tepav
Economic Policy Research Foundation of Turkey
February2022
N202206

TEPAV Tobacco Control Policy Research Team [1]

POLICY NOTE

DEMAND DYNAMICS: TOBACCO USE PATTERNS AND BEHAVIOR[2]

In our report "The Economics of Curbing Smoking in Turkey: A Scoping Review", and earlier policy notes[3], tobacco control policies that target specific groups and the demographics of tobacco use were highlighted. In this note, in addition to summarizing the global dynamics of tobacco demand, we provide a comparative analysis of demand in Turkey with a focus on gender specific demand dynamics. This note highlights some important findings:

- Globally, there has been a steady decline in tobacco use prevalence in both genders, across all age groups, all continents, and income groups. This decline is expected to continue.
- The global downward trend in tobacco use is noteworthy and encouraging; however, prevalence rates are still higher than desired levels.
- Despite an overall global downward trend, patterns and behaviors vary across regions and countries.
- Unlike the rest of the world, smoking prevalence rates are not declining in Turkey. Furthermore, smoking prevalence among women in Turkey is one of the highest in the world. Better educated women are observed to have a higher rate of smoking, almost on a par with men when university graduates are considered.

[1] This note was prepared by the TEPAV Tobacco Control Policy Research Team.

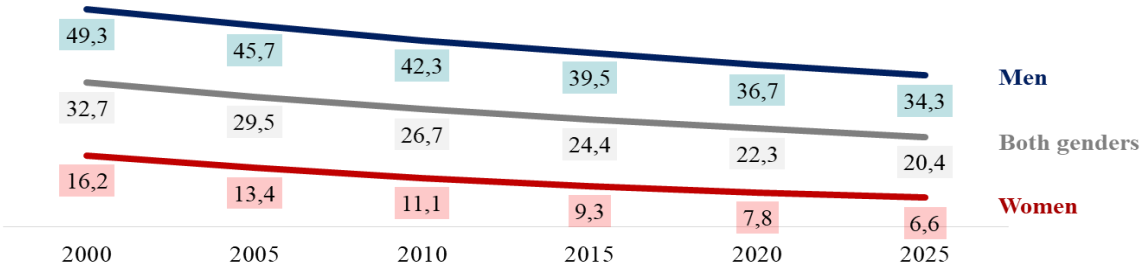
[2] This policy note reiterates findings and updates figures and statistics, when possible, from the report titled, "The Economics of Curbing Smoking in Turkey: A Scoping Review Supply, Demand, Health, and Public Policy Aspects." The report and note were funded with a grant from the Foundation for a Smoke-Free World, a U.S.-based nonprofit 501(c)(3) private foundation with a mission to end smoking during this generation. The Foundation accepts charitable gifts from PMI Global Services Inc. (PMI); under the Foundation's Bylaws and Pledge Agreement with PMI, the Foundation is independent from PMI and the tobacco industry. The contents, selection, and presentation of facts, as well as any opinions expressed are the sole responsibility of the authors and under no circumstance.

[3] TEPAV, Why Study Turkey's Tobacco Control Policies?, 2021, https://www.tepav-he.org/en/publications/policy-notes/why-study-turkey-s-tobacco-control-policies/,
TEPAV, Who Smokes? A Worldwide Perspective, 2021, https://www.tepav-he.org/en/publications/policy-notes/who-smokes-a-worldwide-perspective/, TEPAV, How is the Tobacco Industry Changing?, 2022, https://www.tepav-he.org/en/publications/policy-notes/how-is-the-tobacco-industry-changing/

Demographics of Tobacco Use in the World

The prevalence rate of tobacco use is declining globally, from 32.7% in 2000 to 22.3% of global population in 2020. According to the "Global Report on Trends in Prevalence of Tobacco Use 2000-2025" by World Health Organization (WHO), this rate is projected to further decline to 20.4% in 2025, assuming that current efforts in tobacco control are maintained[4]. Tobacco use prevalence for men was 49.3% in 2000, which dropped to 36.7% in 2020 and is expected to fall to 20.4% by 2025. Tobacco use prevalence for women was 16.2% in 2000, which fell to 7.8% in 2020 and is expected to fall to 6.6% by 2025 (Figure 1). Global estimates indicate that there were 1.3 billion tobacco users in 2020, down by 71 million in the last two decades and is projected to decline by another 27 million between 2020 and 2025.

Figure 1 - Global prevalence of tobacco use by gender, +15 population, age standardized, %, 2000-2025



Source: World Health Organization (WHO), "WHO Global Report on Trends in Prevalence of Tobacco Use 2000-2025 Fourth Edition", TEPAV visualizations
Note: Data for the years between 2000-2015 is fitted/estimated whereas 2020 and 2025 data is projected.

There has been a steady decline in tobacco use rates for both men and women in all age groups, and the rates are projected to continue declining by 2025. The prevalence of tobacco use is the highest among adults in ages 45-54, which is estimated as 26.3% in 2020 and projected to be the highest until 2025. Age-specific rates peak for men in ages 45-54 and for women in ages 55-64. Prevalence rates are observed to be historically higher for men than women in each age group and are expected to continue to decline in all age groups (Table 1).

Table 1 - Global prevalence of tobacco use by age groups, +15 population, age standardized, %, 2000-2025

Age group	2000	2005	2010	2015	2020	2025
15-24	22.6	20.3	18.6	17.0	15.5	13.0
25-34	31.7	28.9	26.1	23.9	22.0	19.7
35-44	38.6	35.0	32.0	29.2	26.5	24.3
45-54	41.4	37.5	34.0	31.3	28.5	26.1
55-64	39.8	35.5	32.1	29.3	26.8	24.8
65-74	34.4	30.9	27.7	25.0	22.7	20.9
75-84	27.8	24.6	22.3	20.2	18.0	16.4
85 +	19.4	18.3	15.9	14.3	12.7	11.6

Source: World Health Organization (WHO), "WHO Global Report on Trends in Prevalence of Tobacco Use 2000-2025 Fourth Edition", TEPAV visualizations
Note: Data for the years between 2000-2015 is fitted/estimated whereas 2020 and 2025 data is projected.

[4] World Health Organization (WHO), "WHO Global Report on Trends in Prevalence of Tobacco Use 2000-2025 Fourth Edition".

Geographically, the prevalence rates for women are higher in more economically developed regions. For both genders the prevalence rates are the highest in South East Asia, Europe, and Western Pacific. The global prevalence of tobacco use for adults is estimated to be 22.3% in 2020, 36.7% for men and 7.8% for women, indicating a significant gender gap. As observed in Table 2, the prevalence rate is the highest in South East Asia and lowest in Africa, whereas it is above global average in Europe at 25.3%. However, breaking down by gender, it is noteworthy that Europe and USA have the highest rates in women with 17.7% and 11.3% respectively (Table 2).

Table 2 - Projected prevalence rates of tobacco use by gender and regions, +15 population, age standardized, %, 2020

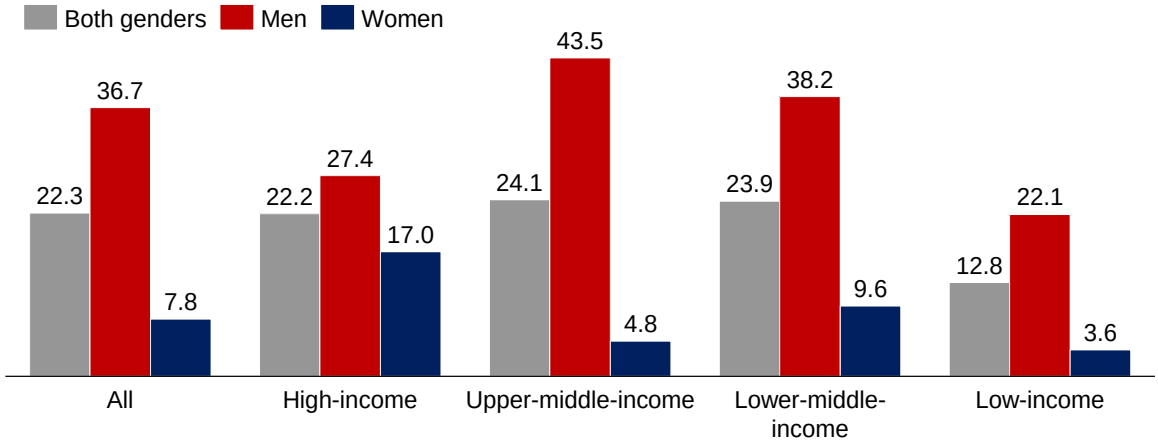
	Both genders	Men	Women	Difference between men and women
Total	22.3	36.7	7.8	29.5
South East Asia	29.0	46.6	11.3	36.3
Western Pacific	24.6	46.4	2.8	44.3
Europe	25.3	32.9	17.7	13.8
Eastern Mediterranean	18.6	33.0	4.2	29.4
Americas	16.3	21.3	11.3	11.1
Africa	10.3	17.8	2.8	16.9

Higher than world average | Lower than world average

Source: World Health Organization (WHO), "WHO Global Report on Trends in Prevalence of Tobacco Use 2000-2025 Fourth Edition", TEPAV visualizations

Comparing the prevalence rates across countries grouped by income, it is observed that high-income countries have the narrowest gender gap in prevalence rates. According to the WHO report, prevalence rates have been declining in all country income groups in the last two decades. In 2020, country group averages are similar to the global average, with the exception of the low-income country group with a 12.8% prevalence rate. Breaking down by gender, a noteworthy pattern variation is that men in high-income countries have a lower prevalence rate (27.4%) than the global average of 36.7%. However, women in high-income countries have a higher prevalence rate (17%) than the global average of 7.8% (Figure 2).

Figure 2 - Projected tobacco use rates by income levels and genders, +15 population, age standardized, %, 2020



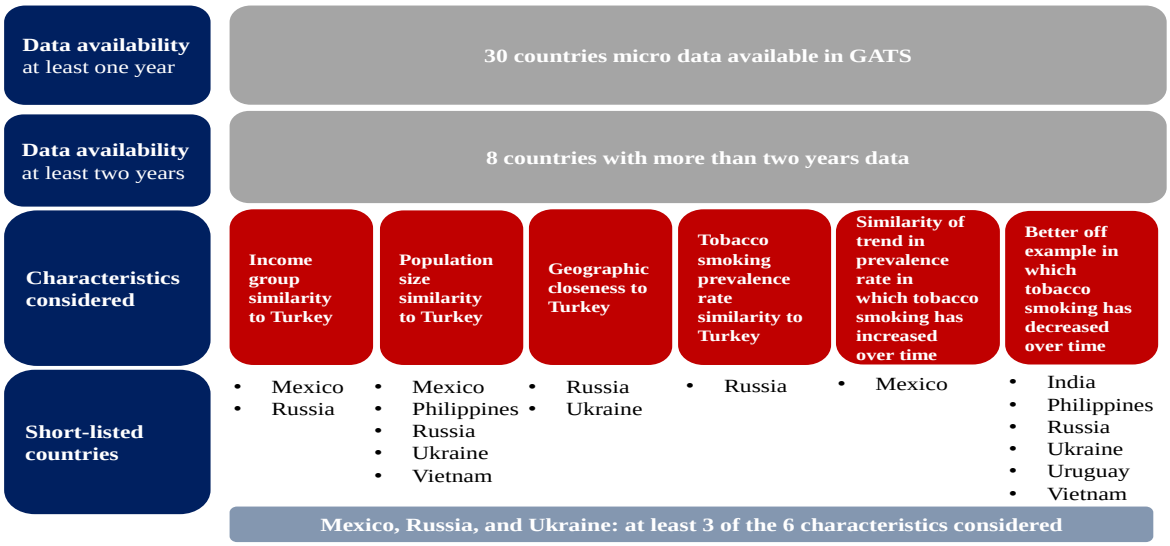
Source: World Health Organization (WHO), "WHO Global Report on Trends in Prevalence of Tobacco Use 2000-2025 Fourth Edition", TEPAV visualizations

Demographics of Tobacco Use in Turkey

In Turkey, there is no visible downward trend in prevalence rates after 2012, confirmed by several different surveys that are used to estimate the prevalence rates. To estimate tobacco consumption in Turkey, several nationally representative surveys[5] have been used, yielding different estimates of prevalence rates[6]. What all of these estimates have in common is that the prevalence rates have been historically high and there is no decreasing trend**.** Up until 2012, a decline in the prevalence rate is observed in both GATS and THS, with a prevalence rate of 30.7%, which is higher than the global average. Turkey has 19.6 million tobacco users as of 2020 according to GATS (2019), where 42.1% of men and 19.2% of women are estimated to be tobacco users. However, the WHO report projects a small decline in overall prevalence rate from 30.7% in 2020 to 29.9% in 2025. It is worth noting here that for men the prevalence rate is expected to decline from 42.8% in 2020 to 40.5% in 2025, whereas for women it is expected to increase from 18.9% to 19.8% in 2025. This is consistent with the overall trends observed in Turkey within the last two decades, but it is in contrast to the predicted global trend.

To study the Turkish case in the context of countries similar to Turkey, Russia, Ukraine, and Mexico were selected as benchmark countries. These three countries were selected based on a filtering approach using the criteria listed in Figure 3. Based on the data in the most recent years for which survey data are available for all of these countries, smoking prevalence rate among adults is estimated as 31.6% in Turkey, whereas 30.3% in Russia, 22.8% in Ukraine, and 16.4% in Mexico. Among these countries, Turkey and Mexico experienced an increase in prevalence rates over time, whereas Ukraine and Russia experienced a decrease. Mexico has the lowest prevalence rate among benchmark countries, followed by Ukraine. Russia used to have the highest prevalence rate, however according to the latest data, Turkey is now the country with the highest prevalence rate (Figure 3).

Figure 3 - Benchmark countries selection process and criteria set



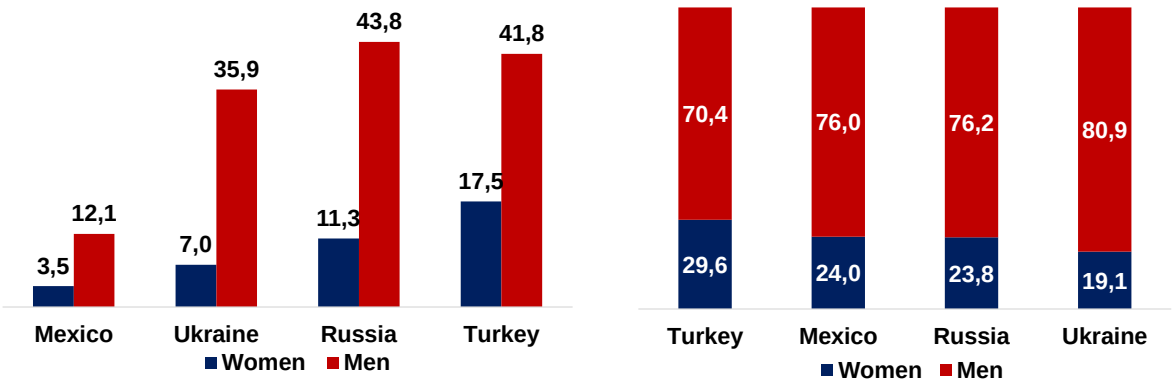
Source: CDC, WHO, World Bank, TEPAV calculations

[5] The surveys used in this report are the Turkey Health Surveys (THS) by Turkish Statistical Institute (TurkStat), Global Adult Tobacco Survey (GATS), and Global Youth Tobacco Survey (GYTS), STEPwise approach to Surveillance (STEPS), and Hacettepe University Turkey Demographic and Health Surveys (THDSs).

[6] Institute for Health Metrics and Evaluation (IHME). "Global Burden of Disease Study 2019 (GBD 2019) Smoking Tobacco Use Prevalence 1990- 2019", 2021.

Turkey has the highest smoking prevalence rate in women compared to the benchmark countries. In all benchmark countries and in Turkey, daily tobacco smoking rate is higher in men than women. Yet, the prevalence rate for women is the highest in Turkey (17.5%) compared to the benchmark countries (3.5% in Mexico, 7.0% in Ukraine, and 11.3%, in Russia (Figure 4, left). Even though the overall smoking prevalence is higher in Turkey than Russia, smoking is somewhat more common among men in Russia than in Turkey. In Turkey, women constitute 29.6% of daily smokers. In all three benchmark countries, the reported figure is lower for women (24% to 19.1%) than in Turkey, indicating a narrower gender gap in Turkey, compared to the benchmark countries (Figure 4, right).

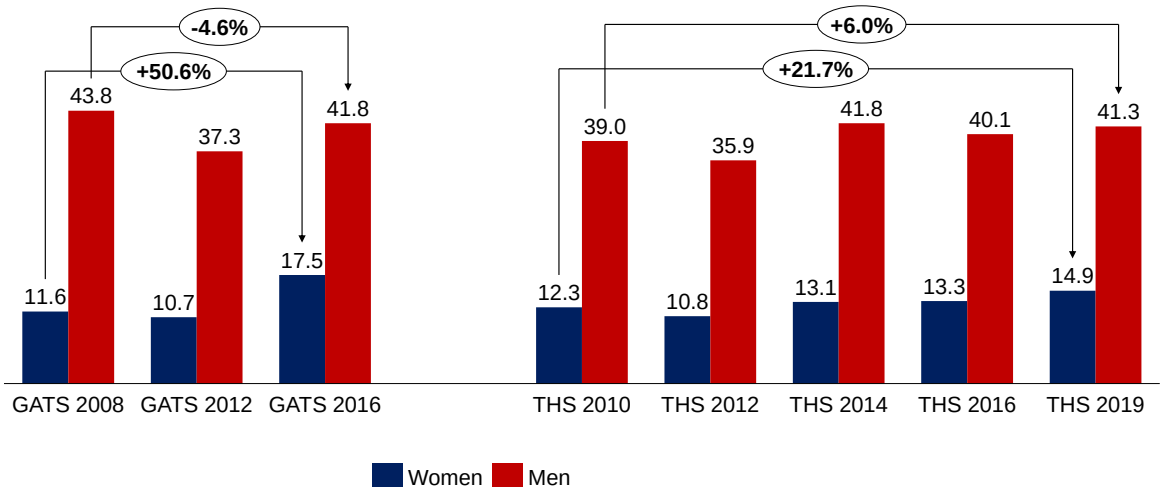
Figure 4 - Smoking prevalence by gender in benchmark countries, +15 population, %, 2016



Source: CDC, GATS micro data (Mexico (2015), Russia (2016), Turkey (2016), Ukraine (2017)), TEPAV calculations

Although men have higher prevalence rates of smoking than women in Turkey, daily smoking prevalence of women is increasing at a much higher rate compared to men. GATS in Turkey reveals a 50.6% increase in daily smoking prevalence of women between 2008 and 2016, whereas THS finds a 21.7% increase between 2010 and 2019. For comparison, a negative (-4.6%) or a small positive (6.0%) change is observed for men. The difference in trends for the two genders is substantial (Figure 5).

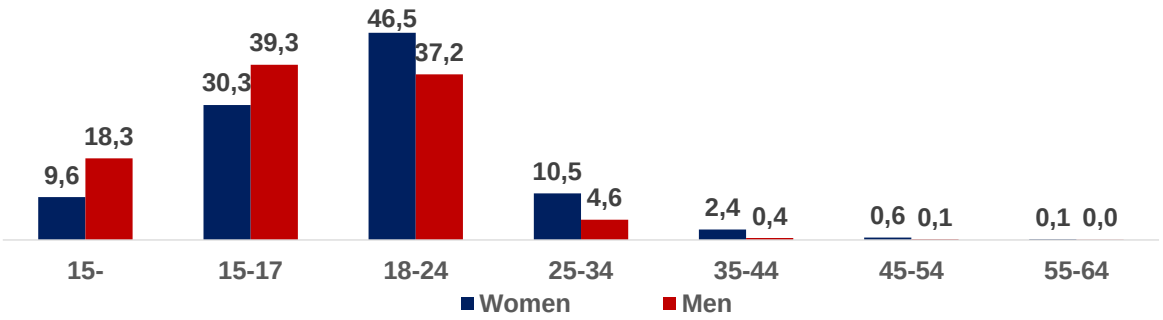
Figure 5 - Daily smoking prevalence rates by gender throughout years for different data sources in Turkey, +15 population, %, 2008-2019



Source: CDC, GATS micro data (Turkey 2008, 2012, 2016), TurkStat, TEPAV calculations
Note: The respective change rate between years is shown within arrows.

Gender difference is observed in Turkey in the distribution of the age at which daily smoking was initiated. 46.5% of women smokers started daily smoking between the ages of 18-24 and 39.9% started earlier. For comparison, 37.2% of men smokers started daily smoking when they were in ages 18 to 24 and 57.7% started earlier. On average, the starting age for men is younger than for women. This also points out that in Turkey a very high share of smokers began daily smoking before reaching age 18, the legal age (Figure 6). Compared to other countries, the high share of daily smokers at a young age in both genders, and in particular women, shows that addiction starts at young ages and it might be very difficult to lower the prevalence rates in the near future in Turkey.

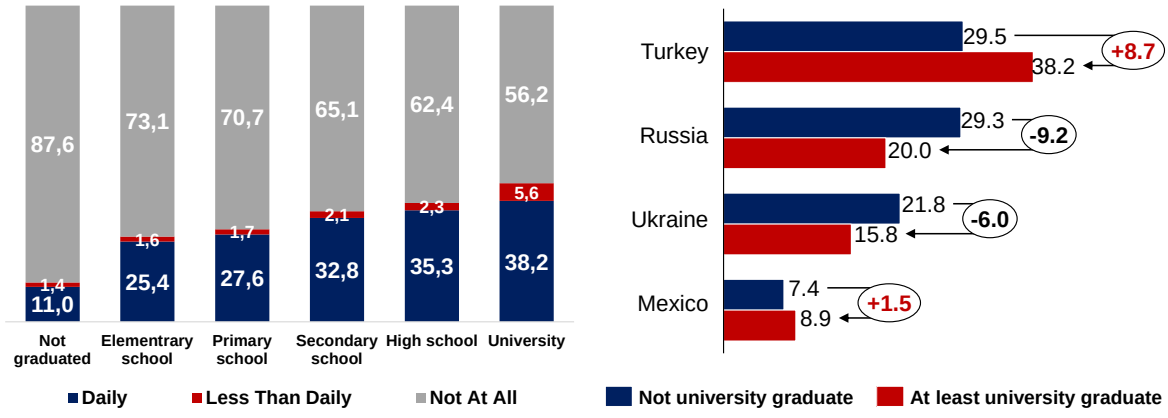
Figure 6 - Starting age for smoking daily in Turkey by gender, % of current daily smokers, 2016



Source: CDC, GATS micro data (Turkey 2016), TEPAV calculations

Another distinctive pattern observed in Turkey is the link between education level and smoking prevalence. It is observed that the prevalence of smoking increases with education level in Turkey, whereas in the benchmark countries smoking prevalence rates decrease with education level. In Turkey, the lowest estimated prevalence of tobacco smoking (11.0%) is for people with no formal schooling. The highest prevalence rate (38.2%), is for university graduates, and it is 8.7% higher than the rate for those without a university degree. In the benchmark countries, only in Mexico university graduates have a higher prevalence rate than non-graduates; however, the difference between the two groups is much smaller (around 1.5% points), also the daily smoking rate for the two education categories is quite low (Figure 7).

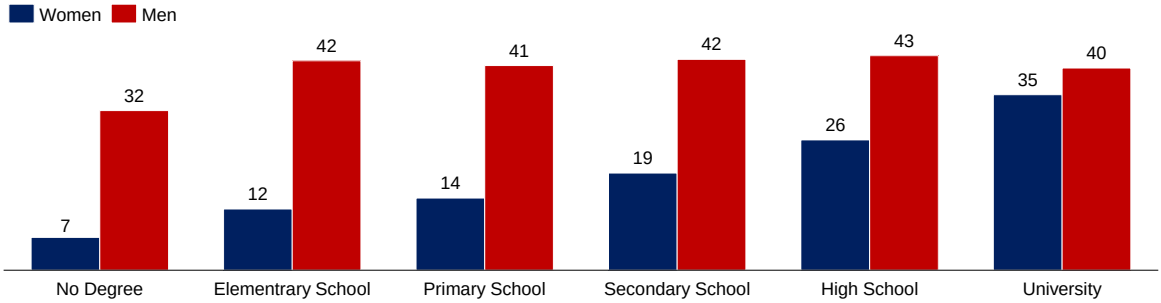
Figure 7 - Daily smoking prevalence rates according to level of education in benchmark countries, +15 population, %, 2016



Source: CDC, GATS micro data (Mexico (2015), Russia (2016), Turkey (2016), Ukraine (2017)), TEPAV calculations

The smoking prevalence rate for men does not vary much with education; however, this is not the case for women. Descriptive statistics suggest that daily smoking prevalence rate increases with education only for women; no clear pattern exists for men (Figure 8). The percentage of daily smokers among women with no formal education was significantly lower (at 7%) compared to women in other education categories, and compared to men with no formal education (32%). The prevalence of daily smoking for women displays an upward trend when graphed against the highest level of completed education. However, no such trend is observed for men, as smoking prevalence rates for men are mostly around 40 to 42%. For women, as the completed education level increases the prevalence rate increases, approaching the rate for men among university graduates.

Figure 8 - Daily smoking prevalence rates according to the highest level of completed education and gender in Turkey, +15 population, %, 2016



Source: CDC, GATS micro data (Turkey 2016), TEPAV calculations

Conclusion

This note provides a summary of demand dynamics of tobacco use in Turkey in comparison to the rest of the world, with a particular focus on how tobacco demand is related to gender and education. Despite the global downward trend in tobacco use, nationwide surveys in Turkey show no unambiguous decline. Evidently, Turkey has failed to achieve the desired targets regarding reduction in prevalence rates. The situation highlights the importance of country-specific measures targeting certain groups, such as women. Even though Turkey followed a successful path in monitoring policies in the overall, there are policy areas that need to be addressed to improve both the design and implementation processes of tobacco control policies.

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