METHODOLOGY

Study setting:

The present study was conducted in the population covered by three Primary Health Centers (PHCs) namely Kinaye, Handignur and Vantamuri, which are the field practice areas of J. N. Medical College, Belgaum. Totally 18 Sub Centres (SC) of these three PHCs covered 1,14,042 population at the time of survey. Distance of these PHCs from the city ranged between 12 Kms. to 20 Kms. Most of the women were house wives or involved in farming, very few were either in private or government job. Predominant occupation of men being agriculture, in some of the areas men also worked in the nearby industries, some were involved in carpentry, masonry and others worked on daily wages, very few were in private or government job. Most of the people knew Kannada as well as Marathi language. Approximately 20,000 eligible couples were residing in this area at the time of survey. The couple protection rate in these area varied between 50% to 65% in different areas: tubectomy being popular method followed by oral contraceptives, condoms and CuT, vasectomy was least popular method.

Study design: Cross sectional

Study Period (Data collection): June 2008 – June 2010

Study participants: Married women (15-49 years)

Sample size: According to National family health survey (2005- 2006) unmet need for family planning is 14.6% in India. Therefore taking 15% as the prevalence of unmet need for family planning sample size was calculated as follows:
\[ 4pq \quad n=\text{sample size} \]
\[ p=\text{prevalence of unmet need} \]
\[ d^2 \quad \text{i.e. 15\%} \]
\[ q=100-p, \text{i.e. 85 (Women without unmet need)} \]
\[ d=\text{error (10\% of p) i.e. 1.5} \]

\[ 4 \times 15 \times 85 \]
\[ n=\frac{-------------}{(1.5)2} \]
\[ n=2266 \text{ married women (MW)} \]

**Sampling procedure**

The required number of married women (2266) aged between 15 -49 years, were selected using population proportion to size sampling method. According to this method, the required number of sample that was 2266 married women, were divided among three primary health centres (PHC) namely Kinaye, Handiganur and Vantamuri according to the population covered by these 3 PHCs. The population of Kinaye was 56,457, Handignur 24,796 and Vantamuri 32789. Accordingly 1122 eligible women were chosen from Kinaye PHC, 492 from Handiganur PHC and 652 from Vantamuri PHC. After getting the total number of married women to be chosen from each PHC, by using systematic random sampling technique every 9\textsuperscript{th} married woman was included in the study. 1\textsuperscript{st} number was picked randomly afterwards every 9\textsuperscript{th} married woman was included in the study.

Sample size from Kinaye PHC = Population of Kinaye PHC (56457) / Population of all 3 PHCs (114032) X 2266 = 1122.
Sample size from Handignur PHC = Population of Handignur PHC (24797) / Population of all 3 PHCs (114032) X 2266 = 492

Sample size from Vantamuri PHC = Population of Vantamuri PHC (32789) / Population of all 3 PHCs (114032) X 2266 = 652

Hence married women chosen were representative sample of all the married women residing in these three PHCs.
Tools for data collection: A questionnaire was prepared to collect information from married women regarding socio demographic and other information.

Pilot study: Pilot study was conducted on 50 married women, in the month of May 2008, to validate the questionnaire. After conducting a pilot study, necessary corrections were made in the questionnaire.

Training of Health workers: Health worker females of three Primary Health Centres were trained regarding collection of data from the study population. They were given hands on training regarding selection of married women in their sub centres and subsequently collecting data from the selected married women. The forms filled by them were checked during the next visit in the subsequent month and required clarification was given. Once they became well versed with the data collection, they were asked to select every 9th MW aged between 15 – 49 years after selecting 1st number randomly and collect the data. Selected women were administered the questionnaire to collect required data, through personal interview by using pre designed and pre tested questionnaire after obtaining the informed consent. Informed consent was prepared in the local language, participants were made to read it or it was read to them in case they were illiterate, after their consent, information was collected from them. Data was collected regarding socio-demographic characters, use of contraception presently and in the past, source of information regarding family planning methods, knowledge of contraception, desired number of children, reasons for not using contraception etc. The data collected was cross checked by the researcher by randomly selecting 10% of the proforma filled by them by making two visits per week.
About 25% of data was collected by the researcher, by making 2 visits per week.

Data was compiled and analyzed by using proportions, percentages to find out the magnitude of unmet need for family planning. Chi square test was used to find the association between factors affecting the use of family planning methods and also to find the association between socio demographic and other factors and unmet need for family planning. Multivariate analysis was done using logistic regression to find the factors that were responsible for unmet need for family planning.

**Inclusion criterion:**
Married women aged between 15 to 49 years, residing in these three PHCs at least for the last one year.

**Exclusion criterion:**
Married women who had attained menopause or undergone hysterectomy
Married women who did not give consent

**Inclusion criterion for considering married women with unmet need for family planning**

a. Married women who were neither pregnant nor amenorrhoeic who either did not want any more children or wanted to postpone their pregnancy for at least two years but were not using contraceptives.

b. Married women who were pregnant, whose present pregnancy was mistimed or unwanted.

c. Married women who were amenorrhoeic (postnatal who had given birth to a child in past 6 months) whose previous birth was mistimed or unwanted.

d. Married women who were using traditional/natural methods of contraception.
Criterion for considering married women without unmet need for family planning:

a. Married women (15–49 years) who were using modern contraceptive methods.

b. Married women who were pregnant whose present pregnancy was intended / wanted.

c. Married women who were amenorrheic (postnatal) whose recent birth was intended / wanted

d. Married women who were not using contraceptives, who wished to have children soon (within 2 years).

e. Married women with primary and secondary infertility.

f. Married women in whom pregnancy occurred due to contraceptive failure

Ethical consideration

Ethical clearance: The Ethical clearance was obtained from KLE University Ethical Committee on 29th February 2008
Methodology

Operational definitions of variables

Age: Completed year was considered

Education: Classified as

- **Illiterate**: Person who did know to read and write
- **Primary**: Person who had studied up to 7th standard
- **Secondary**: Person who had studied from 8th standard to 10th standard
- **PUC**: Person who had studied two years of pre university college education
- **Degree**: Person who had completed graduation
- **Post graduate**: Person who had completed post graduate degree.

Occupation:

- **House wife**: women whose main occupation is caring for her family and running the household, who does not have regular paid work out side home
- **Farmer**: Person involved in agricultural work
- **Labourer**: Person who earns on daily wage basis
- **Government job**: Person employed in government set up
- **Private job**: Person employed in private set up
- **Defence service**: Person employed in Army, Air force or Navy
- **Business**: Person who is self employed

Economic status: Modified B.G. Prasad’s Classification
SOCIO-ECONOMIC STATUS: Per-capita income was classified using the Modified Prasad’s classification\(^3\).

<table>
<thead>
<tr>
<th>Social class</th>
<th>Prasad’s classification 1961 (per capita income in Rs. per month)</th>
<th>Modified Prasad’s classification in the study period 2008-09 (per capita income in Rs. per month)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>100 and above</td>
<td>2500 and above</td>
</tr>
<tr>
<td>II</td>
<td>50 – 99</td>
<td>1250 – 2499</td>
</tr>
<tr>
<td>III</td>
<td>30 – 49</td>
<td>750 – 1249</td>
</tr>
<tr>
<td>IV</td>
<td>15 – 29</td>
<td>375 – 749</td>
</tr>
<tr>
<td>V</td>
<td>Below 15</td>
<td>&lt; 375</td>
</tr>
</tbody>
</table>

Modification was done with the aid of multiplication factor, which was obtained as below:

\[
\text{Correction factor} = \frac{\text{Value of consumer price index \[Average for the study period\]}}{100} \times 4.93
\]

\[
\text{Correction factor -2008} = \frac{548 \times 4.93}{100} = 27.04
\]

\[
\text{Correction factor 2009 -2009} = \frac{727 \times 4.93}{100} = 35.8
\]

\[
\text{Correction factor 2010} = \frac{841 \times 4.93}{100} = 41.46
\]
As our study period was from 1st June 2008 till 31st May 2010, the mean consumer price index for that period was considered and correction factor was calculated accordingly.

**Consumer price index** - For the year 2008 was 548.41 hence correction factor was 27.04
- For the year 2009 was 727 hence correction factor was 35.84
- For the year 2010 was 841 hence correction factor was 41.46

**Type of family:**

**Nuclear:** Married couple with their dependent children

**Joint:** It consists of number of married couples and their children who live in the same household.

**Age at Menarche:** Completed age at the time of attainment of Menarche

**Age at Marriage:** Completed age of woman at the time of Marriage

**Age at first pregnancy:** Completed age of woman at the time of 1st pregnancy

**Abortion:** Termination of the pregnancy by the removal or expulsion from the uterus of a foetus or embryo prior to viability (28 weeks of gestation or foetal weight <1000grams).

**Infant death:** Death of the child before attaining one year

**Physically challenged:** Person having physical deformity, which comes in the way of performing the job that is normal for that age and sex

**Mentally challenged:** Person having mental deformity, which comes in the way of performing the job that is normal for that age and sex.
Married women: Women aged between 15 – 49 years who are currently formally married and living in consensus with husband.

Unmet need: Refers to contraceptive need of fecund women currently married living in union and not using any contraceptive methods who either are not pregnant or amenorrhoeic and want child later that is after two years or who want to limit child bearing, or married women who are pregnant whose present pregnancy was as a result of mistimed or unwanted pregnancy also amenorrhoeic (post natal) women whose recent child birth was as a result of mistimed or unwanted pregnancy.

Unmet need for spacing: 1. Fecund married women who were not using contraceptives and wanted to have child after two years or more. 2. Pregnant women whose pregnancy was mistimed. 3. Post natal amenorrhoeic women whose recent birth was mistimed.

Unmet need for Limiting: 1. Fecund married women who were not using contraceptives and did not want to have children any more. 2. Pregnant women whose pregnancy was unwanted. 3. Post natal amenorrhoeic women whose recent birth was unwanted.

Family Planning methods: Modern contraceptive methods used either for spacing or limiting the child birth include all hormonal methods, IUDs, Male and Female Condom, Modern vaginal methods and male and female sterilization.

Fecund: Women who have physiological capacity to reproduce.

Current users of contraceptive: Married women who were using modern contraceptives at the time of survey.
Past users of contraceptive: Married women who had used modern contraceptives some times in the past, but had discontinued during the time of survey

Natural/Traditional family planning methods: Methods considered were abstinence, safe period (Calendar method), withdrawal method.

Never users of contraceptives: Married women who had never used contraceptives till the day of the survey

Unwanted Pregnancy: The pregnancy which has occurred after the women already had desired number of children and who did not want to have any more children.

Mistimed pregnancy: The pregnancy which has occurred without the intention of the woman or the couple at specific time, but wanted to be pregnant and have children sometime later in the future.

Intended pregnancy: The pregnancy that was wanted and planned.

Amenorrhoeic (Post partum): Married woman who had given birth within past 6 months, whose menstruation had not resumed since the birth of the last child.

Fertility: Total number of children borne by the woman

Infecund women:

Primary sterility: Married Woman who is in union for more than five years, not using any contraceptives, failed to Conceive.

Secondary sterility: Married Woman who has given birth to a child 5 years back, in union, not using contraceptives, failed to conceive

Knowledge of contraceptive method: A married woman aware of at least one modern method of contraceptives.
Assessment of Knowledge of Contraceptives (before prompting the methods) was done as below

<table>
<thead>
<tr>
<th>Contraceptive Method</th>
<th>Not naming the method</th>
<th>Naming the method</th>
<th>Know the place of availability</th>
<th>Know the side effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral pill</td>
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<tr>
<td>Condom</td>
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<td>CuT</td>
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<tr>
<td>Tubectomy</td>
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<tr>
<td>Vasectomy</td>
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