INTERNATIONAL JOURNAL OF MEDICAL AND APPLIED SCIENCES
eISSN:2320-3137
Earthjournals Publisher
www.earthjournals.in

RESEARCH ARTICLE

DETERMINANTS OF EFFECTIVE CONTRACEPTIVE PRACTICE AMONG MANIPURI WOMEN

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Publication history: Received on 19/06/2017, Published online 07/07/2017

ABSTRACT:

Background: Effective contraceptive practice among the eligible couples becomes a paramount mission towards the health management and population control of the society. The situation is not exception in North-East states of India, particularly in Manipur state where the situation still remains a nagging problem and continuous to perplex the society.
Aims & objective: The article identified some of the important determinants of contraceptive practice among Manipuri women, India and initiates to gauge the magnitude of their causal effects on it.
Materials & methods: The present study is based on a primary data of 820 eligible couples and its size was estimated on the prior information i.e., percentage of effectively practice of contraceptive (63.76%) with an allowable error of 3.5 at 95% degree of precision and an attrition rate of 8.5%. The effectiveness of contraceptive practices ascribed by some of the important predictors is analyzed through Multiple Logistic Regression Model.
Results: Out of the seven predictors considered the four viz., type of family, occupation of women, no. of children, and contraceptive attitude of women are found indispensible ones to assess effectiveness of contraceptive practice in Manipur. Though the remaining predictors place of residence, education of women, contraceptive knowledge of women have still some remarkable contributions but have less weightage than that of the four identified predictors. Finally, the model fit the data well (P<.001) and the four identified predictors can explain 27.5% of the total variation of effective contraceptive practice (R2=.275).
Conclusion: Out of the seven predictors considered, four are identified as the invaluable ones and that have a positive impact on the effectiveness of contraceptive practice. They are type of family, occupation of women, no. of children, and attitude towards contraceptive respectively.

Key words: Contraceptive practice; Knowledge & Attitude towards contraceptive; Social factors

INTRODUCTION

India had the unique distinction of being the first national government in the world to adopt National Family Planning Programme[1,2,3] as an integral part of its socio-economic development plans in 1952.[4,5,6] With the changing approach in the programme, from time to time, its name has been changed to Family Welfare Programme

and lastly to Reproductive and Child Health (RCH) Programme. Since the inception of the programme, the government has always adopted "Cafeteria approach" offering a wide basket of choices of contraceptive devices other than permanent methods to the people but still the result is not satisfactory. [4,5] This might firstly be because of the fact that the knowledge and attitude on contraceptive used are quite differing within and between communities and also among the couples concerned. Eventually, the practice of contraceptive devices differ at the individual, family and community levels with their roots in the socio-economic, religious and cultural milieu of the society. Thirdly, the couple used these devices only after achieving their desire number of children which is very much contradict to the National Population Policy that targets couples should be effectively protected. Thus the diverse manifestations of contraceptive practices provide a very interesting demographic study from the standpoints of peoples' belief, perception and attitude along with their social and cultural milieus towards the regulation of health and population dynamics.

The situation is not exception in Manipur rather complex as it has pluralistic society of multi religious, cultural and ethnicity with diverse attitudes and outlooks. Thus the state has beheld demographic imbalance amongst the diverse communities as being their contrast fertility pattern. Sooner or later, it is triggered mainly through diversified contraceptive practices amongst themself. It therefore necessitates to assertion the impact of their social category, knowledge and attitude on the practice of contraceptive devices. Nonetheless there is a lack of proper scientific study on this very innovative human behavioral condition in this tiny part of the country and henceforth the present study is initiated to gauge the magnitude of impact of social factors, knowledge and attitude on the practice of contraceptive devices among the eligible couples of Manipur, India.

MATERIALS & METHODS:

A cross sectional community based study under the titled of "Demographic assessment of contraceptive impact on population dynamics in Manipur" was conducted in Manipur state, India during January 2016 to July 2016. It consists of a primary sample of 820 eligible couples who representing the entire Manipur state and the information were elicited through a pre-tested semi-structural interview schedule. The estimated sample size was based on the prior information i.e., percentage of effectively practice of contraceptive (63.76%) with an allowable error of 3.5 at 95% degree of precision and an attrition rate of 8.5%.

The present study is based only on a piece of information collected i.e., effectiveness of contraceptive practices ascribed by some of the important predictors through Multiple Logistic Regression Model. The seven predictors, considered are the place of residence, type of family, education of women, occupation of women, no. of children, knowledge and attitude of women towards contraceptive whilst contraceptive practice as response variable.

Model: A general form of multiple logistic regression model is given by

$$\log \Omega = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots\ldots\ldots + \beta_k X_k,$$

where $\log \Omega = \log \frac{P}{1-P}$ is termed as logit P or logit of P and $\frac{P}{1-P} = \Omega$ as Odds. As P varies between 0 and 1, logit P varies between $-\infty$ and $+\infty$. As in multiple

regression, the estimated coefficient of the logistic regression model i.e., β_i can be interpreted as the effect of i^{th} predictor on the log Odds which is not familiar quantity as well as not clearly understandable and expressible about its effect. Thus, a new quantity that is Odds Ratio (OR) = exp(β) is introduced that represents the multiplicative effect of a one unit change in X on the Odds. Similarly, one can measures the multiplicative effect of a one-unit change takes place in a particular predictor, keeping the other predictors constant, on the Odds (chance of occurrence to its non-occurrence) of the response variable.

Variable specification:

(a) Response variable: CP (Contraceptive practice; 1 if effectively practice, 0 otherwise). And (b) Predictor variables (X_i): PR (place of residence; 1 if urban, 0 otherwise); TF (type of family; 1 if nuclear, 0 otherwise); EDW (education of women; 1 if literate, 0 otherwise); OCW (occupation of women; 1 if govt. employee, 0 otherwise); CHLD (no. of children); KCP (knowledge on contraceptive; 1 if sound knowledge, 0 otherwise); and ATCP (attitude towards contraceptive; 1 if positive attitude, 0 otherwise).

RESULTS:

Logistic Regression

The finding of the logistic regression analysis with Backwards stepwise (conditional) method is listed in table-1. Each step develops a logistic regression model. In the step 1, there are seven predictors and 1 response variable while in step 2, one most less important predictor i.e., EDW is excluded. In the same fashion each explanatory variable (less important) is excluded from the model of one step to the next step. Finally in the step 4, only 4 predictors viz., type of family, occupation of women, no. of children and attitude towards contraceptive are detected. These variables are therefore treated as the most important predictors to be considered to assess the effectiveness of contraceptive practice.

While interpreting causal effect of one predictor on the response variable (CP), hereafter, unless and otherwise stated indicates the other remaining predictors are taken into constant. The findings in the step 1 suggest that the urban couples have 57% more chance of using effective contraceptives than that of their rural counterpart (EXP(β)/OR=1.573). Further OR=2.309 (TF) with CI of 1.042 to 5.114 indicates that the chance of adopting effective contraceptive practice is between 1 to 5 times as high for couples of nuclear family than for couples of joint family. When education of women advances from illiterate to literate, she rises 19% more chance of adopting effective contraceptive practice (OR=1.191). The government women employee has 2.4 times higher chance of using effective contraceptive practice than that of other categories of occupation (OR = 2.365). The OR (CHLD) = 1.340 indicates that one more child born in the family, keeping other variables constant, there is a likelihood of having 34% more chance of using effective contraceptives by the couples. Having sound knowledge and positive attitude of women towards contraceptive practice attributes positive impact on its effective performance as evident by the corresponding ORs i.e., OR (KCP) = 1.013 and OR (ATCP) = 1.052.

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Table-1: Variables in the Equation

		β	Sig.	EXP(β)	95% C.I. for EXP(β)	
					Lower	Upper
Step 1	PR	.453	.267	1.573	.707	3.500
	TF	.837	.039	2.309	1.042	5.114
	EDW	.175	.818	1.191	.270	5.262
	OCW	.861	.059	2.365	.967	5.787
	CHLD	.293	.053	1.340	.996	1.803
	KCP	.013	.184	1.013	.994	1.033
	ATCP	.051	.000	1.052	1.035	1.070
	Constant	-2.796	.020	.061		
Step 2	PR	.466	.249	1.594	.722	3.517
	TF	.838	.039	2.311	1.043	5.119
	OCW	.847	.061	2.333	.961	5.663
	CHLD	.287	.054	1.332	.995	1.784
	KCP	.013	.161	1.013	.995	1.033
	ATCP	.051	.000	1.052	1.035	1.070
	Constant	-2.656	.010	.070		
Step 3	TF	.857	.034	2.356	1.065	5.211
	OCW	.754	.090	2.126	.889	5.083
	CHLD	.282	.063	1.326	.985	1.786
	KCP	.012	.189	1.012	.994	1.031
	ATCP	.052	.000	1.054	1.037	1.071
	Constant	-2.312	.019	.099		
Step 4	TF	.829	.039	2.290	1.043	5.029
	OCW	.770	.082	2.161	.907	5.147
	CHLD	.255	.084	1.290	.967	1.723
	ATCP	.056	.000	1.057	1.041	1.074
	Constant	-1.322	.034	.266		

As mentioned earlier one less important explanatory variable is excluded from each model, starting from step-2 to step-4. They are EDW, PR and KCP respectively. The values of Odds Ratios for the variables of interest considered in the models (step 2 to step 4) are almost alike to their respective values of Odds Ratios in the model-1 (step-1), and therefore further interpretations on the values of Odds Ratios for model-2 & 3 except the last (model-4) are not necessary.

In the last model (step 4) only 4 predictors viz., type of family (TF), occupation of women (OCW), no. of children (CHLD), and attitude towards contraceptive (ATCP) are taken into consideration. It implies that among the 7 predictors, under study, the 4 variables are treated as most significant ones to assess the contraceptive practice. Through the multiple logistic regression models fitted, one may come to conclude that the couple of nuclear family has around 2.3 times more likely to use effective contraceptive than that

of the couple of joint family. Employed women have 2.2 times higher chance of using effective contraceptive than unemployed women. Higher the number of children, more the chance of adopting effective contraceptive as one more child born again, there is 29% more chance of new adoption of effective contraceptive. Those women who have positive attitude towards contraceptive have 5.7% more chance of adopting its practice effectively than that of their counterpart, women of having negative attitude.

The model diagnostics shows that the model fit the data well (χ^2 (Omnibus test) =67.358, P< 0.001) and the four predictors can explain 27.5% of the total variation of effective contraceptive practice (R^2 (Nagelkerke) =.275).

DISCUSSION:

Urban couples have more using effective contraceptive practice than their rural counterpart [6] as they are exposed to healthier environment like better education, occupation, standard of living, etc. that leads to contraceptive practice more effectively. Couples of nuclear family involved more adopting effective contraceptive practice than couples of joint family. Perhaps, one of the main reasons is that the burden of rearing and bearing of children in joint family is much lesser as other members of the family might take share that leads attitude of couple having more children, while such thing is not happen in nuclear family. The finding reaffirmed the fact that literate women adopted contraceptive practice more than illiterate women [7] as the simple reason that education is the confounding factor of other associative factors of contraceptive like better knowledge and attitude, occupation, living of standard, etc. Since occupation and education have a strong and direct correlation, occupation of women, especially in government job, has a greater role towards the implementation of effective contraceptive practice. [7]

There is a positive association of number of children (fertility) and contraceptive practice as the couples having higher number of children adopted contraceptive practice more [8] as desire-ness of child decreases as number of children advances. The women having sound knowledge and positive attitude towards contraceptive practice attributes positive impact on its effective performance. [9,10,11,12]

Nonetheless, all the seven predictors considered have still some remarkable contributions on the performance of effective contraceptive practice but the four predictors viz., type of family, occupation of women, no. of children, and attitude towards contraceptive respectively are identified by the multiple logistic regression model as invaluable ones. They contribute around 28% of the total variation of effective contraceptive practice.

CONCLUSION:

The present interpretative analysis through the model suggests that the seven determinates, considered, have a positive impact on the effective contraceptive practice among the eligible couples of Manipur. However out of them the three social factors – type of family, occupation of women and no. of children; and one behavioral factor – attitude towards contraceptive are further contemplated as the most ascribing significant causal effects towards the regulation of such a very sensitive human activities. Since the model fit the data well, the results arrived might be quite reliable and acceptable ones.

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Paper cited as: **Narendra Singh R.K, Jibol Singh W, Mem Chanu Ch. DETERMINANTS OF EFFECTIVE CONTRACEPTIVE PRACTICE AMONG MANIPURI WOMEN. International Journal of Medical and Applied Sciences. 2017;6(2): 1-6.**