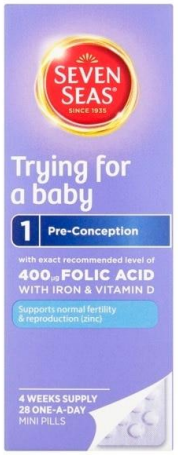
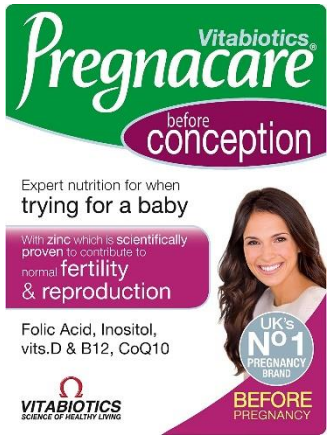
J809 – Cambridge Nationals Level 1/2 Child Development

R057 – Health and Wellbeing for Child Development

TA1: Pre-conception health and reproduction

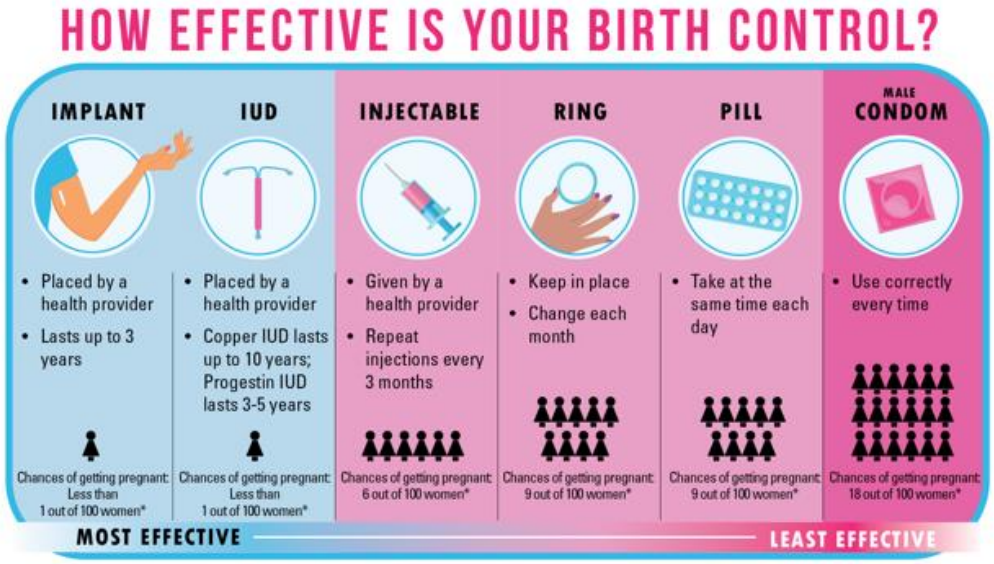
1.1. Factors affecting pre-conception health for women and men	
Factors that affect the decision to have children	
– Relationship between partners – Finance – Parental age – Per pressure/social expectations – Genetic counselling for hereditary disease	
Factors that can contribute to infertility problems	
Weight	**Women –** Being overweight can affect ovulation, which can in turn affect fertility and make it harder to conceive. Being underweight can affect periods and ovulation, which can both affect fertility and make it harder to conceive. **Men –** Being overweight may affect the quality and quantity of sperm. Being underweight can also reduce a man's sperm quality and therefore his fertility.
Smoking	Smoking can make conception more difficult. The risk for fertility problems increases with the number of cigarettes smoked each day. **Women –** Fertility can be affected. **Men –** May have a lower sperm count and may also produce a higher proportion of abnormal sperm.
Drinking alcohol	**Men –** Drinking excessive alcohol can cause men to have lower sperm counts, and it can affect the quality of sperm. **Women –** Even drinking lightly can have an effect on women's fertility.
Taking recreational drugs	Recreational drug use can affect fertility in both men and women. If taken over a long period of time, recreational drugs can cause permanent problems with the reproductive system and infertility.
Parental age	**Women –** As a woman ages, her ability to conceive and the quality of her eggs begin to decline. This decline becomes more rapid after the age of 35. **Men –** Men produce sperm all their adult life, including into old age. As long as they are capable of sexual intercourse, men can father children.
1.2. Other factors affecting the pre-conception health for women	
Folic acid	Taking folic acid during pregnancy can help prevent birth defects known as neural tube defects. This includes spina bifida, a condition where a baby's spine and spinal cord do not develop properly. Women are advised to take 400 micrograms (mcg) of folic acid per day as a supplement before conception and until the 12th week of pregnancy. They should also eat folate-rich foods such as green vegetables, brown rice and fortified breakfast cereals, to consume a combined total of 6000 mcg of folate a day from folate-rich foods and a supplement.
Up-to-date immunisations	Keeping immunisations up to date will contribute to keeping a woman healthy both before and during pregnancy. This in turn benefits the baby.





1.3. Types of contraception methods and their advantages and disadvantages

Barrier Methods	
Method:	Male and female condoms – A male condom is a sheath made from latex. A female condom is a sheath made from polyurethane.
Advantage	It helps protect against many STIs.
Disadvantage	Can come off or split open, making it ineffective.
Method:	Diaphragm or cap – A dome-shaped piece of latex or silicone that covers the cervix.
Advantage	Helps to protect against some STIs.
Disadvantage	Can cause cystitis.
Natural Family Planning	
Methods:	Temperature – Monitoring her temperature. Cervical Mucus – Monitoring bodily secretions. Calendar – Monitoring the dates in her menstrual cycle.
Advantage	Methods are compatible with all cultures and faiths (because some do not permit the use of contraception).
Disadvantage	Requires rigorous tracking and monitoring to be accurate.

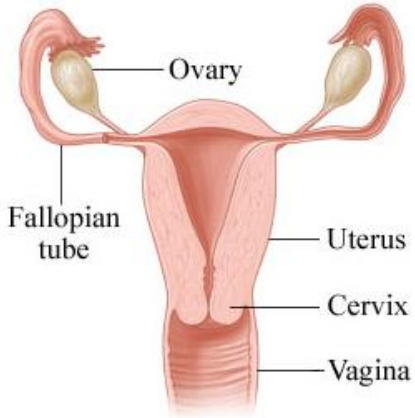


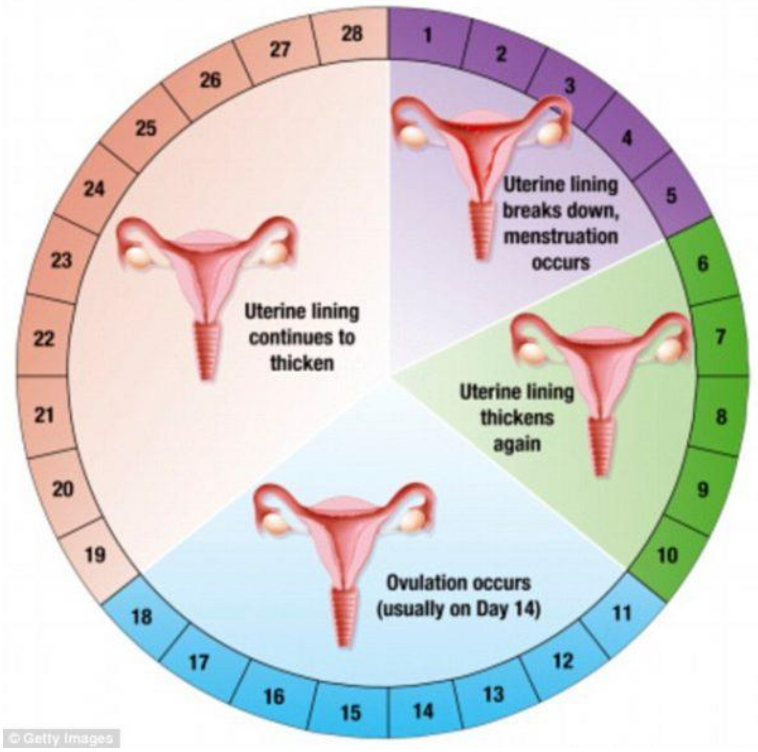
Hormonal Methods	
Method:	Contraceptive pills: Combined pill – A tablet containing hormones (oestrogen and progestogen) that prevent ovulation.
Advantage	Using this method does not interrupt sex.
Disadvantage	Ineffective if the woman vomits or has severe diarrhoea.
Method:	Contraceptive pills: Progestogen-only pill – Causes the mucus in the cervix to thicken so that sperm cannot come into contact with an egg.
Advantage	Can be used immediately after giving birth.
Disadvantage	Side effects: spot-prone skin, tender breasts, irregular periods.
Method:	Contraceptive injection – An injection received every few weeks which causes the mucus in the cervix to thicken so that sperm cannot come into contact with an egg.
Advantage	Suitable for those who find it difficult to take a tablet at the same time each day.
Disadvantage	After stopping the injections, it can take up to a year to get fertility levels back to normal.
Method:	Contraceptive implant – A health professional will insert a small flexible tube into the skin of a woman's upper arm which releases progestogen hormone into the body.
Advantage	Can be used immediately after giving birth.
Disadvantage	Periods may change to become lighter, or heavier and longer.
Method:	Intrauterine device/system – A small T-shaped plastic device inserted into the uterus which releases progestogen hormone.
Advantage	Effective for 3-5 years, depending on the type.
Disadvantage	May make periods lighter, shorter or stop altogether.
Method:	Contraceptive Patch – Worn on the skin and introduces hormones (oestrogen and progestogen) to the body.
Advantage	Still effective if the woman vomits or has severe diarrhoea.
Disadvantage	Side effects: Headaches and raised blood pressure.
Method:	Emergency contraceptive pill – Prevents pregnancy after a woman has had unprotected sex or contraception method has failed.
Advantage	Available free of charge from some clinics.
Disadvantage	Must be taken within a specific time frame (3 or 5 days).

1.4. The structure and function of the reproductive systems

The female reproductive system	
Ovaries	Control the production of the hormones oestrogen and progesterone, which govern the development of the female body and menstrual cycle. Inside the ovaries are undeveloped egg cells called ova.
Fallopian tubes	These tubes connect the ovaries to the uterus and are lined by minute hairs called cilia. Each month, one of the ovaries releases an egg into a tube, and the hairs help the egg to reach the uterus.
Uterus/womb	This is where the foetus grows and develops. It is here that an egg will become implanted.
Cervix	This is a very strong ring of muscles between the uterus and vagina, and it is usually closed. It keeps the foetus securely in place in the womb throughout pregnancy. The cervix dilates (opens) during labour to allow the baby to be born.
Vagina	Connects the cervix to the outside of the body. It is here that the man's penis enters the body during sex. Folds of skin called labia meet at the entrance of the vagina, forming the vulva. Urine passes through the urethra, which opens into the vulva but is separate from the vagina.
The menstrual cycle	This is the cycle in which women have their periods and are fertile (can conceive). Girls begin having periods when they are sexually mature (average age: 12) until menopause (average age: 51).

Male reproductive system	
Testes	The scrotum contains two testes. These make millions of sperm and produce hormones including testosterone, which governs the development of the male body.
Sperm duct system/epididymis	The sperm duct system consists of the epididymis, which contains the sperm, and the vas deferens, which are the sperm ducts (tubes) that sperm pass through.
Urethra	This tube inside the penis carries both urine and semen, but not both at the same time. A ring of muscle controls this.
Penis	**Vas deferens:** A muscular tube that extends upwards from the testicles, transferring semen that contains sperm to the urethra **Seminal vesicles:** A pair of glands found in the male pelvis. The glands produce many of the ingredients of semen.





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1.5. How reproduction takes place	
Ovulation	Around day 14 of the menstrual cycle, an egg is released from one of the ovaries and travels along the Fallopian tube.
Conception/ fertilisation	A sperm penetrates an egg following ejaculation of sperm from the penis into the vagina. The sperm passes through the cervix and uterus, and meets the egg in the Fallopian tube and loses its tail. The egg and sperm then fuse as one cell. The fertilised egg continues along the Fallopian tube. Between 4-5 days later, there is a mass of around 16 cells. This forms a ball of tissue (the blastocyst).
Implantation	After around another 7 days, the fertilised egg arrives in the uterus and implants itself in the enriched lining. Once it is attached firmly, conception has been achieved and the egg is called an embryo.
Development of the embryo and foetus	**Amniotic fluid:** The protective liquid which is contained in an amniotic sac. This provides a cushion for the foetus, helping to keep it safe from bumps and injury. It also contains nutrients, hormones and antibodies for the baby. **Umbilical cord:** A tube that connects the foetus to the mother during pregnancy. It has a vein that takes food and oxygen from the placenta to the baby, and two arteries that carry waste from the baby to the placenta. **Placenta:** An organ that develops in the mother's uterus during pregnancy. It is attached to the wall of the uterus. The baby's umbilical cord arises from the placenta. The placenta supplies oxygen and nutrients to the baby and removes waste from the baby's blood. **How the embryo becomes a foetus:** At the age of 8 weeks, the embryo becomes a foetus.
Multiple pregnancies	**Identical twins:** One fertilised egg divides into two cells. **Non-identical/fraternal twins:** Two separate eggs are released and fertilised by two different sperm.

1.6. The signs and symptoms of pregnancy	
Breast changes	– Become larger – Feel tender – Feel tingling – Veins more visible – Nipples appear darker – Nipples stand out
Missed period	– The first sign of pregnancy is a missed period or a very light period.
Nausea	– Feeling sick and nauseous, and/or vomiting during pregnancy can occur at any time of day. – This symptom generally begins 6 weeks after a pregnant woman's last period.
Passing urine frequently/ discharge	– Pass urine more frequently – Constipation – Increase of vaginal discharge
Tiredness/ emotional	– Women may feel tired or exhausted, particularly during the first 12 weeks of pregnancy, because of hormonal changes in the body. – These hormonal changes can also cause a woman to feel emotional and upset at this time.