

Determinants of the Usage of Modern Postpartum Family Planning Methods

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Abstract – The postpartum period is a kind of risky time period for postpartum women because of unintended pregnancies. Therefore, the use of modern family planning methods rather than using traditional methods during the postpartum period will help to reduce the risk of unintended pregnancy and improves the well-being of maternal and new born baby. The main objective of this study was to identify the determinants of the usage of modern postpartum family planning methods. Structured questionnaire and in-depth interviews were carried out to gather primary data from 143 married women whose aged between 15-49 through cluster sampling method. Four Grama niladhari divisions in Imbulpe district secretariat division in Rathnapura district, Sri Lanka was selected as a study area using convenience sampling method. Case studies were carried out for six participants in the same age category. Binary logistic regression method and Factor analysis method were used as the main analytical techniques. The Statistical results revealed that, the employment status and accessibility of the family planning methods were positively significant with the usage of modern postpartum family planning methods. Based on the case studies, it was found that the awareness about the family planning methods and the attitudes towards health providers were positively associated on usage of modern postpartum family planning methods.

Keywords: Postpartum, Family Planning, Married women, Accessibility, Awareness

Introduction

Numerous individuals characterized the family in different ways. Actually, it is a fundamental thought of one another's essential structure. For instance, some depend on family connections on kinship. Others characterized family as an accumulation of individuals who are living respectively.

As a family, they settle on numerous choices in their lifetime. Under this, family planning is one of the strategies chosen by couples. Consequently, it is compulsory to decide if the couple or every person, about the number of children they spend in their lifetime and the age extend between them. Along these lines, as a couple, they have equal rights to decide their future fertility.

Family planning makes it a supporter of deciding the expected number of kids in the family, and it additionally accommodates the necessities of kids, and furthermore enhances the wellbeing of mothers and adds to national, social and economic advancement (Admasu, 2010). As a matter of fact, Family planning is generally known as a critical intervention towards accomplishing Millennium Development Goals (MDGs) and it has demonstrated to reduce maternal and child mortality (Apanga & Adam, 2015).

Postpartum family planning is a vital situation in family planning. The postpartum period can be characterized as the initial 2 months after delivery. Actually, a mother's wellbeing has turned out to be one of the essential motivations in the improvement of a country. The postpartum period is particularly basic for mothers as most deaths of mothers occurred inside this period. This time is an ideal time to convey interventions that enhance the wellbeing and survival of mothers. An essential component that has been distinguished in women's health care is sexual practice and family planning amid the postpartum period (Demie, Demissew, Huluka, Workineh & Libanos, 2018). Therefore, modern contraceptive services help to decrease the prevalence of pregnancy after childbirth.

During the postpartum period, family Planning can prevent about 30% of maternal mortality and 10% of child mortality if couples space their pregnancies more 2 years apart. Unexpectedly, closely spaced pregnancies inside the first year of postpartum increase the risk of preterm birth, low birth weight and small-for-gestational-age

babies (Demie et al., 2018). Though it is recommended that at least two years remain until the next pregnancy after child birth, that recommendation may vary depending on the age of the mother.

It is recommended that the mother should initiate modern postpartum family planning system within six weeks of child birth. Further, breastfeeding also delays pregnancy. But it is not a reliable family planning method because natural methods do not work well.

Research Problem

The 1990 Millennium Goals (MDGs) targeted for eight major objectives to achieve targets set by each country by the year 2015. Among the eight areas identified, three were directly related to the health of the people. Of these, special focus was on access to maternal health and access to reproductive health (Perera, Mwanri, Seneviratne & Fernando, 2013). Thus, Family Services are globally available. In fact, the postpartum period is a very important period for mother and new-born babies. Of course, there is a risk of premature pregnancy in women during the postpartum period. Therefore, adoption of contraceptive methods not only reduce unprotected pregnancies, but it also improves maternal and child well-being. Furthermore, there are adverse pregnancy outcomes associated with short birth periods. Abortion, miscarriage, preterm births, low birth weight, neonatal and child mortalities, and maternal depletion syndrome. As per the Family Health Bureau of Ministry of Health Sri Lanka, they announce that a woman ought not get pregnant at least two years after delivery. Therefore, a comprehensive postpartum family planning services should be followed while encouraging them for 2 years or more depending on their reproductive intentions.

Family planning helps to reduce the risk of maternal deaths, population growth, and cost of meeting the Millennium Development Goals. Especially utilization of contraceptive methods during the postpartum period is important not only because it causes maternal mortality and baby infant death, in addition as their own well-being. In fact, during mother's breastfeeding, mother's pregnancy will be detrimental to both mother and new born baby. Because if that's the case, mother must return immediately from breastfeeding. It also affects children's health directly. Therefore, after the delivery, the modern postpartum family planning method can be considered as a matter of urgency.

Objectives

The main objective of this research is to identify the determinants of modern postpartum family planning.

Methodology

This investigation is done on the basic of identifying the determinants of modern postpartum family planning in Imbulpe divisional secretariat division, Rathnapura district in Sri Lanka. The population was married women who aged between 15-49 in Imbulpe divisional secretariat division in Balangoda area and the sample was 143 married women who lived in 4 Gramaniladhari divisional secretariats (Puwakgahawela, Budunwela, Nittamaluwa, and Halpe) among 50 Gramaniladhari divisional zones. These four Gramaniladhari divisions were selected using Cluster sampling method and all the married women whose aged between 15-49 registered under maternal and child clinic under these 4 Gramaniladhari divisions in 2017 and 2018 would be taken as the sample. Primary data collected through structured questionnaire. Binary logistic regression method, factor analysis method and chi square test was used as a main analytical tools.

Conceptual Framework

Dependant variable: Usage of modern postpartum family planning methods

- Yes
- No

Independent Variables

Socio Demographic Variables

- Gramaniladhari Division
- Age
- Educational level
- Religion
- Employment Status
- Occupation
- Number of children
- Duration of marriage
- Pregnancy intention

Economic variables

- Household income
- Household expenditure

Other

- Awareness
- Accessibility
- Attitudes towards health providers

Literature Review

The quality of maternity and childbearing and maternal health and mortality rates resulting from quality family planning services during the postpartum period can be voluntarily interrupted by unwanted pregnancies and unsafe abortions and inefficiency (Pasha, et al., 2015).

Jalang'o et al., (2017) conducted a Population Health Survey (2001) in four countries and descriptive Statistics and bivariate analysis were performed to examine the relationship between postpartum family planning and the selected predictors. chi square tests to evaluate the relationship between the dependent variable (uptake of postpartum family planning) and the key independent variables (contraceptive knowledge, use, access and fertility). And also, manual content analysis also was carried out for analyse the data. According to their findings, 86.3% women used a family planning method within one year of delivery. And furthermore, the findings showed that condoms were the most popular among postpartum women with primary level of education and below, whereas contraceptive implants and IUCDs were more common among women with secondary education and above. And also, this research has found that uptake of family planning at one year postpartum was high and was strongly associated with women's employment status, marital status, higher education level, younger age, being employed and getting contraceptives at the clinic.

Adegbola & Okunowo (2009) has stated that "family planning counselling and education play a vital role in increasing the use of contraceptives in the postpartum period." Obviously, the investigator of this study wanted to identify the intention to use postpartum contraceptives and factors were influenced to use. Eventually, the researcher has found that the prevalence of previous contraceptive use was 35.5%. 54% of the women have intended to utilize postpartum family planning methods and 3% of women were no decided. The usage of condoms and intrauterine contraceptive device (IUCD) were 38.3% and 11.5% respectively. Those were the most preferable contraceptive methods during the postpartum period and 0.4% of spermicide was the lower used.

Giacomo, Sbarlati, Bagnasco, & Sasso (2013) stated that puerperal women have to face many difficulties when they get into use contraceptives in the beginning as well as resuming. Actually, they had not clear idea about the right time to start and the choice of the correct method of contraception. According to the researcher there were different factors that were influenced to the choice of contraceptive methods. Such as the knowledge level,

individual preferences or their intention of having a baby. But the researcher emphasized that the contraceptive method was not interfere with breastfeeding. Eventually, the investigator of this study was able to discover that 45.5% of puerperal women had educated about contraceptive methods during their pregnancy and postpartum period. And also, 64.3% of women reported as they have used contraceptive method to avoid pregnancy. According to this study, the most important thing which discovered by the researcher was the women’s use of contraception was proportional to their educational level.

There are number of empirical and methodological studies conducted by different investigators related to postpartum family planning. But there were not much of the researches related to the modern postpartum family planning with reference to Sri Lankan. Through this study it attempts to identify the factors of postpartum family planning after the first child birth and most of the researchers had use common variables Such as age, marital status, educational level, employment status, intention of pregnancy etc. but through this study it concerned number of children in the family, household income (per month), household expenditure (per month) and attitudes of health provider rather than common variables.

Results and Discussion

Descriptive Analysis

Based on the data collected through the questionnaire it was revealed that among these 143 married women 13% did not use modern family planning method in their postpartum period. Further, the mean age of the respondents is 30.54 years (range 15-49). Among the women who had used modern contraception methods during postpartum period, most preferred contraceptive method was pills (31.2%).

Among 143 married women, 18 women were not used modern contraceptive methods during their postpartum period. Among them, 44% not used because of their choice. Further, 44% were not used due to the medical reasons and desire for the child bearing. Remaining 22% did not use because of their spousal refusal and fear regarding side effects.

When considering about the number of children, every woman who has more than 4 children used modern postpartum family planning methods and the women with less number of children do not like to use modern family planning methods.

Table 01: Reliability Test (Cronbach’s Alpha)

Variable	Cronbach’s Alpha	Number of Items
Awareness	0.786	6
Accessibility	0.760	5
Attitudes towards Health Provider	0.731	4

Source: Survey Data – 2019

Factor Analysis

There are 3 variables named Awareness, Accessibility and Attitudes towards health providers and these 3 variables have measured by drawing a line with 0 to 100 and respondents marked their agreement or disagreement on that line. According to the results of correlation analysis those 3 variables have the multicollinearity effect. Therefore, Factor Analysis was carried out and 3 factors have been created called Awareness, accessibility and attitudes towards health providers.

Chi Square (χ^2) Analysis

Under the Chi Square test, five explanatory variables have been analysed to check whether there is an association between those explanatory variables and the dependent variable.

Decision Rule;

If p value < 0.05; there is enough evidence to reject H₀.

Table 02: Results of Chi Square Analysis

Variable	P value	Conclusion
Educational level	0.805	There is no relationship between usage of modern PPF and Educational level.
Religion	0.675	There is no relationship between usage of modern PPF and Religion.
Employment Status	0.002	There is a relationship between usage of modern PPF and Employment.
Pregnancy intention	0.021	There is a relationship between usage of modern PPF and Pregnancy intention.
Occupation	0.246	There is no relationship between usage of modern PPF and Occupation.

Source: Survey Data – 2019

According to the results of the Chi Square Analysis, two variables are associated with the usage of modern postpartum family planning methods and all the other variables are not associated.

Table 03: Results of the One-Way ANOVA Test

Variable	P value	Conclusion
Age	0.285	There is no relationship between usage of modern PPF and Age
Number of children	0.020	There is a relationship between usage of modern PPF and Number of children
Duration of marriage	0.998	There is no relationship between usage of modern PPF and Duration of marriage
Household income	0.865	There is no relationship between usage of modern PPF and Household income
Household expenditure	0.162	There is no relationship between usage of modern PPF and Household expenditure
Awareness	0.038	There is a relationship between usage of modern PPF and Awareness
Accessibility	0.046	There is a relationship between usage of modern PPF and Accessibility
Attitudes towards health providers	0.513	There is no relationship between usage of modern PPF and Attitudes of health providers

Source: Survey Data – 2019

According to the results of the One-Way ANOVA Test, only three variables are associated with the usage of modern postpartum family planning.

After identifying the influential factors, checked the multicollinearity among those selected variables using contingency coefficient and the correlation coefficient.

Binary Logistic Regression

Table 04: Structure of the Selected Variables for Binary Logistic Regression Model

Explanatory Variables		
Categorical Variables	Category	
Employment Status	Employed	Unemployed
Pregnancy Intention	Intended	Unintended
Continuous Variables		

Number of Children
Awareness
Accessibility

Source: Survey Data – 2019

Null Model

Table 05: Null Model

Para meter	β	S.E.	Wald	df	Sig.	Exp(B)
Constant	1.938	0.252	59.092	1	0.000	6.944

Source: Survey Data – 2019

According to this table the null model is significant at 5% level of significance but Null model is not an adequate model to explain the model.

Logit (π_i) = β_0

Model with One Variable

Table 06: Model with One Variable

Variable	Category	β	Sig.	Exp (β)	G ²	Reference category
Employment Status					97.415	Unemployed
	Employed	2.063	0.007	7.873		
	Constant	1.371	0.000	3.938		
Pregnancy Intention					103.531	Unintended
	Intended	1.153	0.025	3.167		
	Constant	1.204	0.002	3.333		
Accessibility		-1.119	0.050	0.327	103.531	
	Constant	2.078	0.000	7.991		

Source: Survey Data – 2019

According to the table number 06, the significant models and remaining models; number of children, awareness, awareness about side effects and attitudes towards health providers were not significant.

The Best Model with One Variable

Referring to the G2 value of each significant model with one variable, the model with employment could be identified as the best model for the second step of the Binary Logistic Regression and the model is as follows.

Logit (π_{ij}) = $\beta_0 + \beta_1 Employment Status$

Model with Two Variables

Table 07: Models with Two Variables

Best Model	Variable	β	Sig.	Exp (β)
Employment Status		2.135	0.006	8.456
	Accessibility	-1.211	0.036	0.298
	Constant	1.498	0.000	4.471

Source: Survey Data – 2019

Among the model with two variables, the model with employment status and accessibility was recognized as the best fitted model. The remaining model of pregnancy intention was not significant due to p value of the overall parameter is greater than 0.05 significance level.

$$\text{Logit} (\pi_{ij}) = \beta_0 + \beta_i \text{Employment Status} + \beta_j \text{Accessibility}$$

Logistic Regression Model with Two-way Interaction

There is only one two-way interaction term and according to the results, the model with two-way interaction term is not significant. therefore, the best logistic regression model related to this study was,

$$\text{Logit} (\pi_{ij}) = \beta_0 + \beta_i \text{Employment Status} + \beta_j \text{Accessibility}$$

According to the results of the best Binary Logistic Regression Model, employment status and the accessibility are the influential factors for usage of modern postpartum family planning methods.

Furthermore, the findings of the study revealed that, there is a positive relationship between the usage of modern postpartum family planning and the selected independent variables. The usage of modern postpartum family planning is increased by 7.873 times for women who are employed relative to the unemployed women. Considering the women who can easily access to the modern postpartum family planning methods is increased by 1 unit, the usage of modern postpartum family planning will be increased by 0.372 units.

And also, according to the results of the case studies it could find out that, Awareness factor was positively associated with the use of modern family planning methods after childbirth. In fact, through this series of interviews, the researcher further realized that women have a better understanding of modern family planning methods and practice.

Furthermore, statistically, attitudes towards family health providers has a positive effect on the use of modern family planning methods during the postpartum period. It was also identified that the family health providers and MOH were actively working to increase the awareness of respondents about the modern family planning methods.

And also, by the analysis of qualitative data, the accessibility factor was recognized as a significant variable. As well as the respondents could be able to access modern family planning system through their Midwife when they needed. At that point, the Midwives being more responsible and considerate to supply those modern family planning methods to them.

It was also revealed that these respondents were influenced by their homes and husbands not to use modern postpartum family planning. This was due to the risk of sickness as well as other side effects. However, the responses of those respondents also showed that the use of modern family planning methods in the postpartum period has been associated with side effects. Further, it also important to note that the menstrual cycle of these women has had a major impact.

Goodness of Fit of the Best Fitted Logistic Regression Model

Hypothesis

H₀: Model is adequate fit.

H₁: Model is not adequate fit.

There are several possible methods for assessing the overall model fit.

Table 08: Results of Goodness of Fit

Method	Chi square	P value
Hosmer Lemeshow test	8.474	0.389

Source: Survey Data – 2019

According to table number 08, p value of the test is greater than 0.05 significance level there is sufficient evidence to conclude that the model fits the data adequately.

Conclusions

Based on the selected sample, it was concluded that ¾ of women who are living in this four Gramaniladhari divisional areas have been used modern postpartum family planning methods.

According to the results of the binary logistic regression model only five factors were significant; number of children, employment, pregnancy intention, awareness and accessibility. Out of those five factors only two factors- employment and accessibility were included in the final model.

When considering employment status of the women, employed women were used modern postpartum family planning methods. In fact, the leisure of unemployed women is higher than employed women. Further, employed women have to face various obstacles in maintaining more children. Furthermore, accordance to the type of job category, they may face problems when they have to take leaves. Therefore, the employed women are more likely to use modern family planning methods than unemployed women.

In addition, the accessibility variable is also strongly associated with the use of postpartum family planning usage. As accessibility increases, women are more likely to use modern family planning methods during their postpartum period. Due to their knowledge about the importance of postpartum period, they are more concerned about their health and the infant’s well-being.

According to the sample, the mean age of the women who used modern postpartum contraceptive methods were 30.31 years, and the mean age of women who did not use a modern family planning method was 32.11 years.

It has also been concluded that pills and injections are the most preferred modern family planning method. In fact, women can get pills very easily from their Midwives and any pharmacy. Furthermore, the pills are one of the safest methods in postpartum family planning. Therefore, the women are easily tended to use pills.

According to the case study, women were more likely to experience side effects due to the lack of awareness and the awareness and attitudes towards the family health providers were positively associated with use of modern postpartum family planning methods.

Health providers able to play a vital role in motivating women to use modern methods of family planning during their postpartum period. According to this study, it implies that a positive association between attitudes toward the health providers and usage of modern postpartum family planning.

Recommendations

Employment status positively associated with the use of modern family planning in women’s postpartum period. In fact, it is important for a working woman to adopt a modern family planning system in her own time.

However, it is generally recommended that the age gap of children should be kept for at least two years. But because of their busy schedule, women continuous to use family planning methods. However, if a mother uses a family planning in several years after the first child birth, it can be effect to the mental situation of the child. Not only that a child loses his mother's affection and care but the lack of sibling also affects the child's mental statues. Furthermore, due to the busy life of women, it is not possible to attend to the family planning clinics conducted by the MOH. Therefore, their ability to get the full knowledge about family planning is limited.

There is only one clinic to cover all four of these Gramaniladhari Divisions. Women have to travel considerable distance to reach MOH and maternal & child clinic. There are not pharmacies in nearest places. Therefore, there should be established four maternal and child clinic facilities and family planning clinics for each Gramaniladhari division.

According to the study, most of the women educated about postpartum family planning methods from their family health providers. But some women are exposed to various side effects due to the lack of awareness of family planning methods. Therefore, family health services officer, Midwife as well as MOH should conduct family planning workshops and programmes to increase the awareness.

Furthermore, about 25% respondents in the selected sample, did not use any modern family planning methods after the delivery. A significant proportion of them were told that their husbands' influence did not lead to family planning. Therefore, women and their husbands be educated on the importance of using a modern family planning system after the delivery.

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