



# Structure and process factors that influence patients' perception of inpatient psychiatric nursing care at Mathari hospital, Nairobi

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## Structure and process factors that influence patients' perception of inpatient psychiatric nursing care at Mathari hospital, Nairobi

To explore structure and process factors which influence patients' perception of quality inpatient psychiatric nursing care at Mathari hospital. This was a cross-sectional study of 236 inpatients selected by stratified random sampling. Competence to give consent was determined by a minimum score of 24 on Mini Mental State Examination. Patients were interviewed using a semi-structured questionnaire. Differences in proportions of variables were determined by calculating confidence interval and summary chi-squared statistics. *P*-values of  $\leq 0.05$  were considered significant. Majority of patients (87%) were aged 20–49 years with 43% having stayed in the ward for over a month. Structure factors related to patients' perception of care included physical environment, being happy with the way the ward looked was significantly related to satisfaction with care ( $\chi^2 = 5.506, P = 0002$ ). Process factors significantly related to patients' satisfaction with care included nurses providing patients with information on prescribed medicines ( $\chi^2 = 10.50, P = 00012$ ). Satisfaction with care was positively related to ability to recommend someone for admission in the same ward ( $\chi^2 = 20.2, P = 00001$ ). Structure and process factors identified as influencing patients' perception of care were physical environment and nurses' qualities that fit within the characteristics of Peplau's Interpersonal Relations Theory.

**Keywords:** nurse–patient interpersonal relationship, outcome of care, positive perception of nursing care, process factors, quality psychiatric nursing care, structural factors

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## Introduction

Provision of quality psychiatric services is a priority in all psychiatric institutions; yet, it remains stigmatized, neglected and under-resourced. World Health Organization (WHO) report of 2001 indicated that standards of psychi-

atric care are very low in many countries with over 40% of countries lacking mental health policy to guide delivery of psychiatric services. Inpatient units play an important role in the care of patients with severe psychiatric disorders. Yet, they lack structures and processes for quality nursing care (Rossberg & Friis 2004, WHO 2005). These struc-

tures and processes, according to the Ministry of Health (MoH), Kenya Government 2004, include inadequate finances, inadequate and depreciated facilities, lack of equipment and supplies, few psychiatric professionals, limited training facilities, and lack of nursing frameworks of care.

Psychiatric services in Kenya continue to lag behind other healthcare services largely because of social stigma associated with psychiatric disorders; yet, 20–30% of her 30 million people have psychiatric problems (MoH 1994, 2004, WHO 2001). Kenya is therefore likely to suffer the consequences of psychiatric morbidity which is estimated to cause 13% of the Global Burden of Disease currently and 15% by 2020. The chronic nature of psychiatric morbidity leads to long hospitalizations and overcrowding besides creating and worsening poverty (WHO 2003a) as its effects are maximal in young adults, who make up the most productive section of the population (WHO 2003b). This has serious consequences for the Kenyan community with a relatively young age structure forming 52% of the population as reported by Kenya Central Bureau of Statistics *et al.* (2004) in the Kenya Demographic and Health Survey (KDHS).

## Method

A descriptive, qualitative and quantitative cross-sectional study was conducted at Mathari National Teaching and Referral Mental Health Hospital where data were collected for 2 months in May and June, 2006.

Approval to conduct study was obtained from the MoH, Ministry of Education and Research and joint University of Nairobi and Kenyatta National Teaching and Referral Hospital ethics committees.

Participants were 236 inpatients selected by systematic random sampling from their respective wards initially selected by stratified sampling to cater for the different ward categories. Prior to inclusion in study, participants were assessed and those who were competent as determined by a minimum score of 24 on Mini Mental State Examination gave verbal consent.

Data were collected regarding subjects' demographic characteristics, physical environment and care process through interviews using semi-structured questionnaire containing 33 items. Besides, a checklist adopted from WHO (1994) was used to obtain data on the physical environment, administrative arrangement and care process to compare findings with those from patients' interview.

Data input and analysis were performed using SPSS Version 10. Proportions were calculated using total number of patients with positive perception versus those with negative perceptions. Differences in the proportions were

determined by calculating the confidence interval and the summary chi-squared statistics; *P*-values of  $\leq 0.05$  were considered statistically significant. Structure and process factors for care were identified and described. Their relationship with patients' satisfaction with care was tested using chi-square and their contribution to patients' satisfaction with care was described. Structure and process factors that contributed to positive perception and those that contributed to negative perception were analysed and compared.

## Results

A total of 236 patients (167 male and 69 female) were included in the study. The majority of the patients (87%) were aged between 24 and 49 years as shown in Table 1. Although 87 (36.9%) of the patients had been in the ward for only 0–1 week, 52 (22%) had stayed in the ward for at least 8 weeks and 48 (20.3%) had stayed for 2–3 weeks. Those who were 6–7 weeks old in the wards were 32

**Table 1**  
Demographic characteristic of patients

Characteristics	Total (%)
Age group in years	
10–19	13 (5.51)
20–29	108 (45.76)
30–39	54 (22.88)
40–49	44 (18.64)
50–59	11 (4.66)
60–69	6 (2.54)
Gender	
Male	167 (70.78)
Female	69 (29.24)
Marital status	
Married	76 (32.20)
Single	135 (57.20)
Divorced	19 (8.05)
Widowed	5 (2.12)
Others	1 (0.42)
Education	
None	15 (6.36)
Primary	87 (36.86)
Secondary	97 (41.10)
College	25 (10.59)
University	12 (5.08)
Residence by district	
Nairobi	62 (26.27)
Others	174 (73.75)
Occupation	
Teacher	7 (2.97)
Administrator	15 (6.36)
Businessman	50 (21.19)
Agriculture	58 (24.58)
Health professionals	4 (1.69)
Student	28 (11.86)
Unemployed	23 (9.75)
Others	50 (21.61)

**Table 2**  
Demographic factors and patient's satisfaction

Variable demographics	Level of satisfaction		Chi-square	d.f.	P-value
	No. satisfied <i>n</i> = 124 (%)	No. not satisfied <i>n</i> = 112 (%)			
Age group					
≥40 years	29.0	22.3	1.4	1	0.2
Gender					
Male	71.0	70.5	0.005	1	0.9
Marital status					
Married	54.03	60.71	1.073	1	0.30
Education level					
Secondary and above	59.68	53.57	0.89	1	0.34
Occupation					
Professionals	12.90	8.93	0.95	1	0.33

**Table 3**  
Physical environment and patients' satisfaction

Variable structure	Level of satisfaction		Chi-square	d.f.	P-value
	No. satisfied <i>n</i> = 124 (%)	No. not satisfied <i>n</i> = 112 (%)			
Happy with the way the ward looks	57.26	41.96	5.506	1	0.002
Ward providing privacy when bathing	69.35	66.96	0.155	1	0.69
Ward providing privacy when dressing	67.74	69.64	0.099	1	0.753

(13.6%) while patients who had stayed for 4–5 weeks were the least 17 (7.2%). In addition, 108 (45.8%) of the patients had been admitted to the same wards previously. Of these previous admissions, 60 (25.4%) had been admitted at least twice while 47 (19.9%) had been admitted once. However, the number of admissions were not significantly related to satisfaction with care ( $\chi^2 = 2.909$ ,  $P = 0.820$ ).

### Structure factors and patients' perception of quality inpatient psychiatric nursing care

#### *Patients' perception of care*

Patients' satisfaction with care was taken as a measure of a positive perception. To test for satisfaction, patients were asked to indicate whether they were satisfied or not satisfied with the care they received in the ward. More than half (57%) of patients were satisfied with the care. Some of the reasons given for satisfaction included caring nurse characteristics (42.8%) and availability of drugs (33.5%). Reasons for dissatisfaction included poor ward hygiene (13%) and poor quality and quantity of food (12.3%).

#### *Demographic factors and patients' satisfaction*

When satisfaction was matched with demographic characteristics of patients, there was no significant relationship at  $P \leq 0.05$  as shown in Table 2.

#### *Physical environment and patients' satisfaction*

The major themes about the structure that significantly influenced patients' perception of the environment were related to the physical ward environment. Being happy with the way the ward looks was found to be significantly related to satisfaction ( $\chi^2 = 5.506$ ,  $P = 0.002$ ) as shown in Table 3.

Suggestions for improvement about the ward from patients who were not happy with the way the ward looked were categorized into three themes as summarized:

- Theme 1: kitchenette and dining place; patients suggested that modern kitchenettes with dining places made of wooden seats and tables would make them happier than the current ones made of concrete.
- Theme 2: physical ward structure; patients in the enclosed wards felt they were isolated from the rest of the hospital and therefore suggested a more open ward with better hospital visibility. Patients in the dormitories with broken windows were not happy as they felt cold and this interfered with their comfort.
- Theme 3: the lighting system; generally, the patients were not happy with the lighting system which they perceived as inadequate in some rooms.

### Process factors and patients' perception of quality inpatient psychiatric nursing care

Process factors significantly related to patients' satisfaction with care included being happy with attention from

**Table 4**  
Process factor and patients' satisfaction

Variable process	Level of satisfaction		Chi-square	d.f.	P-value
	No. satisfied n = 124 (%)	No. not satisfied n = 112 (%)			
Happy with attention from nurses	87.90	78.57	3.71	1	0.05
Nurses listening to you when talking with them	54.03	71.43	7.58	1	0.006
Nurses providing information about sickness to patient's satisfaction	32.26	19.64	4.84	1	0.028
Nurses providing patients with information on medicines prescribed	32.26	14.29	10.503	1	0.0012
Nurses discuss progress with you to your satisfaction	23.39	22.32	0.038	1	0.846
Participation in ward activities	33.87	15.18	10.966	1	0.0009
Access to recreational facilities	15.32	2.63	11.130	1	0.0008
Involvement in your care	37.90	30.36	1.487	1	0.223
Ever had a meeting between you, nurse and relative	51.60	41.07	2.631	1	0.105
Given information about care after discharge	87.00	82.14	1.111	1	0.29

**Table 5**  
Recommend someone for admission by satisfaction with nursing care

Recommend someone for admission	Satisfied with nursing care		Total
	Yes n (%)	No n (%)	
Yes	88 (71.0)	36 (29.0)	124
No	47 (42.0)	65 (58.0)	112
Total	135	101	236

$\chi^2 = 20.2$ ; d.f. = 1; P-value = 0.0001.

nurses, nurses listening to patients when talking with them, nurses providing patients with information about patients' sickness to their satisfaction, nurses providing patients with information on medicines prescribed, participation in ward activities and access to recreational facilities (Table 4).

Patients had various reasons which made them happy with attention they received from the nurses. All these reasons were related to the nurses' qualities displayed during an interaction process. These qualities were perceived by patients as polite, respectful, caring and kind.

Regarding information about sickness, only about one-third (32.2%) of the patients indicated that nurses explained to them about the meaning of the disease, its course and prognosis and what patients would do to prevent relapse. Patients seemed to have appreciated this information as it had a significant positive relationship with satisfaction of care.

Satisfaction with care was, in turn, found to have a significant relationship with ability to recommend someone for care to the same ward. Seventy-one per cent of the patients who were satisfied with care would recommend someone to the same ward for admission while 58.0% of those who were not satisfied with care would not recommend someone to the same ward and this was significant ( $\chi^2 = 20.2$ ,  $P = 0.0001$ ), as shown in Table 5.

## Discussion

The majority of the patients (87%) were in the age group of 20–49 years (Table 1). This scenario could support WHO (2003b) report that psychiatric morbidity is maximal in young adults who make up the most productive section of the population. It could also be due to the comparatively young age structure of the Kenyan population as reported by Kenya Central Bureau of Statistics *et al.* (2004) in the KDHS.

Approximately 43% of the patients had stayed for more than 1 month in the wards at the time of the study. Patients with previous admissions were 45.8% and 25.4% of these patients had been admitted to the same ward more than twice. The number of previous admissions was not related to patient satisfaction. It was not easy to relate patients' satisfaction with the outcome in this study because of many confounding variables such as severity of illness and the relatives' decisions in determining where to admit the patients. Further research in this area is needed.

The long stay and readmissions seen in this study reflect the chronic nature of mental disorders as reported by WHO (2003a). The chronic nature of mental disorders coupled with its prevalence among the most productive group could contribute greatly to poverty in Kenya where already more than half of the population is considered poor (living on less than one dollar a day). Loss of employment could be as a result of long periods of hospitalizations and may explain the reason why in this study, only 11.02% of the patients were in formal professional employment while 45.8% were in self-employment. The finding is similar to reports by WHO (2003a) and Goldberg *et al.* (2001) that the chronic nature of mental disorders with repeated episodes of care lead to loss of employment, reduced productivity and disability.

Mental illness also seems to interfere with the education of the young population because of its incidence in children and young adolescents and long hospitalizations and could

explain why more than three-quarters (78.0%) of patients had only primary and secondary education. This implies that they not only fall out of school, but may also not get into high employment opportunities to take part in decision-making organs so as to lobby for decisions that favour them.

The prevalence of mental disorders in adolescents was also reported by World Federation for Mental Health (WFMH 2003) in 10–20% of the youths globally, nearly 21% of children in USA and 39% of children aged 12–15 years in Greece. In addition, the WFMH report stated that mental disorders account for five of the top 10 leading causes of disability in the world for children of 5 years and above.

### Structure factors and patients' perception of care

Structure factors that were related to patients' perception of care included physical environment. Being happy with the way the ward looked was significantly related to satisfaction with care ( $\chi^2 = 5.506$ ,  $P = 0.002$ ) and with recommending someone for admission to the same ward ( $\chi^2 = 20.2$ ,  $P = 0.019$ ). Satisfaction with care was used in this study framework as an indicator of positive perception and outcome of quality.

Satisfaction with care as an indicator for quality of care has been used by other researchers. Barker & Orrell (1999), Huber (2001) and Hildenhovi & Laippala (2001) considered client satisfaction as an important evaluator of care. The relationship between physical environment and patient satisfaction with care was reported in studies performed by Garry & Shannon (1997) and Sixma *et al.* (1998). According to them, good environmental characteristics such as clean and attractive rooms with recreation and privacy contributed positively to patients' satisfaction with care. In this study, privacy was not found to be significantly related to satisfaction. Probably, this could be because male and female patients are admitted to different wards, hence the reduced need for privacy among members of the same sex. It could also be due to the high population of young patients (74.15% of patients were  $\leq 39$  years) who may not have high regard for privacy. The low regard for privacy is supported by a higher number of patients (68.64%) approving privacy than the checklist finding (57.5%). It could also be due to the large population of males (70.78%) who culturally are less sensitive to privacy.

### Process factors and patients' perception of care

A number of process factors were significantly related to patients' satisfaction with care as observed in Table 4. These included being happy with attention from nurses, nurses

listening to patients when talking with them, nurses providing patients with information about sickness to patients' satisfaction, nurses providing patients with information on medicines prescribed, participation in ward activities and access to recreational facilities. When these process factors were present, patients were more satisfied with care. Satisfaction with care was found to have a significant relationship with ability to recommend someone for care to the same ward. Seventy-one (71.0%) of the patients who were satisfied with care indicated that they would recommend someone to the same ward for admission while 58.0% of those who were not satisfied with care would not recommend someone to the same ward and this was significant ( $\chi^2 = 20.2$ ,  $P = 0.0001$ ) as shown in Table 5. Mathari hospital does not have an established model of nursing practice. However, positive qualities of nurses that were appreciated by patients and had significant positive relationship with perception of care fit within the process factors identified as the characteristics of a therapeutic interpersonal relationship by Peplau (1952; cited in Farland *et al.* 1991, Varcariolis 1998). These findings support Duffy & Hoskins (2003) in their report that the process of caring, which is an essential ingredient of Interpersonal Relationship, was highly linked to positive patient outcomes whose indicator in this current study is satisfaction. The study findings also support Williams (1998) and Arja *et al.* (2003) report that inadequate information on patients' condition and treatments, lack of patient involvement in their care and inadequate contact especially on a one-to-one basis contribute to patients' dissatisfaction with care.

According to this study, attention given to patients by the nurses was above 80%, patient involvement in activities was above 90%, and patients were happy with the way nurses listened to them (84%). However, patients also wanted to be informed about their sickness, they valued feedback on their progress and care after discharge and this could have accounted for 42.8% of patients who were dissatisfied with care. Although scores on other characteristics of the nurses were high, scores on information about medicine being taken was given to only 32.2% of patients. Only 26.3% of the patients were satisfied with information they received about their sickness and 25% reported being satisfied with the discussion on their individual progress. According to Peplau (1952; cited in Farland *et al.* 1991, Varcariolis 1998), these process factors are important components in exploitation and resolution phases of nurse–patient interpersonal relationship used as the process in the current study framework. Nurses' poor performance in these process areas could be due to the low nurse: patient ratio that did not allow them adequate time for one-to-one interaction (62% of the nurses reported a nurse to patient ratio of  $1:\geq 19$ ; yet, they preferred a nurse to patient ratio of  $1:\leq 12$ ).

## Conclusion

Although some patients who may have had different views were not able to participate because of their cognitive impairment, this study largely reflected the perceptions of inpatients at Mathari hospital. It was clear that physical environment and positive Interpersonal Relationships qualities of the nurses were structure and process factors that, respectively, influenced inpatients' perception of psychiatric nursing care.

## Recommendations

Quality of nurse–patient interaction seemed to have had a significant relationship with patients' satisfaction of nursing care. Yet, the current low nurse to patient ratio (1:≥19) does not allow nurses to have adequate time for this interaction. Mathari hospital administration and the Ministry of Health therefore need to work out a strategy that will establish and supply adequate numbers of psychiatric nurses to enhance quality nurse–patient interaction.

Nurse administrators, managers and practitioners need to allocate time for caring activities as they are very important to psychiatric patients. Nurse administrators need to advocate for adequate staff supply and continuing education programmes. These will help the nurse provide a more interactive care that will be satisfying to patients.

Interactive caring qualities of nurses that were significantly related to patients' satisfaction with care are among the principles of interpersonal relationship theory of Peplau (1952; cited in Farland *et al.* 1991, Varcarolis 1998). Therefore, there is need to initiate application of this theory in Mathari hospital so as to improve patient's satisfaction with care.

There is need to carry out follow-up studies after implementation of recommendations to evaluate improvements in patients satisfaction with care. In addition, another study would be necessary to explore the relationship between positive perception of care (satisfaction) and patient's health outcomes such as readmission rates and duration of hospitalization which were beyond this study.

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