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RESEARCH ARTICLE

Permanent Family Planning Methods and their Determinacy among Eligible Couples of Madurai District, Tamil Nadu, India

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Abstract

This study assessed the practice on permanent family planning methods and their determinacy among eligible couples of Madurai District. A comparative descriptive design was adopted for the present study. Conceptual frame work for the study was based on Pender's Health Promotion Model. Non-probability convenience sampling technique was used to collect 400 female eligible couples and 100 male eligible couples as per the inclusion criteria. The content validity of the tool and learning module was established by obtaining suggestions from experts. The tool reliability was statistically significant. Data were collected by using structured interview schedule on general, specific determinacy and practice domains. The pilot study was found to be feasible. Main study data were obtained from the study subjects who had undergone permanent family planning in Government Hospitals and Family planning centre in Madurai District. Learning module pamphlet or CD on permanent family planning method was distributed to the participants and to the Health Care Provider of the centre for further motivation of the eligible couples to adopt permanent family planning method. The data were analyzed using descriptive, inferential statistical methods and interpreted based on the objectives and hypothesis of the study.

Keywords: family planning, determinacy, eligible couples, Madurai district, learning module.

Introduction

The most sparking current global discussion on population issues includes environmental, health and justice (Maguire, 1996). Compulsory population control is needed to preserve the earth and to tackle the dangers of population explosion. Madurai district is one of the important districts in Tamil Nadu state. The district has 13 blocks and 7 Taluks. The taluks include Madurai North, Thirumangalam, Usilampatti, Peraiyur, Madurai South, Melur and Vadipatti. As per 2001 census, the population of Madurai district was about 26 lakhs and it constituted 4% of the state population. Malthus during the year of 1766-1834 stated that population would double every 10 years if left unchecked. According to the United Nations, world population reached 7 Billion (Finer and Henshaw, 2006). Male method accounts only for 0.1% of current permanent contraceptive use. Vasectomy is safer and easier to perform in health centre than tubectomy. As males are the main decision makers in Indian households, activities need to focus on imparting knowledge on reproductive health for both men and women and about the correct solution for barrier factors towards family planning and advantages of small family (Dawn, 1993). Hence, this study was aimed to assess the general and specific determinacy, such as physical, psychological, socio-cultural, socio-economic and spiritual factors, knowledge and barrier factors which had influenced the eligible couple to adopt permanent family planning method.

This study also aimed to focus the practice on permanent family planning method related to actual practice satisfaction on physical, psychological, socio-cultural, socio-economic and spiritual domains among eligible couples, there by identifying the general determinacy, specific determinacy and practice related to actual practice satisfaction level on permanent family planning method. Keeping the above facts in view, this study was aimed with the following objectives:

1. To assess the determinacy and practice on permanent family planning method among urban and rural eligible couples.
2. To compare the determinacy on permanent family planning method among urban and rural eligible couples.
3. To compare the practice on permanent family planning method among urban and rural eligible couples.
4. To find the correlation between the knowledge determinacy and practice on permanent family planning method among urban and rural eligible couples.
5. To find the average relationship between determinacy on permanent family planning method and selected demographic variables among urban and rural eligible couples.
6. To find the average relationship between practice on permanent family planning method and selected demographic variables among urban and rural eligible couples.

Materials and methods

Study population and Research Design: The target population of the study were male and female eligible couples within the age group of 20 to 45 years from rural and urban areas distributed in Madurai District. The accessible population of the study was male and female eligible couples who had undergone permanent family planning method. A descriptive approach and non-experimental comparative descriptive design were adopted for the study.

Sampling technique and size: Convenience sampling entails using the most conveniently available people as study participants. The sample size selected for the study was based on the analysis which includes 500 subjects. The female eligible couples were 200 from urban and 200 from rural. The male eligible couples, 50 were from urban and 50 were from rural areas

Data collection: Permission was obtained from the Institutional Ethical Committee and the Joint Director of health and family welfare, Madurai District. Among females 100 of them who had tubectomy within 7 d of delivery, 50 of them who had tubectomy within 3 months during interval period and 50 of them who had tubectomy after medical termination of pregnancy within 5 months of last delivery from urban and 200 samples were selected in the same way from rural area also. The investigator explained the study purpose to the subjects. Each month, 10 female eligible couples undergone TAT, 10 MTP and 20 PS and 5 to 10 male eligible couples were interviewed using structured interview schedule questionnaire.

Description of the tool: The tool used for the study had three parts. Part 1 consists of three sections. Section A, B and C included the baseline demographic, clinical data and post tubectomy/vasectomy data. Part II consisted of three sections. Section A consists of structured interview schedule using five points rating scale to find out the general determinacy factors which includes, physical factors, psychological factors, socio-cultural factors, socio-economic and spiritual factors. Section B consisted of 15 multiple choice questions to assess the specific knowledge determinacy. Section C consisted of check list for assessing the specific barrier determinacy which includes physical, psychological, socio cultural, socio economic and spiritual specific determinacy. Part III included self-expressed verbal responses of the samples to assess the practice on permanent family planning method among eligible couples. It consists of structured interview schedule using five point rating scale.

Statistical analysis: Statistical analysis used in this study were frequency, percentage, mean percentage, paired 't' test, unpaired 't' test, chi-square and regression. Hypothesis adapted in the study were tested at 0.05 level of significance.

H_1: There is a significant difference between determinacy on permanent family planning method among urban and rural eligible couples.

H_2: There is a significant difference between practice on permanent family planning method among urban and rural eligible couples.

H_3: There is a significant correlation between the knowledge determinacy and practice on permanent family planning method among urban and rural eligible couples.

H_4: There is a significant relationship between determinacy on permanent family planning method and selected demographic variables among urban and rural eligible couples.

H_5: There is a significant relationship between practice on permanent family planning method and selected demographic variables among urban and rural eligible couples.

Results and discussion

Spiritual determinance recorded high mean percentage in urban (89%) and rural (87%) males respectively (Fig. 1). In case of females also spiritual determinance recorded highest mean percentage in urban (80%) and rural (75%) areas respectively (Fig. 2). Difference between the general determinance on permanent family planning method among urban and rural male eligible couples showed that the overall 't' value (6.553 P=0.000) was highly significant at P<0.001 level. The 't' value for socio-cultural determinance was significant at p<0.001 level, socio-economic determinance was significant at p<0.01 level and spiritual determinance was significant at p<0.05 level. Among urban and rural female eligible couples, the overall 't' value (3.285 p=0.001) was significant at p<0.01 level. The 't' value for physical, socio-economic and spiritual determinance were highly significant at p<0.001 level and socio-cultural determinance was significant at p<0.05 level. The overall 't' value (16.499 p=0.000) was for general determinance among male and female eligible couples in urban and the overall 't' value (15.361 p=0.000) was for male and female eligible couples in rural area, which were highly significant at p<0.001 level (Table 1).

Fig. 1. Mean percentage wise distribution of general determinance on permanent family planning method among urban and rural male eligible couples.

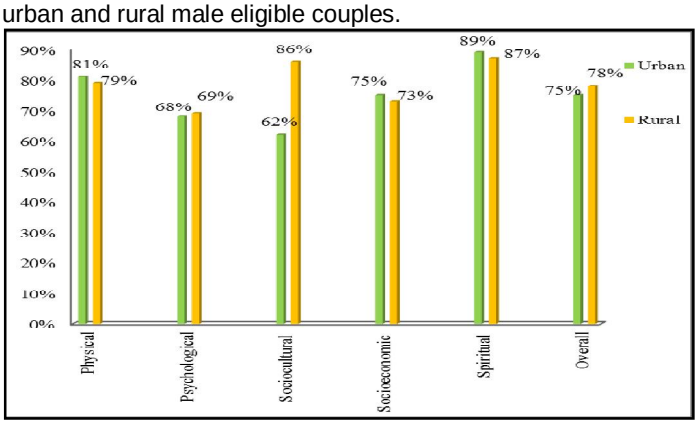


Table 1. Difference between the general determinance on permanent family planning method among male and female eligible couples in urban and rural (n=500).

General determinance	Urban and Rural Male		Urban and Rural Female	
	"t " value	P-value	"t" value	P-value
Physical	1.378	0.171	11.065	0.000***
Psychological	1.981	0.05	0.079	0.937
Socio cultural	11.995	0.000***	2.022	0.044*
Socioeconomic	2.893	0.005**	5.818	0.000***
Spiritual	2.166	0.033*	7.744	0.000***
Overall	6.553	0.000***	3.285	0.001**
General determinance	Male and Female Urban		Male and Female Rural	
	"t " value	P-value	"t" value	P-value
Overall	16.499	0.000***	15.361	0.000***

*p<0.05, ** p<0.01, *** p<0.001.

Fig. 2. Mean percentage wise distribution of general determinance on permanent family planning method among urban and rural female eligible couples.

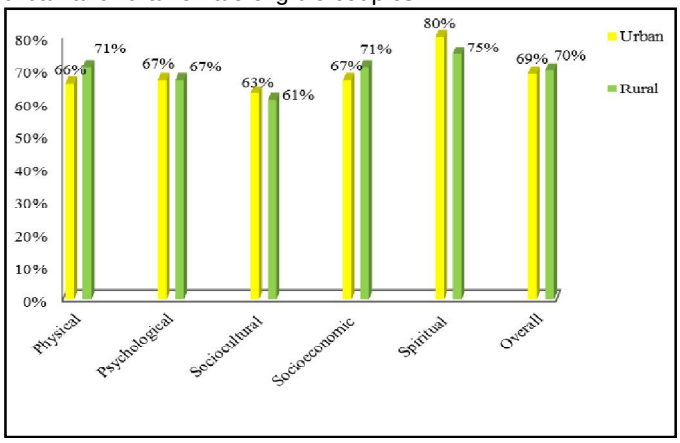
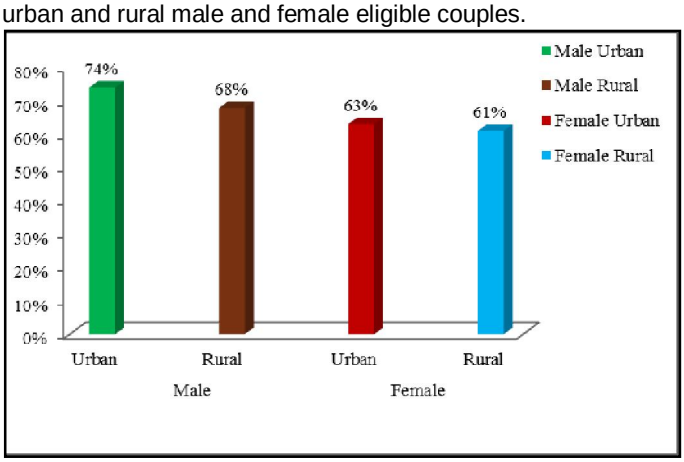


Fig. 3. Mean percentage wise distribution of specific knowledge determinance on permanent family planning method among urban and rural male and female eligible couples.



Multiple regression between general determinance and selected demographic variables among males in urban and rural area showed R^2=75% and R^2=77% variance in the criterion variables respectively. Having one or more female or male children were the most significant determinance to undergo permanent family planning method among male eligible couples. Among female eligible couples in urban and rural area showed (R^2=74%) and (R^2=66%) variance in the criterion variables respectively. Choice of interval sterilization, religion, nuclear family was the significant general determinacy among females to adopt permanent family planning method in urban and rural areas.

Specific knowledge determinance among males, the mean percentage (74%) in urban and (68%) in rural were higher compared to the female mean percentage (63%) in urban and (61%) in rural areas (Fig. 3). Difference between the specific knowledge determinance on permanent family planning method among urban and rural male and urban and rural female eligible couples, the unpaired 't' test calculated values revealed that the overall 't' value (2.457 p= 0.016) and (2.293 p = 0.022) were for knowledge determinance which were significant at p<0.05 level respectively.

The overall 't' value (6.605 p=0.000) was for specific knowledge determinance among male and female eligible couples in urban area and the overall 't' value (5.782 p=0.000) was for male and female eligible couples in rural area which were highly significant at p<0.001 level (Table 2). Multiple regression between specific knowledge determinance and selected demographic variables among females in urban and rural area showed R^2=95.5% and R^2=95% variance in the criterion variables respectively. Having sterilization after medical termination of pregnancy and during interval period were the most significant knowledge determinance on permanent family planning method among female eligible couples. Among males in urban and rural area showed R^2=85% and R^2=77% variance in the criterion variables respectively. Having a number of children and type of family were the most significant knowledge determinance on permanent family planning method among male eligible couples. Specific barrier determinance related to five factors among males, the highest mean percentage 100% was for socio-cultural and 100% was for spiritual barrier factors in urban and rural areas respectively (Fig. 4). Among females, the highest mean percentage (99%) in urban and (94%) in rural areas were for spiritual barrier factor (Fig. 5).

Table 2. Difference between the specific determinance on permanent family planning method among male and female eligible couples in urban and rural (n=500).

Specific knowledge and barrier determinance	Urban and Rural Male		Urban and Rural Female	
	"t " value	P-value	"t" value	P-value
Physical	2.457	0.016*	2.293	0.022*
Psychological	1.003	0.312	3.43	0.000***
Socio cultural	1.303	0.195	3.398	0.000***
Socioeconomic	-	-	1.496	0.134
Spiritual	3.86	0.000***	5.062	0.000***
Overall	-	-	6.933	0.000***
Specific determinance	Male and Female Urban		Male and Female Rural	
	"t " value	P-value	"t" value	P-value
Overall	16.499	0.000***	15.361	0.000***
Barrier overall	23.506	0.000***	19.059	0.000***

*p<0.05, *** p<0.001.

Fig. 4. Mean percentage wise distribution of specific barrier determinance on permanent family planning method among urban and rural male eligible couples (High score has a positive motivation and less level misconception towards tubectomy).

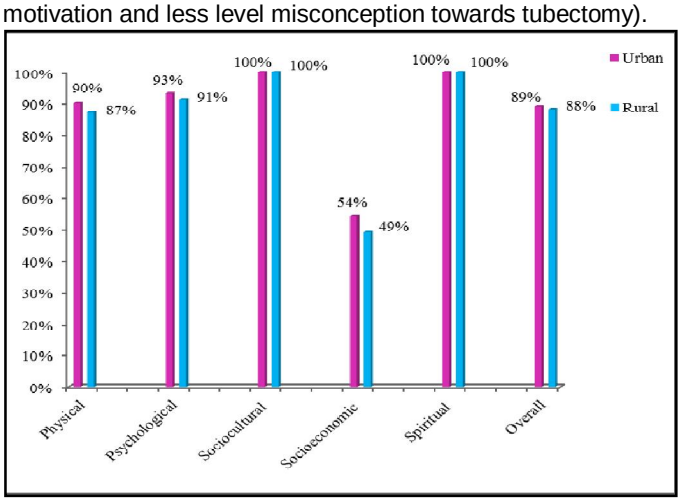
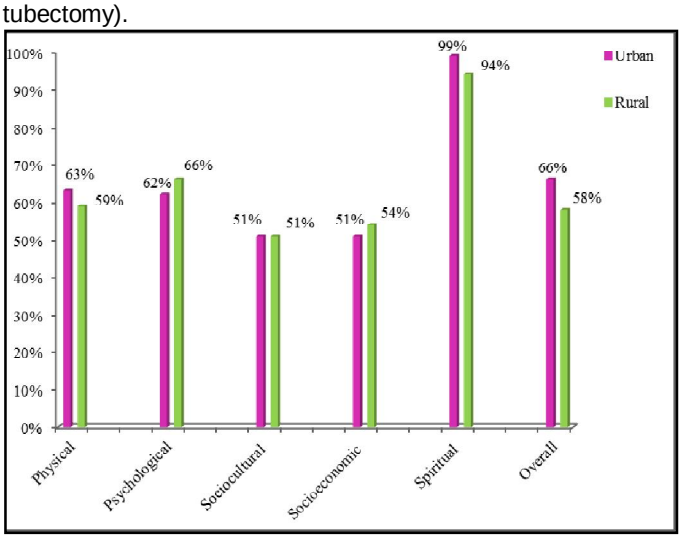


Fig. 5. Mean percentage wise distribution of specific barrier determinance on permanent family planning method among urban and rural female eligible couples (High score has a positive motivation and less level misconception towards tubectomy).



The overall mean percentage regarding specific barrier determinance among males in urban (89%) and rural (88%) areas were higher compared to the mean percentage among females in urban (66%) and rural (58%) areas respectively. Difference between the specific barrier determinance on permanent family planning method among urban and rural male eligible couples, the 't' value (3.860 p=0.000) was for socio-economic barrier determinance which was highly significant at P<0.001 level. Among urban and rural female eligible couples the 't' value for physical, psychological, socio-economic and spiritual barrier determinance were highly significant at p<0.001 level. The overall 't' value (23.506 p=0.000) was for specific barrier determinance among male and female eligible couples in urban area and the overall 't' value (19.059 p=0.000) was for male and female eligible couples in rural area, which were highly significant at p<0.001 level.

Multiple regression between barrier determinance and selected demographic variables among male eligible couples in urban and rural area showed (R^2=80%) and (R^2=87%) variance in criterion variables respectively. Most of the samples were from nuclear family, all the samples were educated, and those who had adopted permanent family planning method were having two or more children. These variables had influenced in reducing the barrier determinance regarding tubectomy among male eligible couples. Even then considering the spouse's health and care of the children men had adopted vasectomy. Among female eligible couples in urban and rural showed (R^2=94%) and (R^2=93.9%) variance in the criterion variables respectively. Most of the source of information was through the care providers, newspapers and relatives. The choice of post partum sterilization, Interval sterilization, education and the age at marriage between 25-30 years, which had played a major role in adopting tubectomy and who would be able to motivate other eligible couples to adopt permanent family planning method. Among females, the barrier determinance towards vasectomy was high; hence they avoid their spouse to undergo vasectomy.

Table 3. Difference between the practice domain on permanent family planning method among male and female eligible couples in urban and rural (n=500).

Practice domain	Urban and Rural Male		Urban and Rural Female	
	"t " value	P-value	"t" value	P-value
Physical	1.559	0.122	0.173	0.862
Psychological	4.082	0.000***	0.476	0.633
Socio cultural	0.625	0.533	2.158	0.0315*
Socioeconomic	6.375	0.000***	7.283	0.000***
Spiritual	3.455	0.000***	1.514	0.131
Overall	5.301	0.000***	1.645	0.101
Practice domain	Male and Female Urban		Male and Female Rural	
	"t " value	P-value	"t" value	P-value
Overall	6.734	0.000***	2.528	0.012*

*p<0.05, ***p<0.001.

Fig. 6. Mean percentage wise distribution of practice on permanent family planning method among urban and rural male eligible couples.

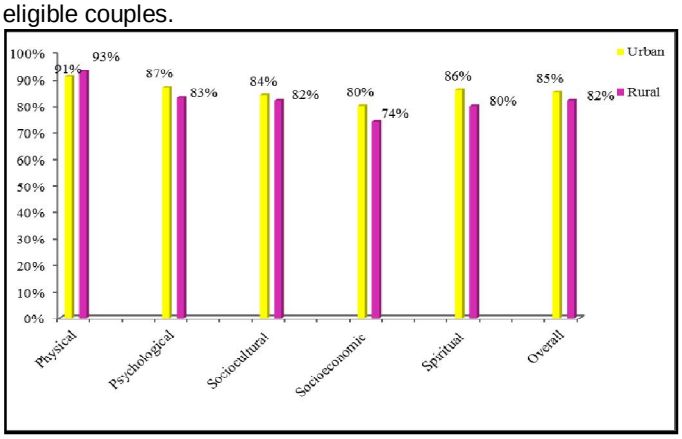
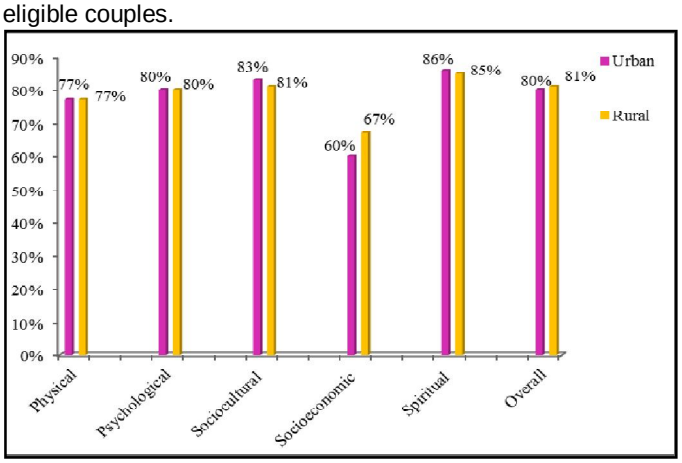


Fig. 7. Mean percentage wise distribution of practice on permanent family planning method among urban and rural male eligible couples.



Practice domains on permanent family planning method among male eligible couples, the highest mean percentage recorded were 93% and 91% for physical domain in rural and urban respectively. Among females, the highest mean percentage 86% and 85% were for spiritual domain in urban and rural areas. Regarding practice, the overall mean percentage recorded was 85% and 82% for males in urban and rural respectively were higher compared to the mean percentage 80% and 81% in urban and rural areas respectively among females.

Unpaired 't' test was calculated to analyse the difference between practice domains on permanent family planning method among urban and rural male eligible couples and the overall 't' value (5.301 p=0.000) was highly significant at p<0.001 level. The 't' value for psychological domain, socio-economic domain and spiritual domains were highly significant at p<0.001 level (Table 3). Among urban and rural female eligible couples, the overall 't' value was (1.645 p= 0.101). The 't' value for socio-cultural domain was significant at p<0.05 level and 't' value for socio-economic domain was highly significant at p<0.001 level. The overall 't' value (6.734 p=0.000) was for practice domain among male and female eligible couples in urban, which was significant at p<0.001 level. The overall 't' value (2.528 p=0.012) was for male and female eligible couples in rural which was significant at p<0.05 level. Multiple regression between practice and selected demographic variables among male eligible couples in urban and rural showed (R^2=92.7%) and (R^2=78.3%) variance in the criterion variables respectively. Most of the samples were from nuclear family received information from care providers and counselling was given to them, which had reduced their fear and they had high level of practice satisfaction that would be able to motivate other eligible couples to adopt vasectomy. Among female eligible couples in urban and rural showed (R^2=90.3%) and (R^2=85.3%) variance in the criterion variables respectively. The females who had received information through care providers and relatives, who were between the age group of 20-40 years, having one or more male children and education had high level of practice satisfaction on permanent family planning method, which would be able to motivate other eligible couples to adopt permanent family planning method.

Correlation coefficient between the knowledge determinance and practice on permanent family planning method among urban female eligible couples is shown in Table 4. It could be interpreted that when knowledge increases practice also increases. Research hypothesis H_3 is accepted. Karl pearson correlation coefficient was calculated to analyze the relationship between knowledge determinance and practice on permanent

family planning method among urban and rural eligible couples and there was a positive relationship between knowledge determinance and practice on permanent family planning method among female eligible couples in both urban and rural which was highly significant at p<0.001 level.

Conclusion

It is concluded that for males and females the general determinance had influenced them to undergo permanent family planning in both urban and rural area. The male and female eligible couples had moderate adequate knowledge in both urban and rural areas. Females had more misconception on vasectomy related to physical, psychological, socio-economic and spiritual barrier determinance compared to males misconception on socio-economic barrier determinance only regarding tubectomy. Overall the practice domains were highly satisfactory among males after vasectomy when compared to the female eligible couples after tubectomy. Inculcating knowledge and creating awareness among male and female eligible couples regarding general and specific determinance on permanent family planning methods will further facilitate more eligible couples to adopt permanent family planning method. Based on the conclusive points from the study, the following recommendations can be adapted further:

1. Similar study may be replicated covering larger samples.
2. A comparative study may be conducted between religious groups among eligible couples.
3. A qualitative study can be conducted to find out the motivating and barrier factors among eligible couples regarding family planning methods.
4. A comparative study may be conducted in private sectors towards target free approach among urban and rural eligible couples.

Table 4. Correlation coefficient between knowledge determinance and practice on permanent family planning method among male and female eligible couples in urban and rural areas (n=500).

Group	Area	"r"-value	P-value
Male	urban	-0.093	0.518
	Rural	0.236	0.098
Female	urban	0.593	0.000***
	Rural	0.439	0.000***

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