The Practice of Written Discharge Communication Practices in General Surgery Wards at The Kenyatta National Hospital

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ARTICLE INFO	ABSTRACT
Received Date: 4th July 2022 *Revised Date*: 16th July 2022 *Accepted Date*: 2nd August 2022 **Keywords:** *Written discharge communication practices, patient health outcomes, surgery wards, Kenyatta National Hospital*	**Purpose:** The current study sought to investigate the practice of written discharge communication practices in general surgery wards at the Kenyatta National Hospital **Methodology:** The study used the descriptive research design approach. A stratified sampling technique was used to recruit 180 patients who had been discharged in the last one month prior to the study from surgical wards namely the General surgery ward, Urology ward and Neurology ward. A -semi-structured questionnaire was used to collect both qualitative and quantitative data. A statistical Package for Social Sciences (SPSS version 25) was used in the data analysis. **Results:** The findings revealed that there is a positive and significant association between written discharge communication practices and patient health outcomes at KNH (r=0.587**, p=0.000). It was further noted that 77 of the respondents in the Neurology unit (mean = 2.07) and 52 of them in the general unit (mean = 2.65) agreed with the statements regarding the written discharge communication practices affecting patient health outcomes. However, 51 of them in the general unit (mean = 3.19) were of neutral opinion. There was also a significant difference between the mean responses of the patients in the Neurology ward and General surgery ward (.312*, P=0.011). Likewise, there was a significant difference between the mean responses of the patients in the Urology ward and General surgery ward (-.538*, P=0.000). This was supported by the regression findings that indicated that written discharge communication practices have a positive and significant effect on patient health outcomes at KNH (**β**= 0.373, p=0.000). This implies that improvement in 1 unit of written discharge communication practices leads to an improvement in patient health outcomes at KNH by 0.373 units.

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Unique contributions to theory, policy and practice: Based on the study findings, the current study, therefore, recommends an urgent demand for the widespread application of standardized procedures, paperwork, and training to enhance crucial discharge information exchanged between healthcare providers and between Health care providers and discharged patients

1.0 INTRODUCTION

1.1 Background of the Study

Communication is the connection that binds a society together. The ability to connect helps individuals to establish and sustain close relationships. The consistency of such interactions relies on the degree of cooperation between the participants (Mosadeghrad, 2014). Therefore, it is a method of exchanging thoughts, knowledge and communications with the other party at a given time and location. It involves writing and speech, as well as non-verbal interaction, visual interactions such as the use of images, drawing, videos etc. and digital interactions such as e-emails (Fisher, 2018).

Sadly, inaccurate or erroneous data and coordination mistakes between healthcare services and various recipients also raise the risk of adverse effects. This can potentially lead to life-threatening cases, preventable procedures, unplanned re-hospitalizations and additional hospital expenses (Simpson et al., 2015). In addition, caregivers may be concerned about the health state of their patients and their capacity to recuperate while at home, which may influence their longing to rehearse or build up essential aptitudes. This can be exacerbated if families/guardians feel like their youngster isn't prepared for delivery, or feel unequipped for thinking about the patient at home (Curran et al., (2017).

There have been instances across the globe where the discharge process has been effective. In Australia, the Government of Victoria established four key elements of the Successful Discharge Plan for all public hospitals. This is the evaluation of the medical, psychological, social and cultural needs of patients; the formulation of the treatment plan; the execution of the plan and the integration of services (Manias, 2015). In the United States, discharge preparation is a constitutionally required feature for hospitals as laid out in the Medicare Requirements of Inclusion in Medicare & Medicaid Treatment Centers (Yam et al., 2012). As per the National Center for Health Information, more than 35 million patient discharges are approved annually in the US. Many discharged patients go back to their residences, however, as of 2015, more than 8.3 million individuals had received continuing assistance from home health providers, licensed nursing and long-term care services, hospices, residential care networks and adult day care centres. To enhance the patient quality and minimize readmission, many hospitals are spending greater emphasis on post-acute care, including long-term care (LTC) and specialist nursing facilities (SNFs). Any health systems have started to add these services to their campuses, while others are creating networks of "preferred" facilities (Haque et al., 2018).

While studies have noted discharge issues in the psychological, operational, linguistic and technological sense, there is a lack of adequate evidence that has contributed to discoveries of more successful solutions. The efficacy of most treatments is highly subjective and constrained in everyday use. Explanations for these poor outcomes include challenges in improving the actions

of clinicians and current policies, non-optimal therapy techniques, insufficient tools for measuring the effects of interventions, and inadequate mechanisms for planning and reviewing interventions (Craig et al., 2013). There is no comprehensive approach to transforming discharge issues into personalized solutions. Often therapeutic intervention developers chose their methods intuitively. Successful approaches need to be theoretical and evidence-based, aimed at particular behavioural and environmental causes (Cené *et al.,* 2017).

This is an indication that effectiveness in discharge communication practices is one of the self-care programs that improve the healthcare outcomes of recovering patients especially, those from surgical care. Thus, the main objective of this examination is to write discharge communication practices on patient health outcomes in general surgery wards at the Kenyatta National Hospital.

1.1.1 Justification of the Study

The current study finds considerable evidence of poor health outcomes among patients recovering from surgical treatments all across the world and even in the country (Humphries et., 2020; Cené *et al.,* 2017; Curran et al., 2019). Specifically, at the KNH, reports have indicated that communication during and after patient discharge is still a major problem in the KNH setup as is portrayed in the patient complaint summaries done quarterly through the patient Affairs unit. Poor communication during discharge results in poor health outcomes that may lead to patient re-admission, increased financial burden and hospital congestion.

Therefore, KNH being the most renowned and nationally and internationally recognized level 6 hospital in Kenya, the premise offers an ideal study location to investigate the communication strategies applied at the national level to patients after discharge. This helps to offer recommendations to level 1 to 5 hospitals in Kenya for future policy formulation. In the event the problems are identified, the study, therefore, finds itself maiden research that provides policy, practical and theoretical contributions to the management at the KNH and extrapolates the same to other county hospitals in Kenya.

1.2 Statement of the problem

Good communication at discharge is set to increase the outcomes and safety of the patients, especially after major surgeries. Information transfer among healthcare providers and their patients (Newnham et al., 2017). In essence, the transition from hospital to home while the patient is still recovering is a high-risk period in a patient's illness and in the event of poor communication between healthcare providers at hospital discharge, adverse health outcomes for the patients after discharge usually is the result (Emes et al., 2019; Horstman et al., 2017). However, due to the inaccuracies, omissions, illegibility, logistical failure (for instance information is never delivered), and delays in generation (in essence, dictation or transcription) or transmission, discharge communication has not been optimized in major public hospitals. In Kenya, the same has been noted in the context of the KNH.

Despite its high status, it often does not meet the desired requirements in everyday clinical practice. The risks create barriers for patients and doctors. Communication during patient discharge is still a major problem in the KNH setup as it is portrayed in the patient complaint summaries done quarterly through the patient Affairs unit (KNH, 2019). Poor communication during discharge

results in poor health outcomes that may lead to patient re-admission, increased financial burden and hospital congestion (Shawa et al., 2017; Kaguongo, 2018).

With the prevalence of the given problem, there are still scanty empirical findings shedding light to alleviate the problem. relating to discharge communication thus need to do research. For instance, Lembeck et al. (2019) investigated the effect of a single follow-up home visit on readmission in a group of frail elderly patients in a Danish randomized clinical trial. The study was only focused on readmission rate as the healthcare outcome leaving out the other measures. The study was conducted on a sample of 65 samples in Danish hospital, Denmark while the current study seeks to generalize the findings at KNH on 90 samples. The study by Kaguongo (2018) was based on mothers and late pre-term infants while the current study tries to extrapolate the findings to all patients in the Surgical department. Okerosi (2016) only provides evidence and recommendations for medication discrepancies on the admission of elderly diabetics at Kenyatta National Hospital while neglecting the aspect of hospital discharge. Gai and Pachamanova (2019) concentrated on discharges from community hospitals in 27 states during 2010–2014 while the current study seeks to update the findings as of 2020. These among other studies provide the basis of the current study to investigate the current problem in the Kenyan Context, specifically at the Level 5 hospital - KNH.

1.3 Research Objective

To evaluate the practice of written discharge communication practices in general surgery wards at the Kenyatta National Hospital.

1.4 Research Questions

The study sought to answer the following research question: what is the practice of written discharge communication practices in general surgery wards at the Kenyatta National Hospital?

2.0 LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Peplau's interpersonal relations theory

This nursing theory was developed and coined by Peplau in 1952 (Peplau, 1997; Forchuk, 1993). In 1968, the theory is further improved and acknowledged by authors like Henry Stack Sullivan (Sullivan, 1940), Abraham Maslow (Maslow, 1958), and Neal Elger Miller (Cohen, 1977). This principle is the basis of the art of nursing. The core of Peplau's philosophy is the development of mutual knowledge between the doctor and the patient, as compared to the passive care of the patient (Callaway, 2002). Healthcare workers need to make this simpler through evaluation, definition, formulation, explanation, confirmation and engagement. For instance, when the nurse listens to the patient, he/she gets a general view of the condition of the patient. The physician then confirms their inferences by testing for consistency with the patient. The effect will be experiential learning, better coping skills and professional development for both parties (D'Antonio, Beeber, Sills & Naegle, 2014).

The theory emphasizes the four components/phases of effective nursing communication: the orientation phase, identification phase, exploitation phase, and resolution phase (Peplau, 1952,

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1991). Later, these four stages were condensed into three stages: the orientation phase, working phase, and termination phase (Peplau, 1988, 1997). This, therefore, is a process where the nurse-patient relationship is expected to be long-term even after the patient has been discharged from the healthcare facility (D'Antonio, 2004). Evidence has long recognized the need for interpersonal relations and relationships in nursing (Duffy & Hoskins, 2003). In so doing, the build-up of trust and communication between the two helps to give the patient enough and satisfactory assurance that his/her recovery is of value to the caregivers.

Peplau emphasizes the importance of patients' experiences of nursing care through interpersonal relations. Therefore, the focus needs to be on the patients, their needs, and their perceptions about the care they received from nurses. The care likewise has to be effective right from the time the patient checks in the hospital to the time he/she leaves and even during the recovery period after discharge (Gastmans, 1998).

This theory is, therefore, relevant and instrumental to the current study since it introduces the aspect of interpersonal relations between the patients, caregivers, nurses and family members. Given the importance placed on communication as a human resource factor in every organizational setting and an integral part of interpersonal relations, the current study finds the theory in a better position to explain the discharge communication practices (from the orientation, identification, exploitation and through to the resolution phase) that influence the patient health outcomes of in surgical wards at the Kenyatta National Hospital.

2.2 Relationship between written discharge communication practices and patient health outcomes

Humphries et al. (2020) explored the relationship between quality of discharge communication and health outcomes. The studies concentrated on 546 chronic NCD (chronic respiratory disease, cardiovascular disease or diabetes) patients. The results showed that all patients received discharge papers, mostly on sheets of paper with or without clear pre-printed keywords; 31 per cent of the reports provided all the following material needed to promote continuity of care: diagnosis, the material on medicines, dietary recommendations and follow-up orders. Patient accounts revealed substantial differences in verbal data given at discharge consultations; half of them received continuing treatment/management information and 23 per cent received lifestyle advice. Within 18 weeks of follow-up, 5 per cent of patients had died, 13 per cent had been readmitted and 11 per cent reported that their chronic NCD/s had deteriorated.

Couturier, Carrat and Hejblum (2016) analyzed the association between the segments of the emergency clinic release measures, especially the ensuing nature of treatment and patient results in the post-release period. The investigation was generally qualitative, with key hospital discharge procedures covered as drug-related discharge issues, discharge directions, the standard of care, discharge synopsis and emergency clinic to-home progress following hospital discharge procedure. The essential patient well-being impacts estimated were: re-hospitalization, crisis division visits, and mortality. Re-confirmations and visits to the crisis office showed a huge relationship between the release cycle and these results.

With regard to the effect of written discharge information on patient welfare, there is a strong connection between the lack of sharing of reported knowledge between hospital and primary care

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HCPs and negative patient outcomes (Van Walraven, Seth, Austin & Laupacis, 2002). Inefficient and unclear written documentation and prescriptions at discharge visits, in particular about the diagnosis and/or current medical needs, have often been described as a problem that may lead to a misapprehension of patients and adverse effects such as prescription discrepancies and unplanned re-admissions (Merten, Van Galen & Wagner, 2017; Regalbuto, Maurer, Chapel, Mendez & Shaffer, 2014). With respect to treatments, the research has strongly recommended prompt and reliable sharing of patient-specific knowledge to enhance management and protection during the adjustment to treatment (Hesselink et al., 2012). Efficient discharge preparation and recorded summaries are especially important resources that have been shown to mitigate a range of post-discharge problems and unplanned readmission (Salim Al-Damluji et al., 2015).

Newnham, Barker, Ritchie, Hitchcock, Gibbs and Holton (2017) studied the discharge communication practices and healthcare provider and patient preferences, satisfaction and comprehension. From the reviewed records, the study concluded that the use of printed material (such as written notes) alongside person-based discharge communication methods helps improves patients' understanding of their medical condition and discharge instructions. These findings are in agreement with Johnson (1999) as well as Chacon, Kissoon and Rich (1994) who noted that most of the parents found the written information useful and thus, kept it for reference. Only half of the parents indicated that a clinician reviewed the pamphlet with them during the ED visit. However, with the current adoption of internet-based solutions, IT-based methods tend to optimize discharge communication and improve the communication between the patient and the healthcare provider.

3.0 RESEARCH METHODOLOGY

3.1 Research design

The current study took a descriptive cross-sectional research design approach. The design is concerned with experiments that yield facts that are of special interest to society and the state of most objects. This means that consistency and standing facts are given significance in a descriptive survey as described by (Baker, 2017).

3.2 Variables

The study variables are dependent and independent. The dependent variable is the patient health outcomes while the independent variable is person-based discharge communication practices.

3.3 Study area

Kenyatta National Hospital (KNH) is the public Referral Hospital of choice in Kenya; a level 6 hospital in Kenya that offers quality specialized health care to patients including open heart surgery, neurosurgery, orthopaedic surgery, reconstructive surgery, burns management, critical care services, newborn services, ophthalmology (cornea transplant), oncology, palliative care and renal services (including kidney transplantation), among others. KNH was established in 1901 with a capacity of 40 beds. The Hospital operated as a unit of the Ministry of Health until 1987 when its status changed to a State Corporation through Legal Notice No. 109 of 6th April 1987. Over the years KNH has grown to its present capacity of 1,800 beds and attends to an annual average of 700,000 inpatients and 600,000 outpatients (Kenyatta National Hospital, 2018).

3.4 Target population

The study targeted discharged surgical patients from the past 30 days after discharge from the Kenyatta National Hospital. The respective target respondents were targeted in the general surgery clinics (from the 3 wards/units namely the General surgery ward, Urology ward and Neurology ward) at the KNH. The study will track the daily discharge for the last 30 days. From the KNH records, 10 patients are discharged every day from each selected ward which is equivalent to 30 patients a day. Therefore, the study targeted 900 discharged patients (30 discharged patients * 30 days) (Kenyatta National Hospital, 2020). The population is as shown below:

Table 1: Target Population

Ward (units)	The population targeted (the past 30 days)
General surgery ward	300
Urology ward	300
Neurology ward	300
Total	**900**

Source: (Kenyatta National Hospital, 2020).

3.4.1 Inclusive criteria

Inclusion criteria for the study included patients who were admitted to the general surgery unit (the 3 wards namely the General surgery ward, Urology ward and Neurology ward) discharged to their usual place of residence and given clinic appointments.

3.4.2 Exclusion criteria

The study excluded the patients with cognitive impairment unable to participate.

3.5 Sample and Sampling Techniques

The sample of the current study was selected using a stratified random sampling design. Kothari (2004) and Mugenda (2013) recommend that a sample size of between 10 per cent to 30 per cent is an adequate representation population under study. Therefore, the study chose 20 per cent of 90 discharged patients who are recovering and ready for clinic appointments from their residential places (that is from the past 30 days after discharge). These respondents (discharged patients) were randomly selected from each of the strata (units) by use of a proportionate sampling allocation technique (that is stratified random sampling). The distribution is as shown below:

Table 2: Sampling Frame

Ward (unit)	The population targeted (the past 30 days)	Proportionate allocation	Sample size (the past 30 days)
General surgery ward	300	0.2*300	60
Urology ward	300	0.2*300	60
Neurology ward	300	0.2*300	60
Total	**900**		**180**

Source: (Kenyatta National Hospital, 2020).

3.6 Research Instruments

The information in the present analysis was primary data which was gathered from 180 discharged patients using self-administered semi-structured questionnaires. Semi-structured interviews describe the use of qualitative details over and beyond quantitative knowledge to assist in the collection of personal data. They help the participant to answer individually and to make comprehensive rationales. The use of questionnaires helps to collect unbiased and objective data (Malvey & Neigel, 2017).

3.7 Data Collection

After receiving the official consent of the KNH Ethics Committee and the actual researchers, the investigator proceeded to collect primary data collected through self-directed questionnaires. Therefore, the rigid/structured questions were used to collect quantitative data while the open-ended questions were used to collect qualitative data. Secondary data was gathered through the review of past research materials. Study assistants were hired and qualified to help gather results. Where appropriate explanations were offered. The research performed direct interviews. Then follow-ups were carried out from time to time to ensure a good response rate of approximately 70 to 100 per cent. Data collection was assisted by 2 research assistants who prior to the collection were rigorously trained and inducted on how to proceed with the collection procedure. This ensured professionalism and reproducibility of the findings.

3.8 Data analysis

The study applied both qualitative and quantitative research methods where first the responses were coded in such a manner that the information can be analyzed using SPSS software v25.0 and provided descriptive and inferential output. Findings were presented in form of means, percentages and frequencies where tables, graphs and figures aided in their presentations. Qualitative data was evaluated using thematic analysis and presented in content analysis. The causality analysis was performed by use of R squares, F statistic values and beta parameters all set at 0.05 significance degree. The following model shows the conceptual representation:

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$$Y = \beta_0 + \beta_1 X_1 + e$$

Where;

Y= Patient health outcomes

β = Constant (the value of Y when $X_1 = 0$)

β_1 = the coefficient for X_1.

X_1 = Written discharge communication practices

e = error term that is, other variables not included in the model that may affect patient health outcomes.

3.9 Data Management and Ethical consideration

After receiving the formal consent of the KNH/UON-ERC and the individual participants, the investigator conducted the final analysis. The anonymity and confidentiality of the subjects are both ensured and the right to delete each stage of the analysis is granted to the researchers.

4.0 FINDINGS AND PRESENTATIONS

4.1 Response Rate

The results below give the level of respondents' cooperation on their views regarding the questions asked, which reflected on different themes.

Table 3: Response Rate

Response	Frequency	Percentage
Returned	180	100%
Unreturned	0	0%
Total	**180**	100%

4.2 Patient health outcomes

The findings showed that 3% of the patients were readmitted, the safety of care efficacy was 7%, the level of timeliness in communication was 43% and continuity of care was 49% rating as shown in Figure 1.
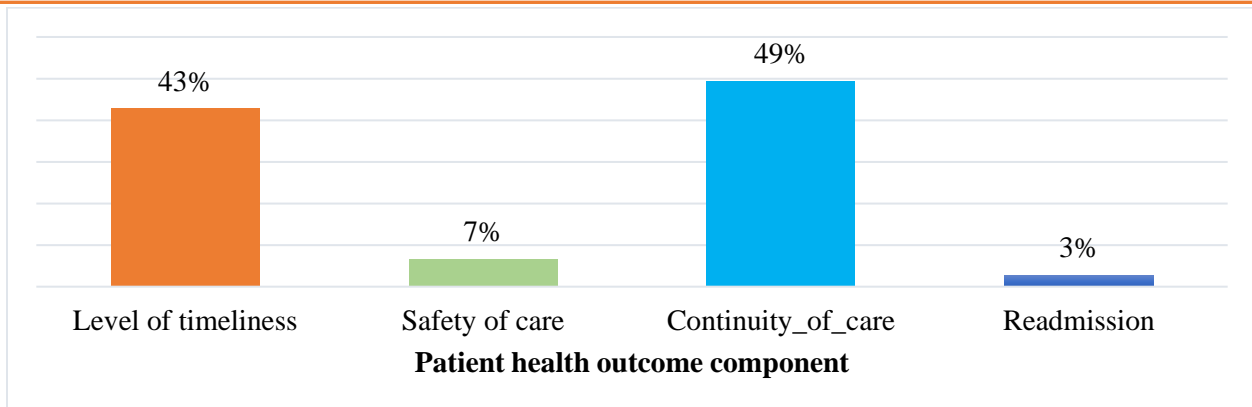
Figure 1: Patient health outcomes

The respondents were asked to rate the extent to which they agreed with the statements on patient health outcomes. Their responses were averaged as shown in Table 4:

Table 4: Descriptive statistics showing the patient health outcomes

Statements	More than twice %	More than twice C	1-2 times %	1-2 times C	Never %	Never C	Total M	Std Dev
How many times have you been re-admitted	2.8	5	13.3	24	83.9	151	2.8	0.5
	Yes		**Not Sure**		**No**			
The visits and/or communication from the healthcare provider is timely/prompt	46.2	85	1.6	3	52.2	96	2.1	1.0
Do you fear for your life after discharge from the hospital?	16.9	31	2.2	4	81.0	149	2.6	0.8
Care coordination programs and interventions are/were effective in improving care transitions from the hospital to your home	66.3	122	1.1	2	32.6	60	1.7	0.9
Your condition has improved greatly since discharge	85.9	158	0.5	1	13.6	25	1.3	0.7
It has taken a shorter time than expected for me to recover from the surgery	81.5	150	2.2	4	16.3	30	1.4	0.8
The pains have significantly reduced after discharge impacting your comfort	64.1	118	0.5	1	35.3	65	1.7	1.0
There are few clerical and discharge mistakes made since my official discharge	7.6	14	0.0	0	92.4	170	2.9	0.5
Average							**1.9**	**0.8**

Note: C= count, %= Percentage distribution, M= Mean, Std Dev= Standard deviation

Table 4 revealed that 83.9% (151) indicated that they have never been re-admitted to KNH after their surgery. The results further show that 52.2% (96) of the respondents indicated that the visits

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and/or communication from the healthcare provider are not timely/prompt. Moreover, 81.0% (149) of the respondents also indicated that they do not fear for their lives after discharge from the hospital. It was noted that 66.3% (122) of the respondents indicated that care coordination programs and interventions are/were effective in improving care transitions from the hospital to their homes. The results likewise showed that 85.9% (158) of the respondents indicated that their condition has improved greatly since discharge. The results further show that 81.5% (150) of the respondents indicated that it has taken a shorter time than expected for me to recover from the surgery. The results further show that 64.1% (118) of the respondents indicated the pain has significantly reduced after discharge impacting their comfort. The results showed that 92.4% (170) of the respondents indicated that there are few clerical and discharge mistakes made since their official discharge.

In summary, the average mean of the responses was 1.90 with a standard deviation of 0.80. On a scale of five points, this means that majority of the respondents agreed with the statements on patient health outcomes. The findings correspond to Hesselink et al. (2014) that continuity of treatment for patients discharged from the hospital is a vital feature of high-quality patient care. Therefore, inaccurate or erroneous data and coordination mistakes between healthcare services and various recipients raise the risk of adverse effects (Simpson et al., 2015). Caregivers need to be concerned about the health state of their patients and their capacity to recuperate while at home, which may influence their longing to rehearse or build up the essential aptitudes. This can be exacerbated if families/guardians feel like their youngster isn't prepared for delivery, or feel unequipped for thinking about the patient at home (Curran et al., 2017).

4.3 Re-admissions

Table 5: Descriptive statistics in percentage showing the responses regarding re-admissions

Re-admissions	More than twice		1-2 times		Never		Total	
Statements	**%**	**C**	**%**	**C**	**%**	**C**	**M**	**Std Dev**
How many times have you been re-admitted	2.8	5	13.3	24	83.9	151	2.8	0.5

Note: C= count, %= Percentage distribution, M= Mean, Std Dev= Standard deviation

In summary, on a scale of 1 to 3 where 1 implies never, 2 implies 1 – 2 times and 3 implies more than twice, the results in table 4.6a indicated an average mean of 2.80 with a standard deviation of 0.50. This implies that the majority of the respondents indicated that they have never been re-admitted after their discharge from KNH.

4.4 Timeliness of care

Table 6: Descriptive statistics in percentage showing the responses regarding the timeliness of care

Timeliness of Care	Yes		Not Sure		No		Total	
Statements	%	C	%	C	%	C	M	Std Dev
It has taken a shorter time than expected for me to recover from the surgery	81.5	150	2.2	4	16.3	30	1.4	0.8
The visits and/or communication from the healthcare provider is timely/prompt	46.2	85	1.6	3	52.2	96	2.1	1
Average							**1.8**	**0.9**

Note: C= count, %= Percentage distribution, M= Mean, Std Dev= Standard deviation

In summary, on a scale of 1 to 3 where 1 implies yes, 2 implying not sure and 3 implies no, the results in Table 6 indicated an average mean of the responses was 1.80 with a standard deviation of 0.90. This implies that the majority of the respondents indicated that they were not sure about the timeliness of care after their discharge from KNH.

4.5 Safety of care

Table 7: Descriptive statistics in percentage showing the responses regarding the safety of care

Safety of Care	Yes		Not Sure		No		Total	
Statements	%	C	%	C	%	C	M	Std Dev
There are few clerical and discharge mistakes made since my official discharge	7.6	14	0	0	92.4	170	2.9	0.5
Do you fear for your life after discharge from the hospital?	16.9	31	2.2	4	81.0	149	2.6	0.8
Average							**2.8**	**0.7**

Note: C= count, %= Percentage distribution, M= Mean, Std Dev= Standard deviation

In summary, on a scale of 1 to 3 where 1 implies yes, 2 implying not sure and 3 implies no, the results in Table 7 presented an average mean of the responses was 2.8 with a standard deviation of 0.70. This implies that the majority of the respondents indicated that safety of care has not been continuous after their discharge from KNH.

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4.6 Continuity of care

Table 8: Descriptive statistics in percentage showing the responses regarding continuity of care

Continuity of care	Yes		Not Sure		No		Total	
Statements	%	C	%	C	%	C	M	Std Dev
Care coordination programs and interventions are/were effective in improving care transitions from the hospital to your home	66.3	122	1.1	2	32.6	60	1.7	0.9
Your condition has improved greatly since discharge	85.9	158	0.5	1	13.6	25	1.3	0.7
The pains have significantly reduced after discharge impacting your comfort	64.1	118	0.5	1	35.3	65	1.7	1
Average							**1.6**	**0.9**

Note: C= count, %= Percentage distribution, M= Mean, Std Dev= Standard deviation

In summary, on a scale of 1 to 3 where 1 implies yes, 2 implying not sure and 3 implies no, the results in Table 8 presented an average mean of the responses was 1.6 with a standard deviation of 0.90. This implies that the majority of the respondents indicated that they were not sure about the continuity of care after their discharge from KNH.

4.7 Written discharge communication practices

Most of the participants, 98% agreed that the hand-written letters are supplemented with printed letters, and 88% disagreed with the statement that the handwritten discharge letters are clear and of good handwriting as shown in Figure 2.
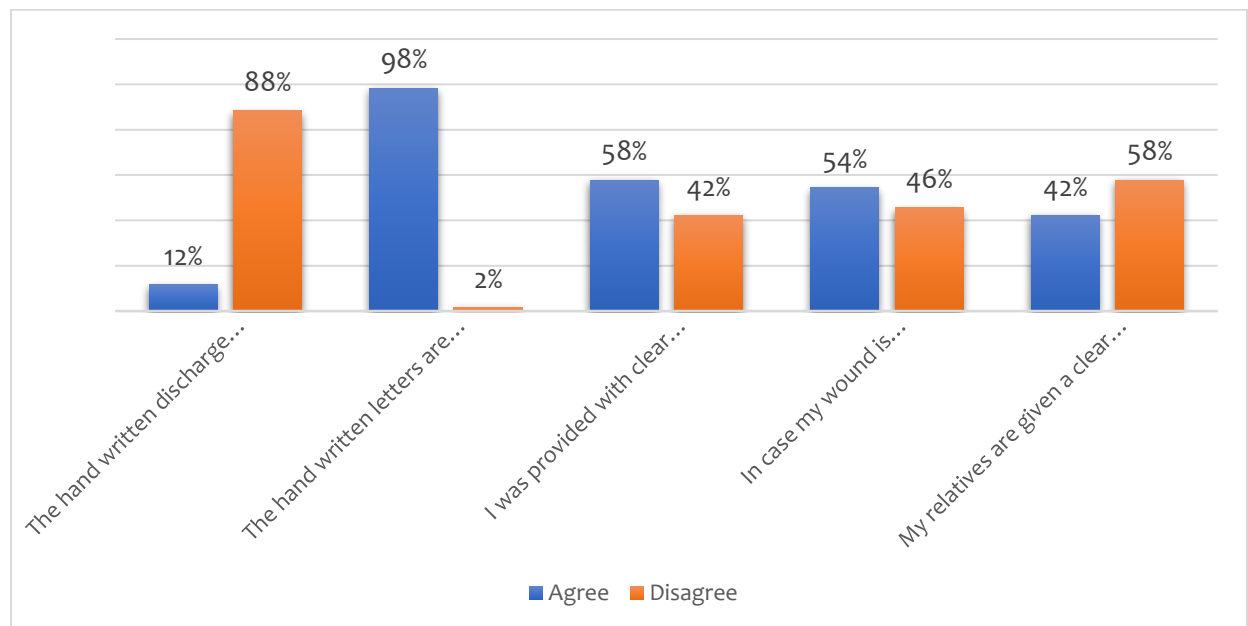
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Figure 2: Written discharge communication practices

These findings corroborate those of Humphries et al. (2020) that all patients received discharge papers, mostly on sheets of paper with or without clear pre-printed keywords. Couturier, Carrat and Hejblum (2016) likewise, state that re-confirmations and visits to the crisis office showed a huge relationship between the release cycle and these results.

Likewise, the respondents were asked to indicate (in their opinion) what other ways the written discharge communication practices at the KNH influenced their health care outcomes. The following were their responses as shown in table 4.10.

Table 9: Content responses regarding person-based discharge communication practices at the KNH

Participant responses
I can't be able to read the handwriting on the discharge card
They have helped in asking questions when being discharged
I'm able to use the prescription to refill the medication
The language on the discharge card I'm not able to understand
I don't know what to do in regards to home-based care
I was discharged with an unhealed wound and it was emitting pus

4.8 Descriptive Statistics for the responses in Neurology ward, Urology ward and General surgery ward Surgical Units

This section presents a descriptive summary of the mean and standard deviation of the responses of the discharge patients regarding discharge communication practices and patient health outcomes in the Neurology ward, Urology ward and General surgery ward Surgical Departments at KNH. The findings are presented in Table 10.

Table 10: Means and standard deviations of discharge communication practices and patient health outcomes in Neurology ward, Urology ward and General surgery ward Surgical Departments at KNH

Variables	Surgical Departments	N	Mean	Std. Deviation
Written discharge communication practices	Neurology ward	77	2.97	0.726
	Urology ward	51	3.19	0.705
	General surgery ward	52	2.65	0.548
	Total	**180**	**2.94**	**0.700**

Note: Neurology ward -Neurology department, Urology Ward-General department, General surgery ward- Urology department

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Table 10 indicates that 77 of the respondents in the Neurology unit (mean = 2.97) and 52 of them in the general unit (mean = 2.65) were of a neutral opinion of the statements regarding the written discharge communication practices affecting patient health outcomes. However, 51 of them in the general unit (mean = 3.19) were of neutral opinion.

4.9 Inferential statistics

Inferential statistics refers to the techniques that allow a study to make inferences about a population based on the collected data from the respective sample. In essence, they allow for the determination of how likely it is to obtain a set of results from a single sample. In the current study, inferential statistics were assessed using correlation and regression analyses.

4.9.1 Anova test in written discharge communication practices and Patient health outcomes for Neurology ward, Urology ward and General surgery ward departments

Analysis of variance was tested to evaluate the difference in means of the Neurology ward, Urology ward and General surgery ward departments at KNH. That is, whether there are any statistically significant differences between the means of Neurology ward, Urology ward and General surgery ward departments.

Table 11: ANOVA test for means of Neurology ward, Urology ward and General surgery ward units at KNH.

ANOVA		Sum of Squares	df	Mean Square	F	Sig.
Written discharge communication practices	Between Groups	7.554	2	3.777	8.327	0.000
	Within Groups	80.278	177	0.454		
	Total	**87.832**	**179**			

df= degree of freedom, F = calculated F statistic, Sig = significance level at 0.05

Table 11 indicates that there is a significant difference in the means of the Neurology ward, Urology ward and General surgery ward units at KNH person-based discharge communication practices, written discharge communication practices and IT-based discharge communication practices respectively {*F (2, 177) =8.327, p=0.000< 0.05}*. These findings agree with Hiponia (2019) that the regular use of this discharge communication process has the potential to significantly impact patient and staff satisfaction, as well as contribute to cost savings for the organization.

4.9.2 Multiple Group Comparisons

Table 12: Post Hoc Tests for means of Neurology ward, Urology ward and General surgery ward departments at KNH

Dependent Variable	(I) Ward Name	(J) Ward Name	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						L. B	U. B
Written discharge communication practices	Neurology ward	Urology ward	-0.226	0.122	0.065	-0.470	0.010
		General surgery ward	.312*	0.121	0.011	0.070	0.550
	Urology ward	Neurology ward	0.226	0.122	0.065	-0.010	0.470
		General surgery ward	.538*	0.133	0.000	0.280	0.800
	General surgery ward	Neurology ward	-.312*	0.121	0.011	-0.550	-0.070
		Urology ward	-.538*	0.133	0.000	-0.800	-0.280

U. B = Upper Bound; L. B = Lower Bound

Table 12 revealed that there was a significant difference between the mean responses of the patients in the Neurology ward and General surgery ward (.312*, P=0.011). Likewise, there was a significant difference between the mean responses of the patients in the Urology ward and General surgery ward (-.538*, P=0.000). The findings are consistent with Salim Al-Damluji et al. (2015) that efficient discharge preparation and recorded summaries are especially important resources that have been shown to mitigate a range of post-discharge problems and unplanned readmission. Cené, Johnson, Wells, Baker, Davis and Turchi (2016) also found that patient and family engagement (PFE) relates positively to physicians, communities, and practitioners.

4.9.3 Correlation between discharge communication practices on patient health outcomes

The Pearson correlation coefficient was used to determine the association between the variables which is denoted by **r**. When r is above 1, the value of the other variable in linear comparison increases with a positive value, when r is below 1, this shows that there is a negative association and the linear relation decreases on the same line and r = 1, we assert that there is no correlation (Gogtay & Thatte, 2017).

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Table 13: Correlation analysis between discharge communication practices and patient health outcomes in surgical wards at the Kenyatta National Hospital.

Correlations		Patient health outcomes	Written discharge communication practices
Patient health outcomes	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	180	
Written discharge communication practices	Pearson Correlation	.587**	1
	Sig. (2-tailed)	0.000	
	N	180	180

** Correlation is significant at the 0.01 level (2-tailed).

Table 13 shows that there is a positive and significant association between written discharge communication practices and patient health outcomes at KNH (r=0.587**, p=0.000). The strong r value of 0.587 indicates a value of greater than 0 which implies that written discharge communication practices as a linear variable have a positive association with patient health outcomes at KNH. These findings corroborate those of Humphries et al. (2020) that all patients received discharge papers, mostly on sheets of paper with or without clear pre-printed keywords. Couturier, Carrat and Hejblum (2016) likewise, state that re-confirmations and visits to the crisis office showed a huge relationship between the release cycle and these results.

4.9.4 Regression between written discharge communication practices and patient health outcomes

The study also sought to investigate the causal effect of the independent variables on the dependent variable.

Table 14: Regression of coefficients for discharge communication practices

Variables	Unstandardized Coefficients		Standardized Coefficients		
	β	Std. Error	Beta	t	Sig.
(Constant)	0.300	0.116		2.574	0.011
Written discharge communication practices	0.373	0.038	0.490	9.78	0.000

a Dependent Variable: Patient health outcomes

Table 14 revealed that written discharge communication practices have a positive and significant effect on patient health outcomes at KNH (**β**= 0.373, p=0.000). This implies that improvement in 1 unit of written discharge communication practices leads to an improvement in patient health outcomes at KNH by 0.373 units. These findings are in agreement with Merten et al. (2017) and

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Regalbuto et al. (2014) that inefficient and unclear written documentation and prescriptions at discharge visits, in particular with regards to the diagnosis and/or current medical needs, have often been described as a problem that may lead to the misapprehension of patients and adverse effects such as prescription discrepancies and unplanned re-admissions.

The following model shows the actual representation:

$$Y = 0.300 + 0.373X_1 + e$$

Where;

Y= Patient health outcomes

X_1 = Written discharge communication practices

e = error term that is other variables not included in the model that may affect patient health outcomes.

5.0 SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary of the findings

The findings revealed that there is a positive and significant association between written discharge communication practices and patient health outcomes at KNH (r=0.587**, p=0.000). It was further noted that 77 of the respondents in the Neurology unit (mean = 2.07) and 52 of them in the general unit (mean = 2.65) agreed with the statements regarding the written discharge communication practices affecting patient health outcomes. However, 51 of them in the general unit (mean = 3.19) were of neutral opinion. There was also a significant difference between the mean responses of the patients in the Neurology ward and General surgery ward (.312*, P=0.011). Likewise, there was a significant difference between the mean responses of the patients in the Urology ward and General surgery ward (-.538*, P=0.000).

ANOVA findings acknowledged that there is a statistically significant relationship between written discharge communication practices at KNH given the Neurology ward, Urology ward and General surgery ward {*F (2, 177) =8.327, p=0.000< 0.05}*. The correlation findings indicated that there is a positive and significant association between written discharge communication practices and patient health outcomes at KNH (r=0.587**, p=0.000). This was supported by the regression findings that indicated that written discharge communication practices have a positive and significant effect on patient health outcomes at KNH (**β**= 0.373, p=0.000). This implies that improvement in 1 unit of written discharge communication practices leads to an improvement in patient health outcomes at KNH by 0.373 units.

These findings are in agreement with Merten et al. (2017) and Regalbuto et al. (2014) that inefficient and unclear written documentation and prescriptions at discharge visits, in particular with regard to the diagnosis and/or current medical needs, have often been described as a problem that may lead to the misapprehension of patients and adverse effects such as prescription discrepancies and unplanned re-admissions. Couturier, Carrat and Hejblum (2016) likewise, state that re-confirmations and visits to the crisis office showed a huge relationship between the release cycle and these results.

5.2 Conclusion

Based on the findings above the study concluded that written communication practices are a source of clarity of information from the healthcare to the patient. This is because it can communicate an authentic and undistorted message which improves health recovery plans for discharged patients. The positive relationship implies that such aspects as clearly written as well as printed discharge letters and clear written information/instructions help the patients and their attendants to specifically know when, where and how to apply specific medical therapy for progressive recovery. For instance, the use of a clear written prescription of the medication and clear instruction allows the patient after discharge to know the time for use of the medicines and know exactly when the dosage will be exhausted.

5.3 Recommendations

Based on the study findings, the current study, therefore, recommends an urgent demand for the widespread application of standardized procedures, paperwork, and training to enhance crucial discharge information exchanged between healthcare providers and between Health care providers and discharged patients.

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