CHAPTER - 3
RESEARCH METHODOLOGY

3.1 INTRODUCTION
Research methodology is a strategy to systematically solve the research problem. According to Black and Champion (1976), “The research methodology is the blueprint for researcher activity and specifies how the investigator intends to test hypothesis, study the people, or describing social settings”. It may be understood as a science of studying how research is done scientifically. In research methodology, we study the various steps that are generally followed by a researcher in studying the research problem along with the logic behind them (Clarke, 2001). According to Black and Champion (1976), the research methodology should include:

• The population to be studied,
• The type of sampling plan to be followed,
• The size of sample to be drawn,
• The type of instrumentation (i.e., questionnaires, interviews, participant observation, analysis of secondary sources, and so on),
• The statistics to be used (if any) (e.g., chi square, Pearson r, and the like),
• The type of tabular presentation (e.g., graphs, tables, charts, figures, and so on).

This chapter presents the research methodology used in the present study. The details given particularly explain the objectives of the study, operational definitions, the sample undertaken, methods employed in selecting the sample, the tools and techniques used and methods of data collection. The researcher has also given briefly the methods used in the analysis of the data.

3.2 OBJECTIVES OF THE STUDY
The objectives of the study were:

1. To study government policies and programmes with respect to reproductive health education for adolescents.
2. To examine the knowledge and perception of adolescent students of government and private schools regarding reproductive health issues.

3. To identify the various sources of information accessed by the students about reproductive health issues.

4. To examine the opinion of parents about need of imparting reproductive health education to the adolescents.

5. To examine the opinion of teachers about need of imparting reproductive health education to the adolescents.

6. To suggest social work interventions in order to impart appropriate knowledge and attitude among adolescents regarding reproductive health issues.

3.3 OPERATIONAL DEFINITIONS

For the purpose of research study the researcher adhered to following definitions:

**Adolescents:** The population between 10-19 years is known as adolescents.

**Reproductive health:** Reproductive health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes.

The above definition of reproductive health contained in the programme of the International Conference on Population and Development (ICPD), Cairo and utilized as a functional definition for the present study.

**Health Education:** Health education comprises consciously constructed opportunities for learning involving some form of communication designed to improve health literacy, including improving knowledge, and developing life skills which are conducive to individual and community health.

**Reproductive Health Education:** Reproductive health education, through schools is the education imparted to adolescents as part of their educational curriculum to promote safer sexual behaviours among adolescents. Reproductive health education is a key strategy for promoting safe sexual behaviour among adolescents. School-based instruction is a
primary mode of reproductive health education. Reproductive health education is the front line of efforts to prevent pregnancy, AIDS and other Sexually Transmitted Infections (STIs) among adolescents, including messages to encourage abstinence and promote the use of condoms and contraceptives by those who are sexually active.

According to classification of schools by Directorate of Education,

Government Schools: An educational institution run by Central or State Government, public sector undertaking or autonomous organisation wholly financed by Government will be classified as Government educational institution.

Private Schools: A private educational institution is one, which is run by an individual or a private organisation including religious bodies and private trust and philanthropic institution.

_Private recognized schools are of two types. For the purpose of the present study both private aided and private unaided schools were included under the domain of private schools._

- Private Aided School: A privately managed school which is in receipt of regular maintenance grant from the Government, local body or from any public authority is called private aided school. If an institution, which is on the grant-in-aid list of a public authority but does not get the maintenance grant in a particular year that institution will still be treated as an aided.

- Private Unaided School: A private unaided educational institution is one, which is managed by an individual or a private organisation and is not receiving maintenance grant either from Government, local body or any public authority etc. One time grant for a specific purpose like adding a science block, fencing of the institution, etc. will not make the unaided institution as aided. It will still remain unaided institution.

3.4 NATURE OF THE STUDY

In order to accomplish the objectives of the study, _approach to triangulation of both qualitative and quantitative research methods_ has been adopted. This helped in generating relevant data that answers the relevant research questions. Clarke (2001)
mentioned that a “Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomenon that can be expressed in terms of quantity. Qualitative research, on the other hand, is concerned with qualitative phenomenon, i.e., phenomena relating to or involving quality or kind”. In the present study the use of both qualitative and quantitative method was preferred to triangulate data in order to rule out the subjectivity and bias in the interpretation of data and to draw inferences which are reliable and verifiable. The subject matter of the study, reproductive health education for adolescents made triangulation a necessity rather than merely a preference.

The design of the study is descriptive. According to Monette descriptive research has as its goal description, or the attempt to discover facts or describe reality (Monette et al., 2002). Further Clarke, has defined descriptive research design as those studies which are concerned with describing the characteristics of a particular individual, or of a group (Clarke, 2001). The present research described various aspects of adolescents’ reproductive health. The study described the status of reproductive health education as it exists in schools, role of parents and teachers in imparting reproductive health education to the adolescents, in order to suggest suitable social work interventions.

3.5 UNIVERSITY OF THE STUDY

All elements (eligible respondents) in any field of inquiry constitute a ‘universe’. According to Kenneth (1982) “the sum total or the aggregate of all units/cases that conform to some designated set of specifications is called the universe.” In the present study the universe comprised of all the school going adolescents in senior classes (IX-XII class) in the National Capital Territory of Delhi. It also included all the parents and teachers of these adolescents.

**Unit of the study**

The unit of the study is the adolescent student. Parents and teachers of these students also included in the study.
3.6 SAMPLING DESIGN

Sample

A sample is the reflection of the whole population and bears all the characteristics of the population. There were two groups of respondents which the researcher drew for the study. First group of respondent was the adolescent students both male and female of government and private schools in Delhi in order to collect first-hand information on the level of knowledge and perception on reproductive health issues. Second group of respondent were parents and teachers of the students studying in government and private schools in Delhi to know their opinion on imparting reproductive health education to adolescents.

Inclusion Criteria

- Adolescent students: The students studying between class IX-XII in a co-educational government or private school in the National Capital Territory of Delhi and were willing to participate in the research.
• Parents: Only those parents formed a part of research whose children were studying between class IX-XII in a co-educational government or private school in the National Capital Territory of Delhi and willing to participate in research.

• Teachers: The teacher teaching any of the classes between class IX-XII of a co-educational government or private school in the National Capital Territory of Delhi and were willing to participate in the research.

3.7 SAMPLING METHOD AND PROCEDURE

The Probability sampling method was used to draw the required sample. It was done by using Multi Stage Stratified Random sampling technique. A Probability method of Sampling is where each element in a population (well-defined universe of elements) has a known and non-zero chance of selection (Arber, 2001).

In the first stage a list of all the schools providing secondary level education in Delhi was obtained from Directorate of Education. Based on this list schools were categorized as government schools and private schools. From each stratum, equal number of schools, i.e., four schools were selected using random number tables.

The second stage comprised of comprehensive source lists of all the students studying in different sections between IX-XII classes in the selected schools. This was resulted in four strata for the purpose of present study.

Finally in the third stage, a sample of 20 students was selected using systematic sampling from each stratum (IX, X, XI, and XII class). Thus the total number of students selected from one school was 80, thereby bringing the total sample size of students to 320. Care was taken to give equal representation to males and females. There was also a backup sample of 10 students from each school (in case of non-availability of selected students).

A sample of parents and teachers was selected by using non-probability method of purposive sampling. Non-Probability method of a sampling is where the chance of selection for each element in a population is unknown and for some elements is zero (Arber, 2001). A purposive sampling is based on presumption that with good judgement one can select the sample units that are satisfactory in relation to one’s requirements (Lal Das, 2000). Black and Champion (1976) defined that a purposive
sample is one that has been handpicked by the investigator to fully ensure that specific elements are included. 10 parents and 10 teachers from each (four) selected school were selected (total sample size is 40 parents and 40 teachers) in order to know their opinion on imparting reproductive health education in schools.

### 3.8 DATA COLLECTION

The researcher herself distributed the self-administered inventory and an envelope to the students and remained in the classroom during collection of data completion. A self-administered, English language (at the secondary level all students can read and write Basic English) inventory comprising both multiple-choice and descriptive questions was developed for the study. As the study covered sensitive issues, and to avoid confounding through discussion amongst participants, data were collected on the same day in each school. There were no refusals. At the beginning of each session, an information statement was read to students outlining the aim of the study and the reason respondents had been selected. Students were instructed to place their completing self-administered inventory into the envelope provided. The envelopes were collected by the researcher herself. Teachers and parents were interviewed with the help of interview guideline. Teachers were interviewed during their rest (free) periods and parents were interviewed on the day of Parent Teachers Meeting (PTM).

**Ethical Considerations**

Permission to carry out the research was obtained from the principals of the schools involved. (Principals have the authority to allow cross sectional studies to be conducted without parental consent in India.) This complies with the Helsinki Declaration for research conducted with humans. All participants provided written consent prior to being involved in this study and all results were de-identified prior to reporting.

### 3.9 TOOLS OF DATA COLLECTION

For the purpose of collecting data, the researcher used:

**Self-administered inventory:** Self-administered inventory (see Appendix I and II) were developed to collect data from adolescent students both male and female to assess their level of knowledge and perception on reproductive health issues. Structured
questions on various components of reproductive health issues were included in the schedule. According to Simmons (2001) “A self-administered inventory contains set questions in a pre-determined order that is adhered to in each interview.”

**Interview Guide:** A separate interview guide (see Appendix III and IV) was developed to know the opinion of parents and teachers on imparting reproductive health education to adolescents in schools. An interview guide is used for a focused interview and will list areas to be covered while leaving the exact wording and order of the questions to the interviewer (Simmons, 2001).

**Field Notes:** The researcher found the process of writing field notes productive, not just of description but of first reflections on connections between expressions and feelings of adolescent students and their teachers and parents with regards to reproductive health issues. Emerson said that the production of field notes is the observer’s raison d’ etre: if you do not record what happens, you might as well not be in the setting. In order to take full field notes it is sensible to gradually develop your power of observation (Emerson et al., 1995). In the present research both verbal and non-verbal expressions of respondents have been taken in the field diary and used in further chapters.

### 3.10 METHODS OF DATA COLLECTION

![Figure 3.2: Source, Methods and Tools of Data Collection](image)

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Primary sources of data collection included both quantitative methods and qualitative methods. In quantitative methods self-administered inventory was used as a tool for data collection. In qualitative methods interview guide was used as a tool for data collection.

Interview with adolescent students was conducted with the help of a self-administered inventory (see Appendix I and II) to ascertain relevant data relating to the level of knowledge and perception on reproductive health issues. Gardner (1975) has defined interview as “a two-person conversation, initiated by the interviewer for the specific purpose of obtaining research-relevant information and focused by him on the content specified by the research objectives of description and explanations.”

An interview of parents and teachers of adolescent students of government and private schools of Delhi were conducted with the help of an interview guide (see Appendix III and IV). “According to Kenneth (1982) in unstructured interview, what is asked from one respondent in the beginning may be asked from the other respondent in the end and from yet other respondent in the middle. Similarly the questions may not be worded in the same way. One or two particular facets may be concentrated in one interview but other facets in other interview.”

Data was also collected through secondary sources. Both internal and external sources were used.

Internal Sources included records available in schools to prepare list of students, training manuals for teachers on reproductive health education, fact-finding reports.

External sources included list of schools from Directorate of Education, Census data, training modules on reproductive health issues from NACO, SCERT, NCERT, and various NGOs, published reports by UN, WHO, government officials, web based material, newspaper, scientific paper by research scholars.
3.11 FIELD WORK: PROCESS

Field work period for the study was from January 2009, to October, 2009. To begin with data collection, the following procedure was followed.

- First of all a comprehensive list of the schools to be visited (area wise) was identified.

- Then the researcher met the Principals of the concerned schools and took necessary permissions but few Principals were apprehensive and reluctant to give permission for interviewing the target group. But when they were explained about the purpose of the study and that the study would not cause them any problems, then gradually they opened up and granted permission for the study. Also the school timings were noted down and list of students studying there obtained.

- The researcher also enquired with the Principals about the convenient timings when the data could be collected so as not to disturb the routine activities at school.

- At a time, a particular school was selected and after necessary permissions were obtained the interviews were conducted within the school premises itself.

- Parents were interviewed on the day of PTM (Parent Teachers meeting). Permission was also taken from the parents to interview them on the day of PTM (Parent Teachers meeting)

- Interview of teachers were conducted at the school premises itself during their rest/free periods.

3.12 REPRODUCTIVE HEALTH ISSUES COVERED IN THE STUDY

The following issues related to reproductive and sexual health of the adolescents were investigated in the present study:
1. Process of growing up, sexual development: puberty, menstruation, nocturnal emission, and masturbation.

2. Pregnancy (Reproduction)

3. Abortion (Medical Termination of Pregnancy)

4. Contraceptives for birth control

5. Importance of socio cultural norms of sexual behaviour and healthy attitude towards the opposite sex: abstinence till marriage, general social disapproval to pre-marital and extra-marital sexual relations

6. Sexual abuse/harassment: different forms of sexual abuse/harassment and different ways of handling abuse/harassment

7. Sexually transmitted infections (STIs): Basic facts about its causes and symptoms

8. HIV/AIDS: modes of transmission of HIV, ways to prevent HIV transmission, and myths about HIV transmission

9. Substance abuse: myths and misconception related to substance abuse

3.13 PRE-TESTING

The tools were thoroughly pre-tested before formal data collection process for fine-tuning of self-administered inventory as well as interview guide. Pre-testing really helped the researcher to make the study realistic and meaningful; it also helped the researcher to get acquainted to the situations prevailing in the schools in context of reproductive health education.

3.14 PROCESSING, ANALYSIS AND INTERPRETATION OF DATA

After the data had been collected, the researcher turned to the task of analysing them. “According to Kenneth (1982) the analysis is the ordering of data into constituent parts in order to obtain answers to research questions”.

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Both quantitative and qualitative analysis of data has been done. Clarke (2001) stated that using both qualitative and quantitative analysis have an important part to play; they are helpful in highlighting different dimensions of a problem.

In quantitative analysis, the data was tabulated and analyzed using the statistical analysis software package (SPSS 14.0 for Windows Evaluation Version). Frequencies were assessed for each question. The descriptive statistics included mean of the data pertaining to specific variables. The nature of distribution of variables taken in the study was assessed from the bi-variate and tri-variate tables obtained. Graphical Analysis, i.e., graphs, bar diagrams and pie-diagrams were prepared to provide a more appropriate interpretation of the processed data. Chi-square could not be applied as the number of frequencies in some of the cell was less than 5 in majority of the tables.

In qualitative analysis, transcripts of the interview were prepared and organized according to the analytical headings. Information was taken from the transcripts and the respondents accounts were organized by the themes and subcategories. These themes were developed from the literature, discussion with key informants and emerged from the analysis of transcripts. The data included in each heading reflected the range of views on particular issues.

3.15 CHAPTERISATION SCHEME

For the convenient and better understanding and also for the sequential arrangement of the data collected chapterisation is essential. Therefore the study has been presented through the following chapters:

1. An Introduction to Reproductive Health Education for Adolescents
2. Reproductive Health Education for Adolescents: A Review of Literature
3. Research Methodology
4. National Policies and Programmes on Reproductive Health Education for Adolescents: A Brief Analysis
3.16 LIMITATIONS OF THE STUDY

Some of the difficulties faced by the Researcher are in a way the limitations of this study.

- The researcher had wanted to conduct in depth interview with the students to examine the knowledge and perception, and to identify the various sources of information accessed by the adolescent students of government and private schools regarding reproductive health issues. But due to the school curriculum and syllabus of the students, the students being in the senior classes had no free time with in the school schedule, even their extra-curricular activities were minimized. Thus in the present research only quantitative data was collected with the total sample of 320 students. Qualitative aspects of the data could only be taken up with the parents and teachers of these students.

- Approaching government schools for data collection was not a problem as the researcher has taken the permission from the Directorate of Education. Some Private schools expressed inhibitions and cited reasons like governing body of the school did not permit, parents would create problem etc. But with constant efforts the researcher was able to convince the school authorities.

- Conducting interview of parents of student from government schools were quite time consuming, as very less parents used to attend PTM (Parent Teachers Meeting). So it took a lot of time. School authorities were also requested to organize more PTM (Parent Teachers Meeting) in short span of time.
• The Social work intervention model designed in this study has not been tested in schools. It would have been more scientific to administer the social work intervention and test its efficacy in different types of schools to establish its suitability as a model of social work intervention.

Nevertheless, the data was collected to form a purposeful study and the Researcher has left no stones unturned to get the most reliable and authentic information as far as possible.