Chapter I

INTRODUCTION

Democracy cannot survive over population,
Human dignity cannot survive it,
Convenience and decency cannot survive it,
As you put more and more people into the world
the value of life not declines, it disappears.
It doesn’t matter if someone dies.
The more people there are, the less one individual
matters.

- Isaac Asminov

Most demographers agree that the population size and growth
are ultimately limited by the environment and the availability of
resources. In the homeostatic model, population is density
dependent. When population exceeds the carrying capacity of its
given resource base, feedback loops activate the checks that prevent
further growth or even bring about a reduction in the numbers.
Similarly, if the carrying capacity increases as a result of climate
change or some other exogenous factor, population tends to grow

(Harbison and Robinson, 2002).

mass starvation would strike in the 1970’s and 1980’s with world’s
population growth out pacing the production of food and other
critical resources (Ramesh, 2013).

The International Population Conferences which were held in
Rome in 1954 and Belgrade in 1965, were the meetings of the
demographers and technical experts without intergovernmental
representation or resolutions. The economic and demographic research in 1950’s demonstrated the fact that the high fertility rates and growing population posed a constraint on the economic development of any country (Bernstein, 2005).

Population is the primary and foremost important source of human development of a country or region. But, when a significant proportion of population is not potentially characterized by illiteracy, malnutrition and employment, such population is considered as burden (Hariharan and Vaithilingam, 2012).

Thomas Robert Malthus, an English economist and demographer of the 17th century, predicted that population growth would be limited by catastrophic illness and famine. He quoted “Population, when unchecked, goes on doubling itself every 25 years or increases in a geometrical ratio.”

Malthus argued that two types of checks hold population within resource limits namely “positive checks”, which raise the death rate; and “preventive checks,” which lower the birth rate. The positive checks include hunger, disease and war. The preventive checks, include abortion, birth control, prostitution, postponement of marriage and celibacy.

Populations is not static but is always in a dynamic state. The world population was about 5 million in 6000 BC, a number that is added to the world population every month at present. The world
population had risen to 250 million by the time of Christ and
doubled to 500 million by 1650. Then the acceleration began as there
has been a steady increase in population. By 1750, it was 791
million, by 1850 there was almost twice fold growth with 1262
million and by 1950 it further reached 2486 million. In 1987, it was
estimated to be 4998 million with annual growth rate of 1.9%. It is
likely to reach 8.5 billion in 2050 and may not stabilize till 2150, the
projected population of 11.6 billion (UNICEF, 2000).

The World Population reached seven billion in 2011. Developing
countries will be building the equivalent of a city of a
million people every five days from now until 2050. The impact of a
growing population is determined by a combination of its size, its
structure, its movement, its behaviour. The global population is
bigger, more urban, and consumes more of natural non-renewable
resources-than ever before (Pencheon, 2013).

The United Nation marked May 11th 2010, as the “World
Population Day” when the world’s population exceeded 5 billion. The
current estimates of future population numbers suggest that there
will be well over 8 billion people by the year 2030. Three countries of
South East Asian Regions namely India (17.01%), Indonesia (3.42%)
and Bangladesh (2.21%) are among the most populous ten countries
of the world (Park, 2009).

Among the top 10 populous world countries in terms of the
proportion of population to the world population in 2011, China
stands first with a population of 1,346 million accounting for 21% of the world’s population followed by India with 1,241 million accounting for 18% of the world’s population. In 2050, it is estimated that China will come down to the second position with a population of 1,313 million accounting for 14% of the world population, leaving India to be the first with a population of 1,692 million accounting for 18 per cent of the world population (Hariharan and Vaithilingam-2012).

The sooner fertility fall to low levels, most countries will be able to achieve sustainable development. Even a small decline in the fertility level today will make a substantial difference in population size in the future. Acting now to obtain support for reproductive health care may help meet the people’s needs today and improve prospects for the 21st century.

On May 11th 2000, India had acquired a unique position in the population history of the world by crossing 1 billion population ranking the 2nd most populated country in the world next to China (Prabhudeva, 2010).

Census 2011, the 15th census of India since 1872, puts India’s population at 1.21 billion, an increase of more than 181 million during 2001-11 (The Indian Express, 11th May 2011). The density of the population is 300 per sq. kilometre.

According to United Nations Fund for Population Activities (UNFPA) estimation, world population is increasing at the rate of
about 78 million per year. India alone is contributing one fifth of the
total increase, to the already unusually large pressure of population
on land, coupled with still continuing large annual increase only
indicating that the population situation in India is very critical.

India was the first developing country in the world, to have a
Family Planning Programme. Since 1951, the year India's Family
Planning Programme was launched, its demographic and health
profile have changed radically. Ever since India became independent
the attention of the Government has been drawn towards the
escalating human population which in its own turn has been
instrumental in jeopardizing all the development efforts to the extent
that the targets fixed for each five year plan could not be attained
The plans faced defeat at all the economic fronts because our nation
failed in controlling the population (Sharma, 2006).

The problems faced by India due to population explosion
include low standard of living. In spite of implementing five year
plan, shortage of food is leading to the cause of malnutrition, old
person have to work beyond the age of retirement, young persons
forced to work at the cost of education; the perennial problem
unemployment, housing and law and order problems. In terms of
resources there is gross imbalance found among man, money, and
material, which are not matching to the changing needs of the people
of the country. To overcome these consequences family planning is
the only solution. The Government of India attempts very hard to
popularize the family planning programme which aims at small family and will serve the welfare of the individual, the family and the community. All the efforts are being taken through mass communication, to popularize the concept of “small family norm” is accepted, adopted and woven into the lifestyle of the people (Basavanthappa, 2008).

The rapid increase of population has got an adverse effect on the national economy and the problem becomes an acute one. Considering the magnitude of the problem developing countries like India have given family planning programme vital importance to bring down population growth to ensure a standard of living and to provide the basic needs of food, clean water, clothing, housing, education and proper health care.

Government of India had adopted a National Population Policy in February, 2000, which provides for holistic approach for achieving population stabilization in the country. The policy affirms the commitment of the Government towards voluntary and informed choice and consent of citizens while availing of reproductive health care services, and continuation of the target free approach in administering family planning services. The Policy enumerates certain socio-demographic goals to be achieved by 2010, which will lead towards achieving population stabilization by 2045.

The 2001 census published the population of Tamilnadu at 6.24 crores with a decadal growth rate of 11.72% which is second
lowest in the country. Only Tamilnadu and Kerala have reached the goal of Net Reproduction Rate of one. As per Government order (G.O.Ms.No.353, Health and Family Welfare Department, dated 30th May 95) "Target Free Approach" has been adopted to implement the Family Welfare Programme in Tamilnadu during 1995-96. The sustained Information, Education and Communication (IEC) activities on Family Welfare Programme in the Tamilnadu State have improved by creating awareness among the public to adopt "Small Family Norm" that is "One family one child". Tamilnadu has been maintaining its lead in the implementation of Family Welfare, Maternal and Child Health programmes in the country.

Demography history states that family planning has always been the ‘domain’ of women where men play the passive roles. Men greatly influence their wives decision to practice family planning and the husband’s consent it crucial to his wife’s use of any particular contraceptive method. In fact, in many instances, the husband’s opposition to family planning is one of the factors cited by many women for not practicing family planning. More over the disagreements, over the number of children and timing of pregnancy often end with the husband’s decision dominating that of his wife. The wives are believed to submit to their husbands decision regarding family planning matters to maintain family harmony (Greja, 2006).
Million of pregnancies are unintended and thousands of women die as a result of pregnancy related complications. These deaths could be minimised only with care and support of the husbands and who need to be aware of and sensitive to the antenatal, intranatal and postnatal care of the wife.

Some startling statistics by United Nations Children’s Fund (2009) on maternal mortality/ morbidity. 300 women die every day due to pregnancy and childbirth complications. On an average, one woman dies every 7 minutes from complication of pregnancy and childbirth. 15% of deaths in women of the reproductive age in India are maternal deaths. More than 90% of maternal deaths are preventable. 40% of all pregnant women have some complications. India spends a mere of 0.9% of Gross Domestic Product (GDP) on health in the public sector. Only 4 out of 176 countries of the world do worser than India.

Historically most societies in the World have considered childbirth a major hazard in the life of woman. It is truly ironical that in modern times, with the advances of science, medicine technology have succeeded in extending the frontiers of human endeavour to the outer fringes space and advances in assisted reproduction and stem cell research, we in the 21st century, still need to address the issues of safe motherhood and maternity care. Women in the roles of mothers form the backbone of society. Women, over the years have traditionally looked after all domestic chores, looking after the old and infant, raising children and imparting to them values of family
life, religion and social behaviour. She is their first teacher. She keeps the hearth warm, works in the fields, and strives hard to balance the domestic budget. In short, women are an indispensable and integral part of the national economy, and the main providers of care and comfort in the family. In spite of the vital role they play in society, their needs have gone unanswered for too long. In India, gender bias is an inherited way of life, that has deprived women of their fair share of nutrition, education and career opportunities and reduced her to the status of a chattel or bonded worker. Early marriage, early childbearing, frequent childbearing, paucity of proper health care and the unequal burden of bearing social responsibilities have perpetuated this injustice (Daftary, 2004).

In the World, annually about 200 million women become pregnant, 136 million bear children and 500,000 die as a result of complications of pregnancy and childbirth. Whereas the risk of maternal death in developed countries is about 1:4000 births, that in the developing countries of South Asia and Africa is as high as 1:15 to 1:50 calling for urgent attention. Moreover, women in the developing world have to face these risks many times over because of unregulated fertility (Ratnam and Sing, 1991). Malcolm Potts (2004) remarked that globally, the current Maternal Mortality Rate (MMR) amounts to one death every minute affecting women in the prime of life. However, this appalling state of affairs does not get the publicity it deserves, because the victims of this tragedy are
essentially poor women residing in poor countries, often in remote and inaccessible areas (Daftary, 2004).

Most parents in India have limited physical, social and economic resources, adequate only for a limited number of children. Too frequent conceptions may be incompatible with health and socio-economic resources of the parents. If there are too many children in a poor family, they are deprived of adequate care and tend to be ill-nourished and unhealthy. Large family size adversely affects the health and happiness of each member of the family. Family planning would, thus, mean planning the size of the family in a manner compatible with physical and socio-economic resources of the parents and conducive to provide health and welfare of all the members of the family (Gupta, 2007).

**Need for the Study**

The family, in its literal sense, is a unit consisting of husband, wife and children. It is a well-knit permanent unit of society and the members are dependent on each other for the all-round development in health and welfare which includes physical, mental, social and economic dimensions.

World Health Organization stated “Family Planning is the practice that help individuals or couples to attain certain objectives such as avoiding unwanted births, bringing about wanted births, regulating the intervals between pregnancies, controlling the time at
which births occur in relation to the ages of the parent, and
determine the number of children in the family (Park, 2009).

The Population Reports, 2000, United States Agency for
International Development stated how the family planning benefits
the individuals and the countries: saves women’s lives, saves
children’s lives, offers women more choices, encourages adoption of
safer sexual behaviour, benefits of slower population growth,
decreases population growth and helps protect the environment, and
reduces population growth and helps to achieve development in all
spheres of the economy.

To have a check on the population expansion, couples need to
use temporary family planning methods and permanent family
planning methods when a small family is achieved. However the
extent of acceptance of contraceptives method still varies within and
between the societies and also among different castes and religious
groups. The factors, responsible for such varied picture operate at
the individual, family and community levels with their roots in the
socio economic and cultural milieu of the Indian society. Of the
different methods of family planning, sterilization accounts for 70%
with tubectomy being the mainstay (Singh and Arora, 2008).

Unmet Need is a Global Issue. Millions of women in the
developing countries do not use contraceptives who would prefer to
postpone or avoid pregnancy. These women have an “unmet need”
for contraception. The unmet need is a disconnection between a
woman’s fertility preference and what does she do about them: She wants to avoid pregnancy but fails to do the needed to prevent pregnancy. Survey research, in developing countries estimates that more than 150 million married women or in the reproductive age have an unmet need for contraception. India has the highest number of 31 million women (20 percent). Family planning reduces the unmet need by addressing the obstacles to the use of contraceptives (Bulatao, 1998).

The unmet need for family planning has been a core concept in the International population discourse for several decades. Lack of necessary knowledge about contraceptive methods, social opposition to their use, and health concerns about the possible side effects are the salient causes of the unmet needs (Casterline and Sinding, 2004).

The unmet need for family planning can be overcome by providing a wide variety of individual choice and preference by a cafeteria approach while employing various family planning methods. Need to approach health personnel eligible and target couples to help them plan their families and limit the number of children per couple.

Permanent surgical contraception, also called voluntary sterilization, is a surgical method whereby the reproductive function of an individual male or female is purposefully and permanently destroyed. The operation done on male is vasectomy and that on the female is tubal occlusion, or tubectomy.
The Family Welfare Programme always focused attention on women to adapt spacing method or permanent birth control measures. This led to the situations, in which the achievements of Family Welfare Programme targets by the health workers are solely dependent on the women and the women only. Since family planning has become a domain of women and it has attracted more and more women opting for both temporary and permanent family planning methods than the men.

Female sterilization / tubectomy has always been the most preferred permanent family planning method. Though scientifically male sterilization has been proved to be the best method for permanent family planning, the society at large do not encourage the men to undergo male sterilization. The traditional vasectomy is a minor surgical procedure performed under local anesthesia. The surgeon uses a scalpel to make one or two incisions in the skin of the scrotum. Since the scalpel is used in the private parts of the men, many of them hesitate to undergo vasectomy.

Currently, men’s involvement in regulating family size is negligible, as there is an argument that they do not have sufficient contraceptive choices to adapt when compared to their female counterparts (Lohiya, 2005).

The choice of male contraception is limited to condom and male sterilization. The former is less acceptable because of the belief that using condom may reduce pleasure, besides the fear of failure,
storage and disposal problems. Male sterilization is less popular because of fear of loss of virility and loss of physical strength (Kaza, 2006).

Vasectomy for fertility control for male became popular in Europe and Asia in the 1940s. Since the advent of vasectomy, it is the world’s leading family planning method for permanent contraception among men. None the less, tubal ligations are performed three to five times more commonly than vasectomies as some men equate vasectomy with castration or loss of masculinity, while others are afraid of the surgical knife, pain and discomfort. Men who had undergone vasectomy, experienced more pain and discomforts during and after the procedure than those who are yet to had been led to expect by the operating surgeon. Therefore word of mouth accounts of discomfort contributed to the relatively low acceptance of vasectomy (Chaudhuri, 2004).

The first vasectomy operation in India was recorded officially in the year 1956-57 and 22 operations were performed in the same year. Vasectomy surgery reached it’s climax between 1965 and 1977. Then this method declined gradually due to various reasons (Patnaik, 2005).

Couples who are considering elective sterilization should compare the risks and costs of male and female sterilization procedures as part of the decision process. Morbidity, mortality, failure rates, and short-term costs associated with male and female
sterilization procedures have been estimated from data available in previous case series. Male sterilization procedures were found to have zero attributable deaths and significantly less major complications when compared to female sterilization procedures. No less than 14 deaths a year can be attributed to female sterilization procedures in the US (Smith, Taylor, and Smith, 1985).

Although serious surgical complications are rare, due to the invasive nature of tubal ligation, infection (1% of total cases), minor or major bleeding (0.6%–1%), and anesthesia-related events (1%–2%) are reported. The most recent estimates on the risk of death from female sterilization suggest rates of 1 to 2 deaths per 100,000 procedures. No major complications are associated with vasectomy. Minor complications include infection (1%–6%), bleeding (1.6%–4.6%), granuloma formation (1%–40%), and epididymitis (0.4%–6%) (Bartz Deborah and Greenberg, 2008).

Vasectomy remains unpopular because in a male dominant, “macho” society, men are not supposed to take an active part in fertility regulation. Vasectomy is not accepted because of the misconception surrounding it. Vasectomy is confused with castration. It is wrongly associated with loss of libido, decreased sexual ability, loss of vitality or changes in a man’s physical characteristics such as hair loss and voice change and even changes in his personality (Greja, 2006).
A study was conducted, as a part of an evaluation of the No Scalpel Vasectomy (NSV) project of Government of India and UNFPA, to find out the reasons as to why men do not accept vasectomy. From the male’s point of view the following have been cited fear of complications, coercion, adultery (they may not be able to satisfy their wives and the probability of going with other men), and the procedure may be unreversed and mainly they have the strong faith that family planning is the responsibility of women. Women also actively resist vasectomy as they feel the procedure leads to loss of physical strength and loss of wages among the men folk (Kaza, 2001). Currently female sterilization accounts for about 85% and male sterilization for 10 – 15% of all sterilization in India, despite the fact that male sterilization is simpler, safer and cheaper than female sterilization. The trend is the same world wide (Nath, 2005).

The introduction of “No Scalpel Vasectomy” (NSV) technique which does not involve a scalpel has helped to increase the acceptability of sterilization among men as it is safe, simple, quick and has negligent complications than the traditional vasectomy. However, lack of awareness prevailing in the community is the basic reason for very few men willingly accepting to undergo NSV. Dr. Li Shung-Qiang first performed NSV in China in the year 1974. It was introduced to the United States in 1985 and since 1986 its was spread to large number of countries in the world (Chan and Gold Stein, 2006).
With an aim of bringing men to the forefront with the awareness about population and reproductive health programmes special budgetary provisions have been made in the tenth five year plan under the male participation. Besides to popularize male participation in the Family Welfare Programme, and provide backup facilities for vasectomies, No Scalpel Vasectomy (NSV) in particular has been suggested since NSV is a safe, simple, painless and cost effective procedure.

Today India is one of the leading nations in the sphere of NSV as shown by 16,000 bite on the website of nsvsi.com. The National Family Welfare Programme introduced the revised male sterilization technique namely NSV as a simple and safe technique with very few chances of complications compared to female sterilization (Kaza, 2006).

NSV created a niche above conventional vasectomy as it was devoid of all the mentioned complications in vasectomy. The advantages of NSV when compared to conventional vasectomy and tubectomy are the best reasons for a couple to adopt it as permanent family planning measure for the following reasons. The men can overcome the fear of permanent family sterilization by having clarity on both conventional and No Scalpel Vasectomy.

NSV is a non invasive/minimally invasive permanent contraceptive for men which takes away his ability to impregnate a woman. It is recommended by WHO and other International
Organizations as a sterilization procedure for men. It is one of the first in the genre of minimally invasive surgery. It is a surgical attempt to reduce complications and thereby allays the fears in the minds of couples.

The 10 ‘M’s of NSV which result in maximal client satisfaction are minimal scrotal handling (3-finger technique), minimal instruments (two), minimal pain (Perivasal anaesthetic infiltration), minimal dissection (one step dissection), minimal time taken for the procedure, minimal complications (0.9%), minimal post operative rest (48 hours), minimal dressing (one local strip of plaster), minimal drugs, and minimal follow up.

NSV never achieved the status of a populous family planning measures as a lots of myths & taboos were associated with the procedure. The procedure is beneficial compared to tubal ligation but it is yet to be acknowledged by the society as the best ever permanent family planning measure. The so called myths and taboos among the people of India are obstacles controlling population explosion and there by the nation is being handicapped with economic development (Sharma, 2006).

In order to strengthen the NSV procedure the information, education and communication strategies need to firmly state the above mentioned facts with the aim to bring men to the forefront in population and reproductive health programmes. Special budgetary provisions have been made in the tenth five year plan under the male
participation, with the aim to popularize male participation in the Family Welfare Programme, and provide backup facilities for vasectomies, No Scalpel Vasectomy (NSV) in particular. NSV is a safe, simple, painless and cost effective procedure.

Despite the introduction of an advanced technique such as NSV, the acceptance for male sterilization has not gone up. It stands at 2.9%. There are many reasons that prevent increased acceptance of NSV including absence of information and trained manpower. *(Kaza, 2006 and Sharma, 2006).* Persistent and consistent IEC campaign to educate men about their responsibility and benefits of Non Scalpel will once again rekindle the interest on family planning *(Kaza, 2001).*

The population of India is not uniformly distributed. Thus, there is a wide gap between the birth and death rate resulting in rapid rise of population. The one child norm in China has resulted in 400 million fewer births since 1980 *(Deccan Chronicle 27th December, 2013).* China has proved that adopting a small family will have a definite impact on the population and India today needs to follow a stringent policy to stabilise the population at the earliest.

It is a bigger challenge for developing country like India to be successful in diverting the flow of new communication technology based services towards a massive population with limited funds and social and cultural barriers. Communication based technology can bring information at the doorstep of every common man irrespective
of gender, class, creed, religion, language, place, etc and this may be employed to successfully implement the family planning programme.

Many men believe that birth control is a women’s problem and leave it to their partners to take steps to prevent pregnancies. The Government provides incentives for those who undergo surgery for birth control and men receive a higher amount than women. This extra incentive for men has not drawn them to the operation table. The Government needs to supplement these incentives with information. Health workers who motivate couples to undergo surgery for birth control must remove misconception that people seem to have regarding various procedures and the risk involved. Men need to realize that taking steps to ensure a healthy family is as much their responsibility as that of women and that both parents must show a more responsible attitude and role in child bearing and child rearing.

Men say if they have enough information, they would get operated. They have to exert a lot to get information. Health personal do not educate them. There are many areas were government and service provider can work together to change the situation. On knowing the level of existing knowledge of men about no scalpel vasectomy, will help to provide information required for planning and educating males for their contraception.

The nurse researcher being a community health nurse felt that it is necessary to educate the men on small family and male
sterilization with an aim to promote NSV by comparing two modes of education on NSV.

**Statement of the Problem**

A Comparative Study to assess the Effectiveness of Structured Teaching Programme and Interaction with Support Group on Knowledge and Attitude towards Male Sterilization for a Small Family Norm and Promotion of No Scalpel Vasectomy (NSV) among Men in Selected Communities in Coimbatore District, Tamilnadu, India.

**Objectives**

**Phase - I**

1. To assess the level of knowledge of men on small family and male sterilization.

2. To find out the association between the level of knowledge of men on small family and male sterilization with selected demographic variables.

**Phase - II**

3. To assess the experience of men who had undergone NSV.

**Phase - III**

4. To evaluate the level of knowledge of the subjects on small family and male sterilization before and after structured teaching programme in the experimental group-I.

5. To evaluate the level of knowledge of the subjects on small family and male sterilization before and after interaction with support group in the experimental group-II.
6. To evaluate the level of knowledge and attitude of the subjects on small family and male sterilization in the control group before and after 1 month.

7. To evaluate the level of attitude of the subjects on small family and male sterilization before and after structured teaching programme in the experimental group-I.

8. To evaluate the level of attitude of the subjects on small family and male sterilization before and after interaction with support group in the experimental group-II.

9. To evaluate the effectiveness of interventions in the experimental groups and control group towards No Scalpel Vasectomy in terms of knowledge and attitude on promotion of NSV.

**Hypotheses**

**H₁** There will be a significant difference in knowledge and attitude score of men after structured teaching programme on small family and male sterilization.

**H₂** There will be a significant difference in knowledge and attitude score of men after interaction with support group on small family and male sterilization.

**H₃** There will be a significant difference in the posttest knowledge and attitude score among the subjects between the three groups.

**Assumptions**

1. Knowledge of small family and male sterilization varies among men in Coimbatore city.

2. Men who had undergone No Scalpel Vasectomy (NSV) have better knowledge on small family and male
sterilization to express their views and share their positive experience with subjects to motivate them to undergo NSV.


4. Men who had structured teaching programme and interaction with support group gain knowledge and develop positive attitude on small family and male sterilization.

5. Enhanced knowledge and change of attitude on small family and male sterilization may or may not promote men to undergo NSV.

**Operational Definitions**

**Effectiveness**

Effectiveness refers to the extent to which the structured teaching programme and interactive session with support group has achieved the desired results intended. It is measured in terms of significant gain in the posttest knowledge score and the attitude scores among the men on small family and male sterilization.

**Structured Teaching Programme**

Structured Teaching Programme (STP) refers to the systematically planned video teaching strategy designed to provide education to men on small family and male sterilization.

**Interaction with Support Group**

Interaction with support group refers to men who had undergone NSV, NSV candidature and volunteers to share their personal experiences of undergoing NSV, the importance of small
family, male sterilization and its benefit with fellow men who are willing to participate in the study.

**Experimental Group-I**

Subjects who had structured teaching programme via video assisted teaching on small family and male sterilization.

**Experimental Group-II**

Subjects who had interaction with the support group or with NSV candidatures on small family and male sterilization.

**Control Group**

Control groups refers to men who had no interventions such as structured teaching programmes or interaction with the support group on small family and male sterilization.

**Small Family**

Small family refers to a family consisting of husband, wife and two children.

**Male Sterilization**

Male sterilization refers to permanent family planning measure performed by two methods i.e., conventional vasectomy or by No Scalpel Vasectomy (NSV) to maintain a small family.

**Conventional Vasectomy**

Conventional vasectomy refers to a surgical procedure which involves a small incision on both sides of the scrotum to liagate and cut a small portion of vas deferens. The incision is closed by sutures.
**No Scalpel Vasectomy**

No Scalpel Vasectomy (NSV) refers to the surgical procedure which involves one small puncture on the scrotum by which both the vas deferens are ligated and cut through the same puncture. The puncture on the scrotum does not require sutures and it closes and heals by itself.

**Knowledge**

Knowledge refers to the information possessed by the men on small family and male sterilization and is measured by the structured questionnaire.

**Attitude**

Attitude refers to the expressed feelings of the men regarding small family norm, family planning and male sterilization which is measured by five point Likert’s scale.

**Promotion of No Scalpel Vasectomy**

Promotion of No Scalpel Vasectomy (NSV) refers to educating the men on NSV, in order to encourage them to consider and to undergo NSV as the method of sterilization to have a small family.

**Delimitations**

- The study was delimited to only married men who attended the out patient department of Govindaswamy Kuppuswamy Naidu Memorial (GKNM) hospital who had not undergone conventional vasectomy or No Scalpel Vasectomy (NSV).
The study was delimited only to 20 men in the phase-II who had undergone No Scalpel Vasectomy (NSV) and residing at Coimbatore city as only they were willing to share their experience and participate in the study on No Scalpel Vasectomy (NSV).

The study was delimited to married men either the men or their spouse who had not undergone sterilization, and working in the three setting namely Central Reserve Police Force (CRPF), Southern Railways and Information and Technology (I.T.) park at Coimbatore city only for all three groups.

**Conceptual Framework based on PRECEDE PROCEED Model (PPM)**

Conceptual frame works are inter-related concepts or abstractions that are assembled together in some rational scheme by virtue of their relevance to a common theme (Polit & Hunger, 2008). The conceptual framework selected for this study is based on PRECEDE PROCEED Model (PPM) developed by Green and Kreuter (1992).

PRECEDE stands for Predisposing, Reinforcing and Enabling constructs in Educational/Environmental diagnosis and Evaluation. The PRECEDE portion of the model focuses on identifying educational factors that influence change.

PROCEED stands for Policy, Regulatory and Organizational Constructs in Educational and Environmental Development. The PROCEED portion of the model focuses on environmental, regulatory, policy, organizational factors have in shaping health and it focuses on identifying ecological factors that influence change.
The goals of the PPM are: firstly to identify the most effective way to promote, change by conducting local needs assessment and programme evaluation. Secondly to describe proximal, intermediate and distal outcomes associated with health promotion programmes.

**Phases of PPM**

PRECEDE is the diagnostic portion of the model. Based on the premise that just as medical diagnosis precedes a treatment, so should an educational diagnosis precede an intervention plan. It has five phases (Phase 1-5).

PROCEED in medical term means, the treatment portion of the model, and comprises the implementation and evaluation of the intervention. It consists of four phases (Phase 6 – 9).

**Phase 1 : Social Diagnosis**

Determines what the community wants and needs to improve its quality of life. This phase starts with the collection of demographic data to determine the most important issue for the researcher to focus on.

In this study, the nurse researcher identified the population explosion in a as a result of inadequate involvement of men in family planning and an urgent need to educate men on male sterilization that is NSV as the safest method of sterilization which has negligible complications at Coimbatore city.
**Phase 2 : Epidemiological Diagnosis**

Determines the health problems or other issues that affect the community’s quality of life, and identifies the health priorities and their behavioural and environmental determinants that must change in order to address the problem or issue. The health priorities are translated into measurable outcome.

In this study, the nurse researcher identified that Information, Education and Communication (IEC), advocacy and constant motivation will improve the knowledge and attitude of male folk on small family and male sterilization. Men, in future, will thereby consider to undergo NSV.

**Phase 3 : Behavioural and Environmental Diagnosis**

Determines what to do in order to change the behavioural and environmental factors. Each of the factors is ranked according to importance in terms of contributing to the selected health problems and is evaluated based on whether it can or cannot be changed. Those factors that are most important and most changeable are considered as the priority targets.

In this study, the nurse researcher stated that number of family planning camps for women and men and the kind of publicity provided for the same as the environmental diagnosis. The behavioural diagnosis are the men’s beliefs that family planning is only meant for women and they fear to undergo NSV due to varied reasons.
Phase 4: Educational and Ecological Diagnosis

Determines what to do in order to change the antecedents (behavioural and environmental factors), taking into account of the following factors.

Predisposing factors – A person’s knowledge, attitude beliefs, values and confidence. In this study, the nurse researcher identified that the men have inadequate knowledge and lack a positive attitude on small family and male sterilization. Further the myths and taboos on NSV and customs that prevent men from undergoing male sterilization and the predisposing factors were identified as enabling factors – it is the availability of resources, accessibility of services, Government laws and policies.

In this study, the nurse researcher identified dispelling the myths and taboos increasing accessibility, providing adequate incentives for undergoing NSV, increasing the number of and finally increasing the knowledge and creating a positive attitude on small family and male sterilization identified the enabling factor for NSV promotion NSV camps.

Reinforcing factors - It is largely the influence of significant others in the social environment.

In this study the nurse researcher stated the number of men who have undergone NSV, the NSV candidatures who willingly share their experience on NSV and encouragement of family members as an important factor to promote NSV.
Phase 3 and 4 set the structure and targets for the planning and designing of the intervention.

**Phase 5 : Administrative and Policy Diagnosis**

This is the plan/or implementation phase where the interventional strategies which need to be put into action. In this study, the nurse researcher felt the need to educate men on small family and male sterilization using. The first educational intervention was structured teaching programme via video assisted teaching and the second educational intervention was interaction with support group which mean identification of men who have undergone NSV/NSV candidature who willing share their experience.

**Phase 6 : Implementation**

This is the actual phase of action. In this study the nurse researcher planned three group pretest and posttest design that is experimental group-I, experimental group-II and the control group.

**Phase 7 : Process Evaluation**

Determines whether the intervention is actually taking the actions intended. This phase - isn’t about results, but about procedure.

In this study, the nurse researcher conducted a pre and posttest knowledge and attitude of men on small family and male sterilization in a duration 1 month to determine the best educational intervention.
Experimental group-I was subjected to structured teaching programme via video assisted teaching on small family and male sterilization.

Experimental group-II was subjected to interaction with support group on small family and male sterilization.

The control group had no interventions.

**Phase 8 : Impact Evaluation**

Determines whether the intervention is having the intended effects on behaviour and / or environment. Helps to assess if the intervention is having the desired effects.

In this study, the nurse research evaluated and compared the subject in subjects in the two experimental groups I and II for improved knowledge and positive attitude on small family and male sterilization when compared with the control group who had no intervention.

**Phase 9 : Outcome Evaluation**

Determines whether the intervention ultimately brings about the outcome identified in phase - I.

In this study, the outcome evaluation is the positive response of men towards NSV as a result of education on small family and male sterilization.