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**The Influence of Staffs' Knowledge on Preparedness of
Catholic Mission Hospitals for Health Service Delivery
during Emergency Inflow of Patients in Nairobi County,
Kenya**

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The Influence of Staffs' Knowledge on Preparedness of Catholic Mission Hospitals for Health Service Delivery during Emergency Inflow of Patients in Nairobi County, Kenya

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Abstract

Purpose: To determine the influence of staffs' knowledge on preparedness of catholic mission hospitals for health service delivery during emergency inflow of patients in Nairobi County, Kenya.

Methodology: A cross sectional descriptive study design was used with quantitative approach for data collection and analysis. Four tier-3 Catholic Mission Hospitals were purposively selected and a stratified random sample of 647 members of staff from different cadres was taken. A structured questionnaire was used to collect data. Data was analyzed using STATA software v.16, where descriptive statistics were presented using frequencies and percentages whereas inferential statistics were presented using correlation and regression analysis.

Findings: The study found out that staff training and exercises for knowledge and skills influenced preparedness of Catholic Mission Hospitals for health service delivery during emergency influx of patients. A positive and significant relationship was found at ($r=0.211$; $p<0.01$). This means that the hospitals are perceived as prepared for health service delivery during emergency influx of patients. However, staff drills (staff exercises) at ($r = -0.147$; $p<0.05$) were found insignificantly influencing services delivery. This means that the hospitals would be unprepared even if staff drills were in place.

Recommendations: The study recommends that the managers of catholic hospitals should have scheduled staff trainings and drills for efficient and timely response in times of need for emergency service deliver. Policy guidelines on skills acquisition for the staff in the health institutions need to be developed to guide the trainings and frequent drills to sharpen the theory and practice of the healthcare team.

Keywords: *Emergency Influx of patients, Health service delivery, Catholic mission hospital, Nairobi County*

1.0 Background to the Study

Preparedness for health service delivery continues to be a challenge for the catholic mission hospitals. Globally, disasters and crisis are highly unpredictable and they can hit communities at any time causing serious human suffering and death, thus calling for emergency response for health service delivery. When disasters occur, they overwhelm the health systems of the organizations due to increasing numbers of casualties, making it difficult for the hospitals to cope up with the situation (Bayer et al., 2012). The mission hospitals are low-cost healthcare organizations and are not spared by disasters and crisis. They are usually affected due to scarcity of staff, materials, money and poor infrastructure as they depend on donations (Wafula, 2017). Many customers seek healthcare services in mission hospitals during disasters and crisis because of their quality and affordable services. This leads to increasing number of clientele levels, causing overstretching of the health facilities.

Health systems are built on six building blocks which include: Health service delivery, healthcare financing, health information system, health workforce, medical products, vaccines & technologies and leadership & governance. According to World Health Organization (WHO), quality healthcare services are those which deliver effective, efficient, safe, timely, and cost-effective services to the customers, when and where they need them with minimum waste of resources. A well-performing healthcare workforce is one which is responsive, fair, knowledgeable, efficient and productive with the available resources given the circumstances in service delivery for better health outcomes and for client satisfaction (WHO, 2007).

This study is based on service delivery, one of the pillars in health systems strengthening. According to the World Health Organization healthcare work force is the backbone of any healthcare organization for it to succeed in offering healthcare services to the population. The success of healthcare service delivery is also linked with all the other pillars and as it cannot work in isolation (WHO, 2007). The government of Kenya has a responsibility to offer quality, effective, efficient, timely and safe healthcare service to its citizens. It does this in collaboration with the private and Faith Based Organizations (FBOs) which contribute about 69% of healthcare services offered to Kenyan population (Fort, 2017). FBOs offer health care services to the public on subsidized prices, often catering for the poor, marginalized communities and vulnerable groups of the society where the government may not reach (Omondi, 2016). Every human being has a right to the highest healthcare services which is safe, effective, timely, efficient, and cost effective, focused on customers' health care needs and satisfaction. A good working health care system is responsive to the identified health needs of the community they serve as people-centered. Health care services should focus and be organized around the health needs and expectations of the people served rather than on diseases (WHO, 2007, 2017). Therefore, all healthcare institutions should plan their healthcare programs based on the health needs of the communities they serve (Khan et al., 2018).

Disaster preparedness for emergency healthcare services for unexpected influx of patients is not easy to plan for. Most disaster planning is performed at organizational level with little collaboration between organizations, especially for public and private healthcare providers. At the heart of each and every health system, the healthcare workforce is central in advancing healthcare service to the community. Disaster planning is ranked below more urgent needs and, influx of patients during disasters increase the number of patients more than the normal patients' volume in the health care organizations. In the mission Hospitals this is realized more during healthcare professionals' strikes, bomb blasts, massive road accidents, and terrorist attacks. This increases the organizations' workload, over burdening and straining the already strained healthcare workforce (Welzel & Koenig, 2010).

In Africa, between 30 -70% healthcare facilities are owned by the Faith Based Organizations (FBO). Within Nairobi County FBOs accounts for 10% of all the healthcare facilities in the county (Fort, 2017). Most of Catholic Mission Hospitals are not prepared for emergency influx of patients, especially during healthcare professionals' strikes which have been affecting Kenya, such as accidents with massive casualties, bomb blasts, terrorist attacks, fire, and diseases outbreaks. Unfortunately, Doctors and Nurses' strikes and terrorist's attacks have become a common phenomenon in many countries in the world including Kenya (Adam et al., 2018). Fortunately, the Catholic Mission Hospitals' staffs do not join in the healthcare professionals' strikes. When they occur, Catholic Mission Hospitals are affected by increased influx of patients, and, have to carry the burden of healthcare provision in the country. In order to manage the increasing number of patients, the hospitals hire new locum staffs to manage the increased number of clients who stream into their facilities seeking healthcare services. This may compromise the quality of care given to the patients as the new staffs have no knowledge of the organizational policies and procedures for care because most of the time there is no time to induct them properly to the organization's practices due to heavy workload (Wafula, 2017).

In a study conducted to assess the contribution of the FBOs health service delivery in Kenya, it was found that they were the best nationwide in their presence, offering wide range of healthcare services. They were also the best in offering better management practices and support mechanisms than the public and non-Governmental organizations (NGOs) and private sectors. FBOs contribute 11% of the country's healthcare facilities and 23% of all available bed capacity in Kenya's health facilities. This indicates their relative strength in owning middle-level hospitals around the country. FBOs scored 69% being the best in the country in managing authorities and 70% in readiness for service delivery and availability of commodities and medicine, better than the government (Fort, 2017). There is a gap in research and documentation on how Catholic Mission Hospitals are prepared for service delivery during emergency influx of patients in their hospitals. Therefore, this study is to find out how the Catholic mission hospitals are prepared for health service delivery when there is increased number of clients in their hospitals, more than their usual customers, caused by any type of disaster, and document the findings for future reference and action according

to the findings.

1.1 Statement of the Problem

Catholic Mission hospitals have minimal number of staff, materials and finances. Influx of patients to their healthcare institutions are commonly caused by healthcare professionals' strikes, terrorist attacks, disease outbreaks and road traffic accidents. When the strikes occur they affect the mission hospitals because patients only seek healthcare services from them. This affects and overwhelms the institutions' health systems and staff (Oketch, 2017). The chief executive officer of Mathari Mission Hospital in Nyeri County reported to the media that when the strike of doctors lasting 100 days followed by the nurses' strike lasting for 150 days in 2016/2017 occurred, he had to call on the county government to end the strike because the mission hospital was overstretched and overwhelmed beyond capacity. Critically ill patients kept on streaming in the hospital making the chief executive officer to fear that there would be increased deaths due to thin number of staff to manage the influx of patients (Gitau, 2016). During the same strikes, Lugulu Mission hospital in Bungoma County had to take the burden of a referral hospital in Bungoma despite being poorly equipped as it relies on donations and there were hardly half a number of beds to manage the emergency influx of patients. The staffs were overwhelmed by the increased workload and the shifts of doctors became meaningless as they all found themselves working throughout. The chief executive officer of the hospital shared with the media people and said, "I had to perform 12 caesarian section alone until I became dizzy, due to increased stress, tiredness, fatigue and burn out" (Wafula, 2017).

Therefore, this study focuses on establishing the influence of staffs' knowledge on preparedness of catholic mission hospitals for health service delivery during emergency inflow of patients in Nairobi County, Kenya.

1.2 Study Objective

To determine whether staffs' knowledge influence preparedness of Catholic Mission hospitals for health service delivery during emergency inflow of patients in Nairobi County, Kenya.

1.3 Research Question

To what extent does Staff knowledge influence preparedness of Catholic Mission hospitals for health service delivery during emergency inflow of patients in Nairobi County, Kenya?

2.0 Methodology

2.1 Research Design

This study followed descriptive cross sectional study design using quantitative approach. Data was collected using self-administered questionnaires to 247 members of staff from four tier-3 mission hospitals in Nairobi County.

2.2 Target Population

A total of 647 members of staff from the 4 tier-3 mission hospitals were targeted to include: hospital administrators/leadership, clinical and medical staff and support staffs. The hospitals included, Jamaa, St. Francis Community, Mary Immaculate and St Marys Lang'ata.

2.3 Sample Size Determination

Using Slovan's formula, a sample size of 247 members of staff from the four tier-3 catholic mission hospitals was selected.

2.4 Sampling Techniques

Four tier-3 catholic mission hospitals in Nairobi County were purposively selected. Using stratified random sampling, 247 members of staff were selected from the target population.

Table 1: Summary of the target population

Cadre of staff	Names of the Hospitals				Total
	St. Marys	St.Francis	Jamaa	Mary Immaculate	
Administrative Staff	10	9	7	7	33
Doctors/ Consultants	20	30	22	6	78
Clinical officers	24	12	10	6	52
Nurses	92	110	42	20	264
Pharmacy staffs	11	8	12	7	38
Laboratory staffs	16	10	11	6	43
Nutritionists	1	2	1	1	5
Counselling staffs	5	2	1	2	10
Imaging Staff	3	11	14	1	29
Health records staff	4	3	2	2	11
Procurement staffs	4	5	2	2	13
Finance staffs	24	17	12	7	60
Physiotherapists	2	5	3	1	11
Total	216	224	139	68	647

2.5 Data Collection Method and Study Instruments

A structured self-administered questionnaire was used to collect data from the respondents. The questionnaire was pre-administered to 30 members of staff in St. Mulumba Mission Hospital in Thika, Kiambu County prior to actual data collection at the selected hospitals in the study area. The reliability result gave a Cronbach Alpha of 0.8 which is above a threshold of 0.7. Thus, the instrument was considered reliable.

2.6 Data Analysis

Quantitative data analysis was done for both descriptive and inferential statistics using STATA version 16. Descriptive statistics were entailed in determination of measures of central tendency, the mean, measure of dispersion range and standard deviation but also for frequency distributions and percentages. For Inferential statistics, the statistical significance of the relationship was determined at a p-value ($p \leq 0.05$). For significant relationships, correlation coefficient analysis was performed on the outcome variable.

3.0 Presentation Analysis and Interpretation of Findings

3.1 Response Rate and Demographic Information of the Respondents

Out of 247 questionnaires that were administered, 236 of them were returned. This was a 95.5% response rate which was considered good for analysis. 59% (138) of the respondents were young adults aged between 21-30 years, those aged 31-40 years accounted for 28% (67), 41-50 years accounted for 8% (18), while those above 50 years were 5% (13). This shows that majority of health workers in the hospitals were young adults who are energetic and can built resilience to manage the emergency influx of patients. Males accounted for 67% (158) while females accounted for 33% (78). The respondents were also classified according to their profession as shown in table 2 below.

Table 2: Classification of Staff

Key	Frequency	Percentage
Clinical staff	33	14.0%
Medical Support Staff	185	78.4%
Administration support staff	17	7.2%
Managers	1	0.4%
Total	236	100%

The results show that majority of the respondents were the medical support staffs, and the clinical staffs who are in the frontline in healthcare service delivery and are more likely to come into

contact with patients during emergency. On the level of education, the results showed that majority of the respondents were diploma holders accounting for 61% (144), bachelors accounted for 30% (70), certificate holders accounted for 7% (17), while masters' holders accounted for 2% (5). Majority of the respondents had worked in the facilities for 1-5 years accounting for 77% (182), while 13% (30) had worked for 6-10 years and 10% (24) had worked for 11-15 years.

3.2 Staffs' Training on the Hospitals' Preparedness for Emergency Inflow of Patients

The study sought to find out whether the staffs were trained on disaster management for knowledge and skills, and the results showed that majority with a total of 58% (137) agreed that the staff are trained on disaster management, while 28% (67) remained neutral, and 14% (32) disagreed. Though this showed positive results that the staffs are trained, there is need for the hospitals' staffs to be trained on disaster management for quick response when faced with emergency influx of patients for prompt management. This agrees with the findings of Kaji and Lewis (2006) that limited training, experience and exposure may make the staffs unable to respond appropriately, spontaneously and effectively when faced by any disaster or crisis. As Taschner et al. (2017) said, emergency preparedness training, knowledge, drills and skills are critical for safe and effective disaster management in today's health care environment. On drills and exercises, 49% (116) agreed that staff perform drills which is below average, while 18% (43) disagreed and the rest at 42% (100) were neutral. This showed a great need to improve staff knowledge and skills through drills and exercises to improve their quick and prompt response.

3.3 Inferential Results and Discussions

Both correlation and regression analyses were conducted so as to deduce relationships among the variables.

3.3.1 Correlation Analysis

A positive and significant correlation ($r=0.211$; $p<0.01$) was found between preparedness and training of staff members on disaster management. This implies that the hospital would be seen to be more prepared if staff members were more trained on disaster management issues. However, a negative correlation was found between preparedness and the frequency of emergency drills by the staff members ($r= -0.147$; $p<0.05$), which means that a hospital would still not be perceived to be prepared regardless of the number of emergency drills it conducts with its staff members.

3.3.2 Regression Analysis

The dependent variable was the perceived hospital preparedness by staff. This variable was binary in nature (1=prepared and 0=otherwise) and was regressed against a host of factors that include: age (X_1), gender (X_2), marital status (X_3), profession (X_4), academic qualification (X_5), work experience (X_6), training of staff on disaster management (X_7), and frequent emergency drills/exercises (X_9). The results of the binary probit regression model are presented in table 3 and

only results that are statistically significant at 10 percent level or greater are reported.

Table 3: Probit Regression Results

Descriptions	Coefficient	Std. Error	z-value	p-value
Hospital preparedness (a binary DV where 1=prepared, 0=otherwise)				
Age of staff members (in years)	0.561***	0.186	3.020	0.003
Gender (1=male, 0=otherwise)	0.638**	0.301	2.120	0.034
Marital status (1=married, 0=otherwise)	0.491**	0.214	2.290	0.022
Profession (1=support staff, 0=otherwise)	0.381	0.262	1.450	0.146
Academic qualification (1=degree holder, 0=otherwise)	0.102	0.218	0.470	0.640
Work experience (in years)	0.555**	0.270	2.050	0.040
Hospital size (number of hospital staff)	0.233	0.154	1.510	0.130
Training on disaster management (4=strongly agree)	0.265*	0.141	1.870	0.061
Frequent emergency drills/exercises (4=strongly agree)	-0.054	0.153	-0.360	0.722
Constant	-4.142***	0.937	-4.420	0.000
Model summary statistics				
LR chi-square (9 d.o.f.)	82.900			
Probability > chi2	0.0000			
Pseudo R ²	0.3700			
Number of respondents	236			
Parameters	9			

The results showed that the male staff members were more available and exposed in handling emergency cases in hospitals than female staff members. On the marital status variable, the results were positive and significant meaning that hospitals with more married staff members were more likely to be prepared to handle emergency cases as opposed to those unmarried staff members ($\beta = 0.491$; $p < 0.05$). This is most likely because married staff members may have had prior experiences in handling emergency influx cases as opposed to unmarried staff members. As for the work experience variable, the results also came out as positive and significant in relation to

hospital preparedness to handle emergency influx cases. This implies that hospitals with staff members that have more work experience were more likely to be prepared to handle emergency influx cases as compared to those hospitals whose staff members had limited work experience ($\beta = 0.555$; $p < 0.05$). Staff training on disaster management was another variable whose results were also positive and significant meaning that hospitals that conduct training on disaster management to staff members were more likely to be prepared to handle emergency influx cases as opposed to cases where staff members are not trained on disaster management ($\beta = 0.265$; $p < 0.1$). Training the staff for knowledge and skills acquisition is critical in emergency response to increased number of casualties each coming with their own health problem and needing quality healthcare. According to world health organization (WHO), service delivery is managed by the staff of the organization who are the backbone of the organization in advancing health care services to the communities within which they serve (WHO, 2017). In order to give quality healthcare services to the customers, the organization staff have to be well educated, trained, knowledgeable and fast in skills in health service delivery. WHO has given a guideline for emergency preparedness for quality healthcare service delivery during disasters which the healthcare institutions should follow to sharpen their skills.

4.0 Conclusion

The study concludes that staff training for knowledge and skills is very important and significant in a healthcare setting to manage increased number of patients, and for prompt response. Managers of the Catholic Mission Hospitals in Nairobi County need to know that unless these measures are put in place, they may affect prompt response to increased number of patients in their healthcare institutions, given that their resources are very limited, compromising the quality of care. This will give a negative image of the hospitals of not being able to manage increased number of patients well, in case of any disaster or crisis. There is need for the managers to work with other healthcare actors such as the government, non-governmental organizations, financial partners, and other collaborators for support in order to give quality healthcare services to the clients. There is need for the hospitals to think more about specializing their healthcare institutions so that when emergency need for response occurs the patients can be redirected to the specialized hospitals according to their healthcare needs, to reduce crowding and overwhelming the staff in the health facilities. Staffs' knowledge and skills affect prompt response for healthcare service delivery when faced with emergency influx of patients in Catholic Mission Hospitals in Nairobi County, Kenya.

5.0 Recommendations

Due to low number of respondents who agreed that the staff are trained on disaster management accounting for 58% (137), the researcher recommends that the managers of all the hospitals need to have scheduled plan for refresher courses and seminars for the staff, including drills and exercises to refresh staff knowledge and skills for prompt and efficient response. There is also need to create an emergency response team and a pool of healthcare professionals to be called upon to

help in response in case of emergency influx of patients in the health facilities.

This study was only done in Catholic Mission Hospitals in Nairobi County. A similar study should be replicated in other Catholic Mission Hospitals in other Counties, aiming at finding out the organizational factors that influence preparedness of catholic hospital for health service delivery during emergency influx of patients in their healthcare institutions. More research needs to be done to find out other organizational factors that influence preparedness of Catholic Mission Hospitals for health service delivery during emergency influx of patients in their healthcare institutions. This study may be generalized in other Catholic Mission Hospitals in other Counties.

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