

Demographic causes and implications of increased use of ART: the case of the Czech Republic in the European context

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According to WHO's definition the reproductive health implies that people have the capability to reproduce and the freedom to decide if and when to have a child. Reproductive health of individuals is influenced by many factors like age, lifestyle, habits, genetics, etc. Recently demographic aspect of reproductive health has become more important in European countries due to postponement transition towards a late-childbearing regime. The time span available for reproduction has narrowed and affected the possibility for an increasing proportion of women to achieve their desired fertility due to infertility. The potential effect of ART pushes the age limit of childbearing to increasingly later stages of the life course. The aim of the study is to evaluate the importance of increased use of ART for the recent and future fertility trends in the Czech Republic, particularly to which extent it has contributed to the increase in fertility level and average mother's age at first birth.

Data on ART published by the European IVF Monitoring (EIM) were used for comparative analysis. Data on (ART) have been collected from national registers by European Society of Human Reproduction and Embryology (ESHRE) since 1997. Drawback of this database is its incompleteness as up to 2005 only in 16 countries all clinics have reported to the EIM (Andersen et al, 2009). While in 1997 the Czech Republic provided complete information because all 18 clinics reported to the Czech National Register (Nygren et al, 2001) in 2005 only 10 out of 22 clinics in the Czech Republic provided data. Since 1998 reporting of the Czech ART clinics about the outcomes of their treatments has not been mandatory anymore due to change in law that did not ensure the protection of individual data. Thus, as only estimates are available for the Czech Republic in the period of 1998-2005, more qualified analysis could not be done and the comparative analysis has to be interpreted with caution (Kocourková et al, 2009). Only in 2006 a new law no.227/2006 was adopted to set new conditions for the Czech National Register. Data from this newly introduced register will be analysed.

Although ART treatment has widespread in most European countries since the 1990s, up to now there is a large variation in the use of ART. In the Czech Republic the continual increase in the number of cycles was registered during the 1990s in connection with an expansion of new private ART clinics. An acceleration of use of ART coincidentally occurred in the mid 1990s when a deep decline in number of births was registered. In 1997 the Czech Republic reached more than 700 cycles per one million inhabitants, which was close to the European average. However, in Denmark this amount was two times higher. Even though the Czech Republic has been facing the lack of reliable ART data since the end of the 1990s, its average position within Europe probably has not changed. Mardešić (2006) estimated that about 900 cycles per 1 million inhabitants were carried out in the Czech Republic. This number was close to the data reported in the Netherlands or France in 2005, but made up only half of the quantum registered in Nordic countries. As the estimation of average number of cycles suggests, the need for fertility treatment has not been met in the Czech Republic yet. Moreover, due to the continuous postponement of childbearing to higher women's age, demand for ART treatment will be even higher in the near future and will probably result in the need of more than 2500 cycles per million inhabitants in the Czech Republic.

In the Czech Republic health insurers cover only three treatment procedures for a woman in her life until the age 39 while in Belgium up to six cycles in a lifetime for all ART-related laboratory activities are reimbursed to females aged under 43 (Ombelet, 2007). In addition, if a woman in the Czech Republic gets pregnant after the second procedure and wants to have another child by this method, the insurer covers only one further procedure while in Belgium another six procedures are being covered. On the other side, the legislation in Denmark does not differ much from the Czech Republic. Assisted reproduction in Denmark is provided free of charge to women below the age of 40 who do not have a child with their current partner and is easily accessible at public clinics within the National Health System. Up to three cycles are provided free of charge. In addition, several regions within Denmark also fully subsidize the provision of ART for women who already have one child with their partner (Andersen et al, 2006). Finally, according to surveys, the Czechs support assisted reproduction but they lack knowledge and often overestimate the risk linked to artificial fertilisation.

In the 1990s a trend towards later childbearing contributed greatly to the decline in TFR in the Czech Republic. Recently, recuperation of delayed births has resulted in the increase of TFR to 1.5 children per woman which is considered to be a critical minimum level. The highest increase in fertility rates occurred in the age group of 35-39, in which the contribution of ART treatments usually is greatest. Moreover, a substantial increase of multiple births has been registered. In 2005 the estimated share of children born after ART in the Czech Republic (3%) was close to countries with the highest share (Nordic countries, Belgium or Slovenia). However, the Czech Republic registered only half the number of ART cycles per million inhabitants than countries on the top which classifies the Czech Republic next to France. However, in France only 1.7 percent of children born after ART were registered at that time. Lower number of ART cycles appears to result in greater impact on the relative structure of live born children in the Czech Republic. Provided that the success rate in the Czech Republic and France do not differ significantly, the explanation lies in extremely low TFR of 1.28 in the Czech Republic compared with 1.9 in France. Lower TFR results in lower numbers of born children. Hence, the same number of children born after IVF has greater effect in the country with lower fertility. Although the increased use of ART is limited, the impact on TFR could be crucial in the countries with TFR below 1.5. Therefore it is particularly relevant for the Czech Republic to consider improved access to ART as a part of policies to counteract the population decline.

In some recent studies it was showed that ART can play an important role in preventing West European countries from falling into the low fertility trap (Grant et al., 2006, Hoorens et al., 2007, Sunde, 2007)). We argue that higher impact of spreading of ART could be expected in the countries locked in the low fertility trap. Population policy designed by Estonia could serve as an example for the Czech Republic to follow. Recently Estonia was the only European country that announced reimbursement of IVF treatment with the explicit aim to increase fertility. Since 2006 the TFR in Estonia has been above the level of 1.5 children per woman. Up to now Estonia seems to be the only country successfully escaping the low fertility trap. Reimbursement of IVF treatment within a comprehensive policy explicitly aimed to increase fertility most likely helped Estonia to get from the low fertility trap back above the critical level of 1.5. In the Czech Republic there is a chance to get over the critical level of TFR if comprehensive population policy including the improved access to ART was accepted. Similarly to Belgium well-considered strategy to improve access to ART treatment is better acceptable and more effective provided that the aim to enhance fertility is explicitly connected with other aims like “optimizing the quality of health care” as the goal of infertility treatment should rather be the birth of a health singleton child. Moreover, the availability of

ART might encourage couples to seek help sooner rather than later (Hoorens et al, 2007). Thus the risk of further delay of childbearing encouraged by ART treatment could be partly reduced.

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