RESEARCH METHODOLOGY

To conduct any research work, the investigator needs to prepare a plan of action for her study that is called the research design. It is a logical and systematic plan of action with reference to the collection and analysis of data to achieve the objectives of the proposed research study. Research design depends on the nature of the problem to be studied and is very specific.

The formidable problem that follows the task of defining the research problem is the preparation of the design of the research project, popularly known as the “Research design”. A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure (Selltiz. et.al.,1962).

Research design is needed because it facilitates the smooth sailing of the various research operations, thereby making research as efficient as possible, yielding maximum information with minimal expenditure of efforts, time and money. Just as for the construction of a better, economical and attractive house, a blue print well thought out and prepared by an expert architect is needed. Similarly a research plan for data collection and analysis in advance for the research project is needed.
Research design, in fact, has a great bearing on the reliability of the results arrived at and as such constitutes the firm foundation of the entire edifice of the research work.

Research refers to a search for knowledge and is closely concerned with the human behaviour. Research includes the systematic procedure of collecting data, analysing the data and finding the truth. End result depends largely upon the scientific procedure.

Methodology is a logic of scientific investigation. Methodology means description, explanation and justification of methods and not the methods themselves. Methodology refers to philosophy on which research is based. This philosophy includes assumptions and values that serve as basis.

The procedure or method adopted to conduct any study is an important phase of research. If the procedure is followed systematically and scientifically there shall be no difficulty in achieving aims and objectives of the study.

The plan of research study is very important for conducting of any research work, without an intelligent planning the difficulties to be encountered during the process of the work cannot be anticipated. Planning contributes to the possibilities of better performance in all and methodology is the index of the whole work.
In planning the investigator has attempted to select the method most appropriate to the particular problem under considerations. It includes picture of the consideration of how the work is to be executed and evaluated, to find out if the aims and objectives have been achieved in the right earnest. The quality of research depends not only on the adequacy of the research design but also on the fruitfulness of the measurement procedure employed. The present chapter is the description of the actual procedure followed by the investigator with a view of the aims and objectives of the study. Keeping in view the aims and objectives of the study, the investigator has organised the procedure of the study under the following headings:

3.1. Locale of the Study

3.2. Research Design

3.3. Sampling Procedure

3.4. Variables of the Study

3.5. Tools to be used and

3.6. Statistical Techniques used for Analysis

3.1. Locale of Study:

The urban area of Aligarh district was the locale of the present study as it was the need of the research work.
3.2. Research Design:

The research design is the most important and the crucial one in research methodology. In a broad sense research design is the entire process of planning and carrying out the research.

“Research design is the plan, structure and strategy of investigation so as to obtain answer to research questions and to control variance”. The research design is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data.

According to Kothari (1997), “Research design is the conceptual structure within which research is conducted; it constitutes the blueprint for collection, measurement and analysis of data”.

Keeping in view the research design decision, one of the important part is sampling design that deals with the method of selecting items to be observed for the given study. It is said that sampling is known as the foundation of research design.

According to Gupta (1985), “Sampling is that part of a universe which we select for the purpose of investigation. The sample should exhibit the characters of the universe that it should be micro (small universe)”. 
The plan is the overall scheme or programme of research. For this study the Explorative type of research was used. Explorative design is planned to gain more knowledge and familiarity with a phenomenon or the subject concerned to achieve new insight into the problem.

Accordingly, after a through and meaningful formulation of the problem, specific objectives were set to provide the basis for the inquiry. In the light of these objectives, the scope of the study was delimited and techniques of investigation to be adopted, tools to be used and the pattern of statistical analysis to be followed were decided.

Further the scheme of present study was developed and given a definite shape in the form of outline of the study in the wider context and evaluate their relevance in the light of the set objectives. An effort was made to obtain a through review of the relevant literature relating to the previous research in the field. To provide the scientific basis of the study a proper hypothetical framework was also developed to provide a definite direction and specific scope to the whole investigation. The needed conceptual clarification about the terms and items used within the framework of the study was also considered necessary for which the help of both literal and operational definitions was taken.

The findings of the study have been discussed in the light of the available research material on the subject and were subsequently summarised
throwing light on all the major aspects covered by the study. The result have been pointedly presented under the title of findings and discussion and the possible suggestions on the basis of conclusion of the study are given in the end of the chapter.

3.3. Sampling Procedure :

Data may be collected by complete enumeration called census inquiry or by partial enumeration called sample inquiry. In the former case information is collected about each and every item comprising the whole while in the latter case information is collected about a smaller number of items which are representative of the whole so as to form an estimate of the characteristics of the whole. If such a sample is an adequate representative of the whole, is properly drawn and interpreted, then it is most likely to represent the conditions of the whole and can be fairly relied upon as if the observation has been based on complete enumeration. The primary object of sampling is to obtain maximum information about population with minimum effort, and also to set out the limits of accuracy on estimates based on sampling.

A sample from a population is the set of measurement/data that are actually selected in the course of an investigation/inquiry. The respondents selected should be representative which constitutes what is technically called a “Sample” and the selection process is called “Sampling technique”.

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The listing of all the sampling units in the universe is defined as sampling frame. When each unit in the population is numbered for identification it would be called a sampling frame. Such a frame helps in identifying any particular item in the population such as electoral list of households, the layout map of a town etc.

Sampling helps to collected vital information more quickly. Even small samples, when properly selected, help to make estimates of the characteristics of the total population in a shorter time. Any research process includes selection of elements or objects for study, collecting information from them, organizing the data and drawing conclusion from them. Much of time and cost is saved at each stage of research of sampling technique adopted is scientific as per the study. Good results always depend upon a representative and adequate sample. So great care was taken in selection of sample.

Multistage Stratified Random Sampling will be used for the selection of the sample. Urban Aligarh will be selected purposively in the first stage as it is convenient to the researcher.

Urban Aligarh consists of 70 wards, out of these wards, seven wards were selected randomly in the second stage. Each selected ward consist of 30 to 70 mohallas/colony and out of these wards, one mohalla/colony was selected randomly in the third stage. Each selected mohalla/colony consists of 80 to 110 houses, out of which 50% of the houses were selected randomly.
in the fourth stage. One couple aged 20-45 years was selected randomly in the fifth stage. If there is more than one couple aged 20-45 years found in the house, only one was selected randomly. Thus, about 300 couples aged 20-45 years belonging to low, middle and high SES in the urban area of Aligarh were the unit of information for the present study.

**Sampling Characteristics:**

* The selected samples were married women aged 20 - 45 years.
* The selected samples were residing in urban areas of Aligarh district.
* The couples belonged to low, middle and high socio economic groups.
* Couple means both wife and husband for the present study.

**3.4. Variables of the Study:**

A variable means some characteristics of each member of the unit that is to be studied such as age, sex etc. which can be expressed numerically. John Gatting says, “A variable can be regarded as some kind of yardstick that gives us a basis for the evaluation of the single unit of analysis.” He further adds: A variable is a set of values from a class fixation. A value is any thing that can be predicted of a unit. According to Allan. L. Edwards, “A variable can be defined as a thing that is observed and that is of such a nature that each single observation can be classified into only one of a
number of mutually exclusive classes”. Hence, it can be said that variables are the conditions or characteristics that the researcher manipulates, controls or evaluates. It is any characteristic which will be useful in deducing the truth of hypothesis.

**Independent Variable**: According to Kerlinger (1990), “An independent variable is the presumed cause of the dependent variable”. The independent variable is the antecedent and the dependent variable is the consequent. The predicated variable is called the dependent variable. The variable from which the predictions are made is independent variable. The variable over which the investigator has control are called independent variables.

Independent variables used in present study were age, religion, caste, family type, family members, education of wife and husbands, occupation of wife and husbands, family monthly income, addiction and food habits.

**Dependent Variable**: According to Kerlinger (1990), “Dependent variable is the presumed effect of an independent variable”. A dependent variable is that factor which appears, disappears or varies as the experiment introduces, removes or varies the independent variables.

Dependent variables used in present study were domestic violence, type, frequency and causes health among couples selected in this study.
Table 3.4.1 : Variables and their measurements.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Variable</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>Dependent</strong></td>
<td>Domestic violence, type, frequency, causes, complaints and action among couples. A schedule containing questions regarding type, frequency and causes, complaints and action of domestic violence according to wives and husbands developed by investigator.</td>
</tr>
<tr>
<td>2.</td>
<td><strong>Independent</strong></td>
<td>Socio-economic variables, addiction and food habits of couples i.e. age, sex, education, religion, caste, occupation, family monthly income and number of family members, addiction and food habits etc. A schedule containing general information, addiction and food habits of the couples developed by investigator.</td>
</tr>
</tbody>
</table>

3.5. Tools to be used:

The quality of a research tool or a best used for measuring a specific behavioural attribute largely determines the credibility of the results obtained in the study. To put it in Kerlinger’s (1998) words, “Tools and techniques selected should have usability and the results obtained should be objective, reliable and valid”.

Tools and techniques selected should have usability and the results obtained should be objective, reliable and valid. According to Mosa (1990),
“Tools are the systematic way for the social scientist to be used to get reliable fact related to research field”.

A schedule containing a series of questions dealing with some psychological, social, educational topic or sent or given to a group of individuals with the objective of obtaining data with regard to some problem.

In the present study, schedule was used to collect the data. “A schedule is the name usually applied to a set of questions which are asked and filled in by an interviewer in a face to face relationship.” (Agrawal, 1985).

**Preparation of the Schedule :**

In the present study the schedule was developed in consultation with advisor and other experts in the related field. The above stated particular technique was selected because it was felt that this method was more effective in getting required information on the problem chosen. Questions were framed in simple and easy language to enable the wives and husbands to understand them quickly. In the preparation of the question almost care was taken to ensure that the objectives of the study should be achieved. It has been designed in such a manner that relevant information can be derived through queries in a minimum time.
(A) **Description of Schedule :**

Schedule was divided into two main parts on the basis of objectives framed.

(1) **General Information**

(2) **Specific Information**

(1) **General Information** : This part of schedule contained the information regarding couples. The information included the name, address, religion, caste, family type, members in the family, education, occupation and family monthly income, addiction and food habits etc, (Appendix).

(2) **Specific Information** : Specific information consisted the information related to domestic violence i.e. type, frequency causes, complaints and action and was divided into three parts.

**Part A** consisted the questions related to domestic violence i.e. type, frequency and causes according to wife.

**Part B** consisted the questions related to domestic violence i.e. type, frequency and causes according to husband.

**Part C** consisted the questions related to complaints and action taken against domestic violence by the wife and husband.
(B) Development of the Schedule:

On the basis of areas determined various questions and statements were framed and categorized. In framing the items of the questionnaire, care was taken that questions, should be clear, easily communicable, easy in language and short. The questions were prepared in English language so that nobody felt any difficulty in responding to the quarries asked.

Reliability and validity of the questionnaire:

To seek opinions of experts regarding reliability and validity of the constructed questionnaire, first of all the objectives of the study were clearly stated to them. Then the exports were requested to give their opinion in relation to how far prepared questionnaire is efficient in covering the objectives of the study.

The experts gave their positive opinion in relation to the constructed questionnaire. Thus it was assumed that the present questionnaire had a logical and face validity. It is quite apparent that if a questionnaire is valid in relation to the objectives which were to be achieved, then the same will be reliable also.

Pilot Study:

Prior to administering the proforma on a larger sample, it was pretested on a sample of 20 couples. The subjects of pilot study were not
included in the actual study. The reliability and validity was calculated with the Spearman’s split half correlation method. the reliability was found to be 77.49% and the validity was 74.32%. Thus, the schedule was found to be suitable and valid for the present study.

3.6. Statistical Techniques used for Analysis:

The collected data were coded, tabulated and analyzed using various statistical techniques. The statistical tests were used to know the relationship between dependent and independent variables among the various group of study. The significance levels were used as 5 percent for rejecting the hypothesis. Specific purposes for which tests were used have been given in table 3.6.1.

Table 3.6.1 : Statistical tests used and their purpose.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Statistical tests</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Percentage</td>
<td>To study the distribution of both dependent and independent variables.</td>
</tr>
<tr>
<td>2.</td>
<td>Arithmetic Mean</td>
<td>To study the central value.</td>
</tr>
<tr>
<td>3.</td>
<td>Standard Deviation</td>
<td>To know the variability among the observations.</td>
</tr>
<tr>
<td>4.</td>
<td>Chi Square - test</td>
<td>To test the association of attributes.</td>
</tr>
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</table>
The test used are described below:

(1) **Percentage**:

Single comparisons were made on the basis of the percentage. For drawing percentages the frequency of a particular cell was multiplied by 100 and divide by total number of respondents in that particular category to which they belonged.

(2) **Arithmetic Mean**:

Arithmetic mean is the average used in the present study. “Arithmetic mean of a series is the figure obtained by dividing the total values of various items by their number” (Elhance, 2008).

\[
X = A + \frac{\sum fu}{\sum f} \times i
\]

where, \( X = \) Arithmetic mean

\( A = \) Assumed mean

\( \sum fu = \) Product of frequency and deviation from the assumed mean

\( i = \) Class interval

\( \sum f = \) Total frequency.
(3) **Standard Deviation** :

It is usually denoted by letter $\sigma$ (small sigma) of the Greek alphabet and is a measure of dispersion. Standard deviation is the square root of the arithmetic mean (average) of the squares of the deviation measured from the mean or assumed mean. *(Elhance, 2008)*

$$
\sigma = \sqrt{\frac{(\sum f u^2 - (\sum f u)^2/n)}{(n-1)}}
$$

where,  
$\sigma$ = Standard deviation.

$\sum f u^2$ = Sum of the product of frequency and square of deviation from assumed mean.

$\sum f u$ = Sum of the product of frequency & deviation from assumed mean

$n = $ Number of observations

$i = $ Class interval

(4) **Chi-square Test** *(Elhance, 2008)* :

The Chi-square is one of the simplest and most widely used non-parametric test in statistical work. The Greek letter was first used by Karl
Pearson in the year 1900. The quantity of describes the magnitude of the discrepancy between theory and observation. It is defined as.

\[ \chi^2 = \sum \frac{(O - E)^2}{E} \]

Where, \( O \) refers to the observed frequencies

\( E \) refers to expected frequencies.

Expected frequency (\( E \)) = \( \frac{\text{Sum of rows} \times \text{Sum of columns}}{\text{Total observations}} \)

Degree of freedom is calculate as \((r-1) \times (c-1)\)

where \( r \) stands for number of rows

and \( c \) stands for number of columns