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Maingi Nyambura Nancy and Prof. Margaret Keraka

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AN INVESTIGATION OF CLIENT RELATED FACTORS INFLUENCING UTILIZATION OF HEALTH FACILITY DURING CHILD BIRTH BY WOMEN AGED 15-49 YEARS IN MATINYANI SUB-COUNTY IN KITUI COUNTY

[1*]Maingi Nyambura Nancy
[1]Lecturer: Dedan Kimathi University of Technology
[*]Corresponding Author's Email: mainginancy11@gmail.com

[2]Prof. Margaret Keraka
Senior Lecturer: Kenyatta University

Abstract

Purpose: This study was aimed at identifying client related factors influencing utilization of health facility during child birth by women aged 15-49 years in Matinyani Sub-County in Kitui County.

Methods: It was a facility- based study conducted in Matinyani Sub county where 376 women and 6 health facilities were included. It was a descriptive cross-sectional study. The variables tested were utilization of health facility during child birth and client related factors. Data collection was done using focused group discussions guide, interview schedule guide, observation and analysis was done using SPSS version 17. Chi test was used to show association between the variables

Results: The proportion of women not utilizing SBA were 58%, with 33.8% being assisted by traditional birth attendant. Ninety nine percent attended ANC but only 53.7% made the recommended four visits.

Unique contribution to theory, practice and policy: From the study findings it is recommended that community to be health educated on importance of hospital delivery, dangers associated with home delivery by the government, faith based organization and non-governmental organization.

Keywords: *Client related factors, utilization, health facility, child birth, women aged 15-49 years, Kitui County*

1.0 INTRODUCTION

1.1 Background of the Study

Pregnancy related mortality is almost always preventable yet more than half a million women die annually worldwide due to its related complications.Every minute of every day, somewhere in the world and most often in a developing country, a woman dies from complications related to pregnancy or childbirth. Nearly all maternal deaths (99%) occur in the developing world,making maternal mortality the health statistic with the largest disparity between developed and developing countries (UNFPA, 2007).

The average woman in sub - Saharan Africa faces a 1:16 life risk of dying in pregnancy and childbirth, compared with a 1 in 2800 chances for a woman in a developed country. Another 300 million women in developing countries suffer a long term illness as a result of pregnancy and childbirth (Safe Mother,2006). In Kenya, 6150 mothers die every year due to pregnancy related and preventable complications. For every woman who dies, 30 to 50 women suffer injury, infection, or disease. Pregnancy-related complications are among the leading causes of death and disability for women aged 15-49 in developing countries (WHO, 2007).

A woman's death is more than a personal tragedy. It represents an enormous cost to her nation, her community, and family. When a mother dies, children lose their primary caregiver, communities are denied her paid and unpaid labor, and countries forego her contributions to economic and social development. Any social and economic investment that has been made in her life is lost. Her family loses her love, her nurturing, and her productivity inside and outside the home (UNFPA, 2010).

According to (KNBS *et al*, 2010), the Maternal Mortality Rate (MMR) in Kenya was 488/100,000 live births. However, 92% of pregnant women attended ANC and only 44% mothers were assisted by skilled birth attendants during delivery despite the availability of the services at all levels of health facilities. A study done by AMREF (2010) revealed that 99% of women attend antenatal clinic at least once in their life. However only 46% of deliveries in the country are carried out by skilled attendants.

1.2 Problem statement

Globally, at least 160 million women become pregnant annually. Of these, 15% develop a serious complication. Over 30 million women in the developing world suffer from serious diseases and disabilities which include uterine prolapse, pelvic inflammatory disease, fistula, incontinence, infertility, and pain during sexual intercourse as a result of inadequate or inappropriate care during pregnancy, delivery or the first critical hours after birth (WHO, 2005).

All pregnant women need to have access to skilled care throughout pregnancy, delivery, postpartum and postnatal periods to ensure the achievement of the desired outcome of a healthy mother and baby. The lower eastern region of Kenya is a poor area with over 56% of the population living in absolute poverty. The MMR in the country is at 488 per 100,000 live births (KNBS, 2009) but in Matinyani Subcounty, the MMR is unknown.

In the world only 46 per cent of deliveries are assisted by skilled attendants. In Southern Asia, the proportion is even lower. Every minute, 110 women in the world experience a complication in their pregnancy, and one of them dies (UNFPA, 2010).

In developing world only 58% of all deliveries are reported as attended by skilled health providers. In some countries, the figure is closer to 10-12 per cent. In many of those cases, the woman does not have access to life-saving emergency care should something go wrong. Report by UNICEF (2010) shows that lack of skilled birth care costs 2 million lives each year.

The use of Skilled Birth Attendants (SBAs) during pregnancy, labour and delivery during the post partum period could prevent many instances of maternal morbidity and mortality. Unfortunately qualified midwives, nurses and doctors are often not available in most rural areas of developing countries where most women are delivered (WHO,2008).

A report by Kitui District Development Plan 2008-2012 (2009) indicates that only 20% of women deliver in a health facility while 80% deliver at home with 70% of the deliveries being assisted by TBAs. Maternal Mortality Ratio in the district is estimated at 452/100,000 live births.

In Matinyani District, 85% of births are conducted at home (outside the health facilities) and obstetric care services are not available in most of the rural health facilities (AMREF, 2008). TBAs are unable to address any of the 5 major causes of maternal mortality which are haemorrhage that is antepartum haemorrhage and postpartum haemorrhage, sepsis, pre-eclampasia and eclampsia, ruptured uterus and complication of induced abortion (MOH, 2006).

A survey by Kenya National Bureau of Statistics *et al* (KNBS) (2010) revealed that 54% of births in Eastern Province are conducted at home by TBAs and relatives and obstetric care services are unavailable in most of the rural health facilities.

1.3 Conceptual Framework

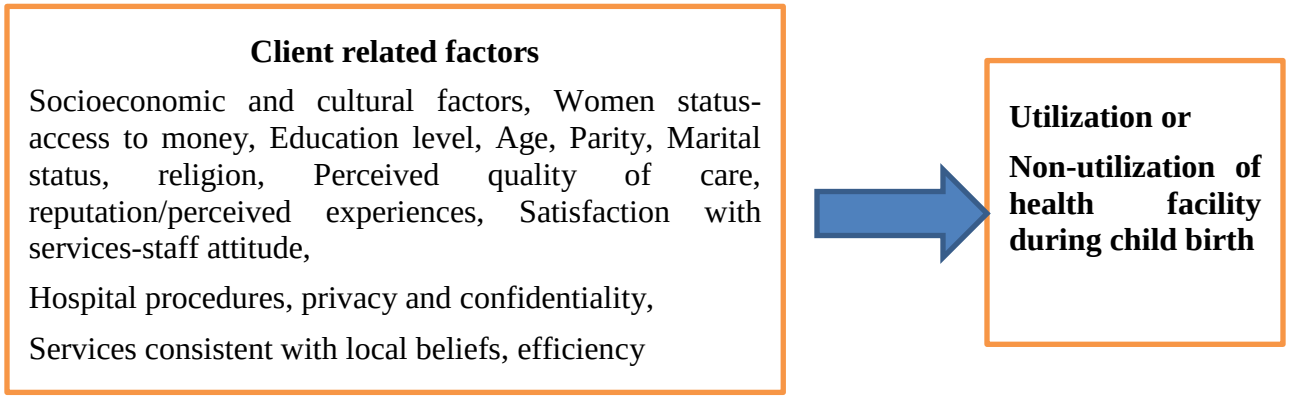


Figure 1 Conceptual Framework

2.0 LITERATURE REVIEW

2.1 Overview of maternal mortality

Along with infectious diseases, maternal and neonatal conditions account for a substantial part of the health gap between rich and poor countries. Overall, the average lifetime risk of maternal death is 1 in 4,000 in high-income countries, 1 in 61 in middle-income countries and 1 in 17 in the lowest income countries (World Bank, 2006). More than 80% of maternal deaths worldwide is due to five direct causes, hemorrhage, sepsis, abortions, obstructed labour and hypertensive diseases(WHO,2004 ; Harvey , Ayabaca ,Bucagu , Djibrina ,2004) Most of these deaths can be prevented if women have access to essential obstetric care during pregnancy (UN,2008).

Enormous disparities remain within countries: Impoverished and rural women are far less likely than their urban or wealthier counterparts to receive skilled care during childbirth. In rural areas health clinics and hospitals are often spread out over vast distances and transportation systems are often rudimentary (UNFPA, 2010).

2.2 Client related factors

2.2.1 Traditional/ Cultural beliefs

Women in some cultures may avoid facility delivery due to cultural requirements of seclusion in the household during this time of "pollution" or because of specific requirements around delivery position, warmth, and handling of the placenta. In some cultural groups in Africa, the belief that obstructed labour is due to infidelity hinders care-seeking. Beliefs that birth is a test of endurance, and care-seeking a sign of weakness may be another reason for delivering alone in some contexts (Gabrysch and Campbell, 2009).

A study done by Graham (2009) revealed that traditional beliefs and practices in the community contribute to home delivery hence causing women to underutilize health facilities. Preference for TBAs was common for all women; midwives were summoned only if the TBAs failed. Traditional harmful beliefs lead to complacency and delay in seeking care. Some other harmful traditional practices like application of abdominal pressure to rid the mother of dirty blood from her system and for delivering the placenta were described. The practice of ritual impurity during delivery and postnatal period limited the possibilities for other family members to help mother or baby with complications.

2.2.2 Womens age, parity and marital status

Marital Status could influence health care seeking behaviours. According to WHO (2003) cited by Chaibva C.N (2008), unmarried pregnant women are less likely to seek ANC services due to a lack of economic and social support from parents, guardians and spouses. Married pregnant adolescents may also lack social independent and decision making powers to seek ANC. There may be pressure or oppresion from the spouse or influential members of the extended family forcing pregnant women to accept the decision made on their behalf (WHO, 2003)

Inadequate access by women to reproductive health information and to skilled care throughout the continuum of pregnancy, delivery, post-partum and post-natal periods, especially the rural

and urban poor, and women living in arid and semi-arid regions, pastoral and nomadic populations and other hard to reach groups are at high risk of underutilizing facility delivery services.

2.2.3 Socioeconomic status of women

In a study on the determinants of maternal health services in the rural India, it was found that, there is a correlation between household income and utilization of maternal health services (Sharif and Singh, 2002).

A study done by Lawoyin *et al.*, (2007) revealed that social and economic problems related to the family were also described. One man said that, ‘‘A woman bled to death at home because the husband was not around and money was not available” ‘‘The Cesarean section was delayed because the husband/family did not make funds available on time.’’ Another observed that, ‘‘She should have been taken to the tertiary hospital, but they [the husband/the family] did not do that because they did not have enough money.’’ They also added that women are not adequately empowered; the standard of living is poor; and unwanted pregnancies are not prevented among teenage girls. Also, the grassroots level should be made aware of the need to use healthcare facilities. Poverty has reduced patronage of orthodox facilities ‘‘pushing more women to mission homes; into the hands of traditional birth attendants and promoting home delivery’’ (In many West African countries, maternal and neonatal mortality is highest in rural areas where access to EmOC service is inhibited by vast geographic distances to health facilities and scarce resources (GBS, 2007).

3.0 METHODS

The study utilized a descriptive, cross-sectional study design. The study population were 600 women aged 15-49 years who attended post natal check-up and child welfare clinic per month. Simple random sampling method was used to identify the Sub-County in Kitui County. Census sampling was used for the health facilities, stratified sampling and proportionately sampling for women of reproductive age and Systematic random sampling method was used to select the mothers as they were being served in the clinic. A total of 376 women who attended child welfare clinic and post natal check up were included in the sample. Client exit interviews for the women 15-49 years, focused group discussion with two groups of women living in Matinyani Sub county, Key Informant Interview with District commissioner and Kwa-Mutonga chief, interview schedule for health workers, checklist for health facility.

A structured questionnaire was used which contained both open ended and closed ended questions. This collected quantitative data. Observation technique was used in filling of checklist to assess the health facilities to collect qualitative data. A pre test study was conducted at Kitui West District in Kauwi sub district hospital where10% of the questionnaires were used. This ensured reliability. Analysis of the data was done using (Statistical Package for Social Sciences) SPPS version 17. Both descriptive and inferential statistics for different variables were computed

and the findings presented by use of frequency tables, pie charts, bar charts, figures and narration. Chi- square was used to show the association between Variables

4.0 RESEARCH FINDINGS AND DISCUSSIONS

4.1 Respondents Age

Majority of the respondents 138 (36.7 %) were between 25-30 years, with those above 35 years taking 6.4%. This agrees with a study done in Zambia by Hazemba *et al*., (2008) where the majority, 103 (41.2%) were of age less than 25 years, 89 (35.6%) were aged 25-34 years, and 58 (23.2%) were of age 35 years or more. It is therefore important to note that every pregnant woman is at risk despite her age hence if a country wants to decrease the maternal mortality rate then they must invest in educating and empowering the society and women of all ages the importance of utilizing skilled birth attendants during childbirth.

Table 1 Respondents Age

Age of Respondents in Years	Frequency	Percentage
15-20	31	8.3%
20-25	125	33.2%
25-30	138	36.7%
30-35	58	15.4%
>35	24	6.4%
Total	376	100

4.2 Main source of income of the respondents

The study observed that the major sources of income of the respondents were farming and business among others. The respondents main source of income was analysed and cross tabulated against the place of childbirth and the results were shown in Table 2.

Table 2: Main source of income

Exposure	Home delivery	Facility delivery	Percentage	$\chi 2$, df, P
Main source of income				
Farm produce	185	133	84.6	**$\chi 2$=0.732** **df= 2** **p= >0.05**
Business	20	13	8.8	
Employed/salaried	13	12	6.6	

The main source of income was farm produce with 84.6% (n=318) respondents. However there was no significant relationship between main source of income and the utilization of health facility during childbirth ($\chi 2$= 0.732; df=2; p>0.05). This concurs with a study done by Hossain (2005) that showed that when the population is very poor with very low income, they do not give enough attention to their health care needs due to money problems. Women issues become secondary issues and are ignored by the household head hence women lack opportunity to utilize modern facility for child delivery.

4.3 Main income earner

In most families in the African setup the head of the household is normally the husband who is always the breadwinner. The main income earner of the family is an important factor in determining the place of delivery as he/she will be an important determinant of financial expenditure. The study sought to find out who the main income earner of the family was and data was presented in Table 3.

Table 3: Main income earner in the family

Variable	Home	Facility	$\chi 2$, df, P
Wife/Self	35	31	**$\chi 2$ 0.341** **df 2** **p >0.05**
Husband	176	116	
Support from others (parents, children)	7	11	

Majority 78% (n=292) of the families are supported by the husbands who were the main source of income. A comparison between the main source of income and place of childbirth was done and it revealed that there was no significant relationship between the main source of income and the utilization of health facility during childbirth ($\chi 2$= 0.341; df=2; p>0.05). In most African

setting, the husband is the head of the family and in most cases the breadwinner because culture dictates that duties for a man are to work and provide for his family.

4.4 Client Related Factors

4.4.1 Respondents parity

The number of times a woman has given birth influence the decision to utilize or not utilize a skilled birth attendant. The study sought to establish the relationship between a woman's parity and utilization of health facility during childbirth and results were indicated in Table 4.

Table 4: Respondent's total number of pregnancies in a Lifetime

Parity	Home (n=218)	Health facility(n=158)	χ2.df,p
Para 1-4	190	149	χ**2= 0.2750** **df 1** **p > 0.05**
>Para 4	28	9	

Ninety percent (n=339) of the respondents had between 1-4 pregnancies in their lifetime, most of the women who were above para 5 delivered at home. There was no significant relationship between parity and the utilization of health facility during childbirth ($\chi 2$= 0.2750; df=1; p > 0.05).

4.4.2 Number of pregnancies of the respondents in the last 5 years

The respondent's number of pregnancies within the last 5 years is an important factor in determining the place of birth . The study sought to find out the respondents number of pregnancies in the last 5 years and results were shown in Table 5

Table 5: Respondents' number of pregnancies in the last 5 years

No	Frequency	Percentage
1	198	52.7%
2	160	42.6%
3	18	4.8
Total	376	100%

Fifty two point seven percent (n=198) of the respondents had one pregnancy in the last five years, 42.6% (n=160) had two pregnancies and 5% (n=18) had three pregnancies in the last five years. The number of pregnancies a woman may have had within a period of 5 years determines

the woman's confidence in the utilization of health facility. Response from focused grouped discussion revealed that "The *nurses may humiliate the woman on realizing that her spacing of the children are close together*" A woman in the group said "I *remember when I went to give birth to my third born the nurse was so rude to me as I tried to ask for help and she kept on referring to me to other women as someone who did not use family planning"*

4.4.3 Respondents with children under 5 years

The number of children under five years may influence utilization of health facility. The study aimed to find out the number of respondents with under 5 year old children and the results are shown in Figure 2.

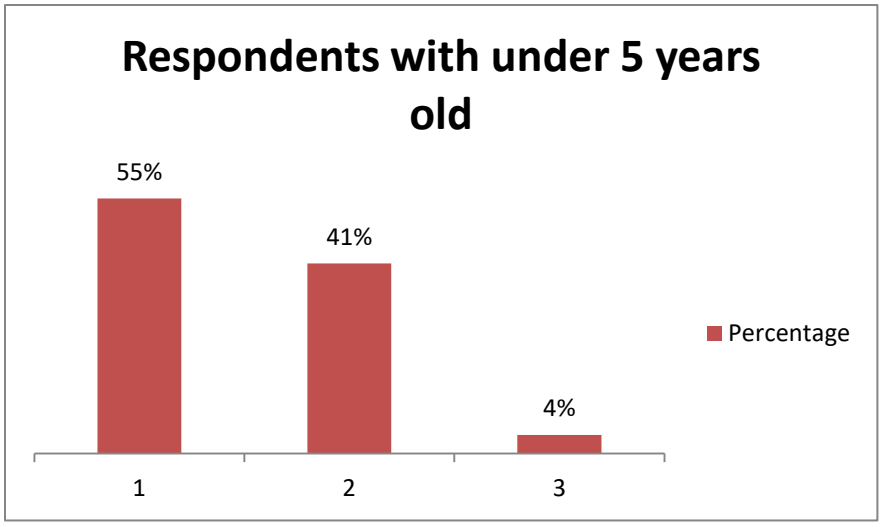


Figure 2: Number of Respondents with under 5 year old children

Most of the respondents 55% (n=205) had one child under five years, 41% (n=154) had two children under five years while 4% (n=17) had three under five children.

4.4.4 Family size of the respondents

The family size of the respondents is an important factor in determining utilization of health facility because it influences the availability of resources in the family. The study sought to find out the total family size of the respondents and data is portrayed in Figure 3.

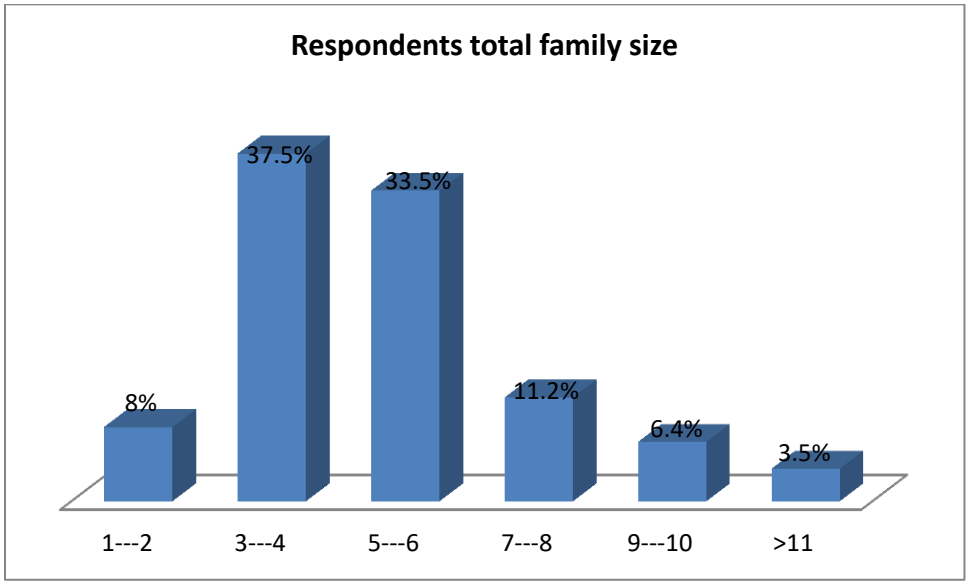


Figure 3 Respondents' total family size

Thirty eight percent (n=141) respondents total family size was between 3-4, 34% (n=126) respondents between 5-6, 11% (n=42) respondents between7-8 and 8% (n=39) had a family size of between 1-2 and 3% (n=above nine members. The larger the family the more scarce the resources, hence some very vital services may be overlooked because the family maynot be able to afford.

4.4.5 Age of respondents last born

The age of the respondents last born is an important factor in determining the health facility utilization during childbirth. The study sought to find out the age of the respondents last born and the results were shown in Table 6.

Table 6 Age of respodents last born child

Variables	<1 month	1-3 months	3-6months	6-9 months	9-12 months	χ2.df,p
Home	14	48	30	57	69	**χ2= 0.1998**
Health facility	8	47	31	35	37	**df= 4** **p >0.05**

Sixty nine of the respondents who delivered at home had a last born aged 9-12 months while fourteen were less 1 month. There was no significant relationship between age of respondents last born child and the utilization of health facility during childbirth ($\chi 2$= 0.1998; df=4; p > 0.05). The age of the last born influences the perception of the woman towards health worker reaction towards them.

4.4.6 Place of birth

The place of birth a woman chooses to utilize during childbirth is very important because it influences an outcome of a healthy baby and a healthy mother. The study sought to find out the place of delivery of the women in Matinyani Sub County in Kitui County and the results were shown in Figure 4.

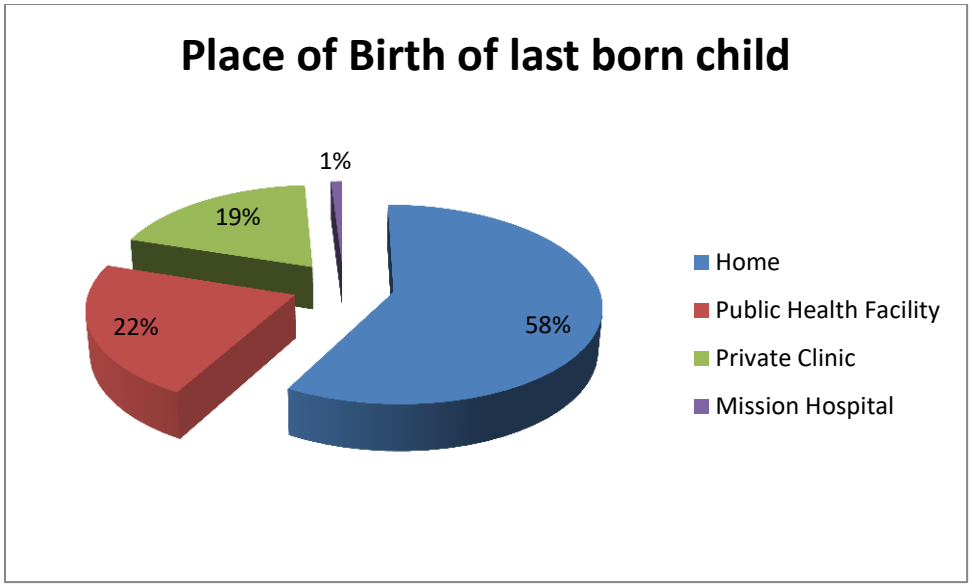


Figure 4 Place of Birth

Majority of the respondents 58% (n=218) delivered at home,while 42% (n=158) delivered in health facilities with 22% (n=83) delivering in public health facility, 19% (n=71) in private clinic and 1% (n=4) delivered in a mission hospital. This concurs with a study done by Wanjira, (2011) on delivery practices and associated factors among mothers seeking child welfare services in selected health facilities in Nyandarua South District, Kenya which revealed that of all the deliveries reported, 51.8% were attended by unskilled birth attendants. A report by Kenya Demographic and Health Survey of 2009(KNBS *et al*, 2010) indicate that 43 percent of births in Kenya are delivered in a health facility, while 56 percent of births take place at home. Home delivery is a problem in most parts of Kenya and unless urgent action is taken the maternal mortality rate will continue to worsen.

4.4.7 Respondents Sources of assistance during child birth

The source of assistance of the respondent during childbirth is an important factor that determine the outcome of the pregnancy. The study sought to establish the source of respondents assistance during childbirth and the findings were shown in Figure 5.

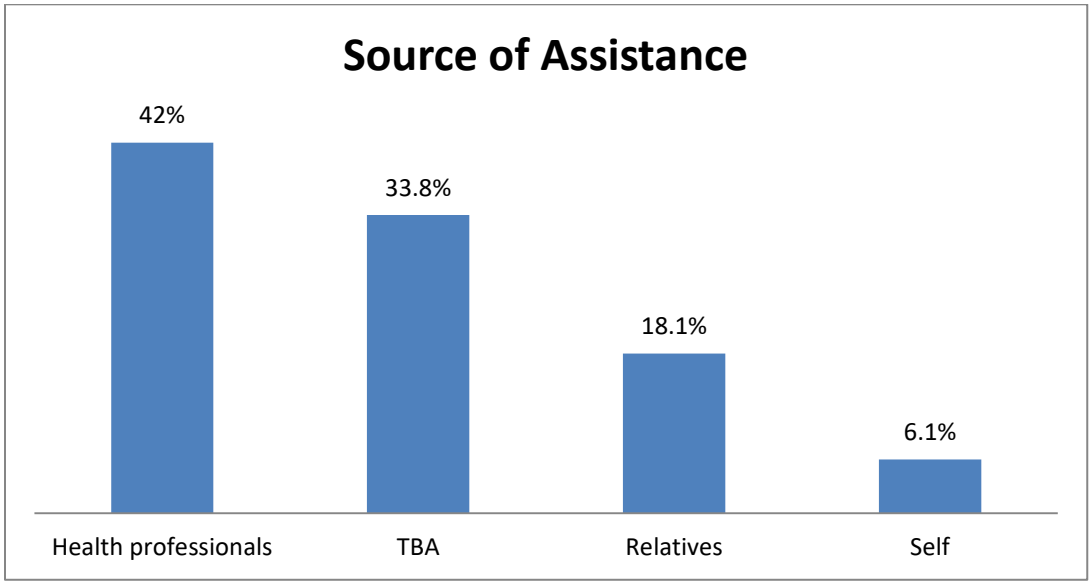


Figure 5 Source of respondent's assistance during childbirth

At least 33.8% (n=127) of the respondents deliver under traditional birth attendant, 18% (n=68) are assisted by relatives, 6% (n=23) assist self to deliver while only 42% deliver under skilled attendant.This coincides with a study done by Wanjira (2011) on delivery practices and associated factors among mothers seeking child welfare services in selected health facilities in Nyandarua South District, Kenya which revealed that among the deliveries attended by unskilled birth attendants, 38.6% (452/1170) were by neighbours and/or relatives. Traditional Birth Attendants attended 1.5% (17/1170) of the deliveries while in 11.7% (137/1170) of the deliveries were self assisted. A study by Kabir,2007 on Safe-delivery practices in rural Bangladesh and its associated factors revealed that about 94% deliveries took place at homes and 67% were assisted by the untrained traditional birth attendants called Dai. Report by KNBS et al (2009) shows that traditional birth attendants played a vital role in delivery, assisting with 28 percent of births (the same percentage as are assisted by nurses and midwives). Relatives and friends assisted 21 percent of births, and for 7 percent of births, mothers did not receive any form of assistance. Most of the unskilled births are conducted by traditional birth attendants posing a great risk to the mother and the baby.

"Most of the pregnant women in the district give *birth at home. All my four children I have been assisted by our own mkunga, who is an old lady that has specialized in assisting women in the community. A 27 year old woman said."*

"My mother was also assisted by mkunga and when I was due to give birth to my firstborn, my mother took me to her. She has been of great help to all mothers in this community. Infact all my children I have given birth in her house with her help. A 34 year old woman said"

4.4.8 Reasons for not utilizing health facility for childbirth

There are several women who do not utilize the health facility for childbirth due to various reasons. The study sought to find out of the respondents who delivered at home the reasons for not utilizing the health facility for childbirth and the results were shown in Table 7.

Table 7: Respondents' reason for not delivering in a health facility

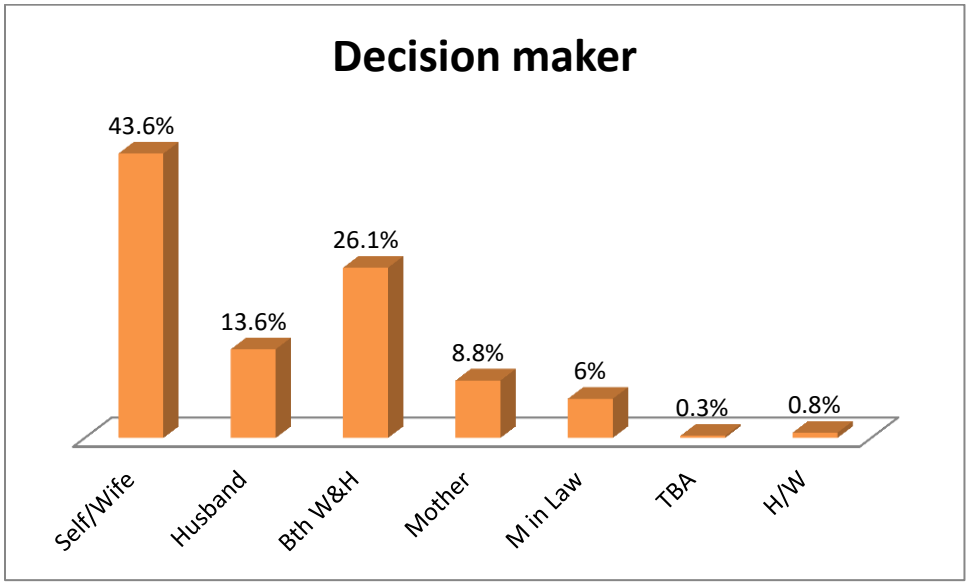
Reasons for delivering outside of health facilities	Frequency	Percentage
Distance to Health facility	64	29.36
Travel cost	33	15.14
Cost of treatment	13	5.96
Health workers incompetence, lack of professional ethics	14	6.42
Weak referral system & services	49	22.48
Unavailability of hospital equipment& supplies	1	0.46
Precipitate labor	33	15.14
Non responsive	3	1.38
Ignorance	8	3.67
Total	**218**	**100**

Most of the respondents 29.36% (n=64) did not deliver in health facility due to the long distance that have to be covered before reaching the facility. Only 22.48% (n=49) respondents gave weak referral systems and services as reason for not delivering in health facility, 15.14% (n=33) travel cost. A study by Maureen *et al.,* (2008) on determinants of skilled birth attendant utilization in Agghanistan revealed that the presence of user fees was associated with a lower odds of skilled birth attendant use. Facility characteristics were associated with a higher odds of skilled birth attendant use included the type of health facility, presence of obstetrical equipment, and availability of routine antenatal care. A study done in Nigeria by Ezugwu *et al.,* (2011) revealed that the'pay at the point of service' policy in public hospitals make accessibility to maternal and child health services a challenging one, as patients have to pay first before services are rendered. This sometimes leads to tragic deaths due to institutional delays in intervention.One woman in the focused group discussion said "*I did not deliver in the facility because the distance from my house to the health facility is 50kilometers*" Another woman said "*when I went to give birth to my second born I developed some complications and was refered to another hospital,it took my*

family two days to get means of transport for me" A report from key informant interview revealed that women in the district do not utilize the health facility for childbirth due to the availability of traditional birth attendants and mistrust of the health workers.

4.4.9 Family decision maker

The family decision maker is a key person in determining utilization of health facility during childbirth by woman because he or she is the final word and can not be opposed by any member of the family. The study sought to find out the respondents key decision maker and results were shown in Figure 6.



Key: Self/W=Self/Wife Bth W&H=Both wife and husband M in law=mother in law TBA=Traditional birth attendant H/W=Health worker.

Figure 6 Decision maker on where and who to assist during delivery

Only 43.6% (n=164) of respondents make own decision on where and who to assist them during childbirth, 26% (n=98) by husband and wife, 13.6% (n=48) decisions are made by the husband, 8.8 % (n=33) by mothers and 6.9 % (n=26) by mothers in law. This agrees with a study by Kabakyenga (2012) on influence of birth preparedness,decision making on location of birth and assistance by SBA among women in south-West Uganda that revealed that the final decision regarding location of birth was made by the woman herself (36%), the woman with spouse (56%) and the woman with relative/friend (8%).

"My husband is a drunkard he beats me up and spends all his time in the centre.

When he is not around, my mother in-law makes all the decisions. A 28 year old woman said"

"My husband works in Nairobi and rarely comes home. I make all the decisions in my house because even when he comes he arrives in the evening and leaves very early the next morning .A 32 year old woman said."

4.4.10 Respondent's perception on place of childbirth

The perception of a woman on place of child birth is an important factor in that is enhances making informed decision as to where to visit during labour. The study sought to understand the respondents perception on place of childbirth and the results were shown in Figure 7.

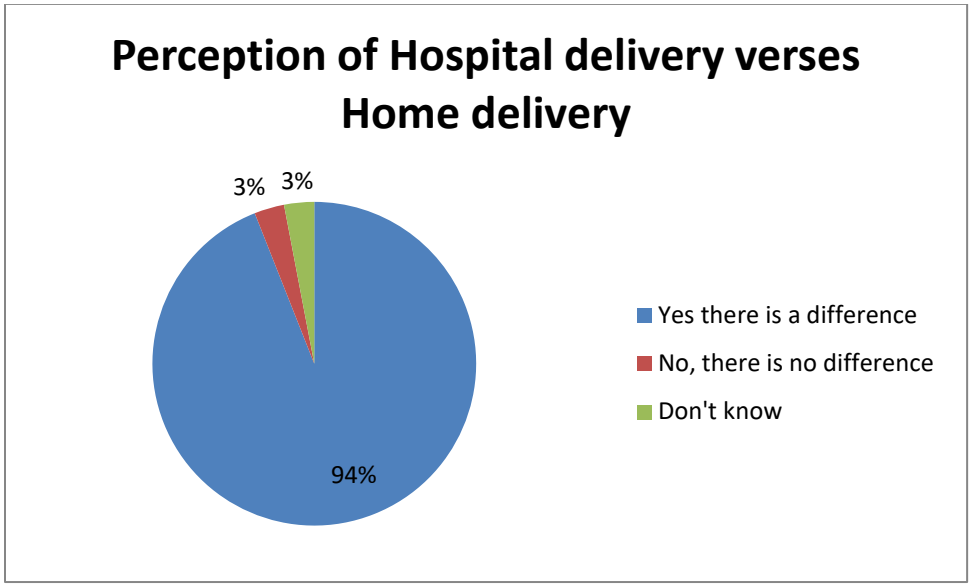


Figure 7: Perception of respondents on hospital delivery versus home delivery

Majority of the respondents 94% (n=355) acknowledged there was a positive difference between hospital and home delivery, 2% (10) said there was no difference while another 2% did not know. Fifty two percent (n=202) of the respondents believed in facility delivery because it saves the life of both the mother's and the child, 12% (n=46) because there was no bleeding by the mother after delivery, 3% (12) acknowledged that complications were managed promptly.

4.4.11 Reported advantages for using a health facility for child birth

Different women have different perceptions on health facility as a place for childbirth. The study sought to find out the respondents perception on advantages of hospital delivery and the findings are shown in Table 8

.

Table 8: Advantages of Childbirth in Health facility

Advantages of Childbirth in Health facility	Frequency	Percentage
Clean delivery	16	4.3
Saves mother's & child's life	133	35.4
Care& prevention of complications	70	18.7
Shorter labour	4	1.1
Non- responsive	15	4
Care of the baby, Advice on baby care	3	0.9
Clean , saves mothers life, no bleeding & retained placenta	54	14.4
No bleeding, Saves child's life, advice on baby care, Shorter labour	81	21.5
Total	**376**	**100**

About 27% (n=100) thought health facility was a good place to deliver because it saves the mothers life, 12.2% (n=46) said there is no bleeding if one delivered in a health facility. This perception is shaped by general awareness of the dangers of childbirth and interventions available at health facilities, by individual past experiences with pregnancy, childbirth and health services, as well as by risk assessment of the index pregnancy.

4.4.12 Reported advantages for not using a health facility for child birth

A woman perception on the benefits of home delivery is an important factor on determining whether the woman utilizes the health facility during childbirth or not. The results of the study are shown in Table 9

Table 9: Perceptions on advantages for home delivery

Reasons for home delivery	Frequency	Percentage
No need for transport	22	5.9
No cost incurred	6	1.6
No bleeding	3	0.8

There is privacy	4	1.1
No need for transport and no cost	2	0.5
No advantage associated with home delivery	339	90.2
Total	376	100

Six percent (n=22) of the respondents who thought home delivery is better said so because there was no need for transport, 1% (n=6) said no cost was incurred while another 1% (n=4) believed privacy and confidentiality was maintained when one delivered at home.

"*The good thing about giving birth at home is one is able to maintain her privacy because sometimes the mkunga comes to assist you in your own house, unlike in the health facility where all mothers in labour are placed in one room. A 35 year old woman said."*

4.4.13 Antenatal visits made

Antenatal care of a pregnant woman is very vital because it helps to detect early and intervene promptly to problems. The study sought to find out whether women in Matinyani Sub-county attended antenatal clinic or not and how many visits were made and the findings were potrayed in Figure 8.

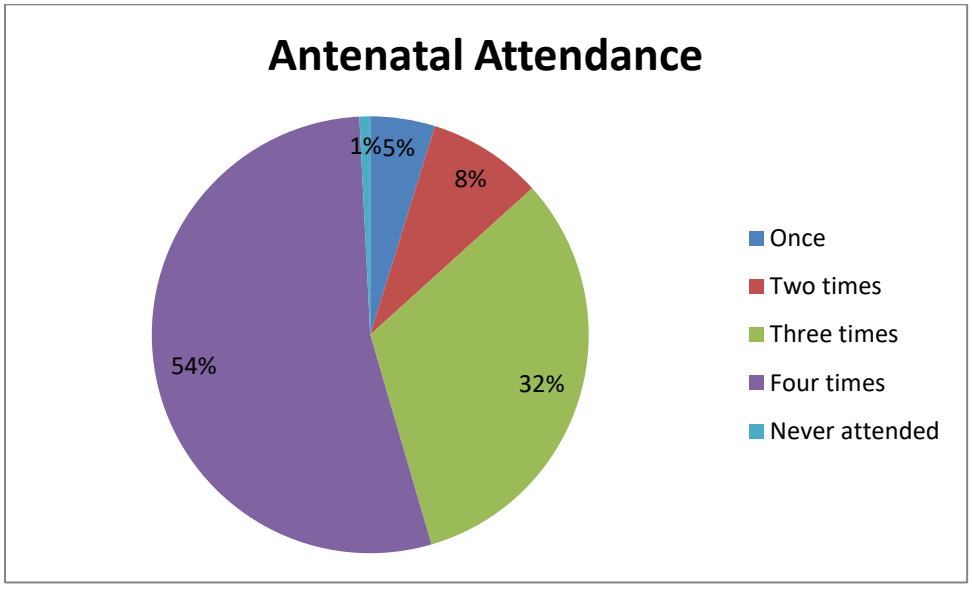


Figure 8 Number of Antenatal visits made by respondents during last pregnancy

At least 99% (n=373) respondents attended antenatal clinic during pregnancy. Fifty three point seven percent (n=202) manage to attend the four recommended visits, 32.2% (n=121) attended three times, 8.5% (n=32) attended twice, 4.8% (n=18) attended once while 0.8% (n=3) did not attend. In Kenya, less than half (47 percent) of pregnant women make four or more antenatal visits while 44% of rural women make four or more visits (KNBS, 2010). A study by Gage (2006) on the effects of the physical accessibility of maternal health services on their use in rural Haiti revealed that the presence of a health worker providing ANC in the community can also increase use of skilled attendance, as described for Haiti. A study in Mali by Gage (2007) on barriers to utilization of maternal health care found that the level of antenatal care uptake in the enumeration area is highly predictive of individual women's health facility use for delivery, even when controlling for individual ANC use , which suggests that area-level use may be a proxy for other factors including accessibility.

4.4.14 Maternal health education

Maternal education during the antenatal visits is an important factor in determining utilization of health facility during childbirth because the woman is educated on danger signs during pregnancy and delivery hence can be able to make prompt decision when need arise. The study sought to identify the relationship between maternal education and utilization of health facility during childbirth and results are shown in Table 10.

Table 10 Health education on Maternal Health

Variables	Home	Health facility	Percentage	χ2.df,p
H/E on Maternal health	176	148	86%	$\chi 2$= 0.460 df=1 p > 0.05
No H/E on Maternal health	42	10	14%	

Majority of the respondents 86% (n=324) had health education on maternal health. One hundred and seventy six respondents who had health education on maternal health delivered at home. There was no significant relationship between maternal education and the utilization of health facility during childbirth ($\chi 2$= 0.460; df=1; p > 0.05). A study by Stekelenburg (2004) revealed that women in Zambia who know danger signs in pregnancy are more likely to deliver in a health facility as compared to those without such knowledge and a similar but not significant tendency was observed in Southern Laos by Proxay, (2001). In Mali, women who are told about complications at antenatal care are more likely to give birth in a facility (Gage ,2007).

4.4.15 Respondents' source of health education

The source of respondents health education is an important factor in determing whether the health facility will be utilized for childbirth or not this is because if the information is from a

reliable source then the women will have confidence in the source and are likely to utilize the health facility. The study sought to establish the source of health education of the respondents and findings are shown in Table 11 .

Table 11 Sources of Health Education

Source of information	Frequency	Percentage
Community health worker(from community units-CUs)	10	2.7
Traditional birth attendant	1	0.3
Relatives	10	2.7
Health professionals	261	69.4
Radio	4	1.1
CHWs(CUs), Relatives, H/professionals & Radio	3	0.8
Health professionals & Radio	21	5.6
CHWs(CUs) & H/professionals	10	2.7
None responsive	52	13.8
Relatives & Radio	4	1.1
Total	**376**	**100**

Majority of the respondents 69% (n=261) received health education on maternal health from health professionals, 1% (n=4) from the radio, 2% (n=10) from community health workers, 2 %(n=10) from relatives, 5% (n=21) from both health professionals and radio while 13% (n=52) were non responsive. Having access to information through modern media could influence women's knowledge about delivery risks and availability of services.

4.4.16 Respondents' perception on some of maternal health problem

In every community there are certain maternal problems that may influence positively or negatively the utilization of the health facility for childbirth. The study sought to find out the major maternal health problems in Matinyani Sub-county and the results are depicted in Table 12.

Table 12 Major maternal health problems

Major maternal health problems	Frequency	Percentage
Pregnancy related& Nutritional problems	299	79.6
Inadequate health care	12	3.2
Distance to Health facility fur	25	6.6
Don't know	27	7.2
Financial constrains	6	1.6
No Problem	7	1.9
Total	**376**	**100**

Seventy nine point six percent (n=299) of the respondents perceived pregnancy related and nutritional problems to be the major maternal health problems in the community, 6.6 % (n==25) distance to health facility, while 7.2 % (n=27) did not know the maternal problems.

"*Some of the problems we experience as women are lack of rains in the region which leads to inadequate food hence develop nutritional deficiencies. A 30 year old woman said."*

"*Sometimes when a woman is pregnant she may develop some complications as a result of the pregnancy and accessing the health facilities for advice becomes an issue. A 26 year old woman said."*

4.4.17 Knowledge about availability of a health facility in the sub-location

The availability of a health facility in a sub location is an important factor in determining utilization of health facility during childbirth. The study sought to find out the existence of a health facility within the respondents sub-location and the results are shown in Figure 9.

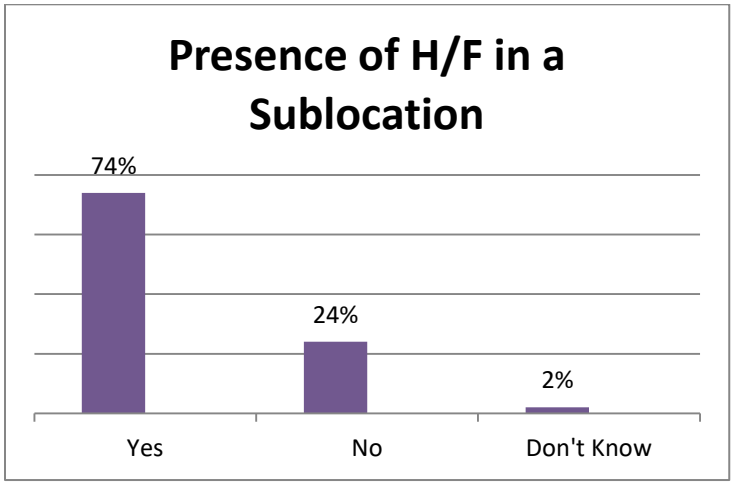


Figure 9 Presence of a health facility

At least 74 %(n=279) of the respondents acknowledged the presence of a health facility in their sub location, 24% (n=91) said there was no facility in their sub location while 1% (n=6) did not know.

4.4.18 Estimated distance to the nearest health facility

The distance a woman takes to access a health facility is an important factor in determining the place of delivery. The study sought to find out time taken by the respondents to reach the nearest health facility and the results are shown in Table 13.

Table 13 Time taken to reach the nearest health facility from respondents house

Variable	<30 min	30min- 60 min	>60min	$\chi 2$, df, P
Home	36	126	56	$\chi 2$=0.2244 df=2 P >0.05
Health facility	33	103	21	

For the respondents that acknowledged the presence of a health facility in their sub-location, 18% (n=69) said it took them less than 30 minutes to get to the facility, 61% (n=230) took 30 minutes to one hour to reach the facility while 21% (77) took more than one hour to reach a health facility. There was no significant relationship between the time taken to reach the health facility and the utilization of health facility during childbirth ($\chi 2$= 0.2244; df=2; p > 0.05).

4.4.19 Respondents' suggestion on ways to improve health facility utilization

Health facility utilization during childbirth is very important in determining the outcome of a pregnancy. The study sought to find out solutions from the respondents as to how health facility utilization during childbirth would be improved and the results are shown in Table 14 below.

Table 14 Respondents' suggested recommendations

	Frequency	Percentage
Avail OBA cards & Offer 24 hour services	60	16
Build more health facilities, employ staff & improve referral	123	33
H/E on importance of hospital delivery & dangers of home delivery	137	36
Employ more staff & Avail equipment	23	6
Avail equipment & supplies	5	1
Male involvement on RH issues	2	1
Non-Responsive	26	7
Total	**376**	**100**

Thirty six percent (n=137) of the respondents recommended on health education of the community on importance of hospital delivery and dangers associated with home delivery, 33% (n=123) recommended construction of more health facilities, employment of more staff and improvement of referral system, 16% (n=60) recommended on availing OBA cards and offering 24 hour service.

The only way we can improve utilization of health facility for child birth is by providing the OBA cards and the hospital operating on a 24 hour basis.

"My husband says issues of child birth and children are a responsibility of the woman. But I feel if we involved the men in reproductive issues they can be very helpful in sharing of ideas on how to solve some problems .Says a 32 year old woman."

"I feel most of the women are not aware of the dangers associated with home delivery. Health educating the community on dangers of home delivery and importance of hospital delivery would play a key role. A 27 year old woman said."

"If the government can employ more health workers and build more health facilities then many women would give birth in the hospital. A 28 year old woman said."

5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Findings

5.1.1 Formal Structures and Sustainable Performance Contracting

The study established that formal structures influenced sustainable performance contracting of employees in chartered public universities in Kenya in various ways and which included providing the policy framework for the development of the performance contracts, providing the rules and regulations governing the implementation of the performance contracts, facilitating

communication of the agreed performance targets and performance evaluation criteria, providing a framework that promotes full and effective participation of the employees in the formulation of the performance contracts, providing a mechanism for resolving disputes related to the performance contracts, enabling close coordination of the performance contracting process across the various organizational departments and promoting frequent review of existing employee performance contracts to ensure their consistency with the current organization needs.

5.2 Conclusions

Formal structures as an element of institutional framework influenced sustainable performance contracting of employees in chartered public universities in Kenya through providing the policy framework as well as rules and regulations for the development and implementation of the performance contracts. In addition, the study concluded that there existed a significant positive relationship between formal structures and sustainable performance contracting of employees in chartered public universities in Kenya.

5.3 Recommendations

Given the findings that the set formal structures needed technical and logistic support in order to fulfill their mandate, the current laid formal structures needed to be reviewed since some of the clauses were retrogressive and that the universities needed skilled manpower that would monitor performance to ensure that contracting parties are within the parameters of the agreed performance targets, the study recommends that the management of the chartered public universities in Kenya should conduct regular review of the institutions' formal structures in order to ensure that they remain up to date; are reflective of the changes happening within the institutions and also enhance the employees' performance.

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