Review Article

The Fact of Preconception Care in Turkey

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Abstract

This approach focuses on improving the health of expectant mothers and fathers before conception and includes a number of pre-pregnancy initiatives to achieve a healthy pregnancy term and healthy baby. The aim of this review is to discuss the issues that need to be managed under preconception care and counseling and the situation in Turkey.

There is no standard preconception care program in Turkey. There are inadequacies in the health care services in Turkey in terms of raising awareness of fertility for fertile women i.e. women in the preconceptional period, prevention of early marriages, management of chronic diseases, healthy diet and abandonment of harmful habits. The Ministry of Health has some studies on preconception care. However, the use of preconceptional care services fails due to the lack of health professionals and existing service network.

It is the duty of all health professionals to raise awareness in order for society to adopt fertility awareness and healthy lifestyle and it should be carried out within the framework of cooperation with all health branches.

ABBREVIATIONS


INTRODUCTION

The concept of Preconception Care was defined in the United States about thirty years ago as a protective approach to prevent poor obstetrics outcomes [1]. However, today in developed countries, institutions and organizations related to pediatrics, neonatal care, obstetrics, women’s health and public health regard this service as an indispensable part of women’s health services. The preconception care approach that envisages improving health involves a set of interventions performed before pregnancy to achieve healthy pregnancy and have a healthy baby, and even more, practices to protect and improve the health of fertile women [2].

The aim of this review is to discuss the issues that need to be managed under preconception care and counseling and the situation in Turkey.

Identification and intervention of risks in the preconceptional period greatly reduces the egativities caused by chronic diseases, harmful habits and infections [3]. Some applications with level A evidence to be assessed in the preconceptional period and the situation in Turkey are discussed below, respectively [4].

Reproductive plan

A reproduction plan should be made for couples during preconceptional period [5]. In a study conducted in Iran, counseling was given to the experimental group of 152 women between the ages of 18 and 35 and planning to become pregnant within a year, for three weeks before pregnancy and the preconceptional lifestyle group counseling was associated with increased awareness and healthy lifestyle among women planning to conceive [6]. In a study conducted in Turkey, the planned pregnancy rate (88.4%) in the nullipar pregnancies (n = 475) was significantly higher than the planned pregnancy rate (67.9%) in multiparous pregnancies and it was emphasized that as the educational level of women increased, the planned pregnancy rate also increased [7]. It is important for a woman to have fertility awareness, in other words to know the fertile period of the menstrual cycle. According to the 2013 results of the Turkish Demographic Health Survey (TDHS), which reflects the country as a whole and is repeated every 5 years, only 27% of women are aware of the fertile period of the menstrual cycle [8].

Medical history / chronic disease management

Diseases such as Diabetes, Thyroid, Phenylketonuria, Epilepsy, Hypertension, Rheumatoid Arthritis should be...
investigated in the preconceptional period [5,9]. Approximately 800 women around the world lose their lives in a day due to problems related to pregnancy and child birth. 99% of these deaths occur in developing countries and the vast majority result from preventable causes. In fact, preconception care services are one of the most important means of preventing these deaths [10].

According to the study carried out by the Ministry of Health in Turkey in 2015, maternal mortality rate decreased to 14.7 per 100,000. When the causes of maternal deaths are examined, it was seen that direct maternal deaths decreased as a result of various measures taken by the Ministry of Health (21% in hemorrhage, 17% in edampsia, 9% in embolism and 3% in infection), on the other hand deaths due to cardiovascular causes (24%) were found to take first place in indirect maternal deaths. The fact that the prevalence of preventable maternal mortality is still 41% in the main mortality rate can be explained by the lack of planning of health services at the desired level before and during pregnancy and by the neglects of both health professionals and women and their families [11]. The Ministry of Health established a preconception care guide for use in primary health care services with the publication “Healthy Start in Marriage” in 2014 but there are insufficiencies in its implementation. In this regard, health professionals are required to receive in-service training.

**Infections and immunization**

All women in reproductive age should be evaluated for tetanus diphtheria toxoid, measles, rubella, mumps and chickenpox and appropriate vaccination services should be provided.

The World Health Organization recommends that all women in the age of fertility be protected against tetanus. In the United States, tetanus vaccine is routinely administered between 27 and 36 gestational weeks. Similarly in Turkey, 5 doses of tetanus vaccine are administered to all women in the reproductive age. Additionally, two doses of tetanus vaccine are routinely administered in pregnancy if no previous vaccination was administered [12].

Centers for Disease Control and Prevention (CDC) recommend at least 28-days contraception after vaccination with rubella before pregnancy [13]. Rubella vaccine has been added to childhood immunization program as combined vaccine including Measles-Rubella-Mumps in Turkey since 2006. Additionally, 1-dose rubella vaccine is administered to women between the ages of 18 and 35 from 2009 onwards [14]. Despite all this, there is still a group of women who have not been vaccinated.

In a community-based study to examine the neonatal consequences of HIV-infected women in Canada, HIV-infected women between the ages of 18-49 were found to deliver more preterm labor and lower birth weight infants compared to healthy women. Correct treatment of HIV during pregnancy may reduce HIV transmission and adverse perinatal outcomes [15]. Turkey Public Health Agency under Ministry of Health published HIV / AIDS diagnosis and treatment guide in 2013 and the steps for the treatment of HIV infection in pregnancies and the prevention of transmission from mother to baby were established [16]. The current HIV incidence is 0.15 per 100,000 population. However, since the disease is concealed in Turkey, it is impossible to talk about a true incidence. The systematic review by Lassi et al., (2014) emphasized that condom use is the most effective way to protect against sexually transmitted infections including HIV and that gaining condom use habit in preconceptional period is effective in preventing sexually transmitted infections. Condom use is increasing in Turkey and 15.8% of couples use condom according to 2013 data [17].

Hepatitis B (Anti Hbs), Hepatitis C (Anti HCV), AIDS (Anti HIV), Thalassemia (hemoglobinopathy) and blood group tests have become mandatory for couples getting married within the scope of pre-marriage counseling in primary health care services in Turkey for the management of sexually transmitted infections in the preconceptional period [18]. However, it is observed that health professionals do not take into account the confidentiality principle while explaining the results.

Genetic screening and family story: In the preconceptional period, the family story of each of them should be assessed and if necessary genetic screening should be performed [19,20]. It is known that the prevalence of consanguineous marriage in Turkey is 23.6% [21]. According to the retrospective study conducted by Akbaba et al., (2012) in order to determine the disability and the prevalence of consanguineous marriage in disabled persons (n=708) the prevalence of consanguineous marriage was found to be 20.6% and almost half of the disabled children’s parents (44.5%) were found to be relatives with each other [22]. It is important that genetic screening and counseling services are conducted before marriage because the consanguineous marriages in Turkey are in a frequency that cannot be neglected. Unfortunately, such screening is not routinely available. Only thalassemia disease, an autosomal recessive inherited anemia type, is questioned in Turkey.

Nutrition (obesity and low weight): Folic acid, vitamin supplements, weight control (obesity and low weight) are important in the preconceptional period. The use of folic acid in the preconceptional period is the most effective evidence to reduce neural tube defects by 69% [23,24]. Folic acid should be given to women in the reproductive age during the preconceptional period and throughout pregnancy. According to the study performed to measure the level of knowledge of the pregnancies about use of folic acid before and during pregnancy by Yüce et al., (2001), although 71% of pregnant had a planned pregnancy, but only 1% of them had been using folic acid before pregnancy [25].

Pre-pregnancy obesity increases the preterm birth rate by 32%, doubles the risk of pre-edampsia and gestational diabetes, increases the cesarean delivery rate and neural tube defect and risk of congenital heart disease in the newborn [26]. In Turkey, the incidence of obesity in adult individuals is 30.3% and the incidence of mild obesity is 34.6%. The incidence of obesity and overweight / mild obesity was 20.5% and 39.1% in male and 41.0% and 29.7% in female, respectively [27]. In many studies it was observed that there was a relationship between increased body mass index and subfertility and that regular ovulation was achieved in obese women who lost weight [28,29].

Many studies reported that being weak before pregnancy and not getting enough weight during pregnancy resulted in preterm delivery and low birth weight baby and these risks were reduced by pre-pregnancy nutrition proposals [30-32].
Harmful substance use

Smoking, alcohol and substance use should be investigated in the preconceptional period. Smoking cessation can reduce perinatal mortality and low birth weight by at least 20%. Smoking in women affects endometrial circulation and the amount of oocyte negatively and makes implantation difficult. Accordingly, increases infertility risk, abortion and fetal mortality rate [33-36]. Smoking was reported to reduce sperm quality, sperm production, sperm motility and morphology in men [35,37]. In Turkey, 27.1% of adults use cigarettes [38]. In the comparative descriptive (infertile (n=101) and fertile (n=120)) study by Demirci et al. (2016), situations that may create a risk for fertility were assessed and it was found that infertile women consumed more caffeine. The study of Hassan and Killik (2004) reported that lifestyle have significant effects on fertility. As a result of the study, more than 15 cigarettes per day for women and men, drinking alcohol more than 3 glasses per day for men, use of caffeine more than 6 cups for women and obesity in women were determined as the factors affecting fertility negatively. Indeed, many studies showed that factors such as obesity, diet, parental age, teratogenicity and smoking-alcohol use directly affect fertility [28,29,38-40].

Early and advanced age pregnancies

Adolescent and advanced age pregnancies among 15-49 age group women are the riskiest in terms of fertility. Every year, 60 million adolescents in the world give birth [26]. According to the 2013 results of the Turkish Demographic Health Survey (TDHS), which reflects the country as a whole and is repeated every 5 years, almost 5% of adolescent women began to give birth. 3% of women at this age had a livebirth; and at the time of the study, 1% was pregnant for the first child. According to official sources in Turkey, 41% of women aged 25-49 get married before the age of 20, 22% before the age of 18, and 4% before their 15th birthday. However, these data are about civil marriages. The average age of marriage in Turkey is 23.6 in women [41,42]. 3% of the married women aged 15-49 are married by informal marriage (religious marriage by imams), and this rate reaches 11% in the east of Turkey [43]. In these studies, it is thought that there may be more unofficial marriages and informal data as it is based on self-reporting of the person. Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) to which Turkey is a party, everyone under the age of 18 is considered to be a child, and according to the UNICEF Convention on the Rights of the Child, minimum marriage age is recommended to be 18. UNICEF regards early marriage as a violation of many rights [44,45]. Childhood marriages often lead to premature and frequent pregnancies, increasing maternal and child mortality risk. Apart from these, informal marriages deprive girls / women of legal security, including legal rights and property rights in case of marital problems. For this reason, women who are pregnant in childhood suffer from difficulties in taking prenatal care and giving birth in health institutions. Nevertheless, child marriages continue to exist in many countries and cultures. The main reason for adolescent pregnancies in Turkey is culture-oriented early marriages.

Despite recent regulations, according to the 2014 marriage regulations, adolescents aged 17 in Turkey can get married with the permission of their parents and the ones aged 16 and under are allowed to marry by court decision [46]. The minimum age required for a child to assume consent for sexual intercourse is 15 [47]. Although marriage age in Turkey is rising, it is clear that there is a violation of the CEDAW and UNICEF agreement that Turkey is party to.

Thanks to the development of a healthy lifestyle in the preconceptional period, many factors that may affect the pregnancy and newborn negatively such as management of chronic and other diseases, fertility awareness, abandonment of harmful habits, healthy diet can be evaluated. In order to develop a healthy lifestyle awareness in society, first of all it is necessary to increase the social position and education level of women. According to the findings of many studies conducted in the world and Turkey, the planned pregnancies, the use of folic acid before pregnancy, the utilization of health services before pregnancy and positive health behaviors increased in direct proportion to the increase in the education level of the women [7,48,49]. Considering the fact that 10% of women are not literate in Turkey, 63% of them are mostly primary school graduate, and their participation in the workforce is not even half as much as men, firstly providing equity in education indirectly increase preconception care awareness [21]. Supporting girls’ education, empowering women by ensuring gender equality should be the responsibility of both all individuals providing health services and the society, and more importantly, these should be the legal rights of the women.

DISCUSSION & CONCLUSION

The planned pregnancies, the use of folic acid before pregnancy, the utilization of health services before pregnancy and positive health behaviors increased in direct proportion to the increase in the education level of the women. So the basic principle of preconception care should be to increase the education level of women. Additionally, health professionals in Turkey should be brought to a level that can provide preconception counseling and service network should be strengthened. It is important to raise awareness of all women in the age of fertility about preconception care through various communication means such as written and visual media, public institutions, municipalities, social associations, educational institutions.

We believe that new centers and protocols are needed to bring healthy lifestyle behaviors to all pairs in reproductive age in Turkey and in many developing countries.

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Cite this article