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Research Article

The Smoking Awareness and Rates During Pregnancy

Gebelikte Sigara Kullanımı ve Farkındalığı

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Abstract

Smoking is one of the leading preventable causes of death worldwide. Its detrimental effects are not only seen in the smoker, but also in the people around the smoker and in the fetus of maternal smokers. The aim of this study was to determine the rates of maternal smoking during the course of pregnancy, and to identify trajectories associated with this behavior. A total of 338 pregnant women were included in the study. Participants were provided with a 20-item questionnaire on their demographic characteristics, smoking behavior and awareness of smoking harms. The smoking rate was found to be 15.7% before pregnancy and 10.6% during pregnancy. No relationship was observed between education or income level and smoking status (p=0.177, p=0.490, respectively). It was found that those participants who continued smoking during pregnancy, did not change the number of cigarettes smoked per day, or the brand of cigarettes smoked during pregnancy. In addition, the rate of passive smoking was 37%. Although the M-POWER criteria are met in Turkey, cigarette consumption remains high. In conjunction with healthcare professionals, television, the Internet, written and visual media should play a more effective role in the fight against smoking.

Keywords

Smoking • Pregnancy • Active smoking • Passive smoking • Demographic factors • Social media

Öz

Sigara, modern zamanın ölümcül bir silahı olarak kabul edilebilir. Önlenebilir ölümlerin önde gelen nedenlerinden biridir. Fakat tüm zararlı etkileri bilinmesine rağmen gebelikte dahi kullanımı devam etmektedir. Bu çalışma, zaman içinde değişkenlik gösterebilen bu davranışın gebelikteki durumunu belirlemek ve ilişkili olabileceği parametrelerle değerlendirmek üzere planlanmıştır. Çalışmamıza üniversitemiz kadın hastalıkları ve doğum anabilim dalına başvuran ve çalışmaya katılmayı kabul eden toplam 338 gebe katıldı. Katılımcılara demografik özellikleri ile sigara içme davranışı ve farkındalığı hakkında 20 sorudan oluşan bir anket uygulandı. Sigara içme oranı gebelik öncesi %15,7 ve gebelik sırasında %10,6 olarak saptandı.

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Eğitim ve gelir düzeyi ile sigara içme oranı arasında bir ilişki saptanmadı (sırasıyla p=0,177, p=0,490). Gebelik sırasında sigara içen kadınların sigara miktarlarını ve markalarını değiştirmedikleri görüldü. Pasif sigara içme oranı %37 idi. Katılımcıların %65,4'ü sigara içmenin zararları hakkında hekimler tarafından bilgilendirildiğini belirtti.Ülkemizde M-POWER kriterleri yerine getirilmesine rağmen, sigara tüketimi hala yüksek seviyelerdedir. Sigara ile mücadelede sağlık profesyonellerinin yanında televizyon, internet, yazılı ve görsel medya da daha etkili bir rol oynamalıdır.

Anahtar Kelimeler

Sigara • Gebelik • Aktif içicilik • Pasif içicilik • Demografik faktörler • Sosyal medya

Introduction

Although the detrimental effects of smoking are well-known, this behavior is still a leading preventable cause of illness and premature death worldwide. Smoking not only affects the health of the individual and results in both physical and psychological addition, but also has negative consequences for those around the smoker. (Dönmez Kesim, 2004). The prevalence of active smoking during pregnancy is estimated to be 25% (Cornelius & Day, 2009). In the United States it is reported to be between 5.1% and 28.7% (Tong et al., 2013). In a study involving seven countries in Latin America, the prevalence was 2.1% (Caleyachetty et al., 2014). According to data from the Turkey Population Health Survey, the smoking rate in pregnant women in Turkey is 11.4 %, this rate varies from 6.8% to 28% (Ministry of Health 2004; Balkaya, Vural, & Eroğlu, 2014). The World Health Organization (WHO) has established the "Framework Convention on Tobacco Control" agreement, which has been signed by 160 countries, including Turkey. This treaty aims to tackle the global tobacco epidemic by preventing illicit tobacco trade and reducing tobacco consumption worldwide. The tobacco and nicotine found in cigarettes is also known to reduce fertility and cause congenital defects in the fetus carried by a pregnant smoker. Such defects include congenital heart disease, musculoskeletal diseases, spina bifida, orofacial clefts and gastrointestinal malformations (Hackshaw, Rodeck, & Boniface, 2011; Wigle et al., 2008). Maternal smoking is also associated with attention deficit and hyperactivity disorder in children and is a risk factor for the development of psychotic disorders during adolescence (Obel et al., 2008; Zammit et al., 2009; Zhu, Olsen, Liew, Li, Niclasen, & Obel, 2014). The reasons why some women continue to smoke throughout pregnancy despite the detrimental health effects on the fetus, have not been thoroughly established. Our study aimed to determine the active and passive smoking rates of pregnant women in Turkey and to evaluate the participant awareness of smoking harms.

Method

After obtaining approval from the Bozok University Clinical Research Ethics Committee (2018-KAEK-189_2018.02.21_5), the study was carried out with 338

pregnant women who were admitted to our gynecology and obstetrics outpatient clinic, and who agreed to participate in our survey on smoking. Informed consent was obtained from all women involved.

The study investigated the age, gravida, parity, abortion history, education, income levels and working status of pregnant women attending hospital for routine appointments, regardless of gestational weeks. A 20-item questionnaire was used to evaluate the participants' active/passive smoking status, smoking status during their pregnancy, the number of cigarettes smoked per day, the brand of cigarettes smoked, their understanding of the harm caused by smoking, and how this understanding was established. The number of cigarettes smoked was classified into 5 groups according to the daily average consumed: 1 to 5, 6 to 10, 11 to 15, 16 to 20 and over 20. The demographic characteristics and other parameters of the women who smoked actively during pregnancy, and those who stopped smoking during pregnancy, were compared.

Statistical Analysis

The Statistical Package for Social Sciences 20 statistics software package (SPSS IBM Corp.; Armonk, NY, USA) was used to evaluate the data. The variables were analyzed using visual (histograms and probability plots) and analytical methods (Kolmogrov–Smirnov/Shapiro–Wilk test) to determine whether or not they were normally distributed. The Student's t-test was used to compare continuous variables with normal distributions and the Mann Whitney-U test was used to compare variables that were not normally distributed. Relationships between categorical variables were analyzed by the Chi-square test. A p-value of $p<0.05$ was considered statistically significant.

Results

A total of 338 pregnant women participated in our study. Table 1 represents their demographic characteristics. The rate of smoking before pregnancy was determined to be 15.7%.

Significantly higher smoking rates were reported with increased age, gravida and parity in participants before pregnancy ($p=0.002$, $p=0.001$, $p<0.001$, respectively). It was also observed that a higher level of education was associated with lower smoking rates during pregnancy; however, this decrease was not statistically significant. No relationship was found between work status or income level, and smoking status (Table 2).

The rate of active smoking during pregnancy was found to be 10.6% (36/338). It was observed that women who continued smoking throughout pregnancy did not decrease the number of cigarettes they smoked per day (Table 3).

Table 1.
Demographic Features

		M	SD
Age (year)		26.47	5.41
Gravida		2.21	1.37
Parity		0.91	0.97
Abortion		0.33	0.87
		n: 338	%
Patients smoking before pregnancy	Yes	53	15.7
	No	285	84.3
Education Level	Primary School	169	50.0
	High School	100	29.6
	University	69	20.4
Income Level	<1500 TL	131	38.8
	1500–3000 TL	120	35.5
	>3000 TL	87	25.7
Work status	No	270	79.9
	Yes	58	17.6

TL: Turkish Lira; SD: standard deviation; M: mean.

Increased age was found to be associated with continued smoking during pregnancy, although this association was not statistically significant. Gravida and parity however, were significantly higher in the group that continued smoking during pregnancy. Work status, education and income level did not have any effect on the rate of women who quit smoking during pregnancy (Table 4).

Of all pregnant women participating in the study, 37% stated that they were passive smokers, 94.1% responded "yes" to the question "Does smoking affect your baby?," and 65.6% stated that they had been informed about the harmful effects of smoking (Table 5).

Discussion

Nicotine, the active ingredient in cigarettes, is highly addictive. Some other commonly reported reasons for continuing to smoke include perceptions of mood elevation, and making social interactions easier. The rate of smoking before pregnancy in Turkey is thought to be between 13.7% and 23.9% (Durualp, Bektaş, Ergin, Karaca, & Topçu, 2011; Sunay, Sivri, Dilbaz, & Şengezer, 2014), and it has been reported that 2.5% to 9% of women who actively smoke do not change the number of cigarettes smoked during pregnancy (Marakoğlu & Erdem, 2007; Marakoğlu & Sezer, 2003; Yılmaz & Tarhan, 2016). According to the United States (US) Public Health Service,

Table 2.
Pre-pregnancy Smoking Status

		No n:285 (84.3%)		Yes n:53 (15.7%)		
		M	**SD**	**M**	**SD**	**p**
Age (year)		26.1	5.2	28.7	5.8	0.002
Gravida		2.1	1.1	3.0	2.0	0.001
Parity		0.8	0.9	1.4	1.1	0.001
Abortion		0.3	0.7	0.6	1.6	0.085
		n	**%**	**n**	**%**	**p**
Education Level						0.177
	Primary School	138	81.7	31	18.3	
	High School	84	84.0	16	16.0	
	University	63	91.3	6	8.7	
Income Level						0.490
	<1500 TL	108	82.4	23	17.6	
	1500–3000 TL	105	87.5	15	12.5	
	>3000 TL	72	82.8	15	17.2	
Work status						0.664
	No	235	83.9	45	16.1	
	Yes	50	86.2	8	13.8	

TL: Turkish Lira; M: mean; SD: standard deviation.

Table 3.
The Number of Cigarettes Smoked

	Smokers before pregnancy (n:53, 15.7%)		Continue smoking in pregnancy (n:36, 10.6%)	
Daily average numbers	**n**	**%**	**n**	**%**
1–5	15	28.2	9	25.0
6–10	22	41.0	15	41.6
11–15	5	10.3	4	11.1
16–20	4	7.7	3	8.3
>20	7	12.8	5	13.9

if all pregnant women ceased smoking in the USA, an estimated 11% decrease in stillbirths would be observed as well as a 5% decrease in neonatal deaths (US Department of Health and Human Services, 2004). Although developing technology and widespread use of the internet reveals the harmful effects of smoking, active smoking rates have not decreased, throughout the whole pregnancy. This continuing behavior in pregnancy can depend on many financial and social factors.

Table 4.
Smoking Status in Pregnancy

		Continue smoking in pregnancy n:36 (67.9%)		Smoking cessation in pregnancy n:17 (12.1%)		
		M	**SD**	**M**	**SD**	**p**
Age (year)		29.6	5.8	26.6	5.5	0.099
Gravida		3.4	2.2	2.2	1.3	0.032
Parity		1.6	1.2	0.8	0.7	0.016
Abortion		0.8	1.8	0.4	0.9	0.580
		n	**%**	**n**	**%**	**p**
Education Level	Primary School	21	67.7	10	32.3	0.647
	High School	10	62.5	6	37.5	
	University	5	83.3	1	16.7	
Income Level	<1500 TL	15	65.2	8	34.8	0.469
	1500–3000 TL	12	80.0	3	20.0	
	>3000 TL	9	60.0	6	40.0	
Work status	No	30	66.7	15	33.3	0.493
	Yes	6	75.0	2	25.0	

TL: Turkish Lira; M: mean; SD: standard deviation.

Table 5.
Information and Smoking Awareness During Pregnancy

		All participants (n:338)		Continue smoking in pregnancy (n:36)	
		n	**%**	**n**	**%**
Do you have passive smoking?	No	213	63.0	6	16.7
	Yes	125	37.0	30	83.3
Does smoking affect your baby?	No	19	5.9	5	13.9
	Yes	319	94.1	31	86.1
Have you been informed about smoking during pregnancy?	No	104	34.4	10	27.8
	Yes	198	65.6	26	72.2
Who informed you?	Doctor	70	34.7	14	53.8
	Nurse	43	21.3	7	26.9
	Midwife	45	22.3	2	7.7
	Television	27	13.4	2	7.7
	Written Media	17	8.4	1	3.8

Our study found no relationship between level of income and smoking rates. In line with other studies in Turkey, we also found that a high percentage of unemployed housewives are active cigarette smokers (Yılmaz & Tarhan, 2016). Some studies in Turkey have reported that, as income level increases, the rate of smoking increases in women (Bilir, 2008; Horasan & Sezer, 1995), while other studies have shown that smoking rates decrease with a higher income (Altiparmak, Altiparmak, & Avci, 2009; Yılmaz & Tarhan, 2016). Similarly, a study involving the general population among Latin American countries indicated that the rate of smoking increases as income decreases (Bardach et al., 2016). In a review of smoking rates during pregnancy involving 54 low- and middle-income countries, generally smoking rates were considered to be low, with Turkey however, being seen as an exception. For low-income groups in Turkey, the rate of active smoking during pregnancy was determined to be high, at 15%. These varying results suggest that smoking is not directly related to income level in Turkey, and may be attributed to the fact that women have not fully gained their economic independence, with smoking in some places being considered as an indicator of status. Consistent with the findings in our study, previous studies have shown that smoking rates increase with age, gravida and parity (Smedberg, Lupattelli, Mårdby, & Nordeng, 2014; Yılmaz & Tarhan, 2016). Concerns that smoking throughout pregnancy could harm the baby are often higher in young mothers. These differences in perception could result from mothers who do not experience major problems during their first pregnancy, feeling more relaxed in their second and third pregnancies. Therefore, older mothers of higher parity should be provided with more intensive education and social support to stop smoking. It should be explained to all expectant mothers that maternal smoking may cause the development of mental disorders characterized by hyperactivity or psychotic symptoms in their children (Obel et al., 2008). Our study did not find any associations between smoking behavior during pregnancy and level of education. The fact that the region in which we conducted the study consisted of women who had, in general, only completed primary education, may have caused this result. Conversely, previous studies have reported findings of decreasing smoking rates as the level of education increased. Data obtained from many countries indicates that the harmful effects of smoking are better understood in educated individuals, and that this is reflected in their actions (Aral & Yalvaç, 2016; Ergin, Hassoy, Tanik, & Aslan, 2010; Smedberg et al., 2014). However, a study conducted in Turkey found a higher rate of smoking in educated pregnant women (Aslan, Şengelen, & Çağatay, 2014). Periodic variation in smoking behavior may be the cause of these differing results.

Our study observed that almost all pregnant women knew the negative effects of smoking on the fetus, 65% of which were informed either by healthcare professionals or by other means. Previous studies have reported that women who smoke throughout pregnancy receive lower antenatal care services (Smedberg et al., 2014; Yılmaz

& Tarhan, 2016). In these studies, the participants were most commonly informed of the harms of smoking by their physician, and although the women who had smoked before pregnancy were more informed, they did not reduce the number of cigarettes smoked per day, and the rate of active smoking during pregnancy was still found to be 10.6%. It is difficult to explain the continuation of smoking despite being aware of the harms, other than the fact that nicotine is highly addictive, and therefore, the information used to promote smoking cessation has limited efficacy. The American College of Obstetricians and Gynecologists recommends that strategies to stop smoking should be integrated into routine prenatal care for every pregnant woman (Obstetricians, Gynecologists, & Women, 2011). However, the fight against smoking should not be limited to the period of pregnancy. Studies have shown that the most common reasons for starting smoking are "curiosity" and "the friend effect," and the average age at which smoking starts is 17 (TUIK, 2016). Therefore, the fight against smoking should start during adolescence. In addition, social support services should be included in antenatal care programs.

Our study reported that, 37% of participants were passive smokers. One-third of women in the world are regularly exposed to passive smoking (World Health Organization [WHO], 2009). Passive smoking, also known as second-hand smoking, can be described as the inhalation of smoke by persons other than the "active" smoker. In low- and middle-income countries, such second-hand exposure typically occurs in the home. In a study including 42 low to middle-income countries, the rate of passive smoking in pregnancy ranged from 9.3% to 82.9% (Centers for Disease Control and Prevention [CDC], 2012). Other studies investigating passive smoking during pregnancy have estimated these rates to be between 75.8% and 84.5% in Turkey (Altiparmak et al., 2009; Yılmaz & Tarhan, 2016). It is hoped that implementing "Smoke-Free Zone Applications" could reduce passive smoking in Turkey. These regulations have proven to be effective, and should be continued without reduction. In general, studies have shown that pregnant women whose husbands were smokers, were more exposed to cigarette smoke. Our study did not include enough data on this subject; however, the rate of passive smoking was higher in pregnant women who continued smoking during pregnancy (Smedberg et al., 2014). For the past 40 years, inhaling cigarette smoke with lower tar content, either due to low tar content of the cigarettes itself or with the addition of filters, has been introduced and marketed as a "safer" smoking option (Özkan, 2003). Common behavior during pregnancy is to reduce the number of cigarettes smoked. Our study showed that there was no decrease in the number of cigarettes smoked, and pregnant women continued to use the same cigarette brand without any tendency to use "light" or "ultralight" cigarettes. When cigarettes were evaluated, they contained 0.4 to 0.8 mg of nicotine and 5 to 8 mg of tar. Nowadays, there are other forms nicotine delivery systems on the market, such as electronic cigarettes, which specifically claim to prevent passive smoking. As in the "light" cigarette, the tobacco industry supports

electronic cigarette use with the claim that it is less harmful during pregnancy. In Turkey, no license or import permission has been given by the Turkish Ministry of Health Pharmaceuticals and Medical Devices Agency for any electronic cigarette brands that contain nicotine. However, these devices have been introduced into the country in various ways, and may have similar harmful effects to smoking cigarettes during pregnancy (Whittington et al., 2018). No electronic cigarette use was seen in the pregnant women who participated in our study. Smoking is prohibited in Turkey for those under the age of 18 years old. Turkey also uses photo warnings on cigarette packaging, which has proven to be the most effective cigarette warning method by the Tobacco Atlas (Atlas, 2015). In addition, non-smoking advertisements are shown on prime-time television for at least 30 minutes each month. However, the data in our study revealed that television, and written and visual media had rarely informed the participants in our study of the harms of smoking, and therefore this approach should be used more actively. A tax rate of 75% suggested by WHO is applied at 65% + Value Added Tax in Turkey. A law implemented to reduce the consumption of tobacco products in areas open to the general public and non-public areas was adopted in 2008, and this was extended to restaurants, coffee houses and entertainment facilities in 2009. As a result of these practices, Turkey was officially declared the first and only country that met all the criteria of M-POWER, in 2013 (Özer et al., 2018). The M-POWER criteria includes monitoring tobacco use, protecting people from passive cigarette smoking, offering services to help people quit tobacco use, informing them about the harms of tobacco, enforcing tobacco advertising and promotion bans, and raising taxes on tobacco products. According to estimates of WHO, if the fight against smoking continues at this rate in Turkey, tobacco use for the entire population will decrease to an average of 19% by 2025; 31% in men, and 9% in women. This would equate to a 30% reduction in cigarette use in Turkey (World Health Organization [WHO], 2018). This will help to reduce smoking in pregnant women; however, to protect future generations, 0% tobacco consumption in pregnancy should be the target.

This cross-sectional study was carried out in a rural area of Central Anatolia. The sociocultural level and income level of this population is low, and the migration rate is high. Therefore, the rate of participation in this study and of answering all questions in the questionnaire, was low. Questions designed to evaluate exposure to passive smoking, for example, “Does your husband smoke?” and “Where and for how long are you exposed to cigarette smoke?” were excluded from the evaluation as they were not adequately answered. Data related to delivery were not taken into consideration.

Conclusion

Active or passive smoking during pregnancy can cause serious health problems that will affect future generations. The general population should frequently be warned

about the harmful effects of smoking. Passive smoking is a serious threat to everyone in society. Those who are exposed to passive smoking should distance themselves from cigarette smoke and communicate the harms to the individuals who smoke. Celebrities, physicians and teachers who are thought of as role models for children and young people should not be in a position to promote smoking and should play an active role in the fight against smoking. Television, internet, and written and visual media should be used more effectively as a channel to increase awareness regarding the harms of smoking. Expectant mothers who smoke should be encouraged to stop using addictive substances such as cigarettes and alcohol before they become pregnant. Social support should also be provided at each antenatal visit during pregnancy. In the postpartum period, the active and passive smoking that individuals are exposed too should be questioned, and support to quit and avoid passive smoking continued. Large scale research should be conducted regularly to evaluate changes in the smoking behaviors of pregnant women.

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Informed Consent: Written and verbal informed consent was obtained from patients who participated in this study.

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Genişletilmiş Özet

Gebelikte Sigara Kullanımı ve Farkındalığı

Giriş

Sigara kullanımı, Dünya sağlık örgütü (WHO) tarafından biyolojik, sosyolojik ve psikolojik bir zehirlenme olarak tarif edilmektedir. Sigara, modern zamanın en ölümcül silahlarından birisidir. WHO'nün verilerine göre gelişmiş ülkelerde kadınların yaklaşık olarak %20'si gelişmekte olan ülkelerde ise %9'u sigara içmektedir. Sigara kullanımı yaşam döngüsü içinde, bireyin yaşı, gelir ve eğitim düzeyi, yaşadığı topluma ait sosyo-kültürel yapı gibi birçok faktöre bağlı olarak değişkenlik gösterir. Gebelik, yaşamın en özel dönemlerinden biridir. Gebelik dönemde aktif ya da pasif sigara maruziyetinin fetüsü etkilediği net olarak bilinmektedir. Bu etkilenme fetal hayattan erişkinliğe kadar uzanan geniş bir dönemi kapsar. Bu çalışma ülkemizdeki gebelerin sigara içme durumunu kesitsel olarak ortaya koymayı ve ilişkili olabileceği parametrelerle birlikte değerlendirmeyi amaçlamaktadır.

Yöntem

Bu çalışma, Bozok Üniversitesi Kadın hastalıkları Doğum Polikliniğine kontrol amaçlı başvuran ve çalışmaya katılmayı kabul eden 338 gebe ile yapılmıştır. Katılımcılara 20 soruluk bir anket uygulanarak gebelikte sigara içme farkındalığıyla ilgili olarak; aktif ve pasif sigara kullanım durumları, içilen sigara markası ve miktarı, sigara içmenin bebeklerine olan etkileri hakkındaki bilgi düzeyleri ve bu konu hakkında hangi yolla bilgi sahibi oldukları sorgulandı. Katılımcıların demografik özellikleri kaydedildi.

Bulgular

Sigara içme oranı gebelikten önce %15,7, pasif içicilik oranı %37 olarak saptandı. Gebelikte aktif sigara içme oranı %10,6 idi. İlginç bir şekilde bu bireylerin %86'sı sigaranın bebekleri üzerinde zararlı etkileri olduğunu bildiğini ifade etmekteydi. Eğitim ve gelir düzeyi ile sigara içme oranı arasında herhangi bir ilişki saptanmadı. Gebelikte sigara içenlerin, içtikleri sigara miktarını ve markalarını değiştirmedikleri görüldü. Katılımcıların %65,4'ü sigaranın zararları konusunda doktor tarafından bilgilendirildiğini belirtti.

Tartışma

Sigara dumanı ve içerdiği toksik maddeler intra uterin hayatta konjenital anomalilere ve ilerleyen dönemde nörobilişsel sorunlara yol açmaktadır. Yaşam döngüsünün bu en önemli noktasında gebelerin sigara içme davranışından vazgeçmemeleri ve bu duruma yol açan nedenler halen önemli bir araştırma konusudur. Çünkü, gebelikte

sigara içme farkındalığının belirlenmesi, toplum sağlığını koruyucu önlemelerin alınmasına ve böylece daha sağlıklı nesillerin gelişmesine yardımcı olacaktır. Ülkemizde sigara ile mücadeleye ilişkin yasalar yürürlüktedir. 'Dumansız hava sahası' uygulaması yapılmakta ve M-POWER kriterleri (tütün kullanımının izlenmesi, bireylerin aktif ve pasif sigara içiminden korunması, tütün kullanımını bırakmaları konusunda teşvik edilmesi, tütünün zararları hakkında bilgi verilmesi, tütün reklamcılığı ve tanıtım yasaklarının uygulaması ve tütün ürünlerinden vergi alınması) tümüyle karşılanmaktadır fakat tüm bu çabalara rağmen sigara kullanımı yüksek oranlardadır. Gebelik döneminde sigara kullanımı nesilden nesile aktarılacak sorunlar oluşturacağından bu dönemdeki hedef sigaranın tamamen bırakılması olmalıdır. Aktif içiciliğin yanında pasif maruziyetinde önüne geçilmelidir. Bu amaçla gebelikte sigara ile mücadelede sağlık çalışanlarının yanında internet, yazılı, ve görsel medya da daha etkin bir şekilde kullanılmalıdır. Antenatal takipte sigara içen gebelere yönelik özel destek programları uygulanmalıdır. Kadınların sigara içme davranışıyla ilgili parametreleri değerlendirmek ve sigarayla mücadelede etkin olmak için düzenli olarak büyük ölçekli araştırmalar yapılmalıdır.