



WWJMRD 2021; 7(1): 19-24  
www.wwjmr.com  
International Journal  
Peer Reviewed Journal  
Refereed Journal  
Indexed Journal  
Impact Factor MJIF: 4.25  
E-ISSN: 2454-6615

**Doris Keitany**  
Master's in Nursing Student,  
Mount Kenya University  
School of Nursing, Thika,  
Kenya.

**Catherine Syombua Mwenda**  
Senior Lecturer, South Eastern  
Kenya University, Kitui,  
Kenya.

**Jonathan Mwangi**  
United States International  
University, School of  
Biochemistry, Nairobi, Kenya.

**Correspondence:**  
**Doris Keitany**  
Master's in Nursing Student,  
Mount Kenya University  
School of Nursing, Thika,  
Kenya.

## An Assessment of The Institutional Factors Influencing Colostomy Care Among Nurses at The Surgical Wards, Kenyatta National Hospital, Kenya

**Doris Keitany, Catherine Syombua Mwenda, Jonathan Mwangi**

### Abstract

Nurses perform a critical part in preliminary evaluation and educating colostomy surgery patients before and after surgery. However, the preparedness of health-based institutions in providing care to the patients determines the success of colostomy care. This study aims at evaluating the institutional factors that influence colostomy care among nurses at the surgical wards of Kenyatta National Hospital, Kenya. A descriptive cross-sectional design was adopted. The target population was 120 nurses working at Kenyatta National Hospital surgical wards. Systematic random sampling was used to select a sample size of 101 nurses. Data was collected using a questionnaire. Data analysis was done descriptively through the use of frequencies and percentages. The relationship between various institutional factors and colostomy care was tested through the use of chi-square test statistics. The findings of the study revealed that the quality of colostomy care was unsatisfactory. Chi-square test statistics revealed that nurse/patients ratio, equipment, on-job training and institutional support significantly influenced colostomy care performance. The study recommended that hospitals should conduct Colostomy Care On-Job Training Program aimed at improving nurses' knowledge and thus quality of care. The study also recommended that more resources should be provided to the hospitals so as to employ additional specialized nurses and provide the necessary equipment towards colostomy care.

**Keywords:** Colostomy, institutional factors, nurses

### Introduction

Ostomy is basically an artificially enabled contact of internal organs with the outside body and is meant to facilitate absorption of nutrients, evacuation and or drainage. The surgical process includes obtaining and putting the bowel ending outside the skin using an operation called laparoscopic or simply open surgery (Melville & Baker, 2011). Stomas are classified into temporary ones and lifetime ones; the large bowel opening is referred to as Colostomy while that of the small bowel is Ileostomy (Melville & Baker, 2011). Stoma surgical procedures are carried out because of two main reasons; presence of Inflammatory Bowel Disease (IBD) and if an individual suffers from Cancer of the Bowel (Bray, Callery & Kirk, 2012).

For surgeons, Intestinal ostomy formation is regarded as an easy process. Stomas of the digestive system are carried out in intestinal loops, making sure that abdominal wall's exteriorization length and mobility is prioritized (Ran *et al.*, 2016). The longevity (permanency or temporality) of a stoma is determined by where a disease is originating from. Short term stomas are meant to safeguard from anastomosis and are usually corrected after a while. Stomas meant to be permanent are performed in cases where restoring intestinal motility is undoable and is often common in cancer cases. Since patients with Ostomy have recurring and problems that take time, they need constant help (Moeini *et al.*, 2018).

Many patients have Ostomy operations done on them every year despite the fact that every measure is taken to protect intestinal and tissue wholeness. In China, for example, the incidences of colostomy are prevalent. There are over 10 million persons in need of colostomy operations due to colon or rectal cancers, trauma, colitis graves

(ulcerative colitis) and Crohn's Disease. The year 2014 saw a total number of 100 million people had colostomy operations (Ran *et al.*, 2016). In addition to contentment with instant bodily changes as a result of operation, those who had undergone stoma surgery also coped up with psychological impacts of stoma creation. In the United Kingdom, the least number of people who suffer from the two known types of IBD (Ulcerative Colitis and Crohn's Disease) are 261,000 (Dibley *et al.*, 2018).

Doctors only consider surgery if medical management does not work for stoma patients (Hwang & Varma, 2008). However, cancer of the bowel always requires stoma operation in order to do away with tissues containing cancers. Elsewhere, cases of cancer of the bowel rose with the establishment of countrywide bowel screening services in Great Britain (Cancer Research UK, 2011). Additionally, United Kingdom reported 41,581 fresh bowel cancer cases in the year 2011 (Cancer Research UK, 2011). The rise in these incidences is attributed to increased cases of stoma operations of which there are close to 100,000 stoma patients in the UK at the moment (Burch, 2008).

The very experience of suffering from gastrointestinal illness that leads to a stoma operation indicates a huge transformation in an individual's life. This transformation comes with having to put up with challenging feelings of emotional, social and physical problems related to a stoma that has just been formed (Williams, 2012). As a result of such life changing experiences, patients tend to suffer from extreme anxiety, depression and a declining quality of life. Nursing care is an important element of care services that helps control in patients who have undergone surgery. Stoma patients have pessimistic views on nursing care and this gives them one more worry in addition to the stress related to stoma surgery. The worry can also be attributed to the patients' expectations of the nurses in terms of how they ought to behave and treat them as patients (Abd El-SalamSheta & Mahmoud, 2014).

Researchers note that key stoma surgeries are carried out in more industrialized nations; a number of 5000-9000 key operations are carried out per 100,000 individuals in a year. This is a different case from East Africa where in early 2000, the operations ranged from 70 to 500/100,000 (Landis *et al.*, 2012). These rates do not reflect current prevalence of surgical cases admitted in hospitals, it is expected that the updated prevalence could be higher. Among the patients admitted in hospitals, it was observed that hospitalization for surgery is associated with increased anxiety. It was also shown that post-operative pain and anxiety continue to be problematic for patients after the surgery (De Cruz *et al.*, 2012). Therefore, it is expected that nursing care needs to be engaged and should provide individualized care that acknowledges the emotional, physical, spiritual and environmental dimensions of patients.

However, the process of colostomy care among nurses is interfered by many barriers. Such obstacles are generally found within nursing, more precisely in the bedside nursing (Singh & Shoqirat, 2019). Increased compromised hospital outcomes and complications have been as a result of inadequate reductions in patient suffering (Ran *et al.*, 2016). These are the conditions driving this present research to look into the institutional determinants of colostomy care among nurses at Kenyatta National Hospital, Kenya. Understanding how nurses care for

colostomy patients is very important because it will assist in identifying strengths and weaknesses of the type of care provided to the patients. This eventually could help in improving the nursing care so as to meet the satisfaction of the patients.

### Statement of the Problem

In Kenya there is a national annual prevalence of persons living with a colostomy being 6000 and 8000 (Ojwang, Ogutu & Matu, 2010). At Kenyatta National Hospital, unpublished data revealed that there were 192 colostomy creations between the month of June, July and August 2018. 18 cases were reported to be deaths due to different complications arising from the colostomy creations (KNH Records, 2018). Colostomies are done with the main aim of treating and controlling stoma patients' aches and distress that result from obstruction or injury. However, it is common for colostomy to cause immense anguish and agony for the sick. Different percentages of the total patients suffer as a result of different reasons. 76% report stress as a result of skin irritation, 62% from pouch leakage, 59% from unpleasant odor, decline in enjoyable activities constitutes 54% while depression and or anxiety constitutes 53% (Calson, Berglund & Blackman, 2013).

Having colostomy does not mean having a lifelong disability. Living well with colostomy can be achieved through patient preparation, education, and planning. Nurses who are knowledgeable in colostomy care can help a patient adjust to living with a colostomy (Ran *et al.*, 2016). Nurses and other healthcare providers can play a key role in the perception and have a considerable effect on how those who suffer from stoma and their loved ones adjust to the colostomy. However, this role is successful only when nurses are supported by the required knowledge and skills (Francis & Fitzpatrick, 2013).

However, nurses perform a critical part in preliminary evaluation and educating colostomy surgery patients before and after surgery. The preparedness of health-based institutions in providing care to the patients determines the success of colostomy care. Since nurses are tasked with caring for patients, they must have the necessary institutional support to give care to the patients (Al-Shaer, Hill & Anderson, 2011). This study therefore aims at assessing on the institutional determinants towards caring for colostomy patients in Kenyatta National Hospital, Kenya.

### Purpose of the Study

The main purpose of the study was to determine the institutional factors that influence colostomy care among nurses at the surgical wards at Kenyatta National Hospital, Kenya.

### Empirical Literature

Proper execution of stoma management calls for the hospital administration to work together with nurses in matters pertaining to finances, equipment availability, tools for implementation and personnel. Drawbacks to postoperative stoma care among nurses are insufficient resources, little or no awareness/knowledge, and extra work load for nurses who may be overwhelmed by number of patients and absence of training and motivation (Burch, 2014).

Poor equipment, staff shortage, non-training of nursing

staff and unattractive service conditions can as well lead to poor management of stoma among nurses. Poor nursing care in any institution arises as a result of institutional barriers in inpatient care. Therefore, it is essential for hospitals as well as nurses to look for ways of enhancing their awareness on management of stoma. The government must once more stress on provision of enough resources including materials, healthcare provider manpower and motivating care providers so that they are in a better position to handle stoma (Abd El-SalamSheta & Mahmoud, 2014).

With regards to work environment, poor or lack of access to electricity, equipment, means of getting to work, shelter and physical appearance of health amenities were identified as crucial factors in caring for patients and retaining care provider. These factors are seen particularly in Turkana which is a rural area as shown in a study conducted in Kenya by (Ojakaa *et al.*, 2014). The majority (67.8%) of the 86 workers that participated in the study responded that the absence of this fundamental infrastructure was the fulcrum behind their intention to leave for other health posts in more urban locations in Kenya, even if they had to take cuts in their wages.

Absence of opportunities to enhance professionalism has also been identified as a reason for poor patient care among health care providers residing in remote regions and who are not in touch with colleagues who have had a chance to develop professionalism (Uneke *et al.*, 2014). Training and professional growth are factors that determine healthcare providers' motivation and are very critical because they foster health care providers' goals and their system of ethics. As a matter of fact, training as an instrument of managing humans as a resource serves a number of roles (Bodur & Infal, 2015). First of all, it enables care providers to put up with what their work demands of them. Secondly, it helps the providers to accept and tackle tougher tasks and more demanding positions which in turn enable to attain individual goals and professional achievements. Lastly, it can serve as a motivating factor for healthcare providers.

A study done by Morrow (2005) proposes that one of the primary reasons why nurses loose motivation to care for patients and give up on their work is ill treatment from their seniors. A few who hold on to execute their tasks in an environment in which they are mistreated derive low fulfillment from their work, commit less to it, fall into psychological misery and hence deliver poor results (Callier, 2020; Morrow *et al.*, 2015). To continually improve health systems in promotion of patient security, hospitals' administrations need to widen their attention on their workers. Time to time evaluation of organizational atmosphere, personal emotional anguish and levels of morale might foster greater healthcare results for every one (Smeulers *et al.*, 2014).

### Methodology

The study adopted a descriptive cross-sectional design. The target population was 120 nurses working at KNH general surgical wards. Systematic random sampling was used to select 101 nurses as the study's sample size. A questionnaire was used in data collection. Data collected was analyzed descriptively through the use of frequencies and percentages. Chi-square test statistics was also used to test the relationship between various institutional factors and colostomy care.

### Findings of the Study

#### Respondents' Profile

The respondents had a mean age of 44 years with a range of 25 years (minimum 31 and maximum 56) years. The majority of respondents were females 95 % (95). Only 2% (2) of the respondents were Muslims with the majority being protestant 76% (76) Majority of the nurses 51.0% (51) were diploma level (KRCHN), Enrolled nurses 33% (33) while the minority 16.0% (16) were BSN/KRCHN. In regard to marital status, the majority were married 62 % (62). 62% (62) of the respondents had not received specialized training on colostomy care. However, only 38% (38) of the respondents had specialized training in colostomy care. All 100% (100) the respondents had experienced caring for colostomy patient (see Table 1).

**Table 1:** General Profile of the Nurses.

Variable	Frequency	Percentage	
Gender	Male	5	5.0
	Female	95	95.0
Professional qualification	Enrolled nurse	33	33.0
	BSN/KRCHN	16	16.0
	KRCHN	51	51.0
Marital status	Single	10	10.0
	Divorced	4	4.0
	Separated	17	17.0
	Married	62	62.0
	Widowed	7	7.0
Religion	Seventh day	14	14.0
	Protestant	76	76.0
	Muslim	2	2.0
	Catholic	8	8.0
Has had specialized training	Yes	38	38.0
	No	62	62.0
Source of specialized training	AMREF	2	5.6
	Seminar	22	61.1
	Workshop	12	33.3

Source: Research Data (2020)

#### Colostomy Care Practice by Nurses at KNH

The dependent variable for the research was colostomy care performance which was assessed practically using an assessment tool. Respondents were assessed performance of colostomy care procedure without their knowledge in attempt to establish their actual performance. The assessment tool comprised key procedures in colostomy care such as preparation, infection prevention, cleaning, removal and application of flange among others as shown in appendix five making a total of 20 marks. Individual respondent assessment score was converted into a percentage. The mean score was 68.5% (standard deviation 14.556) with a range of 55% as shown in figure 4. Further classification was done in that scores of 75% and above were classified satisfactory performance while scores below 75% were classified as unsatisfactory. After classification the majority of respondents had unsatisfactory performance. It was found that 43% (43) of the respondents had satisfactory performance while 57% (57) of the respondents were found had unsatisfactory performance (see Table 2)

**Table 2:** Respondent’s Colostomy Care Performance.

Variable	Frequency	Percentage	
Colostomy care performance	Satisfactory	43	43%
	Unsatisfactory	57	57%

Source: Research Data (2020)

**Institutional Determinants of Colostomy Care at KNH**

Among the institutional factors assessed were working

hours, staff to patients’ ratio, availability of supplies and equipment, skill development and institutional support among others. The research established that majority of nurses worked for more than eight hours a day (58.0%) and there were more than sixteen (16) patients per day. Majority of respondents rated their working stations as stressful (67.0%) as opposed to organized (7.0%), negligent (4.0%) and disorganized (22.0%) (see Table 3).

**Table 3:** Institutional Challenges on Colostomy Care.

Question	Response	Frequency	Percentage
1 How many hours you are working per day?	<8hours	58	58.0
	8 hours	40	40.0
	>8 hours	2	2.0
2 How many patients do you give care to per day?	<5	1	1.0
	6-10	19	19.0
	11-15	5	5.0
	>16	75	75.0
3 How do you rate your working unit?	Organized	7	7.0
	Negligent	4	4.0
	Stressful	67	67.0
	Disorganized	22	22.0

Source: Research Data (2019)

According to the majority of respondents, the greatest cause of anxiety/strain at the workplace was taking care of

high number of patients at the same time (44.0%) and shortage of necessary materials (37.0%) (See Figure 1).



**Figure 1:** Causes of Anxiety/Strain in the Workplace.

Source: Research Data (2020)

Regarding availability of necessary equipment to manage stoma, almost all respondents said that they lacked some of the necessary equipment (96.0%). In addition, super majority of the respondents have never received on-job training on stoma management (74.0%). All respondents

except one (99.0%) reported that the nurse/patient ratio was not optimal to carry out stoma management effectively while a similar number of respondents reported that the institution did not provide all the necessary support required during stoma management (See Table 4).

**Table 4:** Institutional Support on Stoma Management.

Question	Response	Frequency	Percentage
1 Do you have all necessary equipment’s to manage stoma?	Yes	4	4.0
	No	96	96.0
2 Have you got on job training on stoma management?	Yes	26	26.0
	No	74	74.0
3 Is the nurse/patient ratio optimal to carry out stoma management effectively?	Yes	1	1.0
	No	99	99.0
4 Does the institution provide you with the required support during stoma management?	Yes	1	1.0
	No	99	99.0

Source: Research Data (2020)

Institutional factors were cross-tabulated against performance of colostomy care. It was established that number of patients per nurse (p-value=0.002), equipment (p-value=0.001), on-job training (p-value=0.002),

nurse/patient ratio (p-value=0.030) and institutional support (p-value=0.012) were all significant institutional factors towards colostomy care performance (See Table 5).

**Table 5:** Cross Tabulation of Institutional Factors against Colostomy Care Performance.

Variable	Colostomy Care Performance		Pearson's Chi-Square	P-value	
	Satisfactory	Unsatisfactory			
Working hours per day	<8 hours	30	28	4.29	0.117
	8 hours	12	27		
	>8 hours	1	2		
Number of patients per nurse/day	<5	1	3	14.85	0.002
	6-10	12	5		
	11-15	3	20		
	>16	27	29		
Rating of the working unit	Organized	4	3	3.20	0.362
	Negligent	1	4		
	Stressful	31	35		
	Disorganized	7	15		
Greatest cause of anxiety in workplace	Nurses/patients ratio	21	23	2.69	0.441
	Harassment	1	3		
	Rules made without staffing put	4	11		
	Shortage of utilities	17	20		
Do you have all necessary equipment's to manage stoma?	Yes	13	3	11.37	0.001
	No	30	54		
Have you got on job training on stoma management?	Yes	20	10	9.79	0.002
	No	23	47		
Is the nurse/patient ratio optimal to carry out stoma management effectively?	Yes	5	17	4.73	0.030
	No	38	40		
Does the institution provide you with the required support during stoma management?	Yes	1	11	6.34	0.012
	No	41	47		

Source: Research Data (2019)

## Discussion

The institutional factors that influenced quality colostomy care among nurses at the surgical wards were number of patients per nurse, equipment, on-job training, nurse/patient ratio and institutional support (all the p-values <0.05). These findings agreed with Abd El-SalamSheta and Mahmoud (2014) who advised that that hospital administration ought to work together with nurses to identify possible barriers to quality colostomy care. Among the stress causing factors that were highlighted included high patient to nurses' ratio and long working hours with the majority working for more than 8 hours per shift. Shortage of necessary materials was also highlighted as a major cause of workplace stress by 96% of the respondents. Other notable factor was lack of on-job trainings which was raised by 74% of the respondents. Similarly, Ojaka et al., (2014) concluded that key drawbacks to stoma care among nurses were availability of key resources (equipment) and personnel (nurse/patient ratio) thus contributing to low quality colostomy care among patients. Additional hindrances included lack of on-job trainings and unattractive working conditions as reported by Uneke et al., (2014).

## Conclusion and Recommendations

From the findings, it can be concluded that institutional factors such as on-job training, nurse/patient ratio, hospital equipment and institutional support had a significant influence on the quality of colostomy care by nurses at the

surgical wards. The study therefore recommends that hospitals should conduct Colostomy Care On-Job Training Program aimed to improve knowledge score and thus quality of care. The study also recommends that more resources should be provided to the hospitals so as to employ additional nurses and provide the necessary equipment towards colostomy care.

## References

1. Abd El-SalamSheta, H., & Mahmoud, M. H. (2014). Effectiveness of Structured Educational Program on Knowledge and Practice among Nurses Regarding Body Fluid Balance Assessment for Critically Ill Patients.
2. Al-Shaer, D., Hill, P. D., & Anderson, M. A. (2011). Nurses' knowledge and attitudes regarding pain assessment and intervention. *Medsurg Nursing*, 20(1), 7.
3. Bodur, S., & İnfal, S. (2015). Nurses' working motivation sources and related factors: A questionnaire survey. *Journal of Human Sciences*, 12(1), 70-79.
4. Bray, L., Callery, P., & Kirk, S. (2012). A qualitative study of the pre-operative preparation of children, young people and their parents' for planned continence surgery: experiences and expectations. *Journal of Clinical Nursing*, 21(13-14), 1964-1973.
5. Burch, J. (2014). Current nursing practice by hospital-based stoma specialist nurses. *British Journal of Nursing*, 23(Sup5), S31-S34.

6. Burch, J. (Ed.). (2008). *Stoma care*. John Wiley & Sons.
7. Caillier, J. G. (2020). The Impact of Workplace Aggression on Employee Satisfaction With Job Stress, Meaningfulness of Work, and Turnover Intentions. *Public Personnel Management*, 0091026019899976.
8. De Cruz, P., Kamm, M. A., Prideaux, L., Allen, P. B., & Desmond, P. V. (2012). Postoperative recurrent luminal Crohn's disease: a systematic review. *Inflammatory bowel diseases*, 18(4), 758-777.
9. Dibley, L., Czuber-Dochan, W., Wade, T., Duncan, J., Burch, J., Warusavitarne, J., ... & Cann, D. (2018). Patient decision-making about emergency and planned stoma surgery for IBD: a qualitative exploration of patient and clinician perspectives. *Inflammatory bowel diseases*, 24(2), 235-246.
10. Francis, L., & Fitzpatrick, J. J. (2013). Postoperative pain: Nurses' knowledge and patients' experiences. *Pain Management Nursing*, 14(4), 351-357.
11. Hwang, J. M., & Varma, M. G. (2008). Surgery for inflammatory bowel disease. *World journal of gastroenterology: WJG*, 14(17), 2678.
12. Landis, M. N., Keeling, J. H., Yiannias, J. A., Richardson, D. M., Linehan, D. L. N., & Davis, M. D. (2012). Results of patch testing in 10 patients with peristomal dermatitis. *Journal of the American Academy of Dermatology*, 67(3), e91-e104.
13. Melville, D., & Baker, C. (2011). Ileostomies and colostomies. *Surgery (Oxford)*, 29(1), 39-43.
14. Moeini, M., Aghaei, S., Akbari, L., Shahriari, M., & Abbasi, S. (2018). Evaluating the relation between spiritual attitude and the quality of life among ostomy patients referring to the public and private medical centers of Isfahan. *Nursing Practice Today*, 5(1), 228-234.
15. Morrow, S. L. (2005). Quality and trustworthiness in qualitative research in counseling psychology. *Journal of counseling psychology*, 52(2), 250.
16. Morrow Jr, J. R., Mood, D., Disch, J., & Kang, M. (2015). *Measurement and Evaluation in Human Performance*, 5E. Human Kinetics.
17. Ojaka, D., Olango, S., & Jarvis, J. (2014). Factors affecting motivation and retention of primary health care workers in three disparate regions in Kenya. *Human resources for health*, 12(1), 33.
18. Ojwang, B. O., Ogotu, E. A., & Matu, P. M. (2010). Nurses' impoliteness as an impediment to patients' rights in selected Kenyan hospitals. *Health Hum Rights*, 12(2), 101-17.
19. Ran, L., Jiang, X., Qian, E., Kong, H., Wang, X., & Liu, Q. (2016). Quality of life, self-care knowledge access, and self-care needs in patients with colon stomas one month post-surgery in a Chinese Tumor Hospital. *International journal of nursing sciences*, 3(3), 252-258.
20. Singh, C. D., & Shoqirat, N. (2019). Pressure Redistribution Crib Mattress: A Quality Improvement Project. *Journal of Wound Ostomy & Continence Nursing*, 46(1), 62-64.
21. Smeulders, M., Onderwater, A. T., van Zwieten, M. C., & Vermeulen, H. (2014). Nurses' experiences and perspectives on medication safety practices: an explorative qualitative study. *Journal of nursing management*, 22(3), 276-285.
22. Uneke, C. J., Ezeoha, A. E., Ndukwe, C. D., Oyibo, P. G., Onwe, F., & Aulakh, B. K. (2014). Research priority setting for health policy and health systems strengthening in Nigeria: the policymakers and stakeholders perspective and involvement. *Pan African Medical Journal*, 16(1).
23. Williams, J. (2012). Stoma care: intimacy and body image issues. *Practice nursing*, 23(2), 91-93.