UTENDAJI KAZI.

Tumia viwango vifuatavyo kujibu maswali yafuatayo(Zungushia jibu sahihi)

No.	Sentensi	Mbaya sana	Mbaya	Wastani	Nzuri	Nzuri sana
28	Unaelezeaje uhusiano wako na wafanyakazi wenzako?	1	2	3	4	5
29	Unaelezeaje uhusiano wako na wagonjwa?	1	2	3	4	5
30	Unaelezeaje uhusiano wako na msimamizi wako wa kazi?	1	2	3	4	5
31	Jinsi gani kelele huathiri mazingira yako ya kufanyia kazi?.	1	2	3	4	5
32	Je ni kiwango gani cha msaada unachopata kutoka kwa msimamizi wako wa kazi katika kutekeleza kazi yako?	1	2	3	4	5
33	Je kiwango gani cha mrejesho unachopata kutoka kwa msimamizi wako wa kazi?	1	2	3	4	5

34. Je unashauri/ pendekeza nini kifanyike ili kuboresha utendaji kazi?

.....
'ASANTE KWA USHIRIKIANO WAKO'

Appendix 6: EXIT INTERVIEW GUIDE (Swahili version)

Namba ya muhojiwa.....

Jina la kituo:.....

Ngazi ya kituo cha Afya.....

1. Hospitali
2. Kituo cha afya
3. Dispensari

Tarehe.....

SEHEMU A -TAARIFA BINAFSI:

No.	Maswali/Sentesi	Uchaguzi	Majibu
1.	Jinsia	1. M/me 2. M/ke	1. () 2. ()
2.	Umri	
3.	Kiwango cha elimu	1.Sikusoma 2. Elimu ya Msingi 3. Elimu ya sekondari 4. Elimu zaidi ya sekondari	1. () 2. () 3. () 4. ()
4	Hali yako ya ndoa kwa sasa....	1. Ameoa/ olewa 2. Hajaoa/ olewa 3. Ametalikiwa 4. Mjane 5. Wametengana 6. Kimada	1. () 2. () 3. () 4. () 5. () 6. ()
5	Je kwa sasa una ujauzito? Kama jibu ni hapana usijibu swali la 13 na 14.	1.ndiyo 2. Hapana	1. () 2. ()

SHEMU B: VIPIMO VYA UTENDAJI KAZI.**1. UPATIKANAJI**

Tumia viwango vifuatavyo kujibu maswali yafuatayo (Zungushia jibu sahihi)

No	Sentensi	Sikubaliani kabisa	Sikubaliani	Sijui	Nakubali	Nakubali kabisa
6	Je leo Umezata mahitaji yako ya matibabu ya kawaida .	1	2	3	4	5
7	Umetumia muda mwingi kusubiri huduma leo?	1	2	3	4	5
8	Mtoa huduma anapatikana muda wote unapokuja kwenye kituo cha afya.	1	2	3	4	5
9	Mkunga ufungua kliniki kwa mujibu wa ratiba .	1	2	3	4	5

2. UMAHIRI WA KAZI

Tumia viwango vifuatavyo kujibu maswali yafuatayo (Zungushia jibu sahihi)

No	Sentensi	Sikubaliani kabisa	Sikubaliani	Sijui	Nakubali	Nakubali kabisa
10	Leo ulipewa ushauri nasaha katika chumba cha faragha.	1	2	3	4	5
11	Leo ulifanyiwa uchunguzi katika chumba cha faragha	1	2	3	4	5
12	Muuguzi hakufanya haraka katika kukuhudumia.	1	2	3	4	5
13	Wakati wa ujauzito huu, mtoa huduma wa RCH alikupa au kukuandikia dawa yoyote ya madini chuma au dawa aina ya folic acid?	1	2	3	4	5
14	Wakati wa ujauzito huu, mtoa huduma wa RCH alikushauri vyakula vya kula ili kuhakikisha lishe bora wakati wa ujauzito?	1	2	3	4	5
15	Leo mtoa huduma amekuambia tarehe ya kurudi kwa ajili ya huduma.	1	2	3	4	5

3. TIJA**Tumia viwango vifuatavyo kujibu maswali yafuatayo (Zungushia jibu sahihi)**

No	Sentensi	Mbaya sana	Mbaya	Wastani	Nzuri	Nzuri sana
16	Je unaonaje kiwango cha tija cha wauguzi katika kitengo cha RCH?	1	2	3	4	5
17	Ulipokuja kwenye kliniki hii leo, je wafanyakazi wengine wali kuhudumiaje?	1	2	3	4	5

4. MWITIKIO WA UTENDAJI KAZI.**a) Tumia viwango vifuatavyo kujibu maswali yafuatayo (Zungushia jibu sahihi)**

No	Sentensi	Mbaya sana	Mbaya	Wastani	Nzuri	Nzuri sana
18	Unaelezeaje uhusiano wako na muuguzi wa RCH?	1	2	3	4	5
19	unakionaje kiwango cha huduma ulichopokea leo kutoka kitengo cha RCH?	1	2	3	4	5
20	unapimaje kiwango cha msaada ulioupata kutoka mapokezi ya RCH leo ?	1	2	3	4	5
21	Unaonaje kiwango cha usafi wa kituo hiki cha afya?	1	2	3	4	5
22	Unaonaje usafi wa vyoo wa kituo hiki cha afya?	1	2	3	4	5

b) Tumia viwango vifuatavyo kujibu maswali yafuatayo (Zungushia jibu sahihi)

No	Sentensi	Sikubaliani kabisa	Sikubaliani	Sijui	Nakubali	Nakubali kabisa
23	Ulipata faragha ya kutosha wakati unahudumiwa leo?	1	2	3	4	5
24	Ulipokua ukizungumza na mtoa huduma leo unadhani wateja wengine walisikia mlichooonga?	1	2	3	4	5
25	Je, unafikiri taarifa ulizoonga na mtoa huduma itakuwa Siri?	1	2	3	4	5
26	Ulipokuja leo, je mtoa huduma alikupa nyenzo yoyote ya kuondoka nayo nyumbani kwa ajili ya kusoma?	1	2	3	4	5

27. Kama ukipewa nafasi ya kupima utendaji kazi wa watoa huduma katika kliniki hii, je ungewapa kiwango gani, kati ya kiwango 1-5, 1 ikimaanisha utendaji kazi hafifu zaidi na 5 kuwa utendaji bora?

Mbaya sana	Mbaya	Wastani	Nzuri	Nzuri sana.
1	2	3	4	5

28. Unapendekeza uongozi ufanye nini ili kuboresha utendaji kazi wa watoa huduma wa kitengo cha Afya ya Uzazi na mtoto (RCH) ?

.....

'ASANTE KWA USHIRIKIANO WAKO'

Appendix 7: Cronbach's Alpha Reliability Test.**Validity and Reliability analysis of health workers performance concepts.**

Statements	Mean	Std. deviation	Cronbach's Alpha(α) if item deleted	Corrected item total correlation
Availability(8 items)	2.32	0.688	0.603	0.369
To what extent absence of drugs (Anticonvulsant), affect your performance?	1.53	0.860	0.521	0.06
To what extent absence of drugs (Magnesium Sulphate) affect your performance?	1.57	0.935	0.534	0.214
To what extent absence of drugs (Anti malarial), affect your performance?	4.17	1.367	0.700	0.679*
To what extent absence of drugs (Ferrous sulphate) affect your performance	1.80	1.064	0.471	0.101
Does availability of equipment (BP machine) influence your performance?	2.77	1.331	0.673	0.712*
Does availability of electricity affect patients waiting time?	2.47	1.479	0.516	0.213
Does availability of water Influence patients waiting time?	2.70	1.179	0.545	0.129
Does the office buildings and infrastructure influence you to stay in the office and work comfortably?	3.53	0.776	0.663	0.846*
Competence(7 items)	4.17	0.095	0.782	0.303
Presence of privacy influences your communication with patients.	4.27	0.450	0.618	0.503**
Presence of working tools influences your adherence to standard operating procedure.	4.10	0.712	0.689	0.391*
Communicate with client throughout the procedure	4.20	0.407	0.558	0.220

Gives client feedback on findings of physical, obstetrical and any other procedures done	4.10	0.481	0.658	0.597*
Listening and counting the fetal heart sounds is necessary.	4.27	0.521	0.556	0.102
Conducts pelvic assessment to expecting mother is important.	4.03	0.615	0.551	0.08
You have been trained in the use of clinic tools (FP, adult scale, BP Machine)	4.23	0.504	0.580	0.231
Productivity(6 items)	3.04	0.879	0.234	0.386
How would you describe the workload you have?	3.47	0.776	0.687	0.445*
How does your perception of the workload affect your performance in general?	2.23	1.006	0.709	0.567**
How often do you find yourself not Working as carefully as you should?	1.70	0.596	0.552	0.126
How often is your performance lower than most workers on your job	3.77	0.728	0.597	0.114
If you were to judge your own performance, how would you rate yourself	3.20	0.664	0.762	0.844*
If I had to ask your supervisor would she/he rate your performance	3.87	0.571	0.551	0.221
Responsiveness(6 items)	3.82	0.568	0.544	0.414
How would you describe your relationship with fellow workers?	4.23	0.568	0.652	0.682*
How would you describe your relationship with patients/clients?	4.27	0.521	0.569	0.154
How would you describe your relationship with your supervisor?	2.73	1.143	0.665	0.712*
How does noise affect your working environment?	4.03	0.964	0.765	0.695*
What is the level of support that you receive from your supervisor	3.93	0.640	0.523	0.205

in performing your work?				
What is the level of feedback that you receive from your supervisor?	3.73	0.868	0.537	0.04
Performance Composite (4 items)	3.34	0.543	0.541	0.368

*Correlation is significant at level of 0.05(two tailed).

** Correlation is significant at level of 0.01 (two tailed).

Source: study data.