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Barriers to Immediate Post-Partum Intra-Uterine Contraceptive Device Uptake among Mothers Delivering at Meru Hospital

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Abstract

Global contraceptive use is at 64%, Africa lagging behind at 33.4%. Kenya has an unmet need for family planning at 23%. Hormonal injections are the most used in Africa at 9.8% and Intra-Uterine Contraceptive Devices at 3.8%. Low uptake of 3.4% was reported in Meru Hospital and lack of literature on immediate Post Partum Intra Uterine Contraceptive Device (PPIUCD) uptake. Immediate Post Partum Intra Uterine Contraceptive Device is a long acting reversible contraceptive device inserted into the uterus immediately within 48 hoursafterdelivery.TheobjectivewastoassessBarrierstoImmediate Post-Partum Intra-Uterine Contraceptive Device uptake among Mothers de- livering in Meru Hospital. Descriptive research design was used and a popu- lation of 289 mothers was targeted. Sample size of 74 respondents was se- lected using simple random sampling. Questionnaires and interview sche-dules were used to collect data. The collected data were entered and analyzed using Statistical Package for Social Science windows version 23.0. Descriptive analysis was used to obtain frequencies and percentages. Chi-square was usedto test the relationship of study variables and presented in tables. The qualita- tive data were analyzed thematically. The findings revealed that provider re- lated barriers such as none provision of the services and untimely counselingfor the insertion had the highest impact to low uptake (57%). Clients lacked information where 68% reported that they were not counseled. Demographic andreproductivecharacteristicsalsoplayedaroleinlowuptake.Usingthe chi square test, there was a significant relationship, P = 0.001 between young age of the mothers, unemployment (53%), low parity (56%) and low uptake. Preference

for other alternative contraceptives (25.8%) such as hormonal

methodswasabarriertotheuptake.Therefore,barrierstoPPIUCDuptake are provider related, alternative methods of contraception and client relatedsuchaslackofinformation,unemployment,youngageandlowparity.The

findings will inform Meru hospital management on barriers to immediate PPIUCD uptake. The study recommends an investigation on why providers hinder PPIUCD uptake and create awareness on PPIUCD services to the community.

Keywords

Barriers,Post-Partum,Intra-Uterine,Contraceptives,Uptake

1. Introduction

Globalstabilizationofpopulationdependsonsuccessfulreductionofobstacles to contraception services [1]. The obstacles must be identified for effective eradication. Family planning (FP) services are educational, comprehensive medicalorsocialactivitieswhichenableindividuals,includingminorstodetermine freely the number and spacing of their children and to select the means by which this may be achieved (World Health Organization (WHO), 2018). Family planning allows people to attain their desired number of children and determine the spacing of pregnancies. It is one of the four pillars of the Safe Motherhood Initiative and enshrined in health related Sustainable Development Goals (SDGs) to reduce maternal death in developing countries [2].

Two hundred and fourteen million women of reproductive age who want to avoid pregnancy in developing countries are not using a modern contraceptive method[3]. Contraception is the key to slowing unsustainable population growthandtheresultingnegativeimpactontheeconomybyhavingthedesired numberofchildrenforeveryparent.IntheSubSaharaAfrican,thecontextsfor population and family planning include weak policies supporting family planning and inadequate resources [4]. In contrast most countries in Africa, Latin America and Asia have strong policies that strongly support family planning programs in population control [4]. Global contraceptive use stands at 64%, with Africalaggingbehindat33.4%.ThePillsandinjectionsarethemostcommonly used in Africa at 8.7% and 9.8%, respectively (United Nations Department of Economic and Social Affairs (UNDESA), 2015). Intra Uterine Contraceptive Device(IUCD)utilizationisat3.8%whileimplantsareat2.3%andmalecon- doms at 2.1%. Kenya has an unmet need for family planning at 23% (Kenya DemographicHealthSurvey(KDHS),2014).

Despite PPIUCD having several benefits such as preventing unwanted pregnancies due to early resumption of sexual activities and unpredictable ovulation after delivery, its uptake is low. An uptake of as low as 3.4% was reported inMeruHospital,outoftargetofmorethan50%.ThePPIUCDuptakewasnot well documented and there was little information on the factors that hinders its uptake. Moreover, studies on the use of immediate PPIUCD were limited in Kenya.ThemainobjectiveofthestudyistoassessbarrierstoimmediatePost

Partum Intra Uterine Contraceptive Device uptake among mothers delivering in Meru Hospital. The specific objectives are;

1) Todetermineclient related barrierstoimmediate PostPartumIntra Uterine ContraceptiveDeviceuptake amongmothersdeliveringin MeruHospital
2) To establish provider related barriers to immediate Post Partum Intra Uterine Contraceptive Device uptake among mothers delivering in Meru Hospital
3) To analyze method related barriers to immediate Post Partum Intra Uterine ContraceptiveDeviceuptake amongmothersdeliveringin MeruHospital

Theresearchfindingsserveasthesourceofknowledgetoinformthehospital management on significant barriers to immediate PPIUCD uptake. The report provides an evidence base in problem solving related to PPIUCD family planning method. This helps in planning for interventions to increase from the low uptakeof3.4%tothehospitalsettargetof6%bytheendoftheyear2018.

According to a study on impact of health education on unmet needs of contraception in urban slums of Chandigarh India, lack of awareness of contracep-tion methods contributes to low uptake of PPIUCD. Awareness here means thatthemothersdidnothearorseeanyadvertisementaboutFPinthelast6months or did not participate in any educational session about FP during last 6 months hence contributing significantly to low contraception uptake [5]. Lack of know- ledge was also evident in Nyanza western Kenya in a study by Pauline *et al.* [6]whofoundthatlackofcontraceptionawarenessandlowuptakeisrelatedto none visit to antenatal clinic where education on family planning is mostly done. Social demographic characteristic also contribute to low uptake. In a study on factors influencing contraceptive non-use among women of advanced reproduc- tive age in Nigeria by Bola *et al.* [7]found that socio-demographic characteristics exert more influence on non-use. There was a significant relationship betweennonuseandcurrentyoungagewherethree-quartersofthenon-userswere21- 30 years old related to the desire to get children early in marriage. None use was significantly influenced by woman's occupation as a housewife [8]in Nyanza western Kenya in a study on overcoming barriers to family planning through integration. As well, other studies revealed that the contraceptive use was found higher among employed women (67%) than that of unemployed women [9]. Reproductive characteristicsof themothersare some of the barriers to the up- take [10]. In a study of postpartum intrauterine contraceptive device acceptance between primiparous and multiparous women in a tertiary care centre, accep-tance of PPIUCD was significantly higher in multiparous women than primi- parous [10]. Number of living children, and child preference were found to be significantly associated with current use of contraception [9]. Cultural Norms, Myths, Concerns and Miss Conceptions are other barriers.

HavingbadbeliefaboutFP,e.g.loopcanpenetratetheheart,injectioncan cause infertility, pills can cause cancer, child-bearing is more comfortable at youngerage,non-traditionalmethodsofFPcanharmthewoman'shealth,are

all related to culture [7]. Similarly in a study on barriers to modern contraceptive uptake among young women in Kenya by Rhoune *et al.* [11], revealed the main barrier to be a misconception from social networks that modern family planning causes infertility. In a study on midwives' views on PPIUCD [12]at nine wells hospital Dundee U.K, Lack of provider confidence, training and experience on insertionofPPIUCDisevident.Itistheresponsibilityofahealthcareprovider to ensure men's active involvement in reproductive healthcare which has shownto be positively associated with maternal and child health outcomes.

AccordingtoastudyonBarriersaffectingutilizationoffamilyplanningservicesamongruralEgyptianwomenbyEltomy*etal*.[1],thestudyexploredthevarioustypesofreportedbarriers forboththediscontinuedgroupandthe non-users.Serviceprovider'snegativeattitude,shortageofstaffs,protocolsrequiring woman to be on her period to start hormonal or IUCD methods contributedtolowuptake.ConcerningbarriersrelatedtothemethodbyBola*etal*.[7]more than half of the women who had discontinued using contraception had a desiretohaveamoreeffectivemethod.Thiscouldbeduetopastexperienceof failure ofthe method or the presence ofside-effects.

2. Methodology

StudySite

Studywascarriedoutinpostnatalward,maternitydepartmentofMHfor aperiodoftwo months.Thehospitalisthemaincountyreferralhospitallocatedin theurbanpartofthecountyattheoutskirtsofMerutown.Patientsarereferred fromruralhealthfacilitieswithinthecountyforspecializedserviceslikeobstetricandgynecologicalservicesandforattentionbyseniormidwivesamongothers.MHisateachinghospitalforstudentsfromvariousmedicalschoolswithin the Mount Kenya region.

StudyDesign

A descriptive research design was used to determine answers to the study questions at MH in the months of June and July 2018. This was a social science research therefore need for descriptive answers to the study questions. The pur-pose of social science research is to explore, describe and explain a phenomenon [13].

Population

From the hospital records there were 5204 deliveries annually. This translated to an average of 14 deliveries daily. According to Kenya reproductive health carebill(2014),reproductiveagestartsfrom15-49yearsandhavetherightto consent willingly for their reproductive health services including minors. A Populationof289deliveringmotherswhowereadmittedinmaternity post-natal ward during the period of study in the months of June and July2018 was targeted.

SamplingProcedure

Duetofewnumberofmothersinsertedthedevice,acensuswascarriedoutfor all mothers that were inserted. For non-inserted mothers group, a sample size of74 respondents was used as a representative to the target population of 289 mothers. Respondents selection was done through simple random sampling procedure. The sample size was derived according to Nassiuma [14]. Accordingto Nassiuma [14]coefficient of variation of at most 30% is acceptable in most surveys. In this study a coefficient of variation of 20% was used and a standard error of 0.02.

Nassiuma [14]givestheformulaasfollows;

$$\text{Samplesize } n = \frac{NC^2}{C^2 + (N-1)e^2}$$

where,n=samplesize

N=populationfromwhichsampleisobtained,289

C=coefficientofvariance, 20%

e=standarderror,0.02

$$\frac{289(0.2)^2}{0.2^2 + (289-1)0.02^2}$$

n=74

Inclusionand Exclusion

Inclusion criteria depended on the mandatory characteristics that the subjects needed to have if they were to be included in the study. In this study the inclu-sion criteria was the motherswilling to participate in thestudy.Those who didnot have the insertion and willing to participate were included to determine up- take barriers. Exclusion criteria were those characteristics that disqualified the subjectsfrominclusioninthestudy.Inthisstudytheexclusioncriteriawas thosemotherswhowerenotwillingtoparticipateinthestudyandthosewho had the insertion.

DataCollectionProcedure

This study was carried out in postnatal ward, maternity department of MH for a period of two months. The Subjects consented before the interview and filled inthe questionnaires with the assistance of the researcher where necessary. The consent followed a detailed explanation on the nature and purpose of the study. Data collection was done in a private side room or a screened bedside depending on the client's general condition.

DataCollectionInstruments

Data collection was carried out using structured questionnaires as the primary tools and interview schedules to gather qualitative and quantitative data. The questionnaires were divided into sections. Section A gathered the information

onsocialdemographics,sectionBreproductivecharacteristicsandCexplored on other factors *i.e.* client, provider and method related barriers and facilitators respectively. Interview schedules had one section exploring on clients general perceptions regarding PPIUCD services. These form the effective means of measuring the barriers of PPIUCD method of family planning. Questionnaires were analyzed using Statistical Package for Social Science (SPSS) for windows version 23.0. Interview schedule helped the researcher to get more detailed information regarding PPIUCD uptake as a method of FP.

Pretesting

The data collection tools will be pretested at Embu level five hospital. The facility offers same services to mothers with similar characteristics to those in MH. Pretesting will be done in order to fish out wording issues and questions that are ambiguous and difficult to answer. 10% of the sample size will be interviewed during pretesting. This will also help the researcher estimate the length of time taken to fill one questionnaire and entire data collection period.

EstablishingReliabilityandValidity

Establishingreliabilityandvalidityistodeterminerepeatabilityandaccuracyof data correction instruments respectively. To establish reliability, pretesting of theinstrumentswasdoneusingsplit-halfreliabilitycoefficient.Toestablishvalidity, a review of literature was done to compare and contrast the instruments with research findings from similar instruments in other studies. Moreover, consultations of experts from the department to judge and determine the completeness of the instruments was done.

DataAnalysis

The collected data was entered and analyzed using statistical package for social science (SPSS) for windows version 23.0. Descriptive analysis was used to obtain frequenciesandpercentages.Chi-squarewasusedtotesttherelationshipof study variables. Interview schedules were analyzed thematically in relation to study objectives and the analyzed data presented in tables and narratives.

3. Resultsand Discussions

DemographicandReproductiveCharacteristicsof Respondents

Table 1shows the demographic and reproductive characteristics of respondents. Majority were aged between 20 - 30 years (68%), had low parity of 1 - 3 (56%) and (53%) were unemployed. Majority were married (55%) and (59.5%) were protestants.

Age

Themothersagedbetween20-30yearshadthehighestnumber(68%)of

PPIUCD non uptake, followed by those above 30 years at 18%, 15 - 19 years9.5% and those below 15 years had the least number of uptake at 2.7%. this coincideswithastudyonfactorsinfluencingcontraceptivenon-useamongwomen ofadvancedreproductiveageinNigeriabyBola*etal.*[7]foundthat;So- cio-demographic characteristics exert more influence on non-use. There was a significantrelationshipbetweennonuseandcurrentyoungage,Three-quarters of thenon-users were21-30years oldrelatedto thedesire to get children early in marriage.

Table1. Demographiccharacteristicsofrespondents.

AGEGROUPS	PERCENTAGE
Below15years	2.7
15-19years	9.5
20-30years	68.9
Above30years	18.9
Total	100.0
PARITY	
None	23.7
1 -3	56.0
Morethan3	20.3
Total	100.0
EMPLOYMENTSTATUS	
salariedemployment	14.5
Unemployed	53.0
Selfemployed	31.1
Total	100.0
RELIGION	
Catholic	21.6
Protestant	59.5
Muslim	6.8
Others	8.1
None	4.1
Total	100.0
MARITALSTATUS	
Married	55.0
Single	18.9
Separated/divorced	14.9
Widowed	10.8
Total	100.0

Parity

Mostrespondentswerepara1-3,56%.Para0+0were23.7%,morethanpara 3,were20.3%.ThisaffirmsthatacceptanceofPPIUCDwassignificantlyhigh-erinmultiparouswomenthanprimiparousinastudyofpostpartumintraute- rine contraceptive device acceptance between primiparous and multiparouswomen in a tertiary care centre [10]. Number of living children, and child preference were found to be significantly associated with current use of con- traception [9].

Employment Status

Most non users were unemployed 53.0%, followed by those who were self em-ployed at 31.1%, and the least number of non users had salaried employment at 14.5%. This approves that non use was significantly influenced by woman's oc-cupation as a housewife [7]. As well, other studies revealed that the contracep-tive use was found higher among employed women (67%) than that of unem- ployed women [9].

OtherClient,ProviderandMethodRelatedBarriers

MostrespondentsasshowninTable 2whowerethenonusers57.0%werenot given any information on PPIUCD. 32.1% were given information but refused to consentforinsertion.4.1%wereinformedandconsentedbuttheservicewasnot offered to them. 4.1%had a problemtherefore did not meet the insertioncrite-ria.2.7%consented,insertiondonebutunsuccessfulwhiletheotherwaited for thespousetoconsultbutdidnotcome.ItcollaboratestoastudyonBarriersaf-fectingutilizationoffamilyplanningservicesamongruralEgyptianwomenby Eltomy *et al*.[1], the study explored the various types of reported barriers for both the discontinued group and the non-users. Provider related barriers were reportedbarriersthatleadto notusingordiscontinuation ofFPmethodswhich includedserviceprovider'snegativeattitudeandshortageofstaffs.

AccordingtoTable3themotherswhoweregiveninformationonPPIUCD but did not consent for the services opted for alternative methods of family planning 25.8%. 2.7% had fears of myths and misconceptions, 2.7%, refused to consent because of staff negative attitudes, poor and services. 2.7% refused to consent because they had previous bad experience and side effects on this type of method, 1.4% was not married therefore they did not need family planning me- thods and the other 1.4% was on the basis of religion. 77% did not refuse to consent for the insertion. Similar to a study concerning barriers related to the method by Bola *et al*. [7]more than half of the women who had discontinuedusing contraception had a desire to have a more effective method.

InTable4thegroupthatoptedforalternativemethodsofcontraceptionpre-ferredthehormonalcontraceptionmethods5.4%and1.4%preferredotherlong actingmethods,theimplants.93.2%didnotoptforalternativemethods.Agrees tothereportbyUnitedNationsDepartmentofEconomicandSocialAffairs

(UNDESA) (2015), indicates that Contraceptive use by type; Pills and injections are the most commonly used in Africa at 8.7% and 9.8%, respectively. Intra Uterine Contraceptive Device (IUCD) utilization is at 3.8% while implants are at2.3% and male condoms at 2.1%.

In **Table 5**68% said that they were not given counseling services on PPIUCD insertion and the few who were counseled, it was done after delivery in postnatal ward 12.2%, during antenatal period was 6.8%, 5.4% was counseled on admission, 5.4%.

Table2. Reasonswhytherespondentsdidnotget PPIUCDinsertion.

REASONS	PERCENTAGE
I refused	32.1
notgiveninformation	57.0
I had a problem	4.1
servicenotoffered	4.1
Others	2.7

Table3. Client,providerandmethodrelatedbarriers.

BARRIERS	PERCENTAGE
myths/misconceptions	2.7
Religion	1.4
attitude/delayed/poorservice	2.7
badexperience/sideeffects	2.7
otheralternativemethods	25.8
notmarriedthereforeIdon'tneed	1.4
N/A	77.0

Table4. Preferredmethodofalternativecontraception.

BARRIER	PERCENTAGE
Hormonal	5.4
longacting	1.4
N/A	93.2

Table5. Timingofcounseling oncontraception.

TIMECOUNSELED	PERCENTAGE
notcounseled	68.9
duringantenatal	6.8
onadmission	5.4
afterdelivery	12.2
Others	5.4

Lack of confidence, training and experience on insertion of PPIUCD is evi-dent in a study on midwives' views on PPIUCD [12]at ninewells hospital Dun- dee UK [15]. In other respects, lack of enough providers or shortage of staffs contributedtodelayedservicesinastudyonmidwives'viewsonPPIUCD[12]at nine wells hospital Dundee U.K.

ThiscontradictstoastudyconcerningbarriersrelatedtothemethodbyBola *et al*. [7]more than half of the women who had discontinued using contracep-tionhadadesiretohaveamoreeffectivemethod.Thiscouldbeduetopastex-perienceoffailureofthemethodorthepresenceofside-effects.

4. ConclusionsandRecommendations

The identified barriers to PPIUCD uptake are provider related which include non-provision of contraception services and untimely counseling for PPIUCD insertion. Method related barriersincludealternativemethodsofcontraception related to previous bad experience and side effects. Client related barriers in-clude lack of information on PPIUCD, young age, low parity and unemploy-ment.

Thefollowingrecommendationsweremadebasedontheresearchfindings.

1) From the findings of the study, young age, low parity and unemployment contributed to low uptake of PPIUCD. Sensitization on this method of family planning should target this group of mothers who are young aged, those with low parity and the unemployed. Lack of knowledge on the availability of PPIUCD services influenced low uptake. Reproductive health department should put community based strategies in place to create awareness ofPPIUCD services in the hospital, given that lack of awareness is a key barrierto the uptake.
2) According to the results, either non-provision of the services or untimely counseling for the insertion contributed to the low uptake of PPIUCD ser-vices. The hospital administration should ensure that continuous education and job training are done to the providers. Staff motivation and staffing is-suesshouldbeaddressedforimprovementofservicedeliverygiventhatpro-viders played a major role in low uptake.
3) From the findings of the study, properties and characteristics of family plan-ning methods influenced uptake of PPIUCD services. An investigation of the effectiveness of the method in preventing pregnancy should be carried out.Sideeffectsofalternativemethodsandtheireffectstotheusersshouldalso be investigated.

ConflictsofInterest

The authors declare no conflicts of interest regarding the publication of this pa-per.

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Appendix1

QUESTIONNAIREONBARRIERS(FORMOTHERSWITHOUTAN INSERTION)

BarrierstoImmediatePostPartumIntraUterineContraceptiveDevice uptake among Mothers delivering at Meru Hospital.

Serialno……

IPno……..

Circle the appropriate option in each question

SECTIONA:**Socialdemographiccharacteristics**

1) Whatisyouragegroup?
   a) Below15years
   b) 15-19years
   c) 20-30years
   d) Above30years
2) Whatisyoureducationlevel?
   a) Noneformaleducation
   b) primary
   c) Secondary
   d) tertiary
3) Whatisyourmaritalstatus?
   a) Married
   b) Separated/divorced
   c) Widowed
   d) single
4) Whatreligiousdenominationdoyoubelong?
   a) Catholic
   b) protestant
   c) Muslim
   d) Others,specify…….
   e) None
5) Whodoyoulivewith?
   a) Spouse
   b) In-laws/ownparents
   c) Alone
   d) Others,specify……
6) Whatisyourcurrentemploymentstatus?
   a) salariedemployment
   b) unemployed
   c) self-employment

SECTIONB:Reproductivecharacteristics

7) Whendidyoudeliver?
   a) Lessthan12hoursago
   b) 12-24hoursago

c) 25-48hours
d) Morethan48hours

8) Yearofyourpreviousdeliveryif any
a) Notapplicable
b) Lessthantwo yearsago
c) 2-5years
d) Morethanfiveyears

9) Numberofpreviouspregnancies(parity)
a) None
b) 1- 3
c) Morethan3

10) Whendoyouwishtohaveanotherpregnancy?
a) Notagain
b) withintwoyearsfromnow
c) 2-5years
d) morethan5years
e) Others

SECTION C: **Other factors that impede PPIUCD uptake (client, provider & method related)**

11) Whendidyoulastlyhearorreadaboutfamilyplanning?
a) lessthan6monthsago
b) morethan6monthsago
c) can'tremember
d) neverheard

12) a)WhywastheinsertionofPPIUCDnotdonetoyouafterthisdelivery?
i) Irefusedtoconsentforinsertion
ii) IwasnotgiveninformationonPPIUCDinsertion
iii) Ihadaproblemthereforedidnotmeettheinsertioncriteria
iv) Iwasinformedandconsentedbutservicenotofferedtome
v) Others,specify

b) Incaseyourefusedtoconsent,why?
i) Fearsandconcernsofmythsandmisconceptions
ii) Myhusbandandrelativesopinion
iii) Onthebasisofmyreligion
iv) Culturalnorms
v) Staffnegativeattitude,delayedandpoorservices
vi) Previous badexperienceandsideeffectson thistypeofmethod
vii) Optingforothermethodsoffamilyplanning
viii) Iamnotmarriedthereforenoworryforfamilyplanning
ix) N/A

Others,specify

c) Ifoptingforanothermethodoffamilyplanning,whichone?
i) Permanente.g.tuballigation
ii) Hormonalcontraceptione.g.pills,injection

iii) Barriermethodse.g.condoms
iv) Otherlongactingreversiblemethodse.g.implants
v) Naturalmethod
vi) Others,specify……
vii) N/A

13) IncaseyouwerenotgivenanyinformationonPPIUCDinsertion,why didn't you ask for the services?
   a) Ihadnoknowledgewhethersuchservicesexist
   b) Ididn'tlike theirservicesandattitude
   c) Ihaddoubtsoncompetenceandexperienceoftheserviceproviders
   d) Others,specify……..
   e) N/A

14) WhenwereyoucounseledforPPIUCDinsertion?
   a) Notcounseled
   b) Duringantenatalperiod
   c) Onadmissionwhileinlabour
   d) Afterdelivery
   e) Others,specify

15) WhatareyourperceptionsaboutPPIUCDasamethodoffamilyplanning?
   a) itisnoteffective
   b) Itisveryeffective
   c) Interfereswithsex
   d) Cancausemedical andgynecological problems
   e) Badsideeffects
   f) painful

Appendix2

INTERVIEWSCHEDULEONBARRIERS(FORMOTHERSWITHOUT AN INSERTION)

Determinants of Immediate Post Partum IntraUterine Contraceptive Device uptake among Mothers delivering at Meru Hospital

Serialno……
IPno……..

Answerallthequestionsbelow

1) Tellmebrieflywhatyouknowaboutfamilyplanninggenerally.
2) WhatdoyouknowaboutPPIUCDspecificallyandwheredidyougetthein-formation from?
3) WhywastheinsertionofPPIUCDnotdonetoyouafterthisdelivery?
4) WhatareyourperceptionsaboutPPIUCDservicesatMeruhospitaland what others tell you about PPIUCD?
5) Whatmethodoffamilyplanningdoyoupreferandwhy?
6) Whatmethodhaveyoubeenusingbefore?