

Management of Ambulance Services at Eldama Ravine Subcounty Hospital, Baringo County, Kenya

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Abstract: The right to the highest attainable standard of health is a fundamental human right. An ambulance is a specially equipped motor vehicle, airplane, etc. for carrying sick or injured people usually to a hospital. Skilled personnel, appropriate supplies, equipment, coordination, and management that are oriented towards the needs of the critically ill, contribute to making emergency care effective in reducing death. Kenya has in the past experienced cases of mass casualties. This necessitates the presence of efficient ambulance services in the country. Broad objective was to investigate management of ambulance services and specific objectives included determining the number of ambulances and their state of operation, capacity of drivers and their skills on ambulance services, and level of emergency preparedness of the ambulance staff at Eldama Ravine Sub-County Referral Hospital. A Cross sectional descriptive study design was employed. Convenience sampling technique was used to pick the key informants to be interviewed. Both interview guide and direct observation were employed as data collection tools which attained qualitative type of data. There are 2 carrier ambulances, 1 utility vehicle, and 4 drivers in Eldama Ravine Sub County Referral Hospital. The study concluded that the ambulances in Eldama Ravine Sub County Referral Hospital are a few, not well equipped, not well staffed with employees who do not have post basic training in life support. The county government of Baringo and the hospital should recruit more staff for the ambulances.

Key words: Ambulance services

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I. Introduction

For emergency service providers, giving their service in least time shows their best performance. An ambulance is a specially equipped motor vehicle, airplane, ship etc. for carrying sick or injured people usually to a hospital (Dictionary.com). Pre-hospital care should comprise basic strategies with proven effectiveness, such as accessible and rapid transportation and the deployment of personnel with basic life support skills. When pre-hospital transportation is poor or absent, deaths that could have been prevented even by inexpensive procedures occur (Edwards et al, 2004). Skilled and motivated personnel, appropriate supplies, pharmaceuticals, equipment, and coordination and management that are oriented towards the needs of the critically ill, all contribute to making emergency care effective in reducing death and disability (Bulletin WHO, 2005).

The republic of Kenya has in the recent past experienced several incidences that resulted in mass casualties and some of the victims have ended up dead because of the lack of swift and a fully equipped emergency medical services system, especially in the government owned hospitals to which most of the casualties are usually admitted for management. The shortage of human resource in this sector is causing much delay in transferring patients into and out of the facility for better services.

II. Materials and Methods

A Cross-sectional descriptive research was carried out at Eldama Ravine Sub-County Hospital in Koibatek Sub County in Baringo County, in the month of July 2019. A total of 10 individuals aged over 30 years were recruited to the study.

Study Design: Cross-sectional hospital-based study.

Study Location: The study was carried out at Eldama Ravine Sub-County Hospital in Koibatek Sub County in Baringo County.

Study Duration: The study was conducted from 8th July to 9th August.

Sample Size: A total of 10 individuals comprising of key health workers which included the SCMOH, SCHAO, SCNO/C, Transport Manager, and Facility Administrators. These were considered as the cadres with pertinent information on Ambulance Management.

Subject and Selection Method: convenient sampling technique was used to get the desired sample size. Key health workers in managerial positions were selected as they were considered as the cadres with pertinent information on Ambulance Management. Ethical Approval was obtained, and participants signed written consent.

Inclusion Criteria: All key health care workers present at Eldama Ravine Sub-County Referral Hospital during the study period.

Exclusion Criteria: Key Health care workers on psychotropic and who refused to take part in the study.

Procedure Methodology

In-depth interviews were conducted with the key informants using an interview guide; direct observations were also done when inspecting the ambulances and the emergency departments

Statistical Analysis: Data was analyzed qualitatively in themes and discussed in prose using Microsoft Word, 2010.

III. Results

Number of ambulances and their location.

Eldama Ravine Sub County Referral Hospital currently had only two carrier ambulances, and one utility vehicle. They were stationed under tree shade.

The ambulances state for operation.

None of the two ambulances was fully equipped for emergency and transportation of acute patients. The ambulances did not have any special fittings; rather it was just but a transportation system (carrier type). Ideally, they were just modified vehicles with provisions for a stretcher.

Management of the ambulance services.

The ambulances mostly did an inter facility transfer of patients who many at times require more specialized care than is provided at ERSCRH health facility and in some cases where the patients from the nearby places would not make it to the facility, they could send an ambulance to collect them. In such instances, the nurse calls the receiving hospital to inform them of the incoming patient, a referral form is at the same time filled by the nurse in charge and handed over to the nurse accompanying the patient to the receiving facilities. The facilities where the patients are being transferred to are chosen basing on the patients' conditions and sometimes patients' choices. The mostly referred to facilities are PGH, MTRH, KNH, and ST.MMH and their cost are Kshs. 4000, 6500, 15000, and 8500 respectively. In cases where the health dispensaries are sending in patients, the ambulance goes with the driver only since the nurse accompanying the patient will come from the referring facility.

Fueling system of the ambulances.

The ambulances are fueled at some nearby filling station and amounting cost settled on a post pay basis normally quarterly. The funding is mostly from the central revenues collected from the services offered by the facility, taken to the county, and then channeled back to the facility through Authority Incurred Expenditure (AIE). The ambulances are allocated funds with the assumption that they consume an average of 8 liters of fuel daily. That results into an average of 240 liters monthly and 720 liters quarterly. The cost of fuel for a quarter a year then was valued at Kshs. 80, 000, being that the average price of petrol per liter was at approximately Ksh.110. The amount was payable to a given petrol station after a due tendering process through Local Purchase Order (LPO), and the vehicles were then fueled at required times, without using hard cash.

Staffing. The ambulances were not adequately staffed as the ERSCRH only had 4 drivers. The ambulances do not have permanent clinical staff, but rather a nurse on duty at the occurrence of an incident is the one who provides care to the patients being transferred, as part of his/her routine duties.

Servicing and maintenance.

The ambulances are serviced after every 5000km. The cost of servicing was reported to be approximately Kshs. 30,000-Ksh. 40,000. The other facilities which benefit from the ambulances do not contribute to the cost of either servicing or maintenance of the ambulances.

Training levels of the staff.

All the nurses working at the emergency departments were KRCHN, KRN or KENs. The ambulance drivers were mostly class eight leavers with training in driving through National Youth Service (NYS). None of the emergency care staff (nurses and drivers) had advanced post basic trainings. Medical officers were instead well trained on Advance Lifesaving Services (ALS). The hospital has never organized a training session for the workers to improve their emergency preparedness but currently there was a preparation of receiving trainers from KABARAK UNIVERSITY initiated by the medical superintendent who is also among the trainers of Comprehensive Life Saving Skills (CLSS). The facility had complaints of shortage of staff to effectively combat the activities of the emergency department that was always busy.

IV. Discussion

The ambulances at ERSCRH were found to be inadequate for the comprehensive care of the population. This is since out of the 2 ambulances that were available, none was fully equipped. This showed a big gap left for the attainment of good EMS in the sub county. Problems can hence arise; especially pertaining to life saving that otherwise could have been prevented if an adequate number of ambulances were established in the facility. The status of these ambulances was found to have a direct effect on the quality of emergency services offered by the facility. This was in line with the Pascal findings that out that 46.7% in Rift Valley Provision General Hospital and 73.3% in Naivasha District Hospital emergency preparedness had been achieved by ensuring that there was always a standby serviceable ambulance (Pascal, 2005).

As regards the equipment in the ambulances, another study comparatively stipulates that equipment and supplies should match the knowledge and skills of the personnel available to use them and that even teams with the fewest resources should have protective clothing, especially gloves and aprons. It further stipulates those other necessities that include a stretcher, a radio, phone, or other mode of rapid communication should also be available (The Draft Ambulance Act, 2014.).

My study further revealed that in cases where the health centers or dispensaries are sending in patients, the ambulances go with the driver only since the nurse accompanying the patient will come from the referring facility. The nurses who accompany the vehicles just have their basic training (either diploma or certificate levels). The drivers on the other hand have only the driving licensure training and no other course on life saving. My study agrees with another study whose findings were that the use of registered nurses (RNs) in the pre-hospital setting is more common in countries that have a limited EMS infrastructure in place. The study established that some European countries such as France or Italy, which do not use paramedics as they are intended in Anglo-Saxon countries, also use nurses as a means of providing ALS services. These nurses may work under the direct supervision of a physician, or, in rarer cases, independently. In some places in Europe, notably Norway, paramedics do exist, but the role of the 'ambulance nurse' continues to be developed, as it is felt that nurses may bring unique skills to some situations encountered by ambulance crews.

However, my findings on the training levels of the ambulance nurses contrasted those of a study done in Europe which showed that in the Netherlands, all ambulances are staffed by a registered nurse with additional training in emergency nursing, anesthesia, or critical care, and a driver-EMT. In Sweden, since 2005, all emergency ambulances should be staffed by at least one registered nurse since only nurses are allowed to administer drugs. And all ALS ambulances are staffed at least by a RN in Spain.

My study is also congruent with a study that states that training and qualification levels for members and employees of EMS vary widely throughout the world. In some systems, members are present who are qualified only to drive the ambulance, with no medical training. In contrast, most systems have personnel who retain at least basic first aid certifications, such as BLS. Additionally, many EMS systems were staffed with ALS personnel, including paramedics, nurses, or, less commonly, physicians. The study also states that while this approach persists in some countries, such as India, it is generally becoming increasingly rare. Ambulance drivers may be trained in radio communications, ambulance operations and emergency response driving skills (Government of Delhi, India. Report of evaluation study on CATS).

As pertaining to the management and coordination of the ambulance services, each vehicle was found to be allocated an amount of about Kshs. 80,000 per quarter for fuel. The study also revealed that the ambulances are serviced and maintained after every 5000km. There was no available data with which to compare these results as no study so far has focused on fueling or servicing of public ambulances. Furthermore, my findings were that either the chief nursing officers or the HAOs were the ones with the authority to release the ambulance in cases of emergency. This was not concurrent with a study which stated that a coordinator should be responsible for monitoring and coordinating all emergency medical care in a community or district and that the coordinator should work with a committee that has representatives from key sectors; hospitals and health facilities in the area, transportation, local administration, and the community (Bulletin of the WHO.2005; 83: 626-31).

Finally, my study revealed that there was a deficiency in the number of staff, the number, and the specialization of equipment as well as the number of on-job trainings and drills to the staff in preparation for the occurrence of a serious emergency. A similar study done locally also established that hospitals in Kenya seem to have challenges in emergency and disaster preparedness and there are limited studies in disaster and emergency preparedness in these Hospitals. The study was done in NDH and RPGH in 2005 and established that 83.3% of the responded in RPGH and 100% in NDH agreed that their institution did not have adequate health care personnel and 30.0% RPGH and 12.5% NDH of the health care staff had received additional training on trauma care and BLS skills. On ambulances the findings were that trained health care personnel was to accompany the driver and that 33.3% of the drivers in RPGH and 13.3% in NDH had been trained on basic concept of First Aid. This study hence compares well with my study (Ronald et al, 2003, pp. 336-50).

V. Conclusion

The ambulances in ERSCRH are inadequate in providing optimal health care and they are not up to the required standards but mainly modified vehicles with a provision for a stretcher and none is accredited in accordance with the certified ambulance order from the KEBS that the facility shall have a minimum of one fully equipped ambulance on stand-by 24 hours. Not only did the management of the ambulance services found to be less satisfactory in that there was no any existence of functional garage or subcontract with other garages where the ambulances could be stationed but also the level of emergency preparedness of the ambulance staff was relatively wanting as there was no any post- basic training on life support as stipulated by the standards set out by the Kenyan central governments draft ambulance act of 2014, that The ambulance/facility shall have at least one trained personnel (trained in emergency care) other than the driver who shall also be trained in First Aid techniques.

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Conflict of Interest

Nil Conflict of Interest

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