

## Why Fertility Education is needed in schools

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### **Abstract**

**Fertility education needs to be at the top of the agenda if we want to make a major impact in preventing infertility. We have been successful in reducing teenage pregnancies through Sex and Relationship education (SRE) and education on contraception. Sex and relationship education is for now and fertility education is for the future. Conception and contraception are two sides of the same coin. We need to empower our young people with education on fertility so that they can stand a better chance of falling pregnant when they choose to. Education empowers.**

**Key words:** Conception, contraception, education, infertility, sex and relationship education, SRE.

The World Health Organisation classifies infertility as a disease. Fertility problems affect one in seven heterosexual couples in the UK (NICE guidelines, 2013) and is the second most common reason for women to visit their general practitioner. Infertility is associated with aging and also several medical conditions in both men and women and if untreated, can lead to depression and other medical, psychosocial disorders. Fertility needs to be addressed as part of gender equality and social equality issues in education and healthcare.

Sex and Relationship education (SRE) in schools in Europe developed rapidly in the second half of the 20<sup>th</sup> century (Policies for Sexuality Education in the European Union, 2013). In Sweden it has been a mandatory part of school education since 1956, in Germany since 1970 and in France 1973. In Germany it covers all subjects concerning puberty, biology of reproduction, sexual activity, sexually transmitted infections (STIs), homosexuality, sexual violence and child abuse. In France schools are expected to provide 30 to 40 hours of sex education and pass out condoms to students in grade 8 and 9. The UK (GOV.UK, 2013) only recently introduced a compulsory SRE model into the National Curriculum although parents can withdraw their children from SRE if they want to. Biological aspects of growth and reproduction however are essential elements of the science module.

Laudable and effective though these programs are they are very much concerned with the problems of unwanted pregnancy, STI's, abortion and contraception. All curriculae cover reproductive science usually in a different module but although I have examined a large number of biological science curriculae from different European countries I have yet to see the question of fertility education being addressed. The biological mechanisms behind sperm production, ovulation, fertilisation, implantation and foetal growth may be described but the significance of behavioural factors in causing these mechanisms to fail are not dealt with and the subject of diminishing ovarian reserve is not even discussed. This is surely the reason why I repeatedly meet apparently intelligent, successful career women who are taken aback when they are informed that the reason they have failed to conceive after taking contraceptives for many years is that their ovarian reserve is critically low. For some reason they think that the pill will protect them from the age-related decline in egg reserve.

I recently wrote a letter to the UK Secretary of State for Education, urging her to introduce fertility education in the secondary school curriculum as part of the SRE Module in the UK. The UK has traditionally fallen behind most European countries in combating teenage pregnancy rates but with the recent improvements in the curriculum and the

availability of free contraception these rates have shown an encouraging fall. Many argue that SRE is about as much as schoolchildren can cope with and that we should avoid causing anxiety in children about a problem they may not face for several years. I believe that this is very short-sighted and that SRE is intimately connected with a girl and boy's future fertility. Conception and contraception should be regarded two sides of the same coin. We need to empower our young people by educating them about fertility issues, so that they can stand a better chance of falling pregnant naturally when they choose to and not have to undergo expensive and exhausting assisted conception treatment.

There are several options to achieve effective fertility education. Should it be part of SRE or should it be part of secondary school or further education curriculum in biological science? Whichever option is chosen, it needs to be statutory in order to ensure consistency and quality across each European country.

If fertility education is to be a mandatory module it is worth exploring what the subject content should be and who should deliver it. The module should include:

1. Obstruction to gamete transfer and tubal damage as a result of sexual behaviour, STIs and abortion.
2. The changes in a woman's ovarian reserve that occur with age, factors that can influence or reduce ovarian reserve such as smoking and maternal age at menopause.
3. Factors that can reduce the male sperm count or damage sperm function.
4. General health factors that can increase the chances of infertility.
5. Implications of delaying pregnancy. The importance of the individual's choice should be emphasised but pupils should be made aware of studies such as those of Habbema et al. (2015) who by the use of computer modelling estimated the age when the female partner should start trying to conceive related to the number of children she wants. For example they should be told that in order to have a 90% chance of having a single child the female should start trying to conceive before the age of 35 and for two children the latest starting age is 31 years. These simple statistics can have a profound impact in providing school pupils with information to make life changing choices.
6. Principles underlying fertility investigation and treatment options including IVF.
7. Demographic issues surrounding low population growth, the implications for society of this problem and the impact of pro-child policies

(such as those introduced in France (Chemin, 2015)) and immigration on the replacement birth rate.

It could be argued that teaching on the problems of tubal infertility could be piggy backed onto the SRE module and the remaining content on to the Biology of Reproduction module but I would favour Fertility Education being a coherent module in its own right. As to the best person to deliver such a programme the involvement of a medical practitioner in reproductive medicine or fertility nurse would be advisable.

The ability to procreate is such a fundamental human right that knowledge about factors affecting a boy and girl's future fertility must surely be a basic tenet of their education. I believe that education about the biology of fertility and the factors affecting fertility would help to preserve fertility and in the long term, prevent infertility in young people.

Education is vital for it is known that fertility awareness is much lower in non-medical students compared to medical students (Nouri et al., 2014).

It could be argued that there is no proof that the introduction fertility education would prevent infertility but we have precedent to indicate that such educational interventions work. It has been shown that in France, Germany and the Netherlands greater access to sexual health education in schools and services for teenage children had a significantly positive impact on reducing teenage pregnancy rates and abortion while in the USA abstinence-only teaching resulted in a considerably greater incidence of teenage pregnancies and STD's. For example in 2009 the USA had a 5 fold higher incidence of teenage birth compared to France, Germany and Holland where enlightened sex education programmes had existed for many years (Adolescent Sexual Health, 2011). The key to successful educational intervention is to foster mutual respect between boys and girls and encourage a capacity for active citizenship. We must stop infantilising young people and engage them fully in their fertility future.

Beyond the implications for the individual there are also societal factors to consider. Fertility rates in Europe are below replacement level (Hoorens et al., 2001; Eurostat, 2015). The Replacement Birth Rate in the UK and most of Europe has been under 2 births per woman for decades, and has been largely sustained by births to immigrant mothers. However reliance on immigration is not the long-term solution. We need to prevent infertility through education and support fertility treatments adequately with public funds to ensure equal access. At a societal level, we must implement family friendly

policies at the work place to encourage women and men to enter into early parenthood.

Knowledge is power and education is empowering. There is an urgent need to shift the paradigm from treatment to prevention in infertility.

We as doctors in reproductive medicine must campaign for the introduction of statutory fertility education as part of the curriculum in schools.

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