

Female Sterilization: Selected Medical and Societal Aspects

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Abstract

Background: Global overpopulation leads to poverty, overcrowding and environmental degradation. Sterilization is the most reliable method of birth control.

Objective: to analyze selected medical and demographic aspects of cesarean tubal sterilization.

Method: review of literature; observations in some parts of the world.

Results: tubal sterilization is a reliable method of birth control. Cesarean tubal sterilization has an advantage of avoiding additional incisions and anesthesia.

Conclusion: Cesarean tubal sterilization should be considered for women not planning further pregnancies. Cesarean section on maternal request must be available in the absence of contraindications for attempting vaginal delivery. A more frequent use of tubal sterilization would be especially favorable for overpopulated regions.

Keywords: Permanent Contraception, Birth Control, Sterilization, Bilateral Fallopian Tube Occlusion, Cesarean section.

1. Introduction

Birth control has been obfuscated in some countries by presumed national interests. Demographic growth is used to strengthen defenses and economy [1]. In Russia, popular TV series depict unexpected pregnancies both in and out of wedlock as natural and unavoidable. The risks associated with abortions and contraception are exaggerated or invented by some authors, including medical professionals [2] and the media. The mass misinformation can be seen as a reproductive coercion sanctioned by the state. Sexual and reproductive coercion can lead not only to abortions and unwanted pregnancies but also to unfavorable pregnancy outcomes, sexually transmitted and hereditary diseases, psychiatric and other derangements [3-6]. Control of reproduction may have consequences for mothering and relationships with children [7]. Growing up as an unwanted child is associated with abuse and neglect, which is a source of emotional suffering and potential damage [8-10]. Among others, religious argumentation is used for opposition to birth control. In fact, religion-related objections to contraception, abortions and sterilization are speculations as no mention of these methods is made in canonic sources. It seems

to be inevitable that the global human population will become reduced during the present century. How this happens may be to some extent within our control. It will not remain so indefinitely [11].

Inter-ethnic differences in the birth rate are mentioned rarely these days. Smoldering international conflicts contribute to birth rate increase in certain regions. In the past, overpopulation was counteracted by homicide, pestilence and famine. Today, scientifically based humane methods can be used to regulate the population size, considering ecological and economical realities. The tubal sterilization and vasectomy are reliable methods of permanent contraception. Male sterilization (vasectomy) is an outpatient procedure performed under local anesthesia [12]. Sterilization methods in women such as tubal ligation, laparoscopic tubal disruption or hysteroscopic occlusion are generally perceived to be safe [13,14]. Cesarean section (CS) is an opportunity to provide permanent contraception without additional trauma [15,16]. Salpingectomy at the time of cesarean delivery is safe [17]. Some experts have found no significant differences

in operative time, others reported that salpingectomy extended the time by 12-15 minutes relative to tubal occlusion [18]. It was associated neither with an increased rate of surgical complications nor with perioperative morbidity [18-20]. Moreover, bilateral salpingectomy can reduce ovarian cancer risk compared to other methods of tubal occlusion [17,21,22].

Admittedly, surgical sterilization can be seen as a violation of the bodily integrity. The same, however, can be said about sexual and reproductive coercion committed for migration/accommodation purposes, to spread a certain genotype or to boost national birthrate. The fact that some victims married their rapists was erroneously seen as indication that women enjoy it; in fact, existing accounts demonstrate various degrees of trauma. In this connection, battered woman syndrome and learned helplessness must be timely recognized; details and references are in [11]. High fertility is sometimes used for geopolitical advance and should be counteracted as such. It can be argued that sterilization does not prevent sexually transmitted diseases; however, these diseases may be regarded as self-inflicted in consequence of negligent behavior, thus being in a sense a private matter. When children appear, it ceases to be a private matter, because the number of children in a family is of public concern today, as is the size and density of the population. Bringing a new individual into the world leaves fewer resources for those who already need them [23].

2. Mini-review

The aim of this mini-review was to analyze CS and cesarean tubal sterilization (CTS) from the clinical and demographical viewpoints. Tubal sterilization is a reliable method of birth control. The majority of women are pleased with their decision to be sterilized [24,25]. Patients are more likely to regret declining a tubal ligation during unplanned CS than regret accepting one [25]. As mentioned above, salpingectomy has been associated with a decreased risk of ovarian cancer [17,21,22] and possibly has a positive impact upon sexuality [26]. CTS has an advantage of avoiding additional incisions and anesthesia [27]. A systematic performance of CTS could be an efficient birth control method, also counteracting the gender imbalance in some regions. For example, in China, the male-to-female ratio at birth is elevated, while the ratio was reported to increase considerably with the age and number of parities, being higher in non-primipara [28]. The gender imbalance at birth was reported also from India and other countries; more details and references are in [11].

The worldwide increasing CS rates are believed to have resulted in improved maternal and neonatal morbidity and mortality rates [29]. At the same time, a correlation of an increase in severe maternal morbidity and mortality with the rise in U.S. cesarean birth rates has been reported [30]. However, a correlation is not a final proof of causality. Some reports on enhanced maternal morbidity and mortality are probably biased as they confound CS with conditions related to maternal death not depending on the mode of delivery [31,32]. Accordingly, CS may be associated with morbidities and older age rather than a risk factor by itself [33]. Several studies have shown a direct correlation between CS rates and improved maternal

and neonatal mortality [34,35]. In a recent meta-analysis, planned CS was associated with significantly decreased rates of neonatal complications such as birth trauma, tube feeding, and hypotonia, when compared to planned vaginal delivery. For mothers, planned CS was associated with significantly less chorioamnionitis and urinary incontinence at 1 to 2 years [36]. Birth is a time of stress, manifested among others in tooth enamel by marked stria known as the neonatal line, which is on average thicker after vaginal delivery than after CS [37,38]. This is an additional argument in favor of CS that is less stressful for the newborn.

With regard to certain maternal complications e.g. pelvic floor injury and urinary incontinence, elective CS was reported to be protective compared to vaginal delivery and emergent CS [39-41]. Admittedly, CS is costlier and implicates more risks in conditions of limited medical facilities. It is known that CS is associated with increased risk of hemorrhage, hysterectomy, complications of anesthesia, venous thromboembolism and post-partum infections [29,30,42]. However, surgical procedures generally tend to improve. In more developed countries, CS is widely regarded as a safe intervention owing to mastered surgical techniques, improved anesthesia, infection and thrombosis prophylaxis [43]. Last but not least important, granted requests for elective CS were reported to be associated with decreased postpartum depression rates [44].

There seems to be some conservatism and bias in favor of vaginal delivery also in the professional literature. For example, it was claimed that the “overuse of SC adversely affects the health of the mother and the child” [45] with references [46,47]. However, there are no such or similar statements in the articles [46,47]. Analogously, it was stated that “morbidity and mortality [associated with CS is] more often than [that associated with] vaginal delivery” [48] with references to the sources [49,50]. These articles are about the vaginal birth after SC [49,50], which is a different topic. Indirect evidence in favor of a biased attitude to CS is the frequently mentioned association of CS with long-term offspring outcomes such as asthma, type 1 diabetes mellitus and gastrointestinal diseases, although the evidence is poor [43]. The proposed mechanisms through which CS could impact the immune system are obscure and largely hypothetical e.g. impaired bacterial colonization of the intestine [43]. If it is so indeed, the lacking exposure to certain microorganisms at CS could be compensated by probiotics [51].

3. Conclusion

CTS should be generally considered for women not planning further pregnancies. Certainly, the latest delivery is not necessarily the last one, since circumstances may change, including socio-economic conditions or death of a child. The age, attitude of the male partner and other data may be considered taking decisions about recommendations. Advising women on the options for delivery it is important to preserve objectivity, i.e. that the risks of vaginal delivery are explained as well as those for planned SC [52]. In any case, CS on maternal request must be available also in the absence of contraindications for attempting vaginal delivery. This pertains also to Russia, where CS is generally not performed

on a maternal request [53]. Certain experts reported that they had performed CS on maternal request and that countrywide CS is used more frequently when the procedure is paid on by patients [54]. Others insist that SC must be done only in accordance with indications. The latter stance is prevailing today as the government stimulates fertility. A more frequent use of tubal sterilization would be especially favorable for overpopulated regions with a gender imbalance. Countries receiving immigrants decide whom they take and whom not. Permanent sterilization might be considered as a desired or obligatory condition for a residence permit. Unfortunately, there is a variation in the CS rates between ~44.3% across Latin America and the Caribbean vs. 4.1% in central and West Africa [29]. More international cooperation and guidance by most developed nations is needed instead of rivalries and conflicts.

Author Contributions:

Conceptualization, writing: SVJ (single author).

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