REVIEW OF LITERATURE
REVIEWS OF LITERATURE

Vasectomy, a simple procedure, designed to block the passage of sperms through the vas deferens, was not understood until the 19th century and was not performed as a method of voluntary fertility control until the 20th century. An early reference to vas occlusion was made by the English Surgeon and anatomist JOHN HUNTER in 1775. While performing a dissection, HUNTER noted an obstructed vas deferens in the cadaver on which he was working. In 1830 HUNTER'S student Sir Astley Cooper began an experimental work on vasectomy using dog. He ligated the artery and vein of spermatic cord on one side without touching the vas; on the other side, he ligated the vas itself. On the side where the artery and vein were obstructed, the testes became gangrenous. On the side where only the vas was obstructed, the tissue remained healthy and sperms survived in the ductal tract up to the point of ligation. The epididymis, or the convoluted portion of the vas, gradually enlarged to accommodate the sperms.

In 1883 FELIX GUYON, a French Surgeon, concluded that blocking the vas caused atrophy of
the prostate gland. This finding encouraged genito-
urinary surgeons of the 1890's to perform vasectomies 
concurrently with prostate operations in order to 
reduce the size of the gland and to avoid post-
operative epididymitis. One of the first operations 
is credited to Dr. H. G. Lennander of Upsala, Sweden, 
who in 1897 published a report on his technique.

Dr. Harry Sharp of Indian (U.S.A.) 
reported performing a vasectomy in 1899 on a mentally 
ill patient whose complaint was excessive mastur-
bation. The patient consented to the operation, 
believing that it would relieve his obsession. The 
results, undoubtedly psychological, were favourable. 
In the next ten years, Sharp performed 456 voluntary 
vasectomies on both healthy and institutionalized 
men for the purpose of sterilization.

In the early 20th century, vasectomies 
were, some times, carried out for eugenic reasons on 
criminals, the mentally ill, the retarded, or those 
with hereditary diseases. Paradoxically, even as it's 
contraceptive effects were being documented, the 
operation was performed by Eugene Steinach, an 
Austrian exile, for the purpose of over all bodily 
rejuvenation. From his experiments on rats,
Steinach determined that following ligation of the vas, the sperm producing tissue degenerated while at the same time there was hypertrophy of the hormone producing tissue, which, in its turn, caused renewed germ cell production. This process was originally thought to counter the effects of aging. Later, Steinach's hypothesis was refuted, but doctors and scientists continued to advocate the operation for contraceptive purposes.

As national family planning programs were initiated in South Asia in the 1950's and 1960's, vasectomies filled the obvious need for a simple, inexpensive birth control technique that could be offered on a one time basis.

Although the number of vasectomies performed throughout the world fluctuates from year to year depending on publicity, national budgets or programme guidelines, the simple procedure of vasectomy has clearly taken its place as a major technique in voluntary family planning.

In usually practiced method of vasectomy, an incision is made, the vas deferens is exposed, cut, ligated at both ends and then the skin is sutured. The patient has to come for stitch removal after
seven days. But there are many complications due to open exposure - ligation of the vas deferens. Postoperative infection, haematoma, discolouration, swelling, pain, sperm granuloma, epididymitis and psychological effects of an operation and sinus formation occasionally occur. Open method also requires equipment like knife, blade, suture materials, artery forceps etc.

As vas deferens can easily be felt and held through skin, some persons tried to block the vas blindly without making any skin incision. G.S. Sekhon (1970) developed an instrument for percutaneous vasectomy, which encircled the vas and diathermy snare wire was introduced through a special needle. He divided vas as single, double and triple cut. Instead of diathermy division, the vas may be prolapsed, through a small stab wound using another new instrument - a skin protector in conjunction with vasectomy. In contrast to the single cut technique, all the other methods appeared to be quite satisfactory in achieving the objective. The chances of injury to the testicular - artery by the blind diathermy technique must be quite rare, because, the testicular artery is located a little farther away from the vas, with a separate leash of veins in
pampaniform plexus. Even if worse comes to worst, still
the testicular atrophy need not follow, because of a
rich collateral circulation (Koontz 1965).

According to Schmidt et al (1974),
fulguration of the lumen of the vas deferens is the
optimal method of sealing the cut ends of the vas at
vasectomy. Minimum spermatic granulomas have followed
in over 1600 cases. However, standard types of electro-
surgical units may destroy the full thickness of the
vas-wall with resulting complications. A unit has been
designed with a power source of a single 22.5 volt
dry battery. A bipolar needle is used, so grounding of
the patient is unnecessary. Several hundred vasectomies
can be done before renewing the battery. Complete
destruction of the epithelial layer is obtained with
little damage to muscular wall. Neither spermatic
granuloma nor failures have resulted.