CHAPTER-III

METHODOLOGY

3.1. INTRODUCTION

Methodology is a vital fraction of research. It is a systematic process where the value of research is dealt in methodology itself. Research methodology constitutes the core base and structure of the study through which data is collected and analyzed. Research methodology is based on research processes and the kind of tools and procedures to be used (Babbie, 2002). It indicates the general pattern of organizing the procedure for gathering reliable data for the research problem. The methodology is the philosophical framework within which the research is conducted or the foundation upon which the research is based (Brown, 2006). Research methodology is very important in research because it explains the entire process of the study. This chapter explicates the information concerning methods, approaches and design, the location where the purpose of study was carried out, and ethical considerations.

The most frequent, useful intentions and main aims of the research were investigation, description and rational explanation based on data (Richardson, 2005; Babbie, 2007). The Study was stipulated based on the objectives. The research aimed to assess adolescents’ awareness, attitude, opinions and views and utilization of and health-seeking behavior among adolescents towards reproductive health. The study also further compared awareness and attitude between boys and girls from rural and urban areas and educational sectors.

3.2. SCOPE

Adolescents are considered to be the most vulnerable group in human development. Particularly, the health of adolescents is a major factor which needs to be enhanced with a positive approach. According to the research studies, the health needs of 20% of adolescents in the age group of 15-19, have neither been investigated through research nor been addressed adequately. Particularly, they are often misunderstood or undervalued and their sexual and reproductive health needs often go
unmet. In the Indian context, the adolescent is an increasing population; their health-related issues are basically determined by Indian conditions such as culture, religious beliefs, and practices, family influence, education system etc. They are also affected by psychological and emotional factors and their attitude towards reproductive health.

Therefore the present study assesses adolescents, who are an empirical area of discussion, who have not been addressed effectively and it brings greater scope for health professionals like Social Workers, Counselors and psychologists at schools, hospitals and health care centers to provide intervention programmes to enable them to regain a positive attitude towards reproductive health and to prepare a Social Work Intervention plan for ‘Adolescent Education’ to enhance their health-related issues based on the research findings.

3.3. THEORETICAL FRAMEWORK

In order to assess adolescents, it was necessary to know the conceptual contributions of psychologists. The critical analysis of the following theories helped to gain substantial base information and to get the complete picture of the varied aspects of adolescence.

Erikson’s psycho-social theory talks about identity formation and its roots in infancy, and establishments by the end of adolescence. Inability to establish a sense of personal identity could lead to dangers of role diffusion and identity diffusion. The result of such experiences could lead to personality confusion, personality mal-adjustments and various psychological disturbances (Muus, 1975). Freud’s theory pointed out that adolescence was a universal phenomenon and included behavioral, social and emotional changes. Hall (1904) was the first psychologist to advance psychology of adolescence. As per his view adolescence period begins with puberty where an individual reaches the age of 12 or 13 years and ends when he or she enters into adult age of 22 or 25 years. He further described adolescence as distressful and problematic period of human development where there is simultaneous occurrence of sexual maturation, physical growth, emotional intensity, hypothetical-deductive reasoning and moral, social and political awareness. Jean Piaget was also one of the pioneers to describe intellectual development in the teens. As per his view, adolescents are able to conceptualize many variables; they gain the ability to think in an abstract manner by manipulating
ideas in their mind, without any dependence or concrete manipulation. A further he focused clearly on individual’s results interaction with environment, social constructionists believe that knowledge is the result of social interaction and language and thus it is a shared experience (Inhelder & Piaget, 1958).

To comprehend the adolescent phenomenon in a total perspective, one has to study her/his from all points of view. Each of these theories provides a piece of the foundation for justifying development and differing perspectives. These theories prove to be helpful to study adolescents particularly to assess reproductive health awareness and attitude as well as related issues among them.

3.4. STATEMENT OF THE PROBLEM

Adolescence is a stage where biological, psycho-social changes take place that put adolescents for high risk sexual and reproductive health (SRH) problems (WHO, 2005). It is a period where an individual transforms from sexual maturity to biological mature adult. It is due to the enormous changes taking place where one finds sexual reproduction and potential consequences. It is a phase of vulnerability due to several intrinsic and extrinsic factors which restrict from having health and safety. Adolescents are faced with a number of health issues and problems where they suffer from impacting behaviors and conditions. There are high-risk behaviors such as sexual behaviors, drug or substance abuse, HIV/AIDS, STD’s and STI’s. Besides these issues they too undergo psychological and emotional, stressful situations and disturbances which can lead them to depression, hopelessness, mental illness and suicide. Many policies and programmes introduced are not effective and not appropriate to adolescent concerns and needs (Sunitha, 2014). Despite of these conditions sexual and reproductive health of adolescents become complex and there are also independent socio-cultural factors which influence in accessing reproductive health services, education and employment (Grover, 2003). Reproductive health of adolescents is also determined by regional variations such as age, sex, marital status, income, residence, migration etc. Peer group, friends, media, and technology are largely influential sources of information and these sources are not appropriate to give correct and valid information. Due to socio-cultural practices which are connected to stigma and restrictions, most of the girls are not informed about menarche and menstrual bleeding, physical complications etc. Evan boys’ health has been neglected and considered as taboo.
In India, despite of adolescents being large population, still policies, and programmes have focused very little attention towards their needs. Indian policies and programmes must give high priority to adolescents health needs and it is very much reflected in Indian scenario where adolescents’ needs are rarely met or addressed by the policies through educational, health and family welfare programmes. Beside this, in India talking about sex is taboo. Due to this result, adolescents are neither guided nor provided accurate information about their growth and development. They get information from other means of uninformed sources which bring perpetuation of myths and consequences (Gupta, 2003). In this regard, adolescents are not supported with an accurate and systematic education which binds comprehensive development. Education system gives more importance to intellectual abilities to promote better prospect but it neglects the quality of life of young people. In connection to Indian culture, it is not acceptable for parents to discuss reproductive and sexual matters with children. Despite parents being considered as a major source of information for preparing children during the transition from adolescence to adult, they are largely not involved and a majority of them themselves lack information. Providing Sexual Reproductive Health education in an educational institution is a cost-effective way of reaching young people because a majority of adolescents are enrolled in school. But often young people receive very limited SRH education in educational institutions. There is inadequate knowledge about the understanding of reproductive health, lack of availability and affordability of resources for utilization health services in rural areas and there is a lack of capacity building and adolescent-friendly health care services required to facilitate young people to address their reproductive health needs in urban areas (Kotecha, 2009, 2012). An adolescent can get reproductive and sexual health information and care from hospitals, health clinics and in rural areas they are largely dependent on primary health care centres. However, public sectors and private sectors are inadequate to provide proper information on the availability of health services and they are poorly managed and are limited. Even health care providers had not receive any kind of training on sexuality and reproductive counselling as well as they are already overloaded with the burden of work. They are not sensitized towards adolescent health needs. The special schemes which introduced are attributed to lack of information and clearly define objectives. Thus those who would like seek information specially young people are inadequate to access reproductive health care services (Giaird, 1999)
Due to unprecedented increasing rates of sexual activity, early pregnancies and sexually transmitted infections (STI’s) including Human Deficiency Virus (HIV) among adolescent is a concern (Amanuel, 2014). A large numbers of adolescents are suffering from health complications and mental illness. It is estimated that 2.6 million people aged between 10-24 years die each year, which bring greater impact on young people especially it hinders their ability to and develop with their full potentialities (WHO, 2014). Adolescents are generally healthy group but still because of inadequate public health programmes, social behaviors and the problem they face without proper care and solutions emerge in the influence of their lifestyle, they get into risk behaviors and face enormous number of issues. Most of these problems are determined by socio-economic conditions and lifestyles which operates in complex environments that precipitate or trigger these conditions or behaviors (Adolescent health, 2013). Karnataka is third in third position in the country with 68.3% of its population in the 18 years age group. Also, the state’s adolescent population stood at 18.9% of its total population in the age group of 10-19 years (Times of India, 2013). Besides, this the quality of public health services in Karnataka is not satisfactory, resulting in poor utilization of the Primary Health Care System. Effective integration of health concerns with other determinants of health like sanitation, hygiene, nutrition, safe water and gender is still poor. There is poor decentralized management at the district level to effectively handle the increased allocations and promote policies that strengthen public health management and service delivery (UNICEF, 2008). This may directly affect the health of young people in Karnataka. If these needs are not addressed they will be prone to develop reproductive health-related problems which are generally neglected leading to further disease burden. Therefore a study is required to assess adolescents to address their knowledge and attitude towards reproductive health which is part of social development and promoting comprehensive health care among young people as well as it facilitates the future health and help them to live a better and effective adult life.

3.5. RATIONALE OF THE STUDY

Adolescence is a period of transition and there is a wider range of growth and development that takes place. Besides this, lack of understanding and information of their growth may hinder their health as well as it may affect their future prospects. This transition phase makes them vulnerable to a number of problems which include psycho-social problems, general and reproductive health problems and sexuality related problems (Hockenberry & Wilson, 2007). During adolescence period, they are
prone to develop reproductive health related problems which are generally neglected leading to further disease burden. If there is no proper guidance from the sources of information parents, teachers and peer group they may get into risk behaviors especially pregnancy, STI’s, HIV/AIDS etc.

Adolescents represent about 18% of the total population, which means 1.2 billion adolescents in the world where 88% of them live in developing countries (UNICEF, 2011). Yet they remain a largely neglected population, in which the needs of adolescent girls and particularly adolescent boys and especially reproductive health needs are often neglected. Since extreme changes take place during this age the health needs of adolescents are increasing, where sexual maturity is not adequate with proper information and guidance there will be chance of getting into risk behaviors where they can face serious physical, economic and psycho-social consequences. In addition to it, the need for programmes, need for information and services concerning reproductive and sexual health for adolescents have been successful and increasing but they are inadequate to change their behaviors. There is much demand in particularly for girls/females for reproductive health information, contraceptive, family planning etc whereas research studies have not given much importance to men’s reproductive health who also have an equal share in reproduction and matters related to family planning, marriage etc. There is a lack of effective intervention programmes and policy to address the needs of young people and the poor quality of professional approach hinders young people in accessing health services and health seeking behavior. In this regard, a study can be a necessary input to understand the relevant needs of adolescents in connection to reproductive health.

In India, adolescent population constitutes 243 million and they account for one fourth of the country’s population (UNICEF, 2011). Policymakers and planners have now realized that the adolescent population group has specific health and developmental needs and high fertility rates, high rates of teenage pregnancy, high risk of STI/HIV, and poor nutritional status are the main health problems among the adolescent population in India Gupta (2003). Sexual and reproductive health education is comprehensive which should be implemented to achieve healthy sexual and reproductive lives. Providing this type of education at the school level is cost-effective. A majority of the young people are enrolled in schools and this is more appropriate to shape their attitude and behavior. But still young people are far from access to knowledge of education on sexual and reproductive health and rights. There is no access to knowledge of preventive and curative service. In many countries like
India, reproductive and sexual health issues are still forbidden due to social custom. Thus at the school level, students are prevented from getting adequate and accurate information regarding natural process of puberty, sexuality and reproductive health (Smith, 2003). Majority of the institutions have not been given importance to reproductive health and concerns of adolescents. Particularly government educational institutions have not implemented such programmes especially rural areas as compared to urban areas. Research is required for assessing and providing educative programmes in such institutions to access these needs. It is a challenge for the future for policy makers and service providers to motivate young people more and more towards utilizing health services and to build positive health seeking behaviors. It is a period during which young people will have all the habits and high risk behavior, substance abuse and eating habits and behaviors connected to unprotected sex, unintended pregnancy, and mental illness may have long a impact. in order to fulfill potentialities of young people a nation must invest its resources for implementing the quality of educational and skill developmental programmes adequately. Beside this young people to grow in healthy require quality health services such as counselling, and safe supportive services which are still lacking in developing countries. Adolescent health services which are qualitative perspectives and adolescent friendly health services are still unexplored among the Indian adolescents. There are psychological and emotional issues like stress, depression, risk behaviors such drugs, alcohol abuse, behavioral addiction, sexual relationships, suicide etc are increasing. To deal with these issues required a proper confidential settings and adolescent friendly institutions which are not implemented yet or availability of these programmes are not implemented as per adolescents needs.

Adolescents are primary potential human resources for the development of a country. Obviously, there are opportunities for research involving adolescents especially in developing countries. The various studies related to sexual and reproductive health of adolescents require specific focus and perspective. In this regard the objective of the present study is to assess the reproductive health knowledge and attitude acquired by adolescent boys and girls of government, private and aided educational institutions in rural and urban areas. This study is aimed at finding out the sexual reproductive health awareness and attitude among adolescents and to explore their views on current services available. It is also going to be an effective process to implement programmes to enhance their skills and knowledge to care for their health and use of effective health services. Providing
reproductive and sex education during adolescence is an important but challenging part of ARSH. Therefore it is necessary to assess young people on their sexual and reproductive health needs. To address these issues related to the unmet needs of this population, both quantitative and qualitative study approaches would be ideal since these research methods provide real-life data. Additionally, these methods enable the participants to freely express their views. With this background in mind, the aim of the present study was to explore the awareness and attitude towards reproductive health among adolescents.

3.6. CONCEPTUAL FRAMEWORK

The conceptual framework is an analytical tool with several variations, tools and context through which theories are formulated to explain, predict and understand any phenomenon. It provides clear descriptions of variables, suggesting ways or methods to conduct the study and guiding the interpretations and integration of significant findings (Kothari, 2008). While the health and well-being of all age groups is important, the developmental nature and needs of adolescence leads to special considerations (Kipke, 1999; Millstein, 1903). The research engages in recognizing the manifold institutional level of influence that form attitudes and behavior and ‘naming and framing’ the research question, as well as choosing descriptive indicators of some of the key magnitude of the facilitating or adjacent factors. Discovering and assessing obtainable conceptual frameworks empirically for researching sexual and reproductive health issues as well as asset-building factors for adolescents, and suggest new areas of research based on new evidence (WHO, 2011).

Adolescence is a period of unique challenges and adolescents are vulnerable towards their growth and development which may have long term social consequences. Keeping on this point the conceptual framework of the present study was prepared to assess awareness and attitude towards reproductive health among adolescents. It describes adolescents’ comprehensive development based on various demographic factors, opinion, views, experiences and education that they received from various sources. This may definitely have an influence on knowledge, attitude and behaviors. Reproductive health of a young person is determined by the nature of the platform created to learn and perceive. The following diagram no 1., describes the level of conceptual framework which was used to assess adolescents in this study. It is divided into three levels. The first phase describes the
demographic factors which influence young people socially and emotionally as well as it has
relationship towards this knowledge and attitude. Family and school education are primary sources of
information for young people. They are born, brought up and influenced with family situations. They
learn social living from their parents, siblings and other significant people. Parents education and
occupation can influence the economic stability and are able to fulfil their basic social needs. School
education is helpful for students to understand world, acquire knowledge, skills to live a quality of life.
In connection to adolescent health family and school are most influential factors to determine their
quality of health and life style. Accurate guidance and education from significant people can provide
an opportunity to understand their health, positive behaviors and able to access and afford to a better
quality of health treatment and well being. The second phase describes the level of knowledge attitude
acquired and reproductive health issues faced and the information that they receive from various
sources. Health of an individual is determined with various factors particularly young people require to
adjust with these factors in order to live a healthy life. Reproductive health is a concern for young
people which covers all aspects of healthy living. Acquiring better knowledge, good attitude and
health seeking behavior can resolve reproductive health issues. Beside this they too have
psychological and emotional problems which are not dealt in a systematic way. Due to lack of space
for discussion and sharing their views and concerns may indulge into risky and addictive behaviors.
The third phase is to assess reproductive health care services and opinions among adolescents in
access to these services and the last phase shows the need of reproductive health education and the
type of methods can be implemented to promote reproductive health awareness among adolescents.
Access to health care and utilizing health services are not very much favor to young people. It could be
lack of policies and programmes, lack of proper guidance from parents, teachers and other significant
people, user friendly and adolescent appropriate institutions and particularly there is a lack of proper
education system to promote adolescent health education.

In order facilitate young people adolescent health programmes are required to bring quality of health
and well being. Research based studies and programmes can be initiated which can provide input to
plan out strategies and implement polices to give better pace for adolescents. The role of Social Work
can be resourceful for young people to deal with their issues and concern through awareness and
educational programmes. In this view the present study is initiated to reflect and examine the need of
adolescent health education programmes by assessing their reproductive and other related health concerns

**Diagram 1: Conceptual Framework Design**

- **Reproductive Health Awareness**
  - **People**
    - **Adolescents**
      - **Boys**
        - Opinion
      - **Girls**
        - Perception
        - Misconception
        - Background
  - **Region**
    - Rural
    - Urban
  - **Educational sectors**
    - Government
    - Private
    - Aided

- **Assessment**
  - Study of Adolescents
    - Health
    - Knowledge
    - Attitude
    - Reproductive Health Issues
    - Psychological emotional problems
    - Sources of Information (Significant people)
    - Health professionals
    - And Health seeking behaviors

- **Need of reproductive health Education**

- **Social Work Intervention programmes**
3.7. OPERATIONAL DEFINITION

3.7.1. Awareness

General meaning of awareness is to know, gain information or perceive a situation or fact. In other words it is the ability to directly know and perceive, to feel, to be cognizant of events or the state of being conscious of something. Awareness of reproductive health is a part of comprehensive health development among adolescents.

3.7.2. Attitude

Attitudes are psychological construct, which create mental and emotional entity that are inherent in, or characterize a person. Attitudes are complex in nature and they depend on the situation or facts which are acquired through experiences. A positive attitude towards reproductive health enables to acquire positive and health seeking behaviors and comprehensive health development among adolescents.

The changes that take place during adolescence, all together, are new experiences for young persons. They require proper awareness and positive attitude towards these changes. Ignorance about the significance of these changes, under the impact of inappropriate guidance may lead to risky behaviors that may have long term consequences and these may be critical to their future career and health.

3.7.3. Adolescence

Adolescence is a period of transition (changes) where an individual becomes integrated into society. In this period he/she tries to create his/her own identity among others, that is among their own age group of people (peers, friends, etc), and seek freedom from adults (parents, teachers or any significant people).

The word Adolescence is termed from the ‘Latin’ word ‘Adolescere’, which means to ‘grow’. It is a transitional stage where pubertal changes (physical, psychological and social development) occur during the period between childhood to adulthood (age of majority).
Adolescence is the period between the age of 10-19 years in human development stages (WHO). It is divided into three categories. The first category is the early adolescent age 10-12 years where growth spurt takes place. The second is the teenage or middle adolescent period, which is 12-14 years where pubertal change usually takes place. Mostly secondary characteristics take place. The last adolescent period is Late Adolescence period which is 14-19 years where maturity and real transition takes place which means they try to integrate themselves into adult society.

As they grow and try to integrate themselves into adult society, it is necessary that they should be aware of and must cultivate positive attitude towards reproductive health, because health is an integral part of human development and reproductive health is a part of comprehensive health (WHO).

3.7.4. Reproductive and Sexual Health:

Health is determined by various factors. Among these factors the process of reproduction is one which is essential to maintain and balance one’s health and well-being. The process of acquiring reproductive health addresses the reproductive process, the functions and the system at all stages of life. Through this, people are able to have a responsible, a satisfying and a safer sex life. They become capable to reproduce and to have the freedom to decide if, when and how often to do so.

Reproductive health implies having awareness of sexual health and a positive attitude. Adolescent development is based on responsible behavior which creates intimate relationship with others, it helps to become a responsible adult, and reduces problems related to sexual dysfunction in others words acquiring sexual health and fertility. Adolescents also need to practice positive ways or means to maintain their reproductive health conditions through seeking and consulting health professionals and use of health facilities to keep up good health and challenge risky health related issues.
3.7.5. Psychological and Emotional Health:

Maintaining psychological health is to control our emotions and to feel psychologically well with our personal life, with significant people (parents, teachers, friends and others), with the world and to have the ability to cope with the environment, meaning to feel equilibrium or acquire a balanced life, to have purpose and meaning in life. In other words people should have the courage and emotional strength to overcome personal barriers, fear and concern of what others might think, and that they would live their own life.

Psychological and emotional health is determined by reproductive health. Reproductive health issues are caused basically due to lack of awareness, lack of positive attitude and lack of seeking good health consultation which in turns leads to psychological complication and affects them emotionally. Therefore adolescents require a balanced life emotionally and psychologically.

3.7.6. Source of Information (Significant People):

The source of information can be a person, thing or place from which information comes, arises or is obtained. Significant person could be parents, teachers, siblings, relatives, friends etc who influence others with their knowledge, guidance, way of life and relationship etc. Media is also a very effective channel of communication to provide information. A person who is able to get effective information and proper guidance is able to acquire proper knowledge, attitude and a positive way of life.

Adolescents require proper attention and understanding to guide them in acquiring a positive future life. As they grow they need to be aware about the changes, the growth and the development that take place. Parents, siblings, teachers, peers and health professionals are significant people for adolescents who can guide them to enhance their skills, knowledge and attitude to grow healthy. Significant people can play a very important role where they can listen to them, comprehend them and appreciate their perspective and then appraise or motivate them to use information or services offered in the interest of their own health (Hamburg, 1997). Parents and other significant people (source of information) are not only enough to educate the consequences of high-risk behavior but also by understanding their point of view with effective communication they can teach them to build enhanced
healthy lives. Besides this, health care professionals need to be equipped with knowledge, skills and positive approach towards young people so that they can provide appropriate education and adolescent friendly health care services.

3.8. OBJECTIVES

1. To study the demographic profile of adolescents
2. To assess the level of awareness on reproductive health among adolescents
3. To study the attitude perceived towards sexual and reproductive health among adolescents
4. To assess the related issues covered under reproductive health such as perceived psychological and emotional disturbances faced by adolescents.
5. To study the opinion of adolescents on parents, significant people and other health professionals, care of their reproductive health problems and other related issues.

3.9. HYPOTHESES

1. There is better awareness on reproductive health among girls than boys.
2. There is a significant relationship between awareness and attitude perceived on reproductive health among boys and girls from rural and urban areas.
3. There is a significant difference in awareness and reproductive health related issues
4. There is a significant difference in awareness and psychological, emotional disturbances

3.10. UNIVERSE OF THE STUDY

The present study is covers the state of Karnataka. Karnataka has its own name and fame where it has had the most influential dynasties and empires of ancient and medieval India. The existence of the state began on 1 November 1956 where it was originally name as Mysore and that the late chief minister Sri Devaraj Uras renamed that state as Karnataka in 1973. It is speculated the word Karnataka originated from the word ‘Karnata’ and people who live in this region were Kannadigas and the language that they speak is Kannada. The capital of Karnataka is Bangalore or Bengaluru and it is known as the Silicon Valley of India where we can find hub of IT industry and people come and settle here mainly for occupation from various parts of the country.
As per diagram 2., the entire stated Karnataka is spread over an area of 191,791km. It is further divided into 31 districts, 4 revenue divisions, 49 sub-divisions, 177 taluks and 745 revenue circles. It has a population of 66,076,021 and it is rising considerably due to rapid efforts towards...
development and progress (Census, 2016). Karnataka has the third highest literacy rates among all states in India. According to 2011 population census Karnataka state is seen an upward trend where it has 75.36 percent total literacy, of that 82.47 percent male and 66.01 percent female. Among the total population the actual numbers of literates were at 40,647,322, of which 22,508,471 were males and 18,138,851 were females. As regards to adolescent population in Karnataka, it stands third largest among major states with 68.3% in the age group of 10-19 and constitutes 18.9% of its total population (Times of India, 2013). As per the 2011 census the growth rate is 0.3% and the sex ratio is 928 (females per 1000 males).

3.10.1. Adolescent Population in Karnataka

Karnataka is the third largest (among major states) with 68.3% of its population in the age group of 18 years and above. Also, the state’s adolescent population stands at 18.9% of its total population, Adolescents in the age group of 10-19 years, the growth rate is 0.3% and the sex ratio (females per 1000 males) is 928 (Census, 2011).

The total population estimated according to enrolment for admission during the academic year 2014-15 is as shown in the table below.

Table No.1: Enrolment of Pre-university college students of Karnataka in the academic year 2014-15

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Categories</th>
<th>I PUC</th>
<th>II PUC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-15</td>
<td>Regular</td>
<td>4,96,651</td>
<td>4,71,128</td>
</tr>
<tr>
<td></td>
<td>Repeaters</td>
<td>31,972</td>
<td>97,985</td>
</tr>
<tr>
<td></td>
<td>External Students</td>
<td>82,093</td>
<td>5,986</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>2,198</td>
<td>2,013</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>6,12,914</td>
<td>6,16,112</td>
</tr>
<tr>
<td></td>
<td>Total population</td>
<td></td>
<td>12, 29,036</td>
</tr>
</tbody>
</table>

(Source: Pre-University Education Board, Karnataka, [http://www.pue.kar.nic.in](http://www.pue.kar.nic.in))
3.11. RESEARCH DESIGN

Research design in essence refers to the plan or tactic of determining the research (Henn, Weinstein and Foard, 2006). Basically research design addresses the research problem effectively with coherent and logical ways which integrate the different components of the study. It is a entire process of research, from conceptualizing a problem, to writing research questions, and on to data collection, analysis, interpretation and report writing (Creswell, 2007). It provides the framework for the collection and analysis of data and subsequently indicates which research methods were appropriate (Walliman, 2006).

As per this research concern, a descriptive research was used to explore and identify a problem. The descriptive research, which is also known as statistical research, describes data and characteristics about the population or phenomenon, providing a clear answer of who, what, where, why of the research problem and data which were typically collected through a questionnaire survey, interviews or observations Gay and Diehl, (1992). Thus on the basis of the above, the research design was found to be appropriate for the present study as it was aimed to gauge information about awareness and attitude, issues, health seeking behavior and need for education on reproductive health from different segments, the awareness and attitude among adolescent boys and girls, at rural and urban areas from different aided, unaided and government educational sectors.
Diagram No 3: Schematic Representation of the Study Design

Target Population

Sample Size

Sample techniques

Instruments

Analysis

Adolescents from Pre-University Colleges

780 Adolescents
391 boys
389 girls

Stratified Random Sampling technique

Data Collection by Self-administered Questionnaire

Descriptive statistics
Inferential statistics
3.12. VARIABLES UNDER STUDY

Variable is anything and everything that has quality and quantity that which varies. Variables are qualities, properties of characteristics of persons, things or situation that change or vary. The variables in research were divided into two categories, they are Independent variables and dependent variables. In the present study the variable was to study and assess awareness and attitude perceived by adolescents towards reproductive health.

3.12.1. Independent Variables

Independent variable is that which stands alone and does not depend on any other. In the present study, the socio-demographic and reproductive characteristics were independent variables.

3.12.2. Dependent Variables

The dependent variable is the variable where study is aimed at understanding, explaining or predicting particular view or concept. In this study the dependent variables were reproductive health knowledge, attitude, opinion towards sources of information and reproductive health seeking behavior and utilization of services.

3.13. SAMPLING AND SAMPLING TECHNIQUE

The sample which indicates the features of the population from which it is drawn and which required a sampling frame. A sampling frame can be define as list participants included in the population (Nesbary, 2000). The grater the probability of sample defends on the the larger number sample size which will reflect the general population and obtaining unbiased sample can be a main criteria to evaluate this sample. Unbiased sample is helpful which has an equal opportunity of being selected in the sample (Pattern, 2004).

Therefore a stratified random sampling procedure was used for selecting the participants in this study. Because random sampling may introduce sampling errors, efforts were made to reduce sampling errors, and thus increase precision by increasing the sample size and by using stratified
random sampling. This technique was employed to ensure a fairly equal representation of the variables for the study.

To obtain a stratified random sample, the population was divided into strata according to total population, mainly government pre-university colleges, both Aided and Unaided. The nature of adolescents are universal and applicable to the entire population and the purpose of study was to assess adolescents. Therefore out of 31 districts in Karnataka, 4 were chosen through Lottery method. The selected districts were Mangalore, Bangalore, Mysore and Tumkur. The adolescents selected were a mixture of students’ arts, science and commerce combinations from Pre-university colleges based on the permission granted by the college authority or the management.

3.14. POPULATION OF THE STUDY

The study of population in research is a well defined collection of individuals or subjects known to have similar characteristics. The selected population usually has a common binding characteristics or trait such as age, sex, education, health condition, which requires specifying the criteria to determine the population to select for the research study (Katrina A 2012).

The population of the study was Adolescent boys and girls between the age group of 14-19 years and were and a total of 2,68,289 students among whom 1,48,681 were boys and 1,19,608 girls. They were selected from Government, Private and Aided P.U colleges of both rural and urban areas from 4 districts of Karnataka state. In these districts, there were 1384 (241 Government colleges, 215 Aided colleges and 928 Unaided colleges) Pre-University Colleges in Karnataka (2014-15 academic year).
Since the population was finite and known, the Tare Yamane’s formula \( n = N/1+N (e)^2 \) was used.

3.14.1. Yamane’s formula for selection of samples

\[
 n = \frac{N}{1 + N * (e^2)}
\]

\( n \)=the sample size,

\( N \)=the population size

\( E \)=level of precision or error of sampling (i.e. 0.05)

Substituting these values in the formula, the sample size was calculated as follow

Total: \( N = 780 \) at \( e =5\% \) and \( N=2, 68,289 \)
Boys: \( N= 391 \) at \( e =5\% \) and \( N=1, 48,681 \)
Girls \( N = 389 \) at \( e =5\% \) and \( N=1, 19,608 \)

A total of 780 adolescents were selected out of which 391 were boys and 389 were girls which were further divided into 389 from rural and 391 from each urban areas and 259 each from Government, Aided and 262 from Unaided (Private) Pre-University colleges (I PUC and II PUC students). Six Pre-University colleges were selected from each rural and urban areas and 12 Pre-University colleges from each districts by choosing a precision to avoid too many questionnaires and to find adequate relevance to the collected data (the selection of participants is described in diagram no 4, pg.85, & 5 pg 86).
3.15. **SELECTION CRITERIA**

3.15.1. **Inclusion Criteria**

- Adolescent boys and girls studying in Pre-University Colleges
- Adolescents studying in Unaided, Aided and Government from rural and urban areas were selected

3.15.2. **Exclusion Criteria**

- Adolescents not willing to take part and those who were not available
- Corporation, bifurcated colleges and others were excluded.

3.16. **DATA COLLECTION**

Data is information obtained during the course of an analysis or investigation or study (Pilot and Beck, 2000). The process of data collection was based on primary and secondary data. Firstly the primary data was collected through the self prepared questionnaire method based on the objectives and the purpose of the study.

3.16.1. **Secondary Data**

The tool for data collection was developed based on the following steps.

- Literature review
- Preparation of blue print
- Preparation of first draft
- Personal interviews and discussion with guide and research experts in the similar field
- Development of the criteria checklist
- Content validation of the tool
- Reliability of the tool
- Preparation of the final draft

Secondary data was collected through books, journals, previous studies, suggestions and discussions with the guide, experts and others. This review was based on literature from previous research studies, journals, books related to adolescents, awareness and attitude towards reproductive
health among adolescents, health seeking behavior, source of information, reproductive health education, role of educational institutions, health professionals etc. Books and journals related to research methodology were reviewed as well as discussed with professional experts to prepare a methodology to study adolescents. Secondary data was also used for the preparation of the synopsis, the problem definition, and for preparing questions.

3.16.2. Questionnaire:

The questionnaire was prepared with the objective to extract as much information as possible from the participants. It would contain enough questions to be able to meet the objectives of the study but not so many as to be off-putting to the respondents. The questions must be long to elicit the information that is required but should be enough to encourage an optimum response rate (johns, 1958). The questionnaire was finalized based on the pilot study and validity and reliability were analyzed.

3.16.3. Pilot Study

Reliability of the study was done based on a Pilot study. It refers to the feasibility studies which are small scale versions or trial runs, done in preparation for the major study" (Polit, 2001). However, a pilot study can also be the pre-testing or 'trying out' of a particular research instrument (Baker, 1994).

The pilot study was conducted primarily to test the feasibility, standardization, reliability and validity of the tools. It was used to find out whether the proposed tools were suitable and easy to administer and collect data from the study population where it was applied to two sets of respondents belonging to the age group of 12-14 years from high school and 15-19 years from Pre-University College students. The results showed that the feasibility of the questionnaire was very much applicable and relevant to Pre-University students rather than High school students. The pilot study was conducted to ensure that respondents understood the instructions, the questions being asked, the terminologies used, the clarity was observed and the instruments used were reliable to the subjects being studied.
3.16.4. Validity

To ensure that the content validity of the self-administered questionnaire and the measures developed in the instrument were relevant and appropriate, the instruments were tested for their validity and reliability. Validity is defined as an empirical measure which adequately reflects the real meaning of the concept under consideration (Babbie, 2007). In this study the validity of the questionnaire was determined by regular discussions with a statistician. Based on the results of pilot study and also through the numerous feedback from subject experts from the fields of education and health (Psychologists, Social Workers, and Psychiatric Social Workers) all the suggestions were dully considered and modifications were made.

3.16.5. Reliability

It is an assessment tool which produces stable and consistent results. It refers to whether or not the same answer by using an instrument to measure something more than once (Bernard, 2011). In order to test reliability of the questionnaire the pilot study was done.

Prior to the actual data gathering exercise, a reliability test was done on the data collected from the pilot study. The outcome of this study was that a new set of questionnaire were used for the actual study conducted. To test the reliability of the questionnaire, it was measured by Cronbach’s Alfa which was found to be 0.823 and show this that the questionnaire was reliable.

3.16.6. Questionnaire Design

A self-administered questionnaire was developed to collect quantitative data on reproductive health aspects to achieve the objectives of the study. Therefore the items in the questionnaire were based on the level of awareness and attitude among adolescents towards reproductive health. The questionnaire consisted of:-

1. Demographic Profile

This schedule was intended to derive information from the respondent on the following areas- Age, Gender, Sector (Government, Aided and Unaided), Region (Rural, Urban), Medium (Kannada
and English), Type of family (Joint or Nuclear), Family income, Parent’s Education and Occupation and number of Siblings.

2. Awareness on Reproductive Health:

The general reproductive health awareness schedule was prepared by the researcher in the following areas - Pubertal changes (physical, psychological and social), Reproductive health system, Menstruation & Masturbation, Legal age for Marriage/healthy sexual Relationship, Pregnancy, Contraception, Reproductive Tract Infection (RTI’s), Full form, HIV/AIDS, Sexually Transmitted Infections and safe sexual practices.

2.1. Scoring

A majority of these Variables were measured by correct answers obtaining one score and incorrect responses obtaining zero and other variables measured by yes carried one, No and Don’t know responses were calculated as zero.

Further measured variables for awareness among adolescents towards reproductive health were presented to interpret data and the scores obtained were between 87-108 (70-100%) which indicated Excellent awareness, scores between 65-86 (60-79%) as Good awareness, between 43-64 (40-59%), a moderate awareness, between 21-42 (20-29%) as poor awareness and scores showed between 0-20 (0-19%) as Very Poor awareness.

3. Attitude towards Reproductive Health: This tool was prepared by the research himself to study the level of attitude perceived among adolescents towards reproductive health. The following areas were assessed: Restrictions towards Menstruation and sexual health, Marriage and family planning, HIV/AIDS, Condom, Masturbation, Abortion and importance of health services. The variables on attitudes among adolescents towards reproductive health were assessed. The scale consisted of five responses - Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree.
3.1. Scoring

Measured variables for attitude among adolescents towards reproductive health were presented to interpret data and score as ‘Strongly Agree’ responses were scored at a value of five, ‘Agree’ responses were given a score of four, ‘Neutral’ responses were given three, ‘Disagree’ responses had a value of two and one score was assigned to ‘Strongly Disagree’. Among these items were reverse scores where ‘Strongly Agree’ one point, ‘Agree’ two points, ‘Neutral’ three points, ‘Disagree’ repose had a value of four and five was assigned for ‘Strongly Disagree’ In this scoring the maximum possible score was one hundred and twenty five and the minimum score was twenty.

The scores obtained between 87-108 (70-100%) indicated excellent attitude. scores between 65-86 (60-79%) as Good attitude, between 43-64 (40-59%) as Moderate attitude, between 21-42 (20-29%) as poor attitude and scores between 0-20 (0-19%) as Very Poor attitude.

4. Reproductive Health Issues:

The questionnaire was prepared to assess adolescents towards reproductive health.

Boys were assessed on Masturbation, Erections and ejaculation, Gynecomastia, Comorbidities

Girls were assessed on: Irregular Menses, Excessive Vaginal Discharge, Dysmenorrhea, Pruritus Vulvae.

Common issues among adolescents: General Health, Acne, Itching of genitals, Urinary Complaints, Complaints related to body (Height & Weight), Genital Development Problems, Micronutrient deficiency

These Variables were further measured by Yes, No and Don’t know responses

5. Psychological and emotional disturbances

Measured variables for psychological and emotional disturbances faced by adolescents among adolescents towards reproductive health were presented to interpret data and score as ‘Yes, No and Don’t know responses which measured by yes carried one , No and Don’t know responses were calculated as zero.
5.1. Scoring

Types of Psychological and emotional disturbances were assessed and these responses were presented, to interpret data and score as None, Good, Moderate and High. In this scoring the maximum possible score was eleven and the minimum score was zero. Scores with 0 – None indicated, scores between 1-3 indicated Good, scores obtained between 4-7 as moderate and Scores obtained between 8-11 as High disturbances.

6. Types of psychological and emotional feelings

The questions were prepared to understand the level of psychological and emotional feelings of adolescents were presented to interpret data and score as ‘Yes, No and Don’t know responses which measured by yes carried one, No and Don’t know responses were calculated as zero.

6.1. Scoring

Types of Psychological and emotional feelings were assessed and these responses presented to interpret data and scored as None, Good, Moderate and High. In this scoring maximum possible score was eleven and minimum score was zero. Scores of 0 – None indicated, scores between 1-3 indicated Good, scores obtained between 4-7 as moderate and Scores obtained between 8-11 as High feelings.

7. Source of Information

Different categories of sources of information (parents, teachers, brothers, sisters, counsellors, schools and media)

Adolescents were asked to give their preferences to the above mentioned sources of information. In this category the responses were as follows 1. Most informative, 2. Helpful informative. 3. Least informative. 4. Whom do you prefer?.

Discussion with significant people on reproductive health issues: the responses were given as 1. Very easy, 2. Easy, 3. Average, 4. Difficult, 5. Very difficult

Discussed sex related matters with parents: the responses were 1. Yes, 2. No, 3. Can’t say

Discussed with Father: 1. Often, 2. Occasionally, 3. Never,
Discussed with mother: 1. Often, 2. Occasionally, 3. Never,
Reasons for difficulty in sharing with parents and other significant people about things that are important to adolescents. In this category the responses were given as 1. Hesitate 2. Afraid, 3. Worry about confidentiality, 4.Any other Specify_______________

Parents were prepared regarding the physical changes that take place during adolescence, the responses were 1. Yes, 2. No, 3. Can’t say

8. Utilization and health seeking behaviour

Adolescents were assessed on their opinions on the following areas, Availability of Health services, access to health services, different categories of health services, and opinion of health professionals.

8.1. Reproductive health education

Adolescents were assessed on their opinions on Need, preference and type of reproductive health education required.

These variables were assessed with Yes, No and don’t know:

8.1.1. Scoring

The opinions of adolescents on Utilization, health seeking behavior and reproductive health education were assessed and these responses were presented to interpret data and scored ‘Yes’ with one point, and No and Don’t know responses as 0 scores. In this scoring the maximum possible score was twenty eight and minimum score was four.

Scores obtain between 23-28 (70-100%) indicated Excellent attitude, scores between 17-22 (60-79%) as Good attitude, between 11-16 (40-59%) as moderate attitude, between 5-10 (20-29%) as poor attitude and scores showed between 0-4 (0-19%) as Very Poor attitude.

These were the 7 main categories of questions that were asked, covering the aspects that would meet the set of objectives and purpose of the study.
3.16.7. Data Collection Method

Data collection is the generating or bringing together of information that has been systematically observed, recorded, organized, categorized, or defined in such a way that logical processing and inferences may occur. The data collection was collected from the academic year 2014-15. Sample was selected according to the selection criteria of the study. Once the data questionnaire was ready to assess adolescents (Pre-University students) the researcher visited to the Pre-University education board of 4 districts (Bangalore, Mysore, Tumkur and Dakshina Kannada) to seek permission for the research and also collected the data of the total number of students who were enrolled in the academic year 2014-2015. After acquiring permission from the PUC board of education the researcher visited various Pre-University Colleges to meet principals and class teachers to seek permission for assessing students of the particular college. Students were assessed based on the permission given by the principals. Before assessment students who were asked to take prior consent from parents. I and II PUC students who were regular, from arts, commerce, science streams and who were present on a particular day were assessed. In order to obtain a free and true response the questionnaire was distributed separately for both boys and girls with a self introduction and the purpose for data collection was explained to the samples. Before they were assessed, the students consent and confidentiality was ensured. The assessment was done through self-administered, structured awareness and attitude on reproductive health as well as their opinion and views were collected on reproductive health education and the questionnaire was administered.

3.17. DATA ANALYSIS

It is the process of methodically pertaining statistical or rational techniques to illustrate and explain condense and recapitulate and evaluate data. It is an essential factor to certify data for reliability and accurate and appropriate analysis of the research finding.

The quantitative data was collected with regard to socio-economic background, awareness, perceived attitude towards reproductive health, reproductive health issues and psychological and emotional disturbances and feelings, sources of information and utilization, health seeking behaviour and reproductive health education.
3.17.1. Statistical Methods

Analysis refers to the computation of certain measures along with searching for patterns of relationship that exists among data-groups (Kothari, 2004). The data obtained through the questionnaires assessment was analyzed manually by arranging and listing all the answers and connecting them to the objectives and purpose of the study. Coded answers were analyzed and interpreted to generate categories of information.

In this study the collected data was analyzed using both descriptive and experiential statistical methods.

3.17.2. Descriptive Method

Categorized data was summarized by frequency and percentages and variables which were measured on discrete categories, Likert scale and summarized by frequency, parentage mean and standard deviation.

3.17.3. Inferential Methods

To ascertain the association between the parameters and also compare the priorities between groups, t-test and Chi-square test were used. However where more than 20% of the cells had a frequency of less than 5, Fisher’s exact test was used. For parameters which were measured in rating scale the Mann Whitney test was used to compare between the groups.

The level of significance was 5%. P-value less than 5% (0.05) was considered as significant and P-value less than 1% (0.01) was considered as Highly Significant (HS). The analysis was carried out using Microsoft-excel and SPSS (version 19).

3.17.4. Following steps were taken for analysis

1. The use of Chi-square test to show that two mean score show a statistically significant difference. Selected variables in each objective had been analyzed to find out the difference between boys and girls
2. In research study t-test is used to compare between mean scores and standard deviation. Objective 2 the overall reproductive health awareness between adolescent boys and girls was assessed by ‘t’ test.

3. Mannwhitney test Z value was used to compare the distributions of scores on quantitative data obtained from two variables from 2 independent groups. Objective 3 the overall reproductive health awareness between adolescent boys and girls was assessed by Mannwhitney test Z value

4. Fisher’s exact test was a statistical significance test which was used in the analysis of contingency tables. Fisher’s exact test was used in this study to analyze Objectives 4 and 5, to compare statistically significance between awareness and parents education and occupation and find out co-relation between utilization, health seeking behavior and gender, educational sectors, regions.

5. Karl Pearson co-relation co-efficient was performed to ascertain relationship between different parameters. Evaluation of hypotheses were analyzed with Karl Pearson co-relation co-efficient

6. To analyse the objectives of the study Bar diagrams and tables were also used to depict the descriptive and inferential statistics

3.18. ORGANISATION OF THESIS

The present study introduces the subject matter of the study which was divided, into six chapters as follows

Chapter I: Introduction

This chapter consists of introduction about reproductive health among adolescents and related aspects. It is discussed with objectives and purpose of the study.

Chapter II: Review of Literature

This chapter provided literature on previous studies and views of different authors on the chosen topic. This chapter is divided into two categories where western and Indian literature were discussed
Chapter III: Research Methodology

This chapter describes the procedure for research where the methodology was discussed with various steps such as scope for study, conceptual framework, statement of the problem, rationale of the study, operational definition, research design, universe of the study, population of the study, data collection procedure, data analysis, ethical consideration and limitation for the study.

Chapter IV: Research Analysis, Interpretation and Discussion

This chapter provides results of the study and its interpretation. It is interpreted based on the objectives and hypothesis of the study. It also further provides discussion on the present study as compared to various previous studies.

Chapter V: Major Findings

This chapter points out the major research findings of this study

Chapter VI: Suggestions and Conclusion

This chapter narrates the various suggestions and conclusion based the findings of this research study

3.19. ETHICAL CONSIDERATION

1. The selected respondents were explained the purpose of the study. Participation in the study was voluntary.
2. The questionnaires were translated in Kannada.
3. Those willing to participate were selected.
4. Informed consent was taken from the participants, their parents, the concerned teachers and the college authority and management.
5. Confidentiality was maintained with regard to the personal information shared and each respondent was assured of confidentiality.
3.20. LIMITATION

- The research was limited to PU College going students therefore the results cannot be generalized to the adolescent age group of 10-19 as prescribed by WHO.
- Some of the PU colleges did not given permission to assess students
- Some of the respondents were reluctant and hesitant to give their consent