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INFLUENCE OF INDIVIDUAL DETERMINANTS ON SELF- REFERRALS AMONG PREGNANT WOMEN SEEKING DELIVERY SERVICES IN COAST GENERAL REFERRAL AND TEACHING HOSPITAL MOMBASA, KENYA (CGTRH)

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Abstract

Purpose: The purpose of this study was to establish the influence of individual determinants on self-referrals among pregnant women seeking delivery services in CGTRH

Materials and Methods: The study adopted a descriptive cross-sectional research. The study target population was all pregnant women seeking delivery services in coast general teaching and referral hospital at the maternity unit. Therefore, 6,420 formed the study population as it is from this sampling frame that a sample of mothers was obtained. A sample of 376 pregnant women was obtained. Systematic random sampling was used to select the pregnant women to be included in the sample. Data was collected using a structured questionnaire. The data collected were cleaned and coded, quantified and analyzed quantitatively. Quantitative data were analyzed using IBM SPSS where descriptive and inferential statistics were used to capture the data in order to understand the pattern and nature of relationships. Univariate analysis was done using descriptive statistics (frequencies and percentages,) in order to summarize the data, and the results were presented using charts, graph and tables.

Results: The findings indicated a significant relationship between education status and self-referrals whereby, the more educated the pregnant women were the more likely they were to make self-referrals at the referral facility. In particular, pregnant women with tertiary level of education were 4.2 times more likely to make self-referrals compared to those with no education. Further analysis using multivariable logistic regression at a significance level of 0.05 established that there was a significant difference between pregnant women with no education and those with tertiary education, with the latter being 4.4 times more likely to make self-referrals compared to the former.

Unique contribution to theory, practice and policy: The study recommends that hospitals ought to enhance their CRM policies so as to deliver quality services that satisfy Information technology infrastructure can revolutionize healthcare with the right policy choices. IT can foster new human connectivity thresholds and is a powerful tool of global convergence through the cross-border provision of services and can as well provide new opportunities for the production of knowledge and skills.

Key words: *Individual Determinants, Self-Referrals, Pregnant Women, Delivery Services*

1.0 INTRODUCTION

Social demographic factors influence the choice of place of delivery by pregnant mothers. Family tradition and poor socio demographic conditions of the family appear to be the main reason for delivery at home. A study done in south Africa (Mashishi *et al.*, 2012) found out that women play a role in the choice of their delivery site and that their choice and right to decide where to deliver. A study done in South Africa in Sedibeing, Mthethwa (2006) observed that demographic factors such as maternal age, education and occupation do influence the choice of delivery site

Maternal Age

A study done in Ethiopia (Tererra *et al.*,2012) found that maternal age influence choice of delivery among pregnant women 15-19years of 5 times more likely to choose to deliver in health institution compared to those who are 35 years and above. This finding is consistent with other study done in other parts of Ethiopia which also shown that young women to be more likely to deliver in a health facility as compared to older one (Bayu *et al.*, 2015). Another study done by (Mutahir *et al.*,2007) on the un booked pregnant women at Jos Teaching Hospital in Nigeria reported that un-booked pregnant women were mainly young ones(mean age 26.7 years).

According to a study done in Debra Markosin in Ethiopia (Bayu *et al.*, 2015) found out that marital status of pregnant woman influence the choice of delivery facility, he argues that in case of married woman, in most cases the husband decides as to where the pregnant wife should deliver.

Education

Education influence choice of delivery facility by pregnant women according to (Bayu *et al.*, 2015) in a study done in Ethiopia found out that out of the 292 pregnant women who had planned to deliver in a health facility 234(80.1%) actually delivered in a health facility. The pregnant women who were less educated contributed to those who ended up not delivering in a health a facility. A study done in Nigeria (Akande, 2004) found out that patients referred regardless of their educational level, thus by passing lower levels of care. In a study done Vietnam (Duong *et al.*,2004) found out that women who had attained secondary school and higher education tended to deliver in health facility , compared to those who had a primary school education or less (Magoro *et al.*,2015) in another study she confirmed that education does not play a role in the choice of delivery facility in that regardless of their education level ,women who presented themselves in Dilokong hospital had poor knowledge of the referral channels as well as the different levels of health.

Occupation

Occupation or employment status has been noted to play a significance role regarding decision for use health care facilities in different settings (Marcassa *et al.*, 2012) and (Visser *et al.*, 2015) in a study done in South Africa found out that patient in employment were more likely to bypass their PHC facilities. In another study(Tsai *et al.*,2010) indicated that patients who were government employed were more likely to present them self at the referral facility at the accident & emergency unit instead of their PHC facility

Obstetric history

In a study done in South Africa (Magoro *et al.*, 2015) demonstrated that 40.3% of the respondent were primigravida and were supposed to deliver in the hospital. (Kkonde *et al.*, 2010) cited that for any women to make an informed choice on the delivery site and also to be able to recognise complications or illness .She needs adequate information. The lack of exercising that influence could possibly be the reason women by pass low facilities causing underutilization of PHC

1.1 Statement of the Problem

According to Data Health Information System (DHIS, 2018) Mombasa county has 105 registered facilities both private and government owned. Out of the 34453 total deliveries reported in Mombasa county 26987 were normal deliveries. Coast General Teaching & referral Hospitals (CGTRH) reported 9017 total deliveries of which 6420 were normal deliveries and 2510 caesareans sections performed cases. The CGTRH is a regional referral hospital. Low risk pregnant mothers are self-referring to CGTRH for delivery and therefore passing the primary health care facilities leading to severe overcrowding at the hospital and here by compromising health care for all.

A referral system is meant to compliment the Primary Health Care (PHC) principle of treating patient as close to their home as possible at the lowest level of care with appropriate level of expertise. This back up function of referral is of particular importance during pregnancy and childbirth. This is because a range of potentially life threatening complications require management and skills that are only available a higher level of care (WHO, 2011)

Most referral health facilities (level five) are faced with challenges ranging from congestion of patients at these health facilities, strained/ limited resources (both human and material) to deal with the voluminous patients, slow rate of service delivery to the patients due to high numbers, unclear guidelines that gives direction on referral execution and compromised quality of services to the patients, (Abodunrin *et al.*, 2010). Referral procedures are supposed to be followed whereby patients are officially referred from a lower health facility and have a referral letter detailing the medical history of the health problem and the referring facility. This is however not the case; many patients often bypass lower levels of healthcare and opt to seek healthcare at CGTRH

Despite the efforts by the government to improve the referral system in Kenya in order to improve efficiency in the health system and health outcomes, no study has been carried out by the government or scholars to determine the determinants of self-referral among pregnant women seeking delivery in Mombasa County. Therefore, this study sought to bridge the knowledge gap by establishing the individual determinants on self-referrals among pregnant women seeking delivery services in CGTRH.

2.0 METHODOLOGY

The study adopted a descriptive cross-sectional research. The study target population was all pregnant women seeking delivery services in coast general teaching and referral hospital at the maternity unit. Therefore, 6,420 formed the study population as it is from this sampling frame that a sample of mothers was obtained. A sample of 376 pregnant women was obtained. Systematic random sampling was used to select the pregnant women to be included in the sample. Data was collected using a structured questionnaire. The data collected were cleaned and

coded, quantified and analyzed quantitatively. Quantitative data were analyzed using IBM SPSS where descriptive and inferential statistics were used to capture the data in order to understand the pattern and nature of relationships. Univariate analysis was done using descriptive statistics (frequencies and percentages,) in order to summarize the data, and the results were presented using charts, graph and tables.

3.0 RESULTS

3.1 Descriptive statistical Analysis Results

3.1.1 Individual Determinants of Self-Referrals among Pregnant Women at CGTRH

The first objective of the study was to investigate individual determinants of self-referrals among pregnant women seeking delivery services at Coast General Teaching and Referral Hospital. The individual determinants investigated in the study include socio-demographic characteristics and obstetrical history of the pregnant women. The socio-demographic results indicated that 222(59%) of the pregnant women were aged between 21 to 30 years, 213(56%) had attained at least a secondary level of education, 231(61%) were unemployed, while 299(80%) were married. Table 1 presents the results.

Table 1: Socio-demographic Characteristics of Pregnant Women Seeking Delivery Services at CGTRH

Socio-Demographic Factors		N	F	%
Age Group (Years)	18-20	376	41	11
	21 – 30		222	59
	31 – 40		104	28
	41 – 50		9	2
Educational Status	No education	376	18	5
	Primary education		145	39
	Secondary education		121	32
	Tertiary education		92	24
Occupation	Unemployed	376	231	61
	Employed		86	23
	Self-employed		59	16
Marital Status	Single	376	69	18
	Married		299	80
	Divorced/separated/widowed		8	2

The results on obstetrical history indicated that 363(96%) of the pregnant women had been pregnant 5 times or below, while 366(97%) had 5 children or below. The results also indicate that out of 295 women who had previous deliveries, 239(81%) had their previous deliveries done in a public hospital, while 208(71%) delivered their last babies through normal delivery. Out of the 376 pregnant mothers, 81(22%) were primigravidas, they were pregnant for the first time. Therefore, they had no history of previous place or form of delivery.

Table 2: Obstetrical History of Pregnant Women Seeking Delivery Services at CGTRH

Obstetrical History		N	F	%
No. of Pregnancy	0 – 1	376	81	21
	2 – 5		282	75
	6 and above		13	4
No. of Children	0 – 1	376	206	55
	2 – 5		160	42
	6 and above		10	3
Place of Delivery	Home	295	37	12
	PHC Facility		11	3
	Public Hospital		239	81
	Private Hospital		8	3
Form of Last Delivery	Normal Delivery	295	208	71
	Assisted Delivery		4	1
	Caesarean Section		83	28

Data on individual determinants was transformed to ordinal scale and a bivariable logistic regression analysis at a significance level of 0.05 was conducted to determine the influence of socio-demographic factors and obstetrical history on self-referral among the pregnant women, and thus screen the individual factors for inclusion in multivariable logistic regression. The results indicated that pregnant women with tertiary education [OR = 4.211; 95% CI = 1.469 to 12.072; $p < 0.05$] were 4.2 times more likely to seek delivery services directly from the Coast General Teaching and Referral Hospital, bypassing lower level healthcare facilities, compared to those with no education. There was no significant difference between pregnant women with no education and those with primary education and secondary education in terms of self-referrals to the referral facility.

Table 3: Bivariable Regression Results of Individual Factors on Self-Referrals among Pregnant Women Seeking Delivery Services at CGTRH

Individual Factors		N	Referral Status				Regression Results		
			Referral		Self-Referral		OR	95% CI	Sig.
			F	%	F	%			
Age (Years)	18 - 20 (Reference)	41	13	32	28	68	1.000		
	21 – 30	223	84	38	139	62	1.723	.396 to 7.495	.468
	31 – 40	103	43	42	60	58	1.324	.346 to 5.068	.682
	41 – 50	9	4	44	5	56	1.116	.283 to 4.401	.875
Educational Status	No education	18	11	65	7	35	1.000		
	Primary education (Reference)	145	58	41	87	59	2.537	.864 to 6.434	.094
	Secondary education	121	50	42	71	58	2.231	.809 to 6.153	.121
	Tertiary education	92	25	28	67	72	4.211	1.469 to 12.072	.007
Occupation	Unemployed (Reference)	231	91	39	140	61	1.000		
	Employed	86	30	33	56	67	1.213	.724 to 2.033	.463
	Self-employed	59	23	39	36	61	1.017	.566 to 1.828	.954
Marital Status	Single (Reference)	69	26	38	43	62	1.000		
	Married	299	117	39	182	61	.941	.548 to 1.613	.824
	Divorced/separated/widowed	8	1	13	7	87	4.233	.492 to 36.377	.189
No. of Pregnancy	0 – 1 (Reference)	81	31	38	50	62	1.000		
	2 – 5	282	105	37	177	63	.1.045	.628 to 1.739	.865
	6 and above	13	8	62	5	38	.088	.116 to 1.291	.123
No. of Children	0 - 1 (Reference)	206	73	35	133	65	1.000		
	2 – 5	160	65	41	95	59	.802	.524 to 1.228	.310
	6 and above	10	6	60	4	40	.366	1.000 to 1.339	.129
Place of Previous Delivery	Home (Reference)	37	17	46	20	54	1.000		
	Primary Health Care	11	4	36	7	64	1.487	.371 to 5.962	.575
	Public Hospital	239	87	36	152	64	1.485	.739 to 2.985	.267
	Private Hospital	8	5	63	3	37	.510	.106 to 2.453	.401
Form of Previous Delivery	Normal Delivery (Reference)	208	73	35	135	65	1.000		
	Assisted Delivery	4	1	25	3	75	1.622	.166 to 15.876	.678
	Caesarean Section	83	39	47	44	53	.610	.364 to 1.023	.061

The results are inconsistent with the findings of Tererra *et al.* (2012) who found that maternal age influence choice of delivery among pregnant women with younger women (15-19 years) being more likely to choose to self-refer to a health institution compared to older women. Bayu *et al.* (2015) also established that young women were more likely to self-refer to a health facility as compared to older ones.

This finding differ with findings of a study done in Nigeria by Akande (2004) which indicated that patients self-referred regardless of their educational level, thus by passing lower levels of care. The results are also inconsistent with the findings of Magoro *et al.* (2015) which revealed that education does not play a role in the choice of delivery facility, in that pregnant women self-refer regardless of their education level.

The findings also differ with the findings of Bayu *et al.*(2015) who established that the marital status of pregnant woman influence the choice of delivery facility, indicating that majority of the pregnant women's husbands preferred institutional delivery for their wives. Kkonde *et al.*(2010) also argues that in case of a married woman, the husband decides as to where the pregnant wife should deliver.

This study also differs with studies by Marcassa *et al.*(2012) and Visser *et al.*(2015) who showed that occupation or employment status play a significant role regarding decision for choice of health care facilities. The studies found out that patients in employment were more likely to bypass their PHC facilities. Tsai *et al.* (2010) also indicated that patients who were government employed were more likely to present themselves at the referral facility instead of their PHC facility.

4.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The study found that Bivariable logistic regression at a significance level of 0.05 indicated a significant relationship between education status and self-referrals whereby, the more educated the pregnant women were the more likely they were to make self-referrals at the referral facility. In particular, pregnant women with tertiary level of education were 4.2 times more likely to make self-referrals compared to those with no education. Further analysis using multivariable logistic regression at a significance level of 0.05 established that there was a significant difference between pregnant women with no education and those with tertiary education, with the latter being 4.4 times more likely to make self-referrals compared to the former.

Conclusion

The study concluded that education level is a significant determinant of self-referrals among pregnant women seeking delivery services at Coast General Teaching and Referral Hospital. The higher the education level of the pregnant women the more likely they are to make self-referrals at the referral facility.

Recommendations

The study recommends that the Mombasa county department of health should find ways of ensuring that primary health facilities in the county are open for 24 hours in a day to attract more pregnant women seeking delivery services at the facilities and thus minimize the number of pregnant women seeking delivery services directly from the Coast General Teaching and Referral Hospital.

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