

## **COMPETENCE OF PARAMEDICS IN THE MANAGEMENT OF EMERGENCY CONDITIONS IN KISUMU COUNTY KENYA**

*Authors: Roselyne Asiko Abwalaba<sup>1</sup>, Philip Ouma Onyango<sup>2</sup>*

- 1. School of Nursing, Midwifery and Paramedical Sciences, , Department of Reproductive Health, Midwifery and Child Health Nursing, Masinde Muliro University of Science and Technology Kakamega, Kenya.*
- 2. Kakamega, Kenya*  
*2. Kenya Red cross Society E-Plus Emergency Medical Services West Kenya Region office Kisumu County, Kenya*

*Corresponding Author: Roselyne Asiko Abwalaba*

*rabwalaba@mmust.ac.ke*

### **Abstract**

Skilled and timeous care is vital to improve the outcome for critically ill patients in the community. Population growth, increasing in burden of chronic diseases, shortage of healthcare workers have had an impact on the healthcare systems in many countries. Ambulance service trusts evaluate the patient, save life and transfer patients to hospital. The objectives of this study were to assess the knowledge of paramedics in the management of emergency care conditions and to evaluate the practice of the paramedics on provision of emergency care services in Kisumu County. Simple random sampling method was used to select participants from the county who provide emergency services. A descriptive cross sectional study design was adopted. Quantitative data was collected by use of observational checklists and structured questionnaire. It was then coded, entered in excel sheet, cleaned and analyzed using Social Package for Social Sciences version 23. Chi-square, multinomial regression, mean and percentages were employed. The results of the study showed that 24% of the respondents had good level of knowledge in handling emergency conditions, 50% of the respondents had moderate knowledge level while those with poor level of knowledge were 26% of the respondents. The result indicates that majority of the respondents have an average knowledge in the management of emergency conditions in Kisumu County. Chi square test showed that there was a significant association between the practice of the paramedics and the level of education with ( $p < 0.05$ ). Knowledge was a significant predictor of practice as indicated by the regression model with a  $p < 0.05$ . Age had a significant relationship with practice with  $p < 0.05$ . In conclusion, paramedics had low level of knowledge and fair practice and yet for one to be competent, needed a high score of both knowledge and good practice (above 80%) hence refresher trainings recommended to improve knowledge and practice of paramedics.

### **Key words**

**Paramedics, competence, emergence care, knowledge, practice.**

## **Background**

Emergency care team need to respond to public emergency health care demands at all levels. This helps in life saving and prevention of complications which arise from the emergency condition that the patient is presenting with. Paramedics are critical and important personnel in the provision of emergency care and services all over the world. In the United States and other developed countries, emergency care providers are well trained and programmes well organized. These ambulance services increased steadily in the last 10 years but only 10% of calls are life threatening. Ambulance service trusts respond to the recommendations made in 'Taking Healthcare to the Patient: Transforming NHS [National Health Service] Ambulance Services (2005). In Kenya, emergency services are provided by paramedics under the leadership of Kenya Red Cross, St. John ambulance and other paramedics by different parastatals.

In Kisumu county, emergency services are much utilized. Emergency Care Practitioners and Paramedic Practitioners provide different services. Paramedics now operate as part of a two-man ambulance team responding to emergency (999) calls, together with Emergency Care Assistants or Ambulance Technicians; professionals who have similar, but not with advanced training. They evaluate the patient health status, make necessary interventions and decide whether to transfer the patient to hospital. They have a limited list of medicines that they can administer and are trained to use a range of technical equipment on board the ambulance. Current skills and competencies which paramedic courses must adhere to, are defined in the British Paramedic Association in the document, (Curriculum Guidance and Competencies Frame work, 2008). Service changes in many third world and developing countries are not consistent across countries which risks disadvantaging patients or duplicating research. A systematic, unbiased collation of evidence of paramedics trained with extended skills is essential to ensure a sound evidence base to inform and justify developments

to emergency services already strained by financial cuts. There is need for Paramedics to manage non-urgent patients, have capabilities to diagnose and treat minor ailments. Paramedics need to work together with other services to expand their capabilities (Ball, 2005).

Emergency responders are tested during a training exercise. Emergency Medical Responders (EMR) in the United States provide initial emergency care first on the scene (police/fire department/search and rescue) and support Emergency Medical Technicians and Paramedics when they arrive. The skills allowed at this level include taking vital signs, bleeding control, positive pressure ventilation with a bag valve mask, or pharyngeal airway, supplemental oxygen administration, oral suctioning, cardiopulmonary resuscitation (CPR), use of an automated external defibrillator, splinting, and assisting in the administration of basic medications such as epinephrine auto-injectors and oral glucose. They are also trained in packaging, moving and transporting patients, give Naloxone and utilize supraglottic airways. (Moulton, 2011).

The general service delivery model of emergency services entails response to an emergency call, treatment of patients on the scene, and transportation. Some people who call 911 are not truly in need of emergency medical treatment, amounting to an expenditure of an unnecessary amount of paramedicine resources and overcapacity at EDs (Dohan *et al*, 2013). Emergency visits frequently involve the elderly and those suffering from chronic diseases (Bureau & Can, 2010). Community paramedicine entails expanding the scope of the traditional paramedic to include nonemergency care in the community. (WHO, 2005) They possess special skills and execute specialized protocols in order to provide this type of care. These include providing care to patients that do not require an immediate response, working collaboratively with other healthcare organizations, providing referrals to other agencies.

Results of these initiatives have shown initial success in reducing ED volume, 911 calls, hospitalizations, and other positive outcomes (Moulton, 2011). The leaders of emergency services that are interested in developing and adopting this role within their own organizations are faced with several challenges. Governing bodies are already considering that CPs will need the skills required to interact with technologies such as Health Information Exchanges (HIE) and Electronic Health Records that integrate with other systems (Eagle County, 2013). These technologies been employed to assist in resuscitation. . This is a minimum expectation, as it is likely that the CP must use the ICTs provided by their own employer. Therefore, what informatics-related competencies should the CPs have, to ensure a high quality; effective service is provided by the ambulance service? Second, as with any healthcare intervention, its outcomes must be measured to demonstrate a benefit. Considering this, what impact will these informatics competencies have on the quality of care provided by CPs? (WHO, 2005) Patient Centered Care (PCC) pertains to the delivery of healthcare in a way that emphasizes the need for the healthcare provider to understand the patient to a greater degree, including the patient's desires, emotional needs, life issues, as well as their disease and health history (Stewart, 2003). It also seeks to include them as a partner in their own treatment decisions, incorporating their desires into these decision making processes, with a focus on lifestyle, prevention and the management of health in the long term (Hudon et al., 2012). This is a shift from the more traditional paternalistic approach to delivering healthcare, where decisions are made largely from a physician- or institution- level. Paramedics have been adapted for delivering healthcare within family practices (Scherger 2009), for patients with chronic diseases (Jordan *et al.*, 2008).

**Methodology****Research design**

The study employed both quantitative and qualitative design because the both quantitative and qualitative data will be collected from the respondents. This design was to allow the researcher to gather data or information summaries presented and interpret for clarification. The study was cross sectional, combining both qualitative and quantitative tools and methods of data collection and analysis.

**Study setting**

The study was carried out in Kisumu county Kenya

**Participants**

The study participants were the paramedical staffs in Kisumu County.

**Population**

The study population comprised of a third of the emergency health paramedics in Kisumu County who are perceived to be responsible for emergency cases.

**Sampling**

Simple random sampling method was used to select the number of emergency health paramedics in Kisumu County. The sample size was 100 respondents.

**Data collection instruments**

The research data collection tools were both questionnaire and observation schedules. The questionnaire contained both open and closed ended questions which were both qualitative and

quantitative in nature. Both quantitative and qualitative information will be collected from the abused women. Quantitative data were collected from the households using the research questionnaire. Both tools adequately addressed the research objectives.

### **Data collection procedures**

Data was collected from the health facilities where there are paramedics. The questionnaires were then tested before actual data collection to ensure that all the questions were adequately covered by the questionnaires. The data was checked for high quality and any discrepancy eliminated before it is administered into the computer system. The purpose of the study was well explained to the respondents so that they gave accurate information during interviewing. Interview guides for the key informants were used to obtain information from both the paramedics and experts in teenage pregnancies.

### **Data analysis**

Quantitative data collected was entered and analysed using Statistical Package for Social Scientists (SPSS). Qualitative data was analysed using content analysis method and results were summarized and presented in form of tables, charts and graphs.

### **Results**

The study found that 80% of the respondents were male and 20% were female. 55% of the respondents were aged between 24-29 years and those above 29 years were 10%. This showed that majority of the paramedics were aged between 24-29 years. 65% of the respondents had certificate education while 5% had secondary education. Results on the knowledge of paramedics in the management of emergency conditions in Kisumu County Kenya showed that majority of the respondents had moderate level of knowledge in handling emergency conditions in Kisumu County

50% of the respondents. Those with high level of knowledge in handling emergency conditions were 24% while those with low level of knowledge were 26%. The results indicate that majority of the respondents had moderate level of knowledge in the management of emergency conditions in Kisumu County.

Results on the practice of paramedics in the management of emergency conditions in Kisumu County Kenya showed that the practice was fair although the attitude towards the work was poor due to many factors. Affective job satisfaction pertains to the satisfaction that the person has with their career, rather than employer related characteristics. This may be, as healthcare workers that can use informatics tools with less effort will ultimately find it easier to accomplish more good for their patients. Paramedics need a high degree of informatics competences to perform their daily task and in the fulfillment of their career goals. If an ambulance service chooses to implement an electronic medical record or some similar technology, it will be assumed that it will be mandatory to use this technology as part of a job. With this in mind, the paramedic, forced to use a technology, will express some level of satisfaction (De Lone & McLean, 2013). If paramedics have high level of informatics competencies, they will interact with the software in a more enhanced way than someone with lower competencies.

## **Conclusion**

The research findings suggested that most of the paramedics had moderate level of knowledge and practice. This was evidenced by the way they were handling the emergency conditions and the way they were responding to some of the questions in the questionnaire. The research also found out several challenges that faced the paramedics in the management of emergency conditions in Kisumu County which included lack of skills required, lack of adequate personnel, insufficient disaster

management equipment's and machines and poor remunerations for the staff. Long working hours hence and poor collaboration with other medical staffs affected their performance.

### **Recommendations**

Paramedics and emergency care attendants should have good training skills on emergency management.

There should be good collaboration between paramedics and other health care workers for efficient and effective management of these patients with emergency conditions.

The county health management team should ensure the availability of the required resources for the emergency services in the county.

All paramedics need computer literacy to be able to interact with ambulance computerised system for proper emergency care.



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