ASSESSMENT OF SURGICAL CARE BURDEN AND BARRIERS IN TANZANIA: THE CASE OF MUHIMBILI NATIONAL HOSPITAL.

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Abstract

Surgical care in Low- and Middle- Income countries has remained low in terms of accessibility, safety, availability and affordability despite various strategies and policies that are constantly being formulated and implemented in these countries. Lack knowledge, by policy makers and other stakeholders, about root causes of these problems seems to be the reason for the persistent poor surgical care.

In this case study, assessment of factors which act as burden and barriers to surgical care in Tanzania, specifically, the system related factors, human related factors, and Hospital related factors was done. The data was collected from employees, patients, operating and meeting rooms. Editing, coding, and classification into themes was, thereafter, accomplished.

The study revealed that the burden and barriers to surgical care is contributed by the poor economy of the country, poorly managed referral system, and lack of a zonal referral hospital within the coastal zone, late presentation of diseases, and poor management of resources.

Economic development is a prerequisite for combatting challenges that face surgical care in Tanzania, as better economy will enable establishment of better and safe surgical services through establishing better infrastructure, training and motivating health workers. On the other hand, good leadership and management within the health system are other factors that need potential consideration as good resource utilization like human resource, time resource, and financial resource all determine job satisfaction, performance, productivity and customer satisfaction. Identification of measures to improve employees' performance should always be a priority to leaders and managers within health facilities.

1. INTRODUCTION

Economy divides regions on the globe into High-Income Countries and Low- and Middle Income countries. Due to the influence of economy on social development a significant difference in surgical care, between the two regions, in terms of quality, safety, accessibility and affordability, emerged (Shrime, Bickler, Alkire, &Mock, 2015). Research, on the other hand, is far more encouraged and advanced in the High-Income countries and the vice versa is true in Low-and Middle-Income countries. However, research has profound impact on both economy and surgical care as it generates knowledge that enables formulation of effective strategies for development of both, economy (Hudson & Khazragui, 2012) and surgical care (WHO, 2008).

In Tanzania no study has been done to identify factors that lead to poor surgical care, hence, there is no adequate knowledge about what, exactly, should be done to improve the surgical care: no wonder the proposed policies, strategies, interventions have remained unsuccessful for decades (Shrime et al., 2015).

In this study, three theories were employed in the assessment of factors that burden surgical services and which act as a barrier to improvement of surgical care in Tanzania, specifically, the health system related factors, human related and hospital related factors. The theories are discussed hereunder:

1.1.Fish Tank Theory and Organisational Performance

According to Tate (2016), the Muhimbili National Hospital, as an organisation, is likened to a fish tank where individual performance is determined by the coordinated interactions between several nodes within a system and not by an individual employee or manager. The fish tank metaphor, in this context, regards managers, leaders and employees as the swimming and interacting fish within a tank (organizations). The performance of fish will depend on how conducive the environment within the tank is i.e., the lighting, oxygenation, and how optimal the amount of food is. Accordingly, it is the system within the hospital i.e., leadership, day to day schedule, work load, and availability of working tools, time utilisation etc., that will determine the performance of an individual employee and, ultimately, the performance of the hospital. Good performers will fail to reveal good performance if they will not be given have the working tools that they need and will not be given adequate time to perform their tasks.

1.2.Expectancy Theory and Organisational Performance

Employees reveal better performance when good performance is rewarded. Rewards decrease absenteeism, promote loyalty and eagerness to work more even in times when work load increases (Njanja, Maina,Kibet,& Njagi, 2013). According to Oliver (1974), the Expectancy Theory which states that: *"The intensity of a tendency to execute in a particular behaviour is dependent on the intensity of expectation that the performance will be followed by a definitive outcome and on the appeal of the outcome to the individual (Vroom, 1964)".* It was suggested by Victor Vroom in 1964 and was based on an assumption that individuals choose a behaviour voluntarily from a list of alternative behaviours. Employees increase efforts once there is a link between the efforts and reward, the reward which must be appreciated by the employee. Increased efforts improve performance and increased performance will lead to bigger reward, hence, a vicious cycle which benefits the employee and the organisation.

1.3. Carrot and Stick Theory and Organisational Performance

According to Williams (2013), the carrot and stick approach to motivation is a tradition motivation theory that was based on an old phrase which states that: *"The best way to make the donkey move is to put a carrot out in front of it or whip it with a stick behind".* The theory is based on the fact that motivation (carrot) elicits the desired behaviour, whereas, punishment (whipping) modifiers the behaviour, and whenever the latter is administered at the right time and quantity, leads to development of the desired behaviour. Hence, improving job satisfaction through better remunerations, timely promotion, bonuses, etc., leads to improved performance. Likewise, demotion and other disciplinary actions following a misconduct will ensure good employees' performance (Dartey-Baah &Ampofo, 2014).

2. LITERATURE REVIEW

2.1. Impact of Economy on Health

Economy is one of the most important factors that determines the accessibility, affordability, effectiveness and quality of social services within a country as it reflects the ability of a country to produce the service. With good economy the workforce can get better training, can be adequately remunerated, and work in a conducive environment. Hence, good economy enhances good performance, good quality of services, high life expectancy, and high customer satisfaction (Tashobya et al., 2014). New Zealand, for instance, is a country with one of the best economy and surgical care in the globe and has the highest life expectancy of 80.7 years

,whereas, Tanzania, one of the Low-and Middle-Income countries, has a life expectancy of 52 years (WHO, 2017). In addition to poor economy which explains poor investment on health, poor strategies on health is another the main cause of poor surgical care in Africa. It is in Africa where 90% of the population has no access to timely surgery (Maera et al., 2015), and where some surgically treatable conditions have no available treatment, in Sierra Leone, for instance, 25% of surgically treatable diseases have no available treatment (Groen et al., 2012).

Economy of a country also determines the ability of the citizens to consume services. Poor economy makes the surgical care unaffordable to majority of patients. The low ability of patients to pay for transport and surgical services is among the major challenges, considering the fact that these expenses are not reimbursed or subsidised by the Government nor insurance schemes. Inability to pay makes patients deterred from seeking surgical care even if they would wish to do so (Ologunde, 2013). Poor affordability is also contributed by poor health insurance coverage in the Low-and Middle -Income countries. In Tanzania, for instance, only 15-16 % (7.2 million people) and in Kenya only 28% (12.3 million people) of the population have health Insurance coverage (Renggli, 2019).

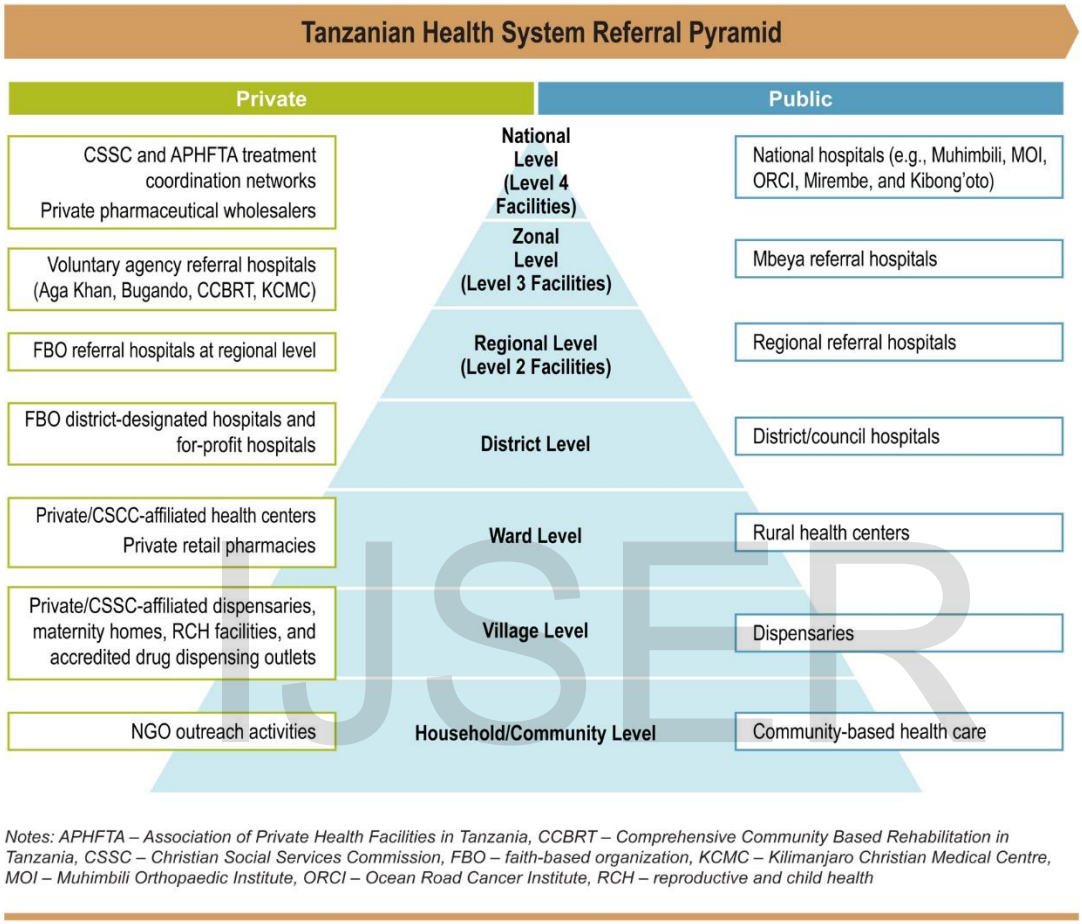
The Heads of States of the African Union, in April 2001, came up with the Abuja Declaration whose target was for each African country to allocate at least 15% of its annual budget for Health sector. Up to 2010 only one country had reached that target. However by 2017 Rwanda could allocated 22.3%, Togo15.4%, South Africa 14%, Uganda 10.2 %, Nigeria 6.7% and Tanzania 5.6%. Other countries allocating less than 5% (Tomori, 2017).

2.2. Tanzanian Referral System

The health system in Tanzania is hierarchical and tandem with the political administrative hierarchy (see Fig.1.1 & 1.2). At the bottom are community-based health care centres and dispensaries which are available in every village. At the ward level there are health centres whereas, at the district and regional levels there are district and regional referral hospitals, respectively. The Tertiary level is made of zonal referral hospital, which include: Mbeya referral hospital, on south-western part of the country; Bugando referral hospital, on the north; Kilimanjaro Christian Medical Centre (KCMC) on the north-east; the Aga Khan hospital and the Comprehensive Community Based Rehabilitation in Tanzania (CCBRT). The latter two are both situated in Dar es Salaam Aga Khan Hospital is a privately owned hospital where majority of patients, including most of the Health Insurance schemes in Tanzania, cannot afford its

services; whereas the CCBRT is specialised in rehabilitation, hence, it does not offer general surgical services. From the researcher's opinion the coastal zone does not have a zonal referral hospital.

FIG.1.1. REFERRAL PYRAMID



Source: mms.org.mmh-mms.com

3. METHODOLOGY

The study was conducted at the Department of General Surgery of Muhimbili National Hospital. The study population included: patients, who were admitted in the four surgical Wards; doctors and nurses, who worked at the Department of General Surgery. According to Yamane (1967), a sample size of 349 obtained. Two sampling techniques were employed: Judgemental (purposive) sampling for selecting the employees, morning meeting days, operating days; and stratified sampling for selecting patients in the 4 wards.

Employees who gave consent, who were interested in taking part in the study, and have worked for at least 4 years in the department were included in the study. Employees who did not consent, were not interested, and who have worked in the department for less than 4 years were excluded. On the other hand, inclusion criteria for patients included patients who gave consent, showed interest for participation and who had a general surgical condition, patients who did not consent, who were not interested, and those who were wrongly admitted to the general surgical wards were excluded.

The data was collected from patients through schedules; employees through questionnaires; from the daily meeting, where attitude toward the sessions and degree of participation by the employees were assessed; and operating rooms, where time wasted before starting the first operation and between operations was assessed.

The quality of the collected data was ensured through data editing, data coding and classification of the data into themes where the numerical (quantitative) was described statistically and the non-numerical (qualitative) data having common characteristics were placed in one category and presented in a narrative form.

The data obtained from employees and patients enabled identification of human related factors, whereas the data obtained from the morning meetings and operating rooms enabled identification of hospital related factors which contributed to a burden and barriers of surgical care.

4. DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1. Results from the Employees

A total of 29 employees who worked in the Department of Surgery were included in the study. The employees included: 5 (17.2%) Specialists (Surgeons), 6 (20.7%) Medical Officers, and 18 (62.1%) Nurses (See Table 4.1).

TABLE 4. 1: FREQUENCY DISTRIBUTION OF EMPLOYEES ACCORDING TO WORK EXPERIENCE IN YEARS

	Years of experience								
Employees	<5	5-10	11-15	16-20	21-25	26-30	31-35	36-40	Total

Specialists	1	2	2	0	0	0	0	0	5
Medical Officers	2	3	1	0	0	0	0	0	6
Nurses	3	6	2	0	0	1	4	2	18
Total	6	11	5	0	0	1	4	2	29

Source: Research Findings, 2019

The study revealed that only 2 (6.9%) of employees were promoted and had their salaries increased over the last 4 years. The remaining 27 (93.1%) did not have any promotion (See Table 4.2).

TABLE 4. 2: FREQUENCY DISTRIBUTION OF EMPLOYEES ACCORDING TO PROMOTION AND SALARY INCREMENT WITHIN PAST 4 YEARS

Employees	Promotion and Salary increment		
	Promoted	No promotion	Total
Specialists	0	5	5
Medical Officers	1	5	6
Nurses	1	17	18
Total	2	27	29

Source: Research Findings, 2019

Over the past 10 years only 17 (58.6%) employees had the opportunity to attend short courses where Technical Training, sharing ideas, acquisition of skills and knowledge regarding current modalities of managing diseases. The remaining 12 (41.4%) employees never had that opportunity. This number included 2 specialists, 4 Medical Officers and 6 Nurses. From the Researcher's opinion this is not pleasant at all considering that these are employees who have to manage diseases by employing Modern approaches and Technology. It is without doubt that they may not be as efficient as they should be (See Table 4.3 & 4.4).

TABLE 4. 3: FREQUENCY DISTRIBUTION OF EMPLOYEES ACCORDING TO ATTENDANCE FOR SHORT COURSES OVER PAST 10 YEARS

Employees	Short Course attendance

	Not Attended	Attended	Total
Specialists	2 (6.9%)	3 (10.3%)	5 (17.2%)
Medical Officers	4 (13.8%)	2 (2.9%)	6 (16.7%)
Nurses	6 (20.7%)	12 (45.4%)	18 (66.1%)
Total	12 (41.4%)	17 (58.6%)	29 (100%)

Source: Research Findings, 2019

TABLE 4. 4: FREQUENCY DISTRIBUTION ACCORDING TO THE LAST YEAR OF TRAINING

Last year of Training	Frequency	Cumulative Frequency
0-2	5	5
2-4	7	12
4-6	2	14
6-8	2	16
8-10	1	17

Source: Research Findings, 2019

Forty One percent of the employees have never attended any short course within the past 10 years: lack of awareness about opportunities for training and lack of sponsorship were the prominent reasons given for failure to attend training, the later accounting for 25% of all of the reasons. It seems there are neither policies nor strategies in place that ensure that employees acquire skills and knowledge constantly and this may contribute to poor performance (Mazin& Arlfou, 2017).

The employees came up with 89 factors which led to job dissatisfaction: lack of proper and adequate diagnostic and therapeutic facilities, which constituted 21.3% of all the suggestions; inadequate salaries 18.0%; lack of motivation, such as promotion, 14.6%; and lack of training opportunities, 12.4%. In adequate number of staff constituted 14.6 percent, a proportion that suggests that there is a high ratio of patients to employee, a factor that burdens the surgical care, (see Table 4.5 & Fig. 4.1). According to the Fish Tank theory, these are some of the factors that compromise performance of both employees and the National Hospital.

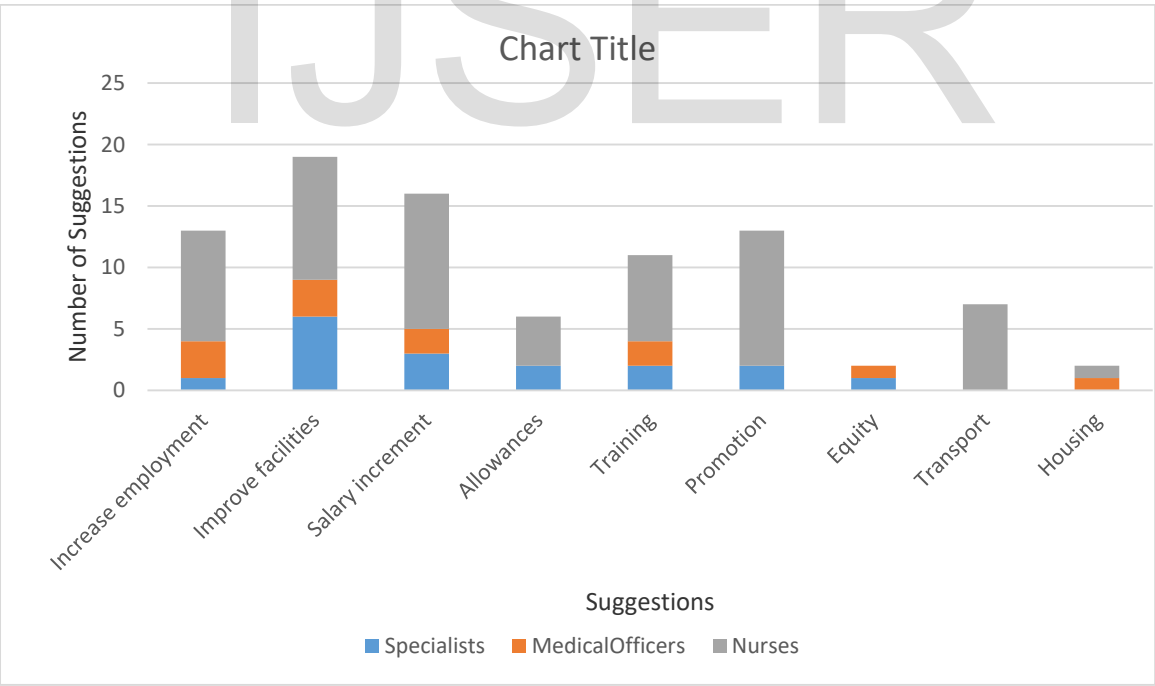
TABLE 4. 5: FREQUENCY DISTRIBUTION OF SUGGESTIONS TO IMPROVE PERFORMANCE DEPENDING ON PROFESSION OF RESPONDENTS

	Excellent		Good		Satisfactory		Not Satisfactory		Total	
	f	%	f	%	f	%	f	%	f	%
Specialists	0	0	2	6.9	3	10.3	0	0	5	17.2
Medical Officers	0	0	3	10.3	1	3.4	2	6.9	6	20.7
Nurses	0	0	11	37.9	4	13.8	3	10.3	18	62.1
Total	0	0	16	55.1	8	27.5	5	17.2	29	100

Source: Research Findings. 2019

(f Abbreviates frequency)

FIGURE 4.1: Stacked/Subdivided Bar Diagrams Distribution of suggestions to improve individual performance



Source: Research Findings, 2019

4.2. Results from the Operating Room

There was a total of 13 visits to the 8 operating rooms. Each room had a waiting room for a subsequent patient, a pre-anaesthesia room. It was designed for administration of anaesthesia before taking the patient to the operating table. These rooms were not used as per the architect's plan, instead patients were given anaesthesia on the operating table, a process that contributed to prolonged interval between operations.

The official cutting time was 8.30 am, however, this time was only observed once. The rest of the days the first operations always stared later than 8.30 as displayed in Table 4.7. An average of 55.5 minutes were lost between operations leading to lower number of operations performed per day. However, the theatre was constantly air conditioned, lighted, supplied with water, and there were employees every day and night, all these adding to the running costs. As the running cost remains constant, operating fewer patients over a given time period due to poor time utilisation contributes significantly to poor performance, inefficiency, and low productivity of the employees, theatre, and the National Hospital.

TABLE 4. 7: FREQUENCY DISTRIBUTION OF TIME WASTED TO START OPERATIONS (BEYOND OFFICIAL 8:30AM)

Day of Operation	Time wasted (minutes)
1	-65 (1.05)
2	-30
3	-560
4	0
5	-71
6	-60
7	-39
8	-0
9	-90
10	-45
11	-125
12	-45
13	+10

Source: Research Findings, 2019

TABLE 4. 5: FREQUENCY DISTRIBUTION OF TIME WASTED BETWEEN OPERATIONS

Day	No of intervals	Total time wasted (minutes)	Average time wasted
1	1	73	-73.0
2	1	119	-119.0
3	3	123	-41.0
4	3	100	-33.3
5	1	58	-58.0
6	1	53	-53.0
7	2	70	-35.5
8	1	48	-48.0
9	2	74	-37.0

Source: Research Findings, 2019

4.3. Results from the Morning Meetings

The intentions of the morning meetings were to pass the announcements from the Management, through the Head of Department, to the employees; presentation of mortality reports; and presentation of all patients who were admitted on the previous day, the day before the day of the meeting. Junior Doctors presented the patients. However, the patient ware not brought to the meeting room, hence, senior Doctors could not verify the presented information, i.e., the symptoms and signs. The members always came late, beyond 7.30, necessitating the sessions to start beyond 7.30.

Only a smaller proportion of members participated in the discussion through asking questions, making comments and suggestions: these were categorised as Active Members. Another category of members who were following the discussion but not contributing, unlike the previous category, were categorised as Passive Members. Members who were not following the discussion but busy with personal activities like reading books, notes, and charting through their phones were categorised as Non-participating Members.

Medical Students and majority of Medical Officers and Specialists did not participate actively. In this study, active members constituted about 12.8%, passive members about 33.8%, and non-participating members about 53.4%. Apparently, members were not interested in the

meeting sessions. Obviously the sessions lacked the desired impact and contributed to unproductive utilisation of time. However, schedules that do not interest employees and are time consuming, according to the Fish Tank theory, hinder performance, efficiency and productivity. These are kinds of schedules which are imposed by managers, to the daily activities within an Organisation, without involving employees. The meeting sessions are not educative enough and they consume time which should, otherwise, be allocated for service delivery. According to Asani (2014), case based and bed side teaching, during service delivery to patients, is the most effective way of imparting competency in clinical, clinical and therapeutic skills to students and Junior Doctors. It also ensures adequate time allocation to service delivery as teaching and services delivery are done at the same time. This leads to increased efficiency, performance, and productivity as more services are produced within a given time.

TABLE 4. 6: FREQUENCY DISTRIBUTION OF ATTENDANCE TO MORNING MEETING ACCORDING TO DEGREE OF PARTICIPATION IN DISCUSSION

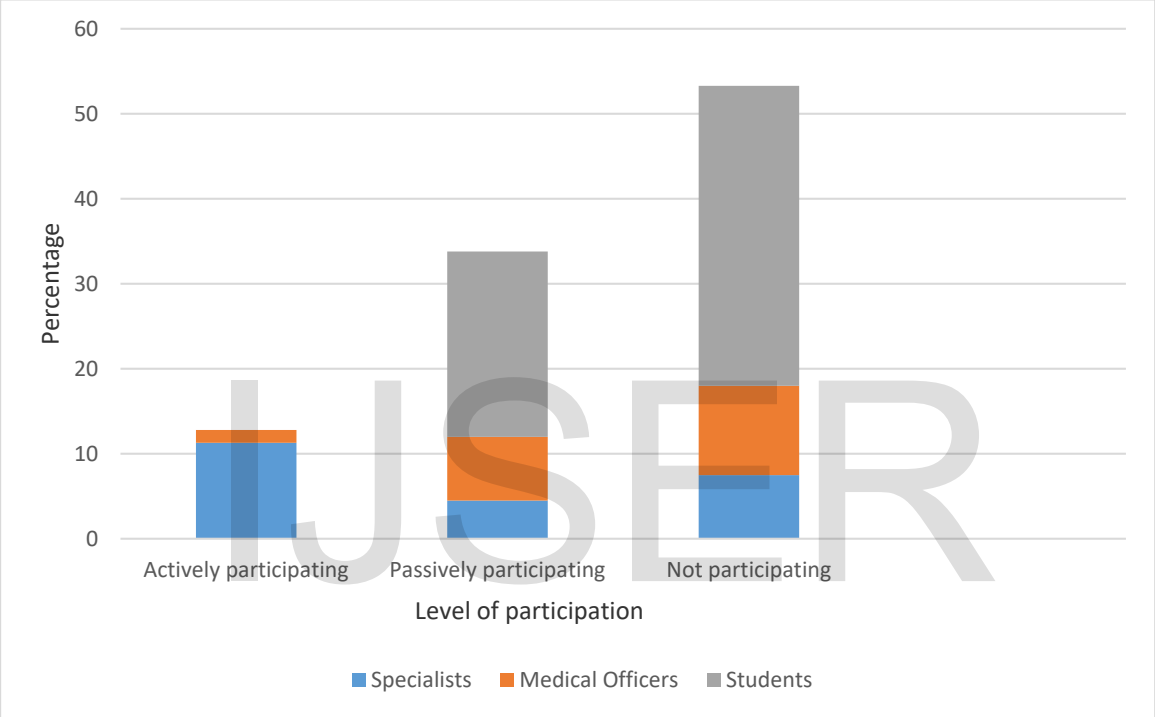
		Day1		Day2		Day3		Day4		Total	
		f	%	f	%	f	%	f	%	f	%
Active	Specialists	3	9.4	4	14.8	4	11.4	4	10.3	15	11.3
	Medical Officers	2	6.2	0	0	0	0	0	0	2	1.5
	Students	0	0	0	0	0	0	0	0	0	0
Total		5	15.6	4	14.8	4	11.4	4	10.3	17	12.8
Passive	Specialists	3	9.4	2	7.4	1	2.8	0	0	6	4.5
	Medical Officers	0	0	3	11.1	2	5.7	5	12.8	10	21.8
	Students	0	0	8	29.6	12	34.3	9	23.1	29	33.8
Total		3	9.4	13	48.1	15	42.9	14	35.9	45	7.5
Not participating	Specialists	0	0	1	3.7	4	11.4	5	12.8	10	10.5
	Medical Officers	3	9.4	4	14.8	2	5.7	5	12.8	14	35.3
	Students	21	65.6	5	18.5	10	28.6	11	28.2	47	53.3
Total		24	100	10	100	16	100	21	100	71	100

Grand total	32		27		35		39		133	

Source: Research Finding, 2019

(f abbreviates Frequency)

FIGURE 4. 2: STACKED/SUBDIVIDED BAR DIAGRAM SHOWING FREQUENCY DISTRIBUTION ACCORDING TO THE LEVEL OF PARTICIPATION IN MEETING SESSIONS AND ACCORDING TO CADRE



Source: Research Findings, 2019

4.4. Results from Patients

A total of 118 patients were included in the study. There were 55(46.6%) male patients and 63 (53.4%) female patients. They were either referred from other hospitals (82.2%) or they decided to be treated at Muhimbili National Hospital (17.8%) without being referred by any Health Facility (self-referrals).

Patient from Dar es Salaam constituted 53 (44.9%), Tanga 18 (15.3%), Pwani10 (8.5%), and Morogoro 9 (7.6%) of all (See Table 4.10).These 4 Regions together contributed about 76.3% of all patients. The lack of a zonal referral hospital in the coastal zone may explain why the majority of patients were from these regions.

Referred patients from Dar es Salaam were 40 (33.9%), whereas the self-referred patients were 13 (11.1%) of all the patients. The referring hospital were regional referral hospital (Temeke, Amana, and Mwanamyamala) contributed 34 (85%) whereas district hospitals in Dar es Salaam referred 5 (12.5%) patients who were referred from Dar es Salaam. Only 1(2.5%) was referred by a zonal Hospital. No specific reasons for the referrals were given by the referring facilities on the referral letters, other than the note "referred for further management'', the information that doesn't elucidate the exact reason for the referral. Apparently, Muhimbili National Hospital is playing many unofficial roles which add to the burden of the surgical care i.e. functioning as a Dispensary where patients seek for medical treatment without being referred, as a regional hospital by receiving patients from the district hospitals and as a coastal zonal hospital by receiving patients from the regional hospitals. These roles, create a heavy burden to its services.

Fig. 1.2. Administrative Map of Tanzania

Source: nationsonline.org

At the country level, the study revealed 97(82.2%) referred patients: a total of 68 (70.2%) from regional referral hospital, 20 (20.7%) from district hospitals and only 9 (12.7%) from the zonal referral hospitals. Self-referrals contributed about 21 (17.8 %) of all patients.

TABLE 4.10: FREQUENCY DISTRIBUTION ACCORDING TO REGION, SEX AND REFERRAL STATUS

Address (Region)	Male		Female		Total
	Referral	Self-referral	Referral	Self-referral	
Pwani	6	0	4	0	10
Zanzibar	2	0	2	0	4
Singida	1	0	2	0	3
Kigoma	2	0	2	1	5
Arusha	0	0	2	0	2
Mara	0	0	1	0	1
Iringa	1	0	0	0	1
Mbeya	1	0	1	2	4
Simiyu	0	1	0	0	1
Morogoro	3	0	6	0	9
Manyara	0	0	2	0	2
Songea	0	0	1	0	1
Mwanza	0	2	0	0	2
Tanga	5	2	11	0	18
Kilimanjaro	2	0	0	0	2
Dar es Salaam	21	6	19	7	53

Source: Research Finding, 2019

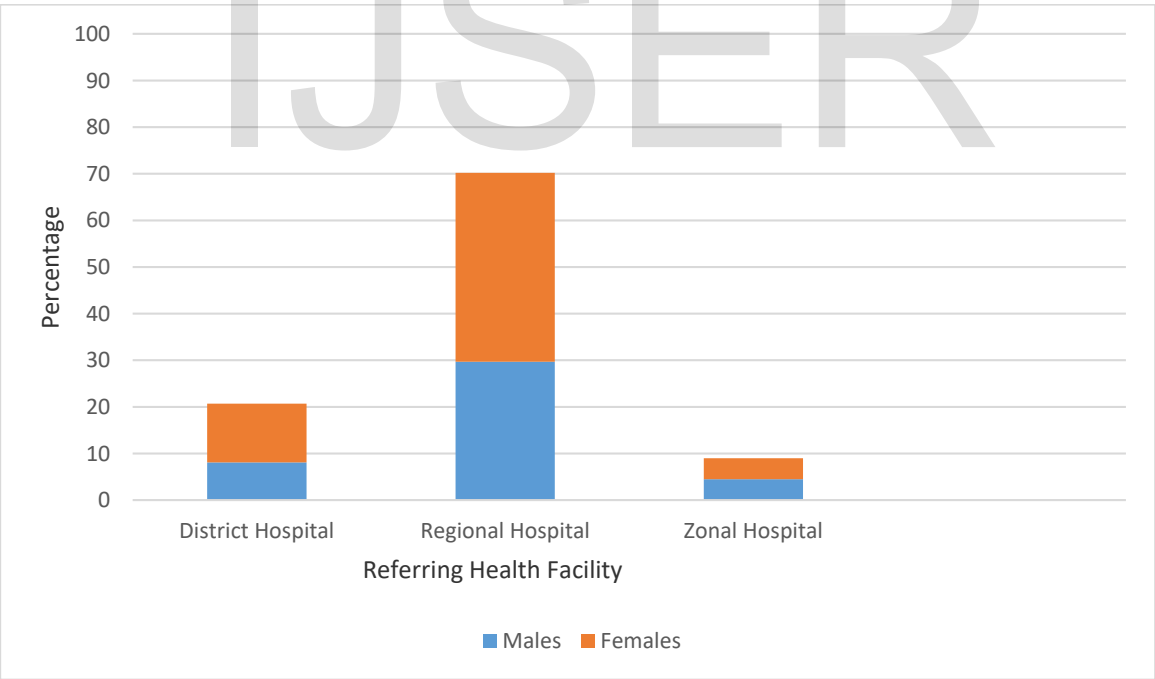
TABLE 4.11: FREQUENCY DISTRIBUTION OF SELF-REFERRALS ACCORDING TO REASONS.

Reason for Self-referrals	Number of Respondents
Loss of trust to other facilities	4
Previously treated at MNH	7
Lack of Facilities	0
Unspecified Reasons	11

Source: Research Findings. 2019

The lack of trust is definitely due to poor results in Lower levels which are apparent to the community. On the other hand, having been treated, previously, at the national hospital shouldn't warrant treatment of subsequent illnesses there, instead patients should seek for medical attention at the primary Health Facilities and move along the hierarchy, depending on the opinions of health care providers. From the findings in this study, non-adherence to the referral criteria and poor services at the lower Health Care Facilities were implicated as the source of burden to the National Hospital. According to Manzi et al. (2012), the poor services at the lower health facilities is contributed by inadequate number of staff, high rate of absenteeism, poor supervision, and poor employees' performance and productivity. All these factors contribute to increased work load at the national hospital which burdens the surgical care.

FIGURE 4.3: STACKED/SUBDIVIDED BAR DIAGRAM SHOWING FREQUENCY DISTRIBUTION ACCORDING TO REFERRING HEALTH FACILITY IN ALL REGIONS AND SEX



Source: Research Findings, 2019

The duration of illnesses was as follows: Only 27 (21.3%) patients had illnesses whose duration lasted less than one week prior to seeking services at Muhimbili National Hospital. Whereas, 28 (22%) had illnesses of duration ranging from 1-5 years. The late presentation is

associated with complications of diseases; advances stages of malignant diseases; lower capability of the patients to pay for services, the latter due to spending too much financial resources to the lower health facilities, traditional healers, and inability of the patient and relatives to engage, fully, in income generating activities. On the other hand these are patients who will need longer hospital stay, more investigations, surgical interventions which are bound to have poor results.

These are also patients who have to be fed by the hospital, occupying beds for prolonged period of time, and requiring exemption from payment for the cervices due to patients' inability to cover the costs of services. All these factors add to an overwhelming burden to the hospital.

TABLE 4.12: FREQUENCY DISTRIBUTION ACCORDING TO DURATION OF SYMPTOMS

Duration (weeks)	Frequency
0<1	27
2-3	20
4-5	20
6-7	4
8-9	20
10-11	9
12-13	13
24-25	4
3 years	5
4 years	4
5 years	2

Source: Research Findings, 2019

5. CONCLUSSION

Factors which burden and act as barriers to the surgical care include:

5.1. Health System Related Factors

The inability of the Government to adequately fund the Health sector is mainly due to Poor economy of the country. With inadequate funds the Health sector fails to adequately motivate its employees, supply adequate diagnostic and therapeutic facilities, introducing modern medical technology, developing its human resource, and lack of the smooth running of daily

activities throughout the whole country's health system. These lead to unnecessary referrals to Muhimbili National Hospital as the efficiency at these lower levels is suboptimal.

The geographical location, in the coastal zone (See Fig. 1.2), of Muhimbili National Hospital in Dar es Salaam makes the hospital less accessible to majority of patients who reside in southern, western and northern due to expenses that are required to cover transport. Also, "absence" of a zonal hospital in the coastal zone necessitates the national hospital function as a zonal referral hospital, a task that burdens its services. The combined effect is the national hospital playing the role of all facilities down the hierarchy.

5.2. Human Related Factors

The suboptimal performance of employees contributes significantly to the low productivity of the Hospital: the cancellation of patients for operation, due to poor pre-operative preparation; delays in starting operations; and unnecessarily long intervals between operations are among the factors that justify this finding. On the other hand, patients seek for surgical care at the national hospital too late, a factor which, in addition to causing poor results as morbidity and mortality increases as the diseases advance, necessitates longer hospital stay, congestion of patients in the wards, increased workload, and more consumption of resources. All these observations make the human related factors multifaceted, synergistic, and requiring stern and multidisciplinary measures to combat.

5.2. Hospital Related Factors

The Fish Tank Metaphor requires the systems within the hospital to be to enhance performance of Health care providers. In this study the following were identified:

5.2.1. Poor Job Satisfaction

Poor human resource management due to lack of timely promotions and salary increment, inadequate salary and allowances, in adequate opportunities for training, lack of working tools, and transport for nurses are among the factors which were revealed as contributing factors to poor employee performance. According to the Fish Tank metaphor, these are the factors which make the tank dirty and need to be tackled.

5.2.2. Poor Leadership

The leadership imposes activities which requires every employee to abide to, without analysing their impact on employees' performance. The morning meetings, for instance, do not have the desired impact and majority of employees and student do not benefit from the sessions. The fact that most members utilise the sessions to do their own activities, like reading, implies that

the members are forced to attend the sessions against their will. Poor supervision at the working stations is among the major obstacles to better performance and high productivity. The poor pre-operative preparations in the wards and the time waste in the operating theatre both justify this fact. The poor leadership at the national hospital and, according to Manzi et al., (2012), the poor leadership at the lower health facilities imply that leadership is a problem that affects the whole Tanzanian health system.

poor leadership as evidenced by imposing non-productive and time consuming activities in the daily schedules, without seeking for employees' opinions; the use of traditional mode of communication, while electronic communication mode is currently widely available and it is the most effective way of communication between managers and employees (Kokemuller, n.d).

6. RECOMMENDATIONS

In order to reduce the burden and eliminate the barriers for the surgical care a few measures need to be taken by the Government and other stake holders:

Good Governance should be the promoted and maintained as it creates a favourable environment for peace, freedom to speech, nationalism, rule of law, and a corruption free zone: the prerequisites for economic growth. All sectors that contribute the most to the Gross Domestic Product and employ more, in the descending order of importance: Agriculture, Tourism, Mining, and industrial sectors should be developed so as to increase their contribution to the Gross Domestic Product, employment and economic growth. This will enable the Government to allocate adequate funds to the health sector.

Efficiency within the Health system should be enhanced through improvement of services at all Health facilities through ensuring availability of modern diagnostic and therapeutic facilities; availability of well trained personnel, in adequate numbers and who are well supervised; favourable infrastructure i.e. operating rooms, blood banks, intensive care units, and safe anaesthesia. According to the Fish Tank Metaphor, these measures will create a favourable environment which will enhance performance, and will abolish unnecessary referrals.

The Government or non-governmental organisations should establish a public owned zonal referral hospital, which will offer affordable general surgical care, within the coastal zone. This will alleviate the burden at Muhimbili National Hospital. However, down grading the national

hospital to a zonal referral hospital and establishing a main referral hospital within the central zone will even be better solution as this will improve accessibility of the all the citizens to the main referral hospital.

The Management Team at the national hospital ought to ensure that the efficiency, performance, and productivity of the hospital are optimised through improved supervision of the daily activities, devotion of adequate time to service delivery, and transforming the classroom teaching to case based teaching: students and employees learn best through practical exposure (Jones & Rai, 2015). Sir William Osler (1849-1919), a Canadian Physician, once said: "*to study phenomena of without books is to sail on uncharted sea, whilst to study books without patients is not to go to see at all*" (Stone, 1995).

According to the Carrot on Stick theory, good performance should be rewarded and poor performance should not be tolerated. Good performance should be made a criteria for promotion, consideration for managerial posts, and consideration for higher training. Poor performance should be discouraged and stern measures taken as per labour Laws.

Theatre utilization should be optimised in order to increase the number of operations per a given time period. Proper supervision within the theatre should also be established in order to abolish unnecessary time waste. Utilization of the pre-anaesthetic rooms, will further prevent time waste between operations.

More research is needed to identify factors that lead to late presentation of patients at MNH.

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