



Original research article

The impact of preventive healthcare on self-rated health status among adults and the elderly in Türkiye

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Abstract

Objective: The aim of this study is to examine the sociodemographic factors and the utilization of preventive healthcare services associated with self-rated health status among adults and the elderly in Türkiye.

Methods: We performed statistical tests to evaluate differences in the frequency of preventive health service use, based on perceived health status across various age groups. We utilized multi-level probit regression models to scrutinize the self-rated health status, considering factors associated with sociodemographic variables and the receipt of preventive healthcare among adult groups and the elderly using the Türkiye Health Survey (HS) Micro Dataset (2022).

Results: This study highlights a clear and positive association between self-rated health status and preventive health services, particularly in consultations with general practitioners, blood pressure measurements, and blood sugar tests. Notably, regular utilization of these services within the past year positively influences health status. This relationship is more pronounced with age, especially among young and middle-aged adults. Typically, tobacco and alcohol use have a negative impact on health for each age group, while education level has a positive effect. Additionally, affordability constraints on accessing healthcare services and medication have a clear negative impact.

Conclusion: Subsidizing primary healthcare, screenings, and expanding healthcare services are essential for effective health policy implementation. Policies should focus on subsidizing primary care and screenings to encourage regular check-ups, considering both age and gender.

Keywords: Adults and elders; Health policy; Health services; Preventive healthcare; Self-rated health

Introduction

Preventive care is defined as any intervention that aims to reduce the number or severity of injuries and illnesses and prevent their consequences and complications. Preventive care includes medical services that reduce the risk of adverse health outcomes that may arise later, such as medical emergencies, disabilities, or chronic diseases (AbdulRaheem, 2023; WHO, 2022; Zhou et al., 2023). The demand for preventive health services has grown significantly, driven by an increasing awareness of their role in mitigating long-term health risks and improving public health outcomes. The theoretical basis for this demand lies in the recognition that preventive care can significantly reduce the incidence and severity of chronic diseases (Wang and Lo, 2022).

Preventive care, which typically involves regular screening for diseases before symptoms appear, significantly reduces treatment costs. It lowers the likelihood of conditions becoming life-threatening when risk factors or symptoms are detected early. Studies indicate that the dissemination of preventive care services would lead to substantial savings in countries' healthcare expenditures. Hence preventive care

offers significant economic benefits and can greatly reduce the individual financial burden associated with emergency healthcare services (Maciosek et al., 2010). Preventive health services are considered a cornerstone of good health and well-being. They can play a significant role in reducing a country's healthcare expenditures and improving both life expectancy and quality of life for its citizens (Yingwattanakul and Moschis, 2017).

The practice of receiving preventive healthcare during adulthood is particularly critical. Obtaining preventive health treatments between early adulthood and maturity is effective in avoiding and controlling chronic illnesses that may develop during adulthood. The transition into adulthood is associated with higher rates of mortality and morbidity compared to the adolescent years (Lau et al., 2013; Ozer et al., 2012). Therefore, acquiring the habit of seeking preventive health services at an early age and during young adulthood is likely to have positive effects on societal health outcomes. These beneficial outcomes, supported by a body of empirical evidence, underscore the significance of preventive care in influencing health outcomes among both adolescents and the broader adult population, as demonstrated in previous studies (Brown et al., 2001; DeVoe et al., 2003; Finkelstein, 2002).

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Preventive health services are designed to mitigate risks before they manifest and facilitate early disease detection. They serve as pivotal benchmarks and are meticulously observed by nations that prioritize primary healthcare delivery bolstered by supportive health policies. Such services constitute a notable share of healthcare expenditures in jurisdictions that emphasize the provision of primary healthcare. Within the European Union, expenditure on preventive health services constitutes 0.37% of the Gross Domestic Product (GDP). Notably, in 2020, Finland, Italy, and the Netherlands emerged as leading EU Member States in terms of expenditure allocation towards preventive health services, dedicating 0.54%, 0.53%, and 0.51% of their GDP, respectively (Eurostat, 2023). In many developed nations, there is a body of research dedicated to investigating the effects of preventive health services on both adolescents and adults. These studies consistently demonstrate the significant role that preventive health services play in shaping health outcomes (Adams et al., 2019; Hart et al., 2017; Simon et al., 2017).

In Türkiye, there is considerable debate regarding the prevalence and impact of preventive healthcare services (Başer et al., 2015; Özcan and Erdal, 2017). The utilization of primary healthcare services for preventive healthcare is categorized under secondary & tertiary healthcare. In Türkiye, approximately 3 out of 8 individuals seek services from primary healthcare providers annually (MoH, 2021). Although various perspectives on the impact of preventive healthcare services on health outcomes have been presented, there is a lack of studies based on measurement. Hence studies examining the impact of preventive healthcare services on health status could potentially fill a gap in the literature.

This study fills a gap in the literature by utilizing data from the 2022 Turkish Health Survey (HS) conducted by TurkStat, a large-scale population health survey, to examine the relationship between self-reported health perceptions and the behavior of seeking preventive healthcare services among adults and the elderly. We also underscored the importance of acknowledging potential disparities in the effects of preventive healthcare interventions on self-rated health status between adults and the elderly. The variations in age-related health challenges and healthcare requirements between these demographic groups may yield disparate outcomes. We applied multilevel ordered probit regression models to analyze the association between self-rated health status and preventive health check-ups, while also accounting for differences in age and sociodemographic factors. Specifically, the objectives of this study are to assess the impact of receiving six different preventive services – such as the frequency of general practitioner visits, flu vaccinations, blood pressure measurements, cholesterol measurements, and exercise – on the health status of adults and elders. Additionally, this study investigates how various demographic and sociodemographic variables, including gender, education level, insurance status, employment status, and marital status, are associated with health levels. The research questions of this study are as follows: What are the self-rated health statuses of emerging adults, young adults, middle-aged adults, and the elderly? Is there a statistical difference in self-rated health status among these age groups? What is the frequency of receiving preventive healthcare services of emerging adults, young adults, middle-aged adults, and elders? Are the self-rated health status assessments of young adults, adults, and the elderly influenced by their utilization of preventive health services and their sociodemographic characteristics?

Materials and methods

In this study, we utilized the Türkiye Health Survey (HS) Micro Dataset 2022, collected by the Turkish Statistical Institute (TurkStat). The permission to use the data was obtained from the institution in accordance with the Directive on Access to Micro Data and the Use of Micro Data. It is prohibited to share or use the data in any manner without the explicit authorization and endorsement of the institution. The sample was selected by TurkStat using the “National Address Database”, which serves as the foundation of the “Address Based Population Registration System” – established in 2007 and updated in 2022. The micro dataset includes information from 21,444 participants aged 18 and above, covering various aspects such as general health status, chronic diseases, functional abilities in performing daily activities, personal care, healthcare service utilization, medication use, vaccinations, and height and weight measurements. The dataset also provides detailed information on the uptake and frequency of preventive healthcare services and personal factors influencing overall health status, including general practitioner consultations, vaccinations, blood pressure and cholesterol levels, physical activity (such as walking), tobacco and alcohol use, and daily fruit consumption. The dataset also reveals the financial difficulties participants face in relation to their health status.

In this investigation, we examined variations in the receiving of preventive healthcare services across different age cohorts among adults aged 18 and older, with a focus on self-assessed health status. Additionally, we explored the influence of various sociodemographic factors on self-rated health status. Age groups were stratified into four distinct categories: emerging adults (aged 18–26), young adults (aged 27–45), middle-aged adults (aged 46–64), and elderly individuals (aged 65 and above). The rationale behind this categorization was to account for differences in perceived healthcare needs and subsequent preventive healthcare-seeking behaviours across diverse age groups. The micro dataset from the HS comprise 21,444 participants aged 18 and above, of which 15.24% are emerging adults, 39.1% young adults, 31% middle-aged adults, and 13.6% elderly individuals.

A systematic approach was adopted to analyze the impact of various sociodemographic factors and the frequency of preventive healthcare utilization on individuals' self-rated health status. Given the ordinal nature of the dependent variable and the hierarchical structure of the data, subjective self-rated health status was used as the outcome variable, measured on a five-point scale: 1 = Very bad, 2 = Bad, 3 = Fair, 4 = Good, 5 = Very good. To model the relationship between the categorical ordered dependent variable and the independent variables within a multilevel data framework, a Multilevel Ordered Probit Model was employed. This model is well-suited for analyzing ordered outcomes while accounting for the hierarchical structure of the data, allowing for the identification of both individual and group-level effects. The multilevel approach captures unobserved heterogeneity at higher aggregation levels, providing a more accurate estimation of the impact of various independent variables on self-rated health.

The model estimates thresholds for each health category, determining the probability of respondents selecting one of the five health ratings based on their sociodemographic and behavioral characteristics. The sociodemographic indicators considered include gender, marital status, education level, employment status, and social security ownership. Independent

variables include the use of preventive health services (e.g., consultations with a general practitioner, blood pressure, cholesterol, and blood sugar screenings), the frequency of these services, physical activity (measured by time spent walking), alcohol consumption, smoking habits, and dietary factors such as the intake of fruit. The estimated coefficients from the model reflect both the direction and magnitude of the relationship between these variables and the likelihood of an individual reporting a higher or lower health status.

Suppl. Table S1 provides detailed distribution of descriptive statistics of the participants.

Results

Age and self-rated health status

The analysis began with an examination of whether there is a statistically significant variance in self-rated health status across distinct age cohorts. As illustrated in Table 1, a statistically significant difference in self-rated health status across age groups was observed (Pearson $\chi^2 p = 0.000$). Consequently, it is surmised that delineating preventive healthcare-seeking behaviours across diverse age brackets would yield more substantive findings. This finding aligns with the premise that the propensity for receiving preventive health services is associated with age-related healthcare needs (Zhang et al., 2022). Indicators including consultations with general practitioners, vaccination status, blood pressure, and cholesterol measurements were employed to assess the uptake of preventive health services.

Distribution of preventive healthcare utilization by age group

Table 2 presents the frequency, percentage, and mean standard errors (se) pertaining to the utilization of preventive healthcare services across different age cohorts. Among emerging adults aged 18–26, 54.5% of individuals had sought consultation from a general practitioner within the past 12 months; this proportion increases with age. Among the 46–64 age group (middle-aged adults), this figure rises to 69.4%, while among individuals aged 65 and above, it peaks at 79.3%. Across all age groups, the rate of consulting a general practitioner remains below 10%. Concerning flu vaccinations, a crucial preventive measure against illnesses, the percentage of individuals vaccinated within the past year stands at 0.9% among emerging

adults aged 18–26. Within the 65 and above age group, this percentage surges to 11.5%.

This situation indicates a significant inadequacy in the prevalence of flu vaccination, which holds a crucial position in preventive healthcare services in Türkiye. Blood pressure measurement, employed to monitor and control certain medical conditions associated with early diagnosis of various diseases (such as heart disease, stroke, kidney disease, etc.), also holds a significant place in preventive healthcare. The percentage of individuals who have had their blood pressure measured by a healthcare professional within the last 12 months is highest among the group aged 65 and above, at 67.5%. However, it is worth noting that among middle-aged adults (aged 46–64), who are typically prone to conditions associated with irregularities in blood pressure, the percentage who had their blood pressure measured within the past 12 months is over 50%. This indicates that there is good health awareness and access to healthcare services in Türkiye when it comes to conditions like heart disease, stroke, and kidney disease.

Within the past 12 months, approximately one-fourth of emerging adults aged 18–26 have received healthcare services for measuring blood cholesterol levels. The rate of individuals who have never had their cholesterol levels measured is 41%. Measuring cholesterol levels is particularly important in determining an individual's risk of heart disease, especially among young adults and middle-aged adults. It is recommended that cholesterol levels be monitored more frequently in these adult groups (Marzetti et al., 2018). The highest rate (62.8%) of cholesterol measurement within the past 12 months is observed among individuals aged 65 and above. This frequency can be considered satisfactory. Blood sugar measurement is another preventive healthcare service used in the diagnosis and management of diabetes, assessing the risk of heart disease, and monitoring overall health status (Katz et al., 2020; Ürek et al., 2023). The pattern for blood sugar measurement is similar to blood cholesterol measurement, with the percentage decreasing with age for measurements within the past 12 months, and the percentage of individuals who never had their blood sugar measured decreasing with age. Additionally, the frequency of receiving different types of preventive healthcare services varies across different age groups, showing statistically significant differences (Pearson $\chi^2 = 0.000$).

Upon analysing the frequency of receiving preventive healthcare services across all age demographics in Türkiye, it becomes apparent that, for each healthcare service except flu

Table 1. Distribution and chi-squared test by age groups and self-rated health status

Age groups	Self-rated health status					Total
	Very bad	Bad	Fair	Good	Very good	
18–26	3 (0.09%)	60 (1.83%)	406 (12.42%)	2,245 (68.65%)	556 (17.00%)	3,270
27–45	34 (0.41%)	274 (3.27%)	1,856 (22.1%)	5,437 (64.83%)	785 (9.36%)	8,386
46–64	63 (0.92%)	664 (9.68%)	2,834 (41.29%)	3,094 (45.1%)	208 (3.03%)	6,863
65+	83 (2.84%)	658 (22.5%)	1,440 (49.23%)	725 (24.8%)	19 (0.65%)	2,925
Total	183 (0.085%)	1,656 (7.72%)	6,536 (30.5%)	11,501 (53.63%)	1,568 (7.31%)	21,444
Pearson χ^2 (12) = 4325.1					$p = 0.000$	

vaccination, the highest occurrence is seen within the preceding 12 months, demonstrating the greatest percentage of service utilization. This suggests that individuals possess a commendable level of awareness regarding preventive healthcare services, indicative of a potential overall accessibility to healthcare services.

Factors on self-rated health status by age groups

Table S2 presents the results of a multilevel probit model analysis evaluating the effects of various socioeconomic factors (including the frequency of preventive healthcare utilization) on self-rated health status across different age groups. The Wald chi-squared tests indicate that the overall model is statistically significant ($p = 0.00$) for each age group, suggesting that the included variables collectively explain variations in self-rated health status.

Sociodemographic and physical factors

The women tend to have a lower self-rated health status than men across all age groups. This is statistically significant ($p < 0.01$), except for the age group 65+. The negative coefficients for women indicate that, on average, women rate their health lower than men, with the effect being more pronounced in older age groups. Higher education levels are positively associated with better self-rated health across all age groups, with the strength of association particularly strong among individuals with high school and higher education, as evidenced by statistically significant ($p < 0.01$ and 0.05) positive coefficients. Being employed is associated with better self-rated health, particularly in the 46–64 age group ($p < 0.01$), although this relationship is not statistically significant in the younger and older age groups. Spending more time walking is positively associated with better self-rated health, especially in

Table 2. Distribution of preventive healthcare services by age groups

		Age groups – (%)			
Preventive healthcare services		18–26	27–45	46–64	65+
	Number of observations	3,270	8,780	6,250	2,925
	Frequency				
When was the last time you consulted a GP (general practitioner) or family doctor on your own behalf?	Within the past 12 months	54.5 [0.0041]	57.85 [0.0028]	69.45 [0.0026]	79.31 [0.0074]
	12 months ago or longer	36.85 [0.0084]	35.05 [0.0052]	25.50 [0.0052]	17.70 [0.0070]
	Never	8.62 [0.0087]	7.08 [0.0053]	5.03 [0.0058]	2.9 [0.0031]
	Pearson χ^2 (6)	643.685		p = 0.000	
When was the last time you were vaccinated against flu?	Within the past 12 months	0.91 [0.0016]	1.15 [0.0011]	2.92 [0.0021]	11.55 [0.0059]
	Too long ago (before last year)	14.70 [0.0061]	15.09 [0.0039]	16.24 [0.0044]	23.21 [0.0078]
	Never	84.37 [0.0063]	83.75 [0.0040]	80.83 [0.0047]	65.23 [0.0088]
	Pearson χ^2 (6)	754.809		p = 0.000	
When was the last time that your blood pressure was measured by a health professional?	Within the past 12 months	32.59 [0.0081]	41.78 [0.0053]	54.45 [0.0060]	67.58 [0.0086]
	Less than 3 years ago	24.80 [0.0075]	28.47 [0.0049]	25.62 [0.0052]	20.13 [0.0074]
	More than 3 to less than 5 years	8.37 [0.0048]	9.06 [0.0031]	6.97 [0.0030]	4.68 [0.0039]
	5 years and more	4.40 [0.0035]	6.62 [0.0027]	5.31 [0.0027]	4.10 [0.0036]
	Never	29.81 [0.0080]	14.04 [0.0038]	7.62 [0.0032]	3.48 [0.0033]
	Pearson χ^2 (12)	1097.960		p = 0.000	
When was the last time that your blood cholesterol was measured by a health professional?	Within the past 12 months	25.93 [0.0076]	35.93 [0.0052]	50.61 [0.0060]	62.80 [0.0089]
	Less than 3 years ago	21.80 [0.0072]	25.74 [0.0047]	25.39 [0.0052]	21.33 [0.0075]
	More than 3 to less than 5 years	7.0 [0.0044]	8.38 [0.0030]	7.24 [0.0031]	5.57 [0.0042]
	5 years and more	3.97 [0.0034]	6.18 [0.0026]	5.03 [0.0026]	4.44 [0.0038]
	Never	41.25 [0.0086]	23.75 [0.0046]	11.70 [0.0039]	5.84 [0.0043]
	Pearson χ^2 (12)	2109.3211		p = 0.000	
When was the last time that your blood sugar was measured by a health professional?	Within the past 12 months	28.96 [0.0079]	38.18 [0.0052]	52.15 [0.0060]	64.17 [0.0088]
	Less than 3 years ago	23.21 [0.0073]	25.93 [0.0047]	24.84 [0.0052]	20.51 [0.0074]
	More than 3 to less than 5 years	7.37 [0.0045]	8.61 [0.0030]	7.23 [0.0031]	5.23 [0.0041]
	5 years and more	4.12 [0.0034]	6.34 [0.0026]	5.03 [0.0026]	3.86 [0.0035]
	Never	36.33 [0.0084]	20.92 [0.0044]	10.72 [0.0037]	6.22 [0.0044]
	Pearson χ^2 (6)	1749.321		p = 0.000	

Note: * [] shows the standard errors (se).

the older age groups, highlighting the role of physical activity in promoting health across the lifespan. Longer walking times are associated with better self-rated health status, particularly among those aged 46–64, with statistical significance observed for higher levels of activity, e.g., 3 hours or more per day. Tobacco and alcohol use are associated with poorer self-rated health status across all age groups, with statistical significance ($p < 0.01$). Alcohol use is not statistically significant in those aged 65 and over and those aged 18–26. An important finding is that the inability to afford preventive healthcare care and prescribed healthcare in the past 12 months is associated with poorer self-rated health status across all age groups and is statistically significant ($p < 0.01$), indicating a potential barrier to healthcare access.

Preventive health utilization behaviour factors

The multilevel ordered probit model results also show the relationship between self-rated health status and preventive healthcare utilization indicators, specifically focusing on the frequency of medical consultations and screenings.

Frequency of consultations with general practitioner/family doctor

Adults who consulted a general practitioner or family doctor within 12 months tend to report better self-rated health status across all age groups, with statistical significance ($p < 0.01$) observed for those aged 27–45 and 46–64. For beta coefficient, those who have had consultations 12 months ago or longer also tend to report better health status, although the effect is weaker compared to recent consultations.

Frequency of flu vaccination:

A flu vaccination within the last 12 months is associated with better self-rated health status among the 46–64 and 65+ aged groups – and is statistically significant ($p < 0.05$).

Frequency of blood pressure measurements:

There is statistical significance between blood pressure measurement and self-rated health status among individuals aged 27–45 ($p < 0.01$). The health levels of those who have had their blood pressure measured in the last 12 months are significantly higher compared to those who measure less frequently.

Frequency of blood cholesterol measurements:

Blood cholesterol measurements taken within the past 12 months are negatively associated with self-rated health status among individuals aged 46–64 and 65+ ($p < 0.05$). In contrast to other preventive healthcare services, cholesterol measurement tends to be indicative of illness and may lead individuals to feel less healthy. The reason for this could be the association between cholesterol measurement and other existing health issues, indicating that frequent cholesterol measurements can be considered an indicator of other health problems. This behaviour of seeking healthcare services may stem from the individual already having a lower level of health.

Frequency of blood sugar measurement:

The impact of blood sugar measurement frequency over the past 12 months on health status is not statistically significant for all age groups.

factors affecting self-rated health status among adult age groups and the elderly (and to examine the relationship between them). Previous studies have focused on the self-rated health levels of adults in Türkiye, considering various factors such as sociodemographic characteristics, health issues, lifestyle, and utilization of health services (Çakır, 2023; Ürek et al., 2023). However, in the current study, the impact of receiving preventive health services and its frequency on health levels has been comprehensively examined, alongside other variables considered in previous studies. This study has also addressed these factors for different adult age categories and the elderly.

Among the participants aged 18–26 (classified as emerging adults), 54% had consulted a general practitioner, 0.9% had received a flu vaccine, 32.5% had had their blood pressure measured, 25.0% had had their cholesterol levels checked, and 29.9% had had their blood sugar levels tested by a healthcare professional within the past 12 months. The lowest rates were observed in this adult group. The rates of receiving preventive healthcare services within the last 12 months consistently increase between young adults aged 27–45 and middle-aged adults (46–64). In the age group of 46–64 middle aged adults, 69.4% had consulted a general practitioner, 2.9% had received a flu vaccine, 54% had had their blood pressure measured by a healthcare professional, 50.6% had had their cholesterol measured by a healthcare professional, and 51.1% had had their blood sugar measured. The frequency of utilizing preventive healthcare services is highest among individuals aged 65+. Similar findings have been observed in the evaluation of preventive health practices in Türkiye. In the same age group, the flu vaccination rate is low, but the frequency of utilizing other primary care services has been observed to be high (Çakır, 2023). The frequency and distribution of preventive healthcare service utilization among adults and the elderly follows a similar pattern to the findings of studies conducted in other countries (Lau et al., 2013; Zhang et al., 2022; Zhou et al., 2023).

Adults with a higher level of health perception were found to have a higher likelihood of accessing preventive health services, such as consulting a general practitioner and having blood pressure measured. Additionally, it was observed that there is a relationship between perceived health level and the frequency of receiving such preventive health services as age increases. It is evident that regular consultations with a general practitioner, along with receiving blood pressure measurements, can contribute to a better self-rated health status among young adults aged 27–45 and middle-aged adults of 46–64. Among other preventive healthcare services, this has the highest impact. Seeking preventive healthcare services by consulting a physician within 12 months, in other words, regularly visiting a general practitioner, is identified as an important determinant of self-rated health status among middle-aged adults (27–45). Furthermore, previous studies emphasize that utilizing preventive healthcare services is an important factor influencing self-rated health status among young adults (Coker et al., 2010; Lau et al., 2013). In particular, receiving a cholesterol measurement within the 12 months leads to a negative self-rated health outcome for groups aged 46–65 and 65 and older. The reason for this is that cholesterol measurements are typically part of routine health screenings recommended for adults to assess their cardiovascular disease risk. This is because age is a significant independent risk factor for cardiovascular disease, and the risk steadily increases as individuals progress through different stages of adulthood (Rodgers et al., 2019). Therefore, these age groups may tend to

Discussion

To our knowledge, this is the first Turkish study to include the utilization of preventive health services in addressing

engage in fewer self-rated health assessments as they could be more susceptible to cardiovascular diseases.

The relationship between preventive health care and self-rated health status is complex and influenced by various factors. It is important to consider the accessibility and affordability of preventive health care services, as well as the individual's sociodemographic status and health behaviors. Based on our analysis, being female is associated with a lower level of health. Women have significantly poorer health status compared to men when it comes to self-reported health indicators, and this difference is statistically significant (except for those over 65 years of age). In many countries, women have a lower perception of their health than men. This is primarily due to the gender gap in the prevalence of chronic conditions, such as arthritis and depression, as well as societal gender characteristics (Boerma et al., 2016; Zajacova et al., 2017). Furthermore, individuals in the 27–45 and 6–64 age groups who have difficulty affording access to medical care and medications experience significantly lower health levels. Other studies conducted in Türkiye have demonstrated that access to healthcare services and financial risk protection are significant factors in achieving a good level of health (Manavgat et al., 2020; Sözmen et al., 2012). Except for adults aged 18–26, higher levels of education are associated with better self-rated health across all older age groups. Graduating from higher education significantly contributes to a positive health level (Ergin and Mandiracioglu, 2015; Fletcher and Frisvold, 2009; Zhang et al., 2022). Research that demonstrates substantial positive correlations between perceived health and health literacy, particularly when accounting for education level as a determinant, supports this assertion (Aboumatar et al., 2013; Fernandez et al., 2016; Park et al., 2017). The findings from this study may also help explain previous research that has linked greater wellbeing with engagement in physical activities (Czekierda et al., 2017). We observed that walking for 30 to 59 minutes daily plays a significant role in one's health perception, especially among adults aged 45–64.

Strengths and limitations

This study includes a large Turkish population and secondary data verification ensures data quality. Subjective health status (a good predictor of morbidity and mortality) has been utilized due to its ease of evaluation and applicability. However, it does not precisely reflect a complete sense of health and is subjective. Multivariate robust analyses have been conducted to adjust for various sociodemographic factors and the frequency of preventive healthcare services that could affect adult groups and the elderly. However, the study has some limitations. Only a limited number of preventive health services have been considered, and including psychological consulting services and dietary routines may lead to more comprehensive assessments. It may also be necessary to consider that focusing excessively on preventive care could lead to overdiagnosis and overtreatment. Relying solely on preventive screenings to assess individuals' health status may be insufficient. Moreover, it should be considered that placing excessive trust in preventive health services could lead to unnecessary medical interventions and increased healthcare expenditures.

Conclusion

This study demonstrates a positive relationship between self-rated health status and the utilization of preventive health services, particularly in the context of general prac-

titioner consultations, blood pressure measurements, and blood sugar tests. Specifically, the frequency of receiving these services within the past 12 months has been shown to positively impact health status. This relationship is particularly strong among young adults and adults, indicating that timely healthcare interventions and screenings play a crucial role in maintaining or improving perceived health status. Notably, significant gender differences have been identified in these relationships. A good self-rated health status among adults is associated with higher levels of education and physical activity. Conversely, financial difficulties in accessing healthcare services and medications have a negative impact on health levels.

For effective policy implementation, increasing access to preventive health services within society is crucial. This could involve initiatives such as subsidizing primary healthcare costs, covering the expense of screenings, or expanding the availability of these services in community healthcare centers. To promote regular health check-ups and screenings (especially gender-specific ones among young adults and adults), campaigns to raise awareness about the importance of preventive care, and efforts to improve the accessibility and affordability of healthcare interventions could be implemented. These measures can be effective in reducing the burden of diseases that may arise during adolescence and adulthood, and can also contribute to effectively managing healthcare expenditures, particularly in emerging countries.

Declaration of competing interests

All the authors have read and approved the manuscript. The authors, whose names are listed immediately below, certify that they have no affiliations with (or involvement in) any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership; employment; consultancies; stock ownership or other equity interest; expert testimony; patent-licensing arrangements), or non-financial interest (such as personal or professional relationships, affiliations, knowledge, or beliefs) in relation to the subject matter or materials discussed in this manuscript.

Authors' contributions

Concept: GM; Design: GM, AD; Data collection and entry: AD; Analysis and interpretation: GM, AD; Literature review: GM, AD; Writing: GM, AD; Critical review: AD, GM.

Data availability statement

The Turkish Health Survey (HS)-2022, collected by the Turkish Statistical Institute (TURKSTAT), was used in this study. Permission to use the data was obtained from the institution in accordance with the Directive on Access to Micro Data and the Use of Micro Data. It is prohibited to share or utilize the data in any manner without the explicit authorization and endorsement of the institution.

Ethical approval

The data used in this study were obtained from the Turkish Health Survey (2022) conducted by the Turkish Statistical Institute (TURKSTAT). Therefore, ethical approval is not required.

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