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FEATURES OF THE ORGANIZATION OF MEDICAL CARE FOR PATIENTS WITH SOCIALLY SIGNIFICANT DISEASES IN THE CITY OF TALGAR, ALMATY REGION

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Abstract

Introduction. In recent years, Kazakhstan has seen changes in the structure of morbidity among the adult population, especially in major chronic diseases such as circulatory, respiratory and genitourinary diseases. Analyzing these trends by region, including the city of Talgar in Almaty Oblast, is necessary to improve health services and preventive measures.

Aim: to study the dynamics of morbidity of diseases of the circulatory system, respiratory organs and urogenital system among the adult population of Talgar city in Almaty region for the period 2016-2021.

Materials and methods. The study was conducted on the basis of statistical data collected on the adult population of Talgar city (18 years and older) in the period from 2016 to 2021. The analysis included general and primary morbidity in three main groups of diseases: diseases of the circulatory system, diseases of the respiratory system and diseases of the genitourinary system. The methods of comparative analysis, descriptive statistics, and chi-square were used.

Results. The incidence of circulatory and respiratory diseases showed a significant decrease in 2020 and 2021, due to the COVID-19 pandemic. At the same time, the highest increase in incidence was observed in 2018-2019, especially among women. The morbidity of the genitourinary system also showed a gender distribution with a predominance among women (about 75% of all cases). The overall dynamics showed a steady downward trend in morbidity in the last two years.

Conclusion. Stable gender differences indicate the need to develop preventive measures that take into account the peculiarities of men's and women's health. Restoring access to routine medical care and preventive examinations will be an important step in improving the health of the population.

Keywords: *circulatory system diseases, respiratory system diseases, genitourinary system diseases, Talgar city, Almaty region.*

Резюме

ОСОБЕННОСТИ ОРГАНИЗАЦИИ МЕДИЦИНСКОЙ ПОМОЩИ ПАЦИЕНТАМ С СОЦИАЛЬНО ЗНАЧИМЫМИ ЗАБОЛЕВАНИЯМИ В ГОРОДЕ ТАЛГАР АЛМАТИНСКОЙ ОБЛАСТИ

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Введение. В последние годы в Казахстане наблюдаются изменения в структуре заболеваемости среди взрослого населения, особенно по основным хроническим заболеваниям, таким как болезни системы кровообращения, органов дыхания и мочеполовой системы. Анализ этих тенденций в разрезе отдельных регионов, включая город Талгар в Алматинской области, необходим для улучшения медицинских услуг и профилактических мер.

Цель: изучить динамику заболеваемости болезнями системы кровообращения, органов дыхания и мочеполовой системы среди взрослого населения города Талгар в Алматинской области за период 2016–2021 годов.

Материалы и методы. Исследование проведено на основе статистических данных, собранных по взрослому населению города Талгар (18 лет и старше) в период с 2016 по 2021 годы. Анализ включал общую и первичную заболеваемость по трём основным группам заболеваний: болезни системы кровообращения, болезни органов дыхания и болезни мочеполовой системы. Используются методы сравнительного анализа, описательной статистики, хи-квадрат.

Результаты исследования. Заболеваемость болезнями системы кровообращения и органов дыхания показала значительное снижение в 2020 и 2021 годах, что связано с пандемией COVID-19. В то же время, наибольший рост заболеваемости наблюдался в 2018–2019 годах, особенно среди женщин. Заболеваемость мочеполовой системы также демонстрировала гендерное распределение с преобладанием среди женщин (около 75% от всех случаев). Общая динамика показала устойчивую тенденцию к снижению заболеваемости в последние два года.

Выводы. Стабильные гендерные различия указывают на необходимость разработки профилактических мер с учетом особенностей мужского и женского здоровья. Восстановление доступности плановой медицинской помощи и профилактических осмотров будет важным этапом в улучшении здоровья населения.

Ключевые слова: болезни системы кровообращения, болезни органов дыхания, болезни мочеполовой системы, город Талгар, Алматинская область.

Түйіндеме

АЛМАТЫ ОБЛЫСЫ, ТАЛҒАР ҚАЛАСЫНДА ӘЛЕУМЕТТІК МАҢЫЗЫ БАР АУРУЛАРЫ БАР НАУҚАСТАРҒА МЕДИЦИНАЛЫҚ КӨМЕК КӨРСЕТУДІ ҰЙЫМДАСТЫРУДЫҢ ЕРЕКШЕЛІКТЕРІ

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Кіріспе. Соңғы жылдары Қазақстанда ересек тұрғындар арасында, әсіресе қан айналымы жүйесінің, тыныс алу органдарының және несеп-жыныс жүйесінің аурулары сияқты негізгі созылмалы аурулар бойынша сырқаттанушылық құрылымында өзгерістер байқалады. Алматы облысындағы Талғар қаласын қоса алғанда, жекелеген өңірлер бөлінісінде осы үрдістерді талдау медициналық қызметтер мен алдын алу шараларын жақсарту үшін қажет.

Мақсаты: 2016-2021 жылдар кезеңінде Алматы облысындағы Талғар қаласының ересек тұрғындары арасында қан айналымы жүйесі, тыныс алу органдары және несеп-жыныс жүйесі ауруларымен сырқаттанушылықтың динамикасын зерделеу.

Материалдар мен әдістер. Зерттеу 2016-2021 жылдар аралығында Талғар қаласының (18 жас және одан жоғары) ересек тұрғындары бойынша жиналған статистикалық деректер негізінде жүргізілді. Талдау аурулардың үш негізгі тобы бойынша жалпы және бастапқы аурушаңдықты қамтыды: қан айналымы жүйесінің аурулары, тыныс алу жүйесінің аурулары және генитурариялық жүйенің аурулары. Салыстырмалы талдау, сипаттамалық статистика, хи-квадрат әдістері қолданылды.

Зерттеу нәтижелері. Қан айналымы жүйесі мен тыныс алу жүйесі ауруларының жиілігі 2020 және 2021 жылдары айтарлықтай төмендегенін көрсетті, бұл COVID-19 пандемиясымен байланысты. Сонымен қатар, аурушаңдықтың ең көп өсуі 2018-2019 жылдары, әсіресе әйелдер арасында байқалды. Несеп-жыныс жүйесінің жиілігі сонымен қатар әйелдер арасында Гендерлік таралуды көрсетті (барлық жағдайлардың шамамен 75%). Жалпы динамика соңғы екі жылда аурудың төмендеуінің тұрақты тенденциясын көрсетті.

Қорытынды. Тұрақты гендерлік айырмашылықтар ерлер мен әйелдердің денсаулығының ерекшеліктерін ескере отырып, алдын алу шараларын әзірлеу қажеттілігін көрсетеді. Жоспарлы медициналық көмек пен профилактикалық тексерулердің қолжетімділігін қалпына келтіру халықтың денсаулығын жақсартудың маңызды кезеңі болады.

Түйін сөздер: қан айналымы жүйесінің аурулары, тыныс алу органдарының аурулары, несеп-жыныс жүйесінің аурулары, Талғар қаласы, Алматы облысы.

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Introduction

For successful organisation of medical care for patients with socially significant diseases, it is important to consider demographic, socio-economic and behavioural factors that influence health literacy [4,18].

Socially significant diseases represent one of the most serious public health problems, having a significant

impact on the quality of life of the population and requiring significant resources for their prevention, diagnosis and treatment. These diseases include cardiovascular diseases, cancers, diabetes mellitus, chronic respiratory diseases and others that result in high levels of morbidity and mortality. These diseases not only increase the burden on the health care system,

but also significantly affect the socio-economic development of regions [3,13].

WHO has prioritised implementation research, built local research capacity in low- and middle-income countries, and improved data collection and surveillance systems. The focus is on supporting countries to develop effective research programmes and leveraging partnerships to address NCD research gaps, especially in resource-limited settings [11,14].

Almaty region, and in particular the city of Talgar, is not an exception. In this region there is a significant prevalence of socially significant diseases, which requires improvement of the organisation of medical care. Effective organisation of medical care for such patients is a key factor in reducing morbidity rates, improving the quality of life of patients and reducing the financial burden on the health care system. Despite the existing achievements in medical care in Kazakhstan, many issues regarding accessibility and quality of medical services remain unresolved, especially in the regions. In Talgar, as in many other cities, there is a need for a comprehensive approach to the treatment and prevention of socially significant diseases. Existing problems include lack of qualified personnel, inadequate equipment of medical facilities, and insufficient coordination between different levels of medical care [7,2].

The purpose of this study is to investigate the dynamics of morbidity of diseases of the circulatory system, respiratory organs and urogenital system among the adult population of Talgar city in Almaty region for the period 2016-2021.

Thus, this study is aimed at identifying and solving problems in the organisation of medical care for patients with socially significant diseases, which will improve the health of the region's population and reduce the socio-economic burden of these diseases.

Materials and methods.

The materials of the study were official statistical data of the State Clinical Hospital 'Talgar Central District Hospital

(CDH)' in Almaty region for the period 2016-2021. We analysed the general and primary morbidity of the population with diseases of the circulatory system, respiratory organs and genitourinary system by sex in Talgar city of Almaty region among adults (18 years and older). These nosologies were taken for analysis due to high prevalence among the residents of Talgar city of Almaty region and the need to develop practical recommendations to improve the organisation of medical care in CDH.

The mean value and standard error were calculated for morbidity indicators. The general morbidity of the population was calculated per 100 thousand population. Pearson's chi-square was used for primary and general morbidity. A p-value <0.05 was considered statistically significant. Statistical analysis provided using IBM SPSS Statistics package as well as Microsoft Excel programs.

Results

There was an increase in incidence between 2016 and 2019, but a sharp decline began in 2020, which can be attributed to the COVID-19 pandemic, which affected diagnosis and access to care. After peaking in 2017, incidence has been declining. The strong drop in 2020 is likely due to the pandemic and the imposition of restrictions (masking, isolation) that may have reduced the spread of respiratory infections. The incidence peaked in 2019, followed by a sharp decline, possibly due to the pandemic, which may also have affected the diagnosis and treatment of diseases in this category. All three disease groups show a sharp decline in 2020, likely due to the impact of the COVID-19 pandemic, changes in access to health services, and a reorientation of resources to deal with the pandemic. There is a slight recovery in 2021, but rates remain below pre-pandemic levels. This analysis points to the need for further research on the impact of the pandemic on chronic disease diagnosis and prevention (Figure 1).

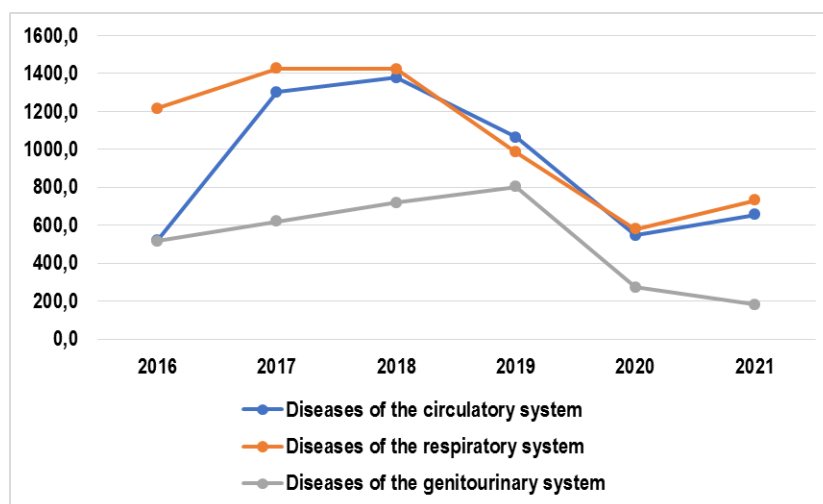


Figure 1. Prevalence of circulatory, respiratory and genitourinary diseases in Talgar city, Almaty region.

Table 1 presents data on the population of Talgar city in Almaty region for 2016-2021, divided into women, men and total population. The population of Talgar city has been increasing over the period under review. In 2016, the total population was 1,943,109 and in 2021, it increased to

2,149,900. This is an increase of 10.6 per cent over the five years. In 2016, the female population was 983,108 and in 2021 it is 1,089,331. This is an increase of 10.8 per cent. In 2016, the male population was 960,001 and in 2021 it will be 1,060,569, an increase of 10.5%. Women have always made up a slightly

larger proportion of the population than men, and this gap is gradually widening. In 2016, women made up 50.6 per cent of the population and men 49.4 per cent. By 2021, the ratio has changed slightly, with women making up 50.7 per cent and men 49.3 per cent. On average, population growth is approximately 2% per year. The highest population growth is observed from 2018 to 2019 (difference in total population - 60,416), which may indicate a high natural increase or migration processes. Talgar city in Almaty region shows a steady population growth from 2016 to 2021. The number of women is slightly higher than men, and this ratio is maintained with slight changes.

higher incidence rate than men. For example, in 2016, women accounted for 54.6 per cent of all cases and men 45.4 per cent. This trend has continued, although the gap between male and female rates is narrowing slightly. Primary morbidity also varies, peaking in 2017 at 9,187 cases and declining to 3,760 cases by 2019. There is an increase to 5,000 cases in 2020 before declining again in 2021 to 3,950 cases. Women led the primary incidence until 2020, but in 2020 men began to account for a larger proportion of primary cases (65.3 per cent) and in 2021 men again led (55.9 per cent). This change can be attributed to a variety of factors, including age, access to care, and other social and health conditions. The trend for the entire period 2016-2021 is a total incidence of 111,282 cases, of which 59.7% among females and 40.3% among males.

Table 1.

Population of Talgar city in Almaty region.

Years	Female	Male	Total
2016	983 108	960 001	1 943 109
2017	1 000 313	975 798	1 976 111
2018	1 024 323	997 162	2 021 485
2019	1 043 952	1 016 949	2060901
2020	1 065 814	1 035 399	2 101 213
2021	1 089 331	1 060 569	2 149 900

Table 2 provides data on the incidence of circulatory system diseases among the adult population of Talgar city in Almaty region for 2016-2021. The data include total and primary morbidity divided by sex. The total number of cases of circulatory system diseases fluctuates over the period. In 2016, the total number of cases was 10,113 and it gradually increased, peaking in 2018 (27,869 cases). Then in 2019 there was a decrease to 21,930 cases and the lowest numbers were in 2020 (11,503 cases). Women have a

The primary morbidity for the same period was 31,987 cases, where 52.9 per cent were women and 47.1 per cent were men. Women have higher rates of both total and primary morbidity compared to men, but the gap has been narrowing in recent years.

Primary morbidity increased in 2020, especially among men, which may indicate a change in risk factors or diagnostic conditions. Total morbidity peaked in 2018, followed by a significant decline, which may be due to improvements in preventive measures, diagnostic capacity, or changes in disease recording and reporting methods. When calculating the chi -square, p-values are significantly below the standard level of significance, indicating significant differences in the distribution of total and primary morbidity among men and women in different years.

Table 2.

Diseases of the circulatory system in Talgar city, Almaty region among adults (18 years and older).

Years	Morbidity			Primary incidence		
	Female	Male	Total	Female	Male	Total
2016	5519 (54,6±0,50)	4594 (45,4±0,50)	10113 (9,09±0,09)	1744 (55,3±0,89)	1412 (44,7±0,89)	3156 (9,87±0,17)
2017	15872 (61,7±0,30)	9870 (38,3±0,30)	25742 (23,1±0,13)	5550 (60,4±0,51)	3637 (39,6±0,51)	9187 (28,7±0,25)
2018	16796 (60,3±0,29)	11073 (39,7±0,29)	27869 (25,0±0,13)	3909 (56,4±0,60)	3025 (43,6±0,60)	6934 (21,7±0,23)
2019	13478 (61,5±0,33)	8452 (38,5±0,33)	21930 (19,7±0,12)	2243 (59,7±0,80)	1517 (40,3±0,80)	3760 (11,8±0,18)
2020	6966 (60,6±0,46)	4537 (39,4±0,46)	11503 (10,3±0,09)	1736 (34,7±0,67)	3264 (65,3±0,67)	5000 (15,6±0,20)
2021	7810 (55,3±0,42)	6315 (44,7±0,42)	14125 (12,7±0,10)	1740 (44,1±0,79)	2210 (55,9±0,79)	3950 (12,3±0,18)
Total	66441 (59,7±0,15)	44841 (40,3±0,15)	111282 (100,0±0,0)	16922 (52,9±0,28)	15065 (47,1±0,28)	31987 (100,0±0,0)
Dynamics of growth (%)	41,5	37,5	39,7	-0,23	56,5	25,2
	Chi-square: 301.04 p-value: 5.98×10 ⁻⁶³			Chi-square: 1104.94 p-value: 1.14×10 ⁻²³⁶		

Table 3 shows data on the incidence of respiratory diseases among the adult population of Talgar city in Almaty region for 2016-2021. Data on total and primary morbidity are included, divided by sex. The overall morbidity varies by year. In 2016, 23,609 cases were recorded, after

which the rate increased to a maximum in 2018 (28,763 cases). There was then a significant decrease in 2019 and 2020 (to 12,185 cases in 2020), and it increased slightly to 15,720 cases in 2021. In 2016, men accounted for the majority of the incidence (77.4 per cent), but this changes

from 2017, with women starting to make up a larger proportion of the incidence. In 2021, women accounted for 55.3 per cent and men for 44.7 per cent. This may be due to changes in working conditions, access to medical care or other social factors. Primary morbidity also varies. In 2016, 17,114 cases were reported, with a subsequent increase to a peak in 2018 (25,305 cases). Thereafter, there is a decline to 10,981 cases in 2021. As with the overall incidence, males dominated in 2016, but then from 2017 onwards, females begin to make up the majority of the primary incidence. In 2021, women accounted for 69.1 per cent of primary cases and men for 30.9 per cent, indicating a significant gender shift over the period. For the entire period 2016-2021, the total incidence of respiratory diseases was 128,788 cases, of which 50.8% were female and 49.2% male. This is an almost equal distribution,

although at the beginning of the period males were significantly more predominant. The 6-year primary morbidity was 106,076 cases, of which 53.9 per cent were female and 46.1 per cent male. Respiratory morbidity shows an interesting dynamic initially males predominated, but from 2017 onwards females started to account for a larger proportion of both total and primary morbidity. The peak incidence was recorded in 2017 and 2018, with a subsequent decrease in 2020, which may be due to changes in environmental conditions, social factors or preventive measures. Gender differences in incidence may be related to differences in exposure to risk factors such as smoking, working conditions, access to health services and other factors. Chi-square indicates significant differences in the distribution of total and primary morbidity of respiratory diseases in the population between men and women by year.

Table 3.

Respiratory diseases in Talgar city, Almaty region among adults (18 years and older).

Years	Morbidity			Primary incidence		
	Female	Male	Total	Female	Male	Total
2016	5343 (22,6±0,27)	18266 (77,4±0,27)	23609 (18,3±0,25)	4695 (27,4±0,34)	12419 (72,6±0,34)	17114 (16,1±0,11)
2017	16220 (57,5±0,29)	11971 (42,5±0,29)	28191 (21,9±0,25)	14287 (57,5±0,31)	10550 (42,5±0,31)	24837 (23,4±0,13)
2018	16551 (57,5±0,29)	12212 (42,5±0,29)	28763 (22,3±0,25)	14644 (57,9±0,31)	10661 (42,1±0,31)	25305 (23,9±0,13)
2019	11729 (57,7±0,35)	8591 (42,3±0,35)	20320 (15,8±0,26)	9975 (57,9±0,38)	7259 (42,1±0,38)	17234 (16,2±0,11)
2020	6919 (56,8±0,45)	5266 (43,2±0,45)	12185 (9,5±0,27)	6018 (56,7±0,48)	4587 (43,3±0,48)	10605 (10,0±0,09)
2021	8695 (55,3±0,40)	7025 (44,7±0,40)	15720 (12,2±0,26)	7590 (69,1±0,44)	3391 (30,9±0,44)	10981 (10,4±0,09)
Total	65457 (50,8±0,14)	63331 (49,2±0,14)	128788 (100,0±0,00)	57209 (53,9±0,15)	48867 (46,1±0,15)	106076 (100,0±0,0)
Dynamics of growth (%)	62,7	-61,5	33,4	61,7	-72,7	-35,8
Chi-square: 9222.38 p-value: 0.0			Chi-square: 6284.85 p-значение: 0.0			

Table 4 presents data on the morbidity of genitourinary diseases among the adult population of Talgar city in Almaty oblast for 2016-2021. The information includes total and primary morbidity, disaggregated by sex. The overall incidence fluctuates by year, starting with 10,033 cases in 2016 and peaking in 2019 (16,568 cases). There is then a sharp decline, to 5,746 cases in 2020 and 3,900 cases in 2021. Women significantly dominate the overall incidence. In 2016, women accounted for 75.6 per cent of cases and this trend continued throughout the period, with the highest preponderance in 2019, when women accounted for 83.5 per cent of cases. Males accounted for a smaller proportion, ranging from 16.5% to 33.6% by year. Primary incidence also varies. There were 6,717 primary cases in 2016, with a peak in 2018 (8,555 cases), followed by a decline in 2020 to 3,402 cases and 1,180 in 2021. Women also lead in primary incidence. In 2016, they represented 69.0 per cent of all primary cases, rising to 82.3 per cent in 2019. In 2021, women accounted for 71.9% of all new cases, while men

accounted for 28.1%. In the trend for the whole period 2016-2021, the total incidence was 63,050 cases, of which 75.4% were females and 24.6% were males. The primary morbidity over the 6 years was 34,260 cases, where 76.1% were women and 23.9% were men. Women have a significantly higher incidence of genitourinary diseases compared to men. This may be due to biological and physiological peculiarities of the female organism, as well as to better diagnosis and more frequent requests for medical assistance among women. The significant decline in both total and primary morbidity in the last two years may be due to the impact of the COVID-19 pandemic, which may have limited access to health facilities and diagnosis. In 2019, there is a significant increase in both total and primary morbidity, especially among women, which may be due to improved diagnosis or an increase in the number of patients seeking care. Both p-values are significantly less than 0.05, indicating that there are statistically significant differences in the distribution of morbidity and primary morbidity between males and females by year

Table 4.

Diseases of the genitourinary system in Talgar city, Almaty region, among adults (18 years and older).

Years	Morbidity			Primary incidence		
	Female	Male	Total	Female	Male	Total
2016	7584 (75,6±0,43)	2449 (24,4±0,43)	10033 (15,9±0,37)	4633 (69,0±0,56)	2084 (31,0±0,56)	6717 (19,6±0,21)
2017	8934 (72,9±0,40)	3321 (27,1±0,40)	12255 (19,4±0,36)	5320 (76,9±0,51)	1600 (23,1±0,51)	6920 (20,2±0,22)
2018	10433 (71,7±0,37)	4115 (28,3±0,37)	14548 (23,1±0,35)	6548 (76,5±0,46)	2007 (23,5±0,46)	8555 (25,0±0,23)
2019	13831 (83,5±0,29)	2737 (16,5±0,29)	16568 (26,3±0,34)	6159 (82,3±0,44)	1327 (17,7±0,44)	7486 (21,9±0,22)
2020	4149 (72,2±0,59)	1597 (27,8±0,59)	5746 (9,11±0,38)	2558 (75,2±0,74)	844 (24,8±0,74)	3402 (9,93±0,16)
2021	2590 (66,4±0,76)	1310 (33,6±0,76)	3900 (6,19±0,39)	848 (71,9±1,31)	332 (28,1±1,31)	1180 (3,44±0,10)
Total	47521 (75,4±0,17)	15529 (24,6±0,17)	63050 (100,0±0,0)	26066 (76,1±0,23)	8194 (23,9±0,23)	34260 (100,0±0,0)
Dynamics of growth (%)	65,8	-46,5	-61,1	-81,7	-84,1	-82,4
Chi-square: 931,92 p-value: 3,29e ⁻¹⁹⁹				Chi-square: 360,61 p-value: 9,08e ⁻⁷⁶		

Discussion

The incidence of genitourinary diseases among the adult population of Talgar city in Almaty region for the period 2016-2021 shows significant fluctuations. The overall incidence varies from 10,033 cases in 2016 to a peak of 16,568 cases in 2019, followed by a sharp decline in 2020 and 2021 to 5,746 and 3,900 cases, respectively. Primary morbidity has a similar pattern, with a peak of 8,555 cases in 2018 and a significant decline in the last two years. The analysis shows a significant predominance of morbidity among women. Women account for about 75.0% of all cases of total morbidity and 76.0% of primary morbidity over the entire observation period. This imbalance may be related to the biological characteristics of women, including diseases specific to them, such as urinary tract infections and hormonal changes during reproductive age and menopause. It is also noted that women are more likely to seek medical attention and be diagnosed at earlier stages of disease. The study also confirms that gender differences in health care-seeking behaviour can significantly affect the timeliness of treatment and diagnosis of diseases [6]. The sharp decline in both total and primary morbidity in 2020 and 2021 is likely due to the COVID-19 pandemic. Pandemic-related restrictions, reduced visits to hospitals and clinics for routine check-ups and procedures, and a shift of medical resources to coronavirus control may have affected timely detection and diagnosis of genitourinary diseases. The decrease in referrals may also be due to patients' fears of COVID-19 infection during visits to health facilities [9,10]. The study analyses strategies to improve healthcare for patients with chronic diseases. This study highlights the importance of implementing new models of care and optimising diagnosis and treatment processes [17]. The application of these recommendations can improve the quality of care for patients with chronic diseases and improve disease detection, which is particularly relevant for countries such as Kazakhstan,

where efforts to improve disease detection are ongoing [8]. Data from national surveys show a steady incidence of chronic diseases in Kazakhstan, with increasing mortality in some population groups. Regional differences emphasise the need to improve access to health services and the effectiveness of preventive measures [5]. The incidence of cardiovascular diseases in Kazakhstan remains at a high level, with a tendency to increase in recent years. Regional differences in morbidity and mortality require the introduction of more targeted prevention and treatment programmes. The decline in morbidity in certain years may be related to improved access to health services and early diagnosis [15]. Central Asia has a high burden of respiratory disease, with a marked increase in incidence in recent years. The main factors include air pollution, climatic conditions and changes in lifestyle. The COVID-19 pandemic has intensified respiratory disease problems, emphasising the need to improve environmental and health conditions [19]. The increase in morbidity in 2019 may be due to improved diagnostic methods and greater accessibility of medical services. In recent years, programmes to improve diagnosis and disease prevention have been introduced in Kazakhstan, which may have contributed to the increase in the number of cases detected. In particular, the female share of morbidity in 2019 was 83.5%, which is likely due to the intensification of prevention programmes targeting women's health. The study also noted that the pandemic led to delays in the diagnosis of non-communicable diseases, which has long-term implications for the health system. This is particularly important for resource-limited countries such as Kazakhstan, where the pandemic has exacerbated problems of access to health services, including diagnosis and treatment of chronic diseases [20].

The incidence of genitourinary diseases in Talgar demonstrates a stable gender asymmetry with a predominance of women among those who fall ill. This

requires further research to better understand the reasons for this difference and to develop targeted prevention and treatment programmes. The decline in incidence in recent years is probably related to the COVID-19 pandemic and changes in medical care, which emphasises the importance of restoring normal health system functioning in the post-pandemic period. The incidence of genitourinary disease has marked gender differences, with a female predominance among patients with chronic disease. Key factors include anatomical and hormonal differences, as well as differences in access to and consumption of health care [12,1].

To improve the effectiveness of noncommunicable disease (NCD) programmes, it is important to identify barriers to implementation and formulate research questions that take into account the priorities of different stakeholders, such as policy makers, programme managers, health care providers, patients and at-risk populations, while targeting research and considering the balance between timeliness, cost and evidence needed [16].

Conclusion

Analysis of morbidity among the adult population of Talgar City for the period 2016-2021 shows significant fluctuations in morbidity by organ system (circulatory system, respiratory system, genitourinary system). Major trends include an increase in morbidity up to 2019, associated with improved diagnosis and access to health services, and a sharp decline in morbidity in 2020-2021, likely due to the COVID-19 pandemic and restrictions in access to routine health care.

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