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NATIONAL UNIVERSITY

INFORMATION
about publication activity
FACULTY OF MEDICINE AND HEALTHCARE

№	Наименование публикаций	выходные статьи (DOI статьи	Аннотация статьи	Ссылка на цитирования (ФИО, название статьи, название, номер и/или выпуск, том журнала, страницы, DOI статьи	Ссылка на статью
2021 год					
1	Spatial, temporal, and demographic patterns in prevalence of smoking tobacco use and attributable disease burden in 204 countries and territories, 1990–2019: a systematic analysis from the Global Burden of Disease Study 2019	DOI:10.1016/S0140-6736(21)01169-7	Ending the global tobacco epidemic is a defining challenge in global health. Timely and comprehensive estimates of the prevalence of smoking tobacco use and attributable disease burden are needed to guide tobacco control efforts nationally and globally. Methods: We estimated the prevalence of smoking tobacco use and attributable disease burden for 204 countries and territories, by age and sex, from 1990 to 2019 as part of the Global Burden of Diseases, Injuries, and Risk Factors Study. We modelled multiple smoking-related indicators from 3625 nationally representative surveys. We completed systematic reviews and did Bayesian meta-regressions for 36 causally linked health outcomes to estimate non-linear dose-response risk curves for current and former smokers. We used a direct estimation approach to estimate attributable burden, providing more comprehensive estimates of the health effects of smoking than previously available. Findings: Globally in 2019, 1·14 billion (95% uncertainty interval 1·13–1·16) individuals were current smokers, who consumed 7·41 trillion (7·11–7·74) cigarette-equivalents of tobacco in 2019. Although prevalence of smoking had decreased significantly since 1990 among both males (27·5% [26·5–28·5] reduction) and females (37·7% [35·4–39·9] reduction) aged 15 years and older, population growth has led to a significant increase in the total number of smokers from 0·99 billion (0·98–1·00) in 1990. Globally in 2019, smoking tobacco use accounted for 7·69 million (7·16–8·20)	Spatial, temporal, and demographic patterns in prevalence of smoking tobacco use and attributable disease burden in 204 countries and territories, 1990–2019: a systematic analysis from the Global Burden of Disease Study 2019 (2021) The Lancet, 397 (10292), pp. 2337-2360. **(99 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85108062100&origin=resultslist

			deaths and 200 million (185–214) disability-adjusted life-years, and was the leading risk factor for death among males (20·2% [19·3–21·1] of male deaths). 6·68 million [86·9%] of 7·69 million deaths attributable to smoking tobacco use were among current smokers. Interpretation: In the absence of intervention, the annual toll of 7·69 million deaths and 200 million disability-adjusted life-years attributable to smoking will increase over the coming decades. Substantial progress in reducing the prevalence of smoking tobacco use has been observed in countries from all regions and at all stages of development, but a large implementation gap remains for tobacco control. Countries have a clear and urgent opportunity to pass strong, evidence-based policies to accelerate reductions in the prevalence of smoking and reap massive health benefits for their citizens. Funding: Bloomberg Philanthropies and the Bill & Melinda Gates Foundation.		
2	Burden of Ischemic Heart Disease in Central Asian Countries, 1990–2017	DOI:10.1016/j.ijcha.2021.100726	The burden of ischemic heart disease (IHD) is high. There is limited information on the burden of IHD in identified high risk areas like Central Asia (CA) which is comprised of Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Turkmenistan, Mongolia, Uzbekistan and Tajikistan. This study addresses the burden of IHD in CA at the regional and country levels. Methods: Using data from the latest iteration of the Global Burden of Disease Study (GBD), this study provides age-adjusted mortality, prevalence, and Disability Adjusted Life Years (DALYs) of IHD by sex in the CA region, and national levels for countries in this region from 1990 to 2017. Results: The CA region has a higher IHD burden than the rest of the world over the studied period. Amongst the countries within this region, age-standardized mortality and DALY rates in Uzbekistan are the highest not only in CA but worldwide, while Armenia consistently has the lowest IHD burden in CA. Unhealthy diet, high systolic blood pressure and LDL-cholesterol are the risk factors with the highest attributable IHD DALYs. Conclusion: Increasing burden of IHD over time in CA can be partially explained by the economic crisis in the 1990s. There is considerable variation in IHD DALY rates among countries in the CA region. The reasons for such differences are likely multifactorial such as differences in risk factors distribution, health care effectiveness, political, social and economic factors.	Lui, M., Safiri, S., Mereke, A., Davletov, K., Mebonia, N., Myrkassymova, A., Aripov, T., Mirrakhimov, E., Aghayan, S.A., Gamkrelidze, A., Naghavi, M., Kopec, J.A., Sarrafzadegan, N. Burden of Ischemic Heart Disease in Central Asian Countries, 1990–2017 (2021) IJC Heart and Vasculature, 33, статья No 100726 **(47 процентиль, Q3)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85100699928&origin=resultslist
3	Alcohol control policies in Former Soviet Union countries: A narrative review of three decades of policy changes	DOI:10.1111/dar.13204	The last Soviet anti-alcohol campaign of 1985 resulted in considerably reduced alcohol consumption and saved thousands of lives. But once the campaign's policies were abandoned and the Soviet alcohol monopoly broken up, a steep rise in mortality was observed in many of the newly formed successor countries, although some kept their monopolies. Almost 30 years after the campaign's end, the region faces diverse challenges in relation to alcohol. Approach: The present narrative review sheds light on recent drinking trends and alcohol policy developments in the 15 Former Soviet Union (FSU) countries, highlighting the	Neufeld, M., Bobrova, A., Davletov, K., Štelemėkas, M., Stoppel, R., Ferreira-Borges, C., Breda, J., Rehm, J. Alcohol control policies in Former Soviet Union countries: A narrative review	https://www.scopus.com/record/display.uri?eid=2-s2.0-85096639624&origin=resultslist

	and their apparent effects		most important setbacks, achievements and best practices. Vignettes of alcohol control policies in Belarus, Estonia, Kazakhstan, Lithuania and Uzbekistan are presented to illustrate the recent developments. Key Findings: Over the past decade, drinking levels have declined in almost all FSU countries, paralleled by the introduction of various alcohol-control measures. The so-called three 'best buys' put forward by the World Health Organization to reduce alcohol-attributable burden (taxation and other measures to increase price, restrictions on alcohol availability and marketing) are relatively well implemented across the countries. Implications: In recent years, evidence-based alcohol policies have been actively implemented as a response to the enormous alcohol-attributable burden in many of the countries, although there is big variance across and within different jurisdictions. Conclusion: Strong declines in alcohol consumption were observed in the 15 FSU countries, which have introduced various alcohol control measures in recent years, resulting in a reduction of alcohol consumption in the World Health Organization European region overall. © 2020 The Authors. Drug and Alcohol Review published by John Wiley & Sons Australia, Ltd on behalf of Australasian Professional Society on Alcohol and other Drugs.	of three decades of policy changes and their apparent effects (2021) Drug and Alcohol Review, 40 (3), pp. 350-367. **(89 процентиль, Q1)**	
4	Primary prevention efforts are poorly developed in people at high cardiovascular risk: A report from the European Society of Cardiology EURObservational Research Programme EUROASPIRE v survey in 16 European countries	DOI:10.1177/2047487320908698	Background European Action on Secondary and Primary Prevention by Intervention to Reduce Events (EUROASPIRE) V in primary care was carried out by the European Society of Cardiology EURObservational Research Programme in 2016-2018. The main objective was to determine whether the 2016 Joint European Societies' guidelines on cardiovascular disease prevention in people at high cardiovascular risk have been implemented in clinical practice. Methods The method used was a cross-stional survey in 78 centres from 16 European countries. Patients without a history of atherosclerotic cardiovascular disease either started on blood pressure and/or lipid and/or glucose lowering treatments were identified and interviewed ≥ 6 months after the start of medication. Results A total of 3562 medical records were reviewed and 2759 patients (57.6% women; mean age 59.0 ± 11.6 years) interviewed (interview rate 70.0%). The risk factor control was poor with 18.1% of patients being smokers, 43.5% obese (body mass index ≥30 kg/m2) and 63.8% centrally obese (waist circumference ≥88 cm for women, ≥102 cm for men). Of patients on blood pressure lowering medication 47.0% reached the target of <140/90 mm Hg (<140/85 mm Hg in people with diabetes). Among treated dyslipidaemic patients only 46.9% attained low density lipoprotein-cholesterol target of <2.6 mmol/l. Among people treated for type 2 diabetes mellitus, 65.2% achieved the HbA1c target of <7.0%. Conclusion The primary care arm of the EUROASPIRE V survey revealed that large proportions of people at high cardiovascular disease risk have unhealthy lifestyles and inadequate control of blood pressure, lipids and diabetes. Thus, the potential to reduce the risk of	Kotseva, K., De Backer, G., De Bacquer, D., Ryden, L., Hoes, A., Grobbee, D., Maggioni, A., Marques-Vidal, P., Jennings, C., Abreu, A., Aguiar, C., Badariene, J., Bruthans, J., Cifkova, R., Davletov, K., Dilic, M., Dolzhenko, M., Gaita, D., Gotcheva, N., Hasan-Ali, H., Jankowski, P., Lionis, C., Mancas, S., Milicic, D., Mirrakhimov, E., Oganov, R., Pogosova, N., Reiner, Z., Vulic, D., Wood, D. Primary prevention efforts are poorly developed in people at high cardiovascular risk: A report from the European Society of Cardiology	https://www.scopus.com/record/display.uri?eid=2-s2.0-85082196745&origin=resultslist

			future cardiovascular disease throughout Europe by improved preventive cardiology programmes is substantial.	EURObservational Research Programme EUROASPIRE v survey in 16 European countries (2021) European Journal of Preventive Cardiology, 28 (4), pp. 370-379. **(95 процентиль, Q1)**	
5	Prognostic value of serum soluble ST2 in professional athletes Valor pronóstico de ST2 soluble en suero en deportistas profesionales	DOI:10.47197/RETOS.V43I0.87966	The predictive value of serum soluble ST2 (sST2) biomarker for diagnostics of cardiovascular pathologies is still poorly understood as well as the role of psychological stress on the risk of heart disease. Aim: This study aimed at determining the diagnostic significance of the sST2 level in athletes involved in speed-strength sports. In addition, stress as a risk factor for the development of cardiovascular pathology was assessed and analysed as well. Methods: A prospective study on Greco-Roman wrestlers was carried out at the Centre for Sports Medicine and Rehabilitation (Almaty, Republic of Kazakhstan). All participants (n = 30) were males aged 20 to 34 years. The control group consisted of volunteers (VO) (n = 30). Anthropometric and hemodynamic parameters of athletes were studied along with electrocardiography (ECG) and ECG tests. The sST2 level was determined before (BT) and immediately after (AT) training. The stress level was determined using The Perceived Stress Scale- 10 (PSS-10). Results: The average age of the athletes was 26.57 ± 3.6 years. The total training experience was 14.57 ± 4.02 years. According to the ECG data, minor deviations from the norm (13.3%) and an abnormal ECG (33.3%) were identified. Echo-CG data showed «moderate» and «pronounced changes» in 23.3% and 53.3% of cases, respectively. The sST2 level of VO (337.1 ± 61.8 pg / mL) was lower than that of BT (548.1 ± 32.6 pg / mL) (p d» 0.001). The sST2 level of AT, it was significantly higher (830.01 ± 71.6 pg / mL) than BT (p d» 0.001). The average and high level of stress among athletes was in 43.3% and 56.7% of cases, respectively. Stress increased the likelihood of developing distinctly abnormal ECG (OR = 1.06, 95% CI 1.01-1.08; p = 0.02). The stress level showed a positive correlation with the sST2 level (r = 0.752, p = 0.01). The sST2 concentration and categorical echocardiography data demonstrated a dependent positive correlation (r = 0.6, p = 0.01). Conclusions: Athletes' sST2 levels exceeded thresholds both before and after training. Moreover, the relationship between an increase in sST2 levels and abnormal ECG abnormalities and a high level of stress in athletes was determined. sST2 concentration was associated with cardio-pulmonary stress triggered by the cumulative exercise dose as well as with lifelong psychological stress. Our findings indicate that the elevated sST2 concentrations in athletes could be used	Baurzhan, M., Berkinbayev, S., Abzaliyev, K., Andassova, Z., Anvarbekova, Y., Abzaliyeva, S., Absatarova, K., Tanabayeva, S., Rakhimbekova, G., Fakhradiyev, I. Prognostic value of serum soluble ST2 in professional athletes Valor pronóstico de ST2 soluble en suero en deportistas profesionales (2021) Retos, 43, pp. 428-437. **(64 процентиль, Q2)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85115332349&origin=resultslist

			as the predictive value. However, clinical relevance and results validity require further intensive studies.		
6	Modern approaches for diagnosing transformations of the heart in qualified athletes	DOI:10.7752/jpes.2021.02101	The lack of clear standards for medical supervision of athletes considerably limits the ability to diagnose and prevent overstrain of the cardiovascular system. To date, in the Republic of Kazakhstan, an assessment of the significance of early cardiomarkers, reflecting the state of maladjustment of the heart to physical exertion among highly qualified athletes involved in martial arts, has not been performed. Aims: The aim of this study is to determine the level and diagnostic significance of cardiac biomarker IL1RL1 (sST2 - serum-soluble) and the role of psychological stress on the risk of cardiovascular disease in qualified sport veterans engaged in speed-strength sports. Methods: A prospective study on wrestlers was performed at the Centre for Sports Medicine and Rehabilitation (Almaty, Republic of Kazakhstan). All participants (n = 30) were males aged 30 to 44 years s, masters of sports of international class, and honoured masters of sports). The control group consisted of volunteers (VO) (n = 30). The sST2 level was determined before (BT) and immediately after (AT) training. Anthropometric and hemodynamic parameters of athletes were studied along with electrocardiography and echocardiography tests. Results: The average age of 30 athletes was 36.3 ± 0.5 years; the largest proportion of athletes was 35-39 years old (66.7%, n = 20); 6 sports veterans (20%) were 30-34 years old; the smallest proportion of athletes was under 40-44 years old (13.3%, n = 5). According to the electrocardiography (ECG) data, minor deviations from the norm (16.6 %) and abnormal ECG (30%) were identified. The echo-CG data showed “moderate” and “pronounced changes” in 40.0% and 60.0% of cases, respectively.The sST2 level of VO (337.1 ± 61.8 pg/mL) was lower than that of BT (570.1 ± 32.6 pg/mL) and AT (768.7 ± 71.6 pg/mL) (p [removed] 0.05). Conclusion: Athletes’ sST2 levels exceeded thresholds both before and after training. Our findings indicate that the elevated sST2 concentrations in athletes can be used as the predictive valueshow maladaptation of the cardiovascular. However, it requires further intensive studies.	Baurzhan, M., Abzaliyev, K., Anvarbekova, Y., Andassova, Z., Berkinbaev, S., Absatarova, K., Murariu, C. Modern approaches for diagnosing transformations of the heart in qualified athletes (2021) Journal of Physical Education and Sport, 21 (2), статья No 101, pp. 813-818. **(54 процентиль, Q2)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85104125878&origin=resultslist
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8	The efficacy and safety of cryoballoon catheter ablation in patients with paroxysmal atrial fibrillation	DOI:10.1007/s11845-021-02560-z	Electrical isolation of pulmonary vein ostia is an established therapy for paroxysmal atrial fibrillation. Aims: The purpose of this study is to evaluate the long-term efficacy and safety of cryoballoon catheter ablation in paroxysmal atrial fibrillation with normal anatomy of the left atrium. Methods: Two hundred fifteen consecutive patients were included in the study (from November 2014 to November 2016). All the patients had symptoms of paroxysmal atrial fibrillation resistant to antiarrhythmic drugs and underwent pulmonary vein cryoisolation using second-generation cryoballoons. Standard	Baimbetov, A.K., Abzaliev, K.B., Jukenova, A.M., Bizhanov, K.A., Bairamov, B.A., Ualiyeva, A.Y. The efficacy and safety of cryoballoon catheter ablation in patients with paroxysmal atrial fibrillation	https://www.scopus.com/record/display.uri?eid=2-s2.0-85101805854&origin=resultslist

			"single-shot" cryoballoon exposures were used alternately for each of the four pulmonary veins. The endpoint of the ablation procedure was the electrical isolation of each pulmonary vein. Results: Sixty-nine patients had stable atrial fibrillation recurrences and left atrial flutter with 30 of 69 patients having atrial fibrillation paroxysms during the first year after primary ablation. Repeated ablation was performed within 6–12 months after the first ablation. In 39 of 69 cases, arrhythmia recurrences were registered during the second and third year after the first ablation. These patients underwent repeated ablation within 12–36 months after the first ablation. In 98% of the patients, no disease progression with a transition to a persistent form of atrial fibrillation was observed. During the mean 5-year follow-up period, no disease progression with the transition to persistent forms of atrial fibrillation was observed. Conclusions: It was concluded that in patients with paroxysmal atrial fibrillation, with normal left atrium anatomy and no risk factors, it can be controlled with single pulmonary vein isolation without additional atrial substrate modification.	(2021) Irish Journal of Medical Science, **(66 процентиль, Q2)**	
9	Prediction of arrhythmia recurrence after atrial fibrillation ablation in patients with normal anatomy of the left atrium	DOI:10.1111/ijcp.14083	Enlarged left atrium is an established predictor of atrial fibrillation recurrence after pulmonary vein isolation but arrhythmia recurrence is also observed in patients with normal anatomy of the left atrium. The aim of the study is to evaluate arrhythmia recurrence predictors in patients with normal anatomy of the left atrium. Methods: The study included 182 patients with normal anatomy of the left atrium who underwent pulmonary vein isolation using catheter ablation. Various parameters were also compared, including age, gender, history of arrhythmia, arterial hypertension, concomitant coronary pathology, echocardiography findings, such as mitral valve and tricuspid valve regurgitation and procedure parameters, between patients with and without relapses. Statistical analysis was performed using the IBM SPSS Statistics-19 software. Results: Transthoracic echocardiography was performed by independent specialists with extensive experience. Trans-esophageal echocardiography was performed before each ablation procedure. Standard trans-septal puncture was performed under fluoroscopic control. Radiofrequency ablation was performed in the ipsilateral pulmonary vein antrum with a wide capture of nearby lung tissue. Conclusions: It was concluded that the tricuspid valve regurgitation and arterial hypertension correlate with atrial fibrillation recurrence after pulmonary vein isolation in patients with normal left atrial anatomy.	Baimbetov, A.K., Bizhanov, K.A., Abzaliyev, K.B., Bairamov, B.A., Yakupova, I. Prediction of arrhythmia recurrence after atrial fibrillation ablation in patients with normal anatomy of the left atrium (2021) International Journal of Clinical Practice, 75 (6), статья No e14083, **(82 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85101888076&origin=resultslist
10	[State and prospects of hygienic regulation of the production environment with	DOI:10.47470/0016-9900-2021-100-6-594-597	The work is devoted to the physiological and hygienic foundations of the safety of activities in the conditions of the changed gas environment and characteristics of the main medical measures for the employees' protection in a hypoxic environment, the analysis of domestic and foreign data, the study of working conditions in the environment with the reduced oxygen concentration in the air. Investigations were carried out on premises with various	Bukhtiyarov, I.V., Shestopalov, N.V., Vinnikov, D.V., Glukhov, D.V., Pochtareva, E.S., Dgergeniya, S.L.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85111275440&origin=resultslist

	a reduced oxygen content (literature review)]		technological processes, a changing environment, and a reduced oxygen concentration when employees perform multiple operations. The health status of workers was assessed depending on the time spent in the changed gas environment and the percentage of oxygen. Having analyzed the regulatory documents currently existing in the Russian Federation on the assessment and control of production factors, working conditions in confined spaces with a low oxygen concentration in the air, air environment to maintain health, high performance, and prevent diseases, experts concluded that it is necessary to develop Sanitary Rules and Norms, SanPiN "Sanitary and Epidemiological Requirements for Habitability (Stay) in Confined Spaces with a Low Oxygen Concentration in the Air" because currently there is no document existing specifically on this issue. The literature was searched in the databases Scopus, Web of Science, MedLine, The Cochrane Library, EMBASE, Global Health, CyberLeninka, RSCI. There were prepared draft sanitary plans and standards "Sanitary and epidemiological requirements for the environment with a reduced concentration of oxygen in the air," which establish sanitary and epidemiological requirements for the environment with a reduced concentration of oxygen in the air, as well as for the organization of control, methods measurements of air components at workplaces and measures to prevent harmful effects on the health of workers. They apply to work conditions in the living environment for all premises with a reduced oxygen concentration in the air.	State and prospects of hygienic regulation of the production environment with a reduced oxygen content (literature review) [Article@Состояние и перспективы гигиенического нормирования производственной среды с пониженным содержанием кислорода (обзор литературы)] (2021) Gigiena i Sanitariya, 100 (6), pp. 594-597. **(20 процентиль, Q4)**	
11	Fractional exhaled NO in a metalworking occupational cohort	DOI:10.1007/s00420-021-01801-z	Secondary metalworking carries exposure to relatively heavy levels of respirable particulate. We investigated the extent to which metalworking is associated with increased exhaled nitric oxide (FeNO), an established inflammatory biomarker. Methods: We studied 80 metalworking factory employees in Kazakhstan. Informed by industrial hygiene data, we categorized them into three groups: (1) machine operators (41%); (2) welders or assemblers (33%); and (3) all others, including administrative and ancillary staff (26%). Participants completed questionnaires covering occupational history, smoking, home particulate sources, respiratory symptoms, and comorbidities. We measured exhaled carbon monoxide (CO), exhaled fractional nitric oxide (FeNO), and spirometric function. We used mixed-effects modeling to test the associations of occupational group with FeNO, adjusted for covariates. Results: The median age was 51.5 (interquartile range 20.5) years; 7% were women. Occupational group ($p < 0.01$), daily current cigarette smoking intensity ($p < 0.05$), and age ($p < 0.05$), each was statistically associated with FeNO. Welders, or assemblers (Group 2), who had intermediate particulate exposure, manifested significantly higher exhaled FeNO compared to machinists (Group 1, with the highest particulate exposure) and all others (Groups 3, the lowest particulate): adjusted Group 2 mean 44.8 ppb (95% confidence interval (CI) 33.8–55.9) vs.	Vinnikov, D., Tulekov, Z., Blanc, P.D. Fractional exhaled NO in a metalworking occupational cohort (2021) International Archives of Occupational and Environmental Health **(75 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85116544903&origin=resultslist

			Group 1 24.6 ppb (95% 20.5–28.7) and Group 3, 24.3 ppb (95% CI 17.7–30.9). Secondhand smoking and height were not associated with FeNO. Conclusion: In a metalworking industrial cohort, welders/assemblers manifested significantly higher levels of FeNO. This may reflect respiratory tract inflammation associated with airborne exposures specific to this group.		
12	Problems of professional selection and the effect of the healthy worker in occupational health	DOI:10.47470/0044-197X-2021-65-4-394-399	The "healthy worker effect" (HWE) is currently understood as organized (on the part of the employer) and/or unorganized (self-selection on the part of the worker, due to the functional capabilities and state of health of workers in unfavourable working conditions, is one of the most critical problems when conducting epidemiological studies in occupational pathology. Purpose and objectives. Analysis of the problem in occupational health and safety, the scientific and medical terminology used in the study of the issue of occupational health and safety, taking into account the possible inversion of the effect of exposure to harmful and unfavourable working conditions taking into account this phenomenon, as well as the intensity of occupational health and safety in various professional cohorts. Results. When conducting epidemiological studies in occupational health and occupational pathology, it is necessary to unify the scientific and medical terminology used in researching HWE and consider the possible inversion of exposure to harmful and unfavourable working conditions taking into account this phenomenon. Conclusions. HWE and its intensity in various professional cohorts can indirectly characterize the harmfulness and unfavorability of conditions. HWE, its degree of severity and intensity determine the need for medical and social security and rehabilitation measures in these professional cohorts.	Melentev, A.V., Babanov, S.A., Strizhakov, L.A., Vinnikov, D.V., Ostryakova, N.A. Problems of professional selection and the effect of the healthy worker in occupational health (2021) Health Care of the Russian Federation, 65 (4), pp. 394-399. **(10 процентиль, Q4)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85117693184&origin=resultslist
13	The covid-19 pandemic and the mental health of health care workers (Literature review)	DOI:10.31089/1026-9428-2021-61-9-627-632	The COVID-19 pandemic is having a serious psychological impact on healthcare workers. There is an operational restructuring of medical institutions, the working conditions practically correspond to an emergency situation. Every day, medical workers receive a huge amount of new information in the form of orders, guidelines. This creates an additional load in the form of continuous "information noise". The problem of emotional burnout of doctors was acute even before the COVID-19 pandemic. According to numerous studies in different countries, almost half of doctors have high rates of emotional burnout, which is two times higher than those of the population employed in other areas of professional activity. The aim of the study is to review the theoretical and methodological foundations of the formation and development of emotional burnout in medical personnel during an increased epidemic threshold for a new coronavirus infection. The paper provides an analysis of literary sources devoted to the problem of burnout syndrome in medical workers presented in the Scientific electronic library eLibrary, as well as in the English-language textual database of medical and biological publications PubMed. The COVID-19 pandemic is associated with many reasons that can adversely affect the	Ostryakova, N.A., Babanov, S.A., Vinnikov, D.V., Sazonova, O.V., Gavryushin, M.Y., Kuvshinova, N.Y. The covid-19 pandemic and the mental health of health care workers (Literature review) (2021) Meditsina Truda I Promyshlennaya Ekologiya, 61 (9), pp. 627-632. **(5 процентиль, Q4)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85118194252&origin=resultslist

			formation and development of emotional burnout in medical personnel during an increased epidemic threshold for a new coronavirus infection. The provoking factors of the burnout syndrome (professional burnout) are the organizational factor (high workload, lack and shortage of PPE, insufficient (at the first stage) accumulated knowledge about the new coronavirus infection COVID-19); feeling of safety, threat and risk of infection; social isolation.		
14	Occupational Burden of Chronic Obstructive Pulmonary Disease in the Commonwealth of Independent States: Systematic Review and Meta-Analysis	DOI:10.3389/fmed.2020.614827	Population-based studies from the Russian Federation and neighboring countries on the occupational burden of chronic obstructive pulmonary disease (COPD) are seldom or not included in the systematic reviews. The aim of this review was to summarize published population-based studies from the Commonwealth of Independent States (CIS) in order to ascertain the occupational burden of COPD. Methods: We systematically searched www.elibrary.ru and PubMed for population-based studies on the epidemiology of COPD in nine countries using PRISMA. Quality of studies was assessed using the original tool. The odds of COPD in the included studies from vapors, gases, dusts, and fumes (VGDF) was pooled using meta-analysis (fixed effects model), whereas the population attributable fraction percent (PAF%) was pooled with meta-proportion using the random effects model in Stata 14.2. Results: Five studies, three from Russia, one from Kazakhstan, and one more from Azerbaijan and Kazakhstan (total N = 18,908) with moderate to high quality and published from 2014 to 2019 (none from Armenia, Belarus, Kyrgyzstan, Moldova, Tajikistan, and Uzbekistan), were included. Spirometry-defined COPD was the outcome in four of them. The pooled odds ratio (OR) of COPD from VGDF was 1.69 [95% confidence interval (CI) 1.34;2.13], greater in Kazakhstan [OR 1.96 (95% CI 1.35;2.85, N = 2 studies)] compared to Russia [OR 1.52 (95% CI 1.13;2.05, N = 2 studies)]. The pooled PAF% was 6% (95% CI 2; 14%) from three studies. Conclusions: Population-based studies in the CIS get little attention with very few studies published. Although the effect was greater in Kazakhstan compared to Russia, the overall effect did not differ from studies published in the rest of the world. Research capacity to study occupational risks of COPD should be strengthened to produce more evidence of higher quality.	Vinnikov, D., Rybina, T., Strizhakov, L., Babanov, S., Mukatova, I. Occupational Burden of Chronic Obstructive Pulmonary Disease in the Commonwealth of Independent States: Systematic Review and Meta-Analysis (2021) Frontiers in Medicine, 7, статья No 614827 **(86 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85100536309&origin=resultslist
15	Plasma cutting and exposure to PM2.5metal aerosol in metalworking, Almaty, Kazakhstan, 2020	DOI:10.1136/oemed-2020-106883	Objectives Little is known regarding the metal working subprocesses that determine exposures in the workplace primarily because their segregation from the main process is rather difficult in real-life occupational settings. The present study aimed to identify the subprocesses in a metalworks plant with high personal exposure to particulate matter (PM 2.5) metal aerosol in order to plan future risk reduction interventions. Methods A total of eighty 8-hour PM 2.5 metal aerosol samples from the breathing zone of four workers in each of four major operations (plasma cutting, machine operating, assembling and welding) were collected in a metalwork plant in Almaty in January to June 2020.	Vinnikov, D., Tulekov, Z. Plasma cutting and exposure to PM2.5metal aerosol in metalworking, Almaty, Kazakhstan, 2020 (2021) Occupational and Environmental Medicine, 78 (3), pp. 218-220. **(92 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85097277004&origin=resultslist

			Minimal, maximal, time-weighted average PM 2.5 metal aerosol mass concentrations were recorded with TSI SidePak AM520 personal aerosol and analysed using analysis of variance (ANOVA) after normalisation. Results The overall sampling time was 640 hours. Maximal 1 min and geometric mean PM 2.5 concentrations were 8.551 and 1.7268 mg/m 3 in plasma cutting; 4.844 and 0.9343 mg/m 3 in machine operating; 2.993 and 0.6898 mg/m 3 in assembling; and 2.848 and 0.4903 mg/m 3 in welding. Using a Tukey-Kramer test after a one-way ANOVA, plasma cutting concentrations were significantly higher compared with all other operations (F-ratio 29.6, p<0.001). The fold-range containing 95% of the total variability (R 0.95) from all samples was 12.5. Conclusions The highest PM 2.5 concentrations were found in plasma cutting, potentially elevating the risk of systemic inflammatory effects. © Author(s) (or their employer(s)) 2021. No commercial re-use. See rights and permissions.		
16	Air pollution in the workplace: making shish kebab is an overlooked occupational hazard	DOI:10.1038/s41370-020-00283-4	Meat grilled with wood charcoal is the most popular meal in Central Asia, but little is known about the grillers' occupational exposure to fine particulate matter (PM) in fumes. Objectives: The aim of this study was to provide a quantitative analysis of occupational exposure to fine PM in grillers in the workplace. Methods: We assessed exposure to PM2.5 from barbecue fumes using SidePak AM520 in six popular cafes in Almaty, Kazakhstan. Grillers wore devices for 8 h of work shift for 7 days in each place. Within- and between-place variances of PM2.5 mass concentrations were calculated using analysis of variance, and we also calculated the fold range of the 95% variance within (wR0.95) and between places (bR0.95), as well as exceedance (γ) and the probability of overexposure (θ). Results: Two modes of exposure were identified, including intermittent and continuous. The median of daily geometric mean PM2.5 concentrations was 0.143 (interquartile range (IQR): 0.213) and 0.404 (IQR: 0.243) mg/m3, accordingly. bR0.95 was very large (20.2), but wR0.95 was even greater (47.8), illustrating extremely high fluctuations in PM2.5 concentrations; γ was 0.116, and θ was 0.095. Significance: Very high occupational exposure to barbecue fumes in grillers is overlooked and likely causes elevated health risks.	Vinnikov, D., Romanova, Z., Zhumabayeva, G. Air pollution in the workplace: making shish kebab is an overlooked occupational hazard (2021) Journal of Exposure Science and Environmental Epidemiology, 31 (4), pp. 777-783. **(93 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85097601738&origin=resultslist
17	Association between ethnicity and risk factors for carotid artery stenosis: A retrospective study	DOI:10.5114/fmpcr.2021.108203	To date, the correlation between ethnicity and risk factors for the development of stenosis of the carotid arteries has not been evaluated in Kazakhstan. Objectives. The study investigated the link between ethnicity and risk factors for the development of carotid artery stenosis (≥ 50%). Material and methods. The study is based on a retrospective analysis of the data of 356 patients hospitalized with suspected pathology of the carotid arteries. The patients were subdivided into groups according to their ethnic origin, age, and the degree of the narrowing of the internal carotid artery. The demographic data, main risk factors, and the effectiveness of treatment were analyzed. Results. Among all the patients, Central Asians accounted for 56.5%, Slavs for 35.9%, and other	Shamshiyev, A., Tergeussizov, A., Baubekov, A., Ospanova, D., Dushpanova, A., Ismailov, Z., Matkerimov, A., Tanabayeva, S., Fakhradiyev, I. Association between ethnicity and risk factors for carotid artery stenosis: A	https://www.scopus.com/record/display.uri?eid=2-s2.0-85117092082&origin=resultslist

			nationalities for 7.6%. A high level of obesity, hypertension and hypercholesterolemia, smoking, and low physical activity was prevalent in the group of the Central Asians. However, alcohol consumption was higher in the Slavs. Preventive use of aspirin prevailed in the Slavic patients (64.1%). Male gender, hypercholesterolemia, and low physical activity were risk factors for the development of significant stenosis of the carotid arteries ($p < 0.01$). Conclusions. The results showed that ethnicity, male gender, overweight, physical inactivity, smoking, and hypercholesterolemia were dominant risk factors for the development of significant carotid stenosis. Our findings indicate the need for the development of preventive measures to combat such risk factors in the amenable ethnic groups.	retrospective study (2021) Family Medicine and Primary Care Review, 23 (3), pp. 354-362. **(42 процентиль, Q3)**	
18	Heterogeneous contributions of change in population distribution of body mass index to change in obesity and underweight	DOI:10.7554/eLife.60060	From 1985 to 2016, the prevalence of underweight decreased, and that of obesity and severe obesity increased, in most regions, with significant variation in the magnitude of these changes across regions. We investigated how much change in mean body mass index (BMI) explains changes in the prevalence of underweight, obesity, and severe obesity in different regions using data from 2896 population-based studies with 187 million participants. Changes in the prevalence of underweight and total obesity, and to a lesser extent severe obesity, are largely driven by shifts in the distribution of BMI, with smaller contributions from changes in the shape of the distribution. In East and Southeast Asia and sub-Saharan Africa, the underweight tail of the BMI distribution was left behind as the distribution shifted. There is a need for policies that address all forms of malnutrition by making healthy foods accessible and affordable, while restricting unhealthy foods through fiscal and regulatory restrictions.	.....Davletov K.K., Dushpanova ..... Heterogeneous contributions of change in population distribution of body mass index to change in obesity and underweight (2021) eLife, 10, статья No e60060 **(90 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85103837539&origin=resultslist
19	Worldwide trends in hypertension prevalence and progress in treatment and control from 1990 to 2019: a pooled analysis of 1201 population-representative studies with 104 million participants	DOI:10.1016/S0140-6736(21)01330-1	Hypertension can be detected at the primary health-care level and low-cost treatments can effectively control hypertension. We aimed to measure the prevalence of hypertension and progress in its detection, treatment, and control from 1990 to 2019 for 200 countries and territories. Methods: We used data from 1990 to 2019 on people aged 30–79 years from population-representative studies with measurement of blood pressure and data on blood pressure treatment. We defined hypertension as having systolic blood pressure 140 mm Hg or greater, diastolic blood pressure 90 mm Hg or greater, or taking medication for hypertension. We applied a Bayesian hierarchical model to estimate the prevalence of hypertension and the proportion of people with hypertension who had a previous diagnosis (detection), who were taking medication for hypertension (treatment), and whose hypertension was controlled to below 140/90 mm Hg (control). The model allowed for trends over time to be non-linear and to vary by age. Findings: The number of people aged 30–79 years with hypertension doubled from 1990 to 2019, from 331 (95% credible interval 306–359) million women and 317 (292–344) million men in	.....Davletov K.K., Dushpanova ..... Worldwide trends in hypertension prevalence and progress in treatment and control from 1990 to 2019: a pooled analysis of 1201 population-representative studies with 104 million participants (2021) The Lancet, 398 (10304), pp. 957-980. **(99 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85114679906&origin=resultslist

			1990 to 626 (584–668) million women and 652 (604–698) million men in 2019, despite stable global age-standardised prevalence. In 2019, age-standardised hypertension prevalence was lowest in Canada and Peru for both men and women; in Taiwan, South Korea, Japan, and some countries in western Europe including Switzerland, Spain, and the UK for women; and in several low-income and middle-income countries such as Eritrea, Bangladesh, Ethiopia, and Solomon Islands for men. Hypertension prevalence surpassed 50% for women in two countries and men in nine countries, in central and eastern Europe, central Asia, Oceania, and Latin America. Globally, 59% (55–62) of women and 49% (46–52) of men with hypertension reported a previous diagnosis of hypertension in 2019, and 47% (43–51) of women and 38% (35–41) of men were treated. Control rates among people with hypertension in 2019 were 23% (20–27) for women and 18% (16–21) for men. In 2019, treatment and control rates were highest in South Korea, Canada, and Iceland (treatment >70%; control >50%), followed by the USA, Costa Rica, Germany, Portugal, and Taiwan. Treatment rates were less than 25% for women and less than 20% for men in Nepal, Indonesia, and some countries in sub-Saharan Africa and Oceania. Control rates were below 10% for women and men in these countries and for men in some countries in north Africa, central and south Asia, and eastern Europe. Treatment and control rates have improved in most countries since 1990, but we found little change in most countries in sub-Saharan Africa and Oceania. Improvements were largest in high-income countries, central Europe, and some upper-middle-income and recently high-income countries including Costa Rica, Taiwan, Kazakhstan, South Africa, Brazil, Chile, Turkey, and Iran. Interpretation: Improvements in the detection, treatment, and control of hypertension have varied substantially across countries, with some middle-income countries now outperforming most high-income nations. The dual approach of reducing hypertension prevalence through primary prevention and enhancing its treatment and control is achievable not only in high-income countries but also in low-income and middle-income settings.		
20	Health-care accessibility assessment in Kazakhstan	DOI:10.3889/oamjms.2021.5704	Global health initiatives such as health for all and universal health coverage aim to improve access to health care. These goals require constant comprehensive monitoring to eliminate inequalities in the availability of health care. AIM: The purpose of our study was to assess the physical availability of medical care in Kazakhstan. METHODS: A descriptive study based on a Service Availability and Readiness Assessment (SARA) general availability index calculation that used secondary data as a source of information. RESULTS: The general availability index calculated for the regions of Kazakhstan ranged from 95% to 100%. When considering individual indicators of the index, decrease trends of the volume of inpatient care were identified. Outpatient care had fluctuations with values better than benchmark after 2009. Stable upward trend illustrates	Shaltynov, A., Raushanova, A., Jamedinova, U., Sepbossynova, A., Myssayev, A., Myssayev, A. Health-care accessibility assessment in Kazakhstan (2021) Open Access Macedonian Journal of Medical Sciences, 9 (E), pp. 89-94. **(48 процентиль, Q3)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85100915981&origin=resultslist

			positive picture of core health personnel. CONCLUSION: According to the SARA availability index, it can be concluded that health care in Kazakhstan exceeds the threshold values and is available in all regions. Trends for individual indicators of the index should be studied in more detail, taking into account the influence of health policy and other factors.		
21	Health-related quality of life in a general population sample in Kazakhstan and its sociodemographic and occupational determinants	DOI:10.1186/s12955-021-01843-4	Health-related quality of life (HRQL) in the general population of Kazakhstan has never been characterized. We constructed this population-based study of the largest city in Kazakhstan, Almaty with the aim to quantitatively assess HRQL and ascertain whether occupation and lifestyle are associated with HRQL in this population. Methods: In a random sample (N = 1500) of general population in Almaty (median age 49 (interquartile range 28) years, 50% women), we collected data on demographics, socioeconomic status, lifestyle, lifetime occupational history and general HRQL using SF-8 instrument. The association of demographic and occupational predictors with HRQL was tested in multiple regression models. Results: No occupational associations were found for physical component score in the models adjusted for age, sex, income, cigarette and waterpipe smoking, electronic cigarette use, physical activity, alcohol and exposure to secondhand smoke. Ever being a manager (β − 1.63 (95% confidence interval (CI) − 2.92; − 0.34)), a welder (β − 5.11 (95% CI − 8.77; − 1.46)) and a secretary (β − 5.06 (95% CI − 8.56; − 1.56)) for one year or more was associated with poorer mental component score in the models adjusted for age, sex, income, cigarette smoking, physical activity and each other. Age, income and physical activity were independent predictors of both physical and mental components. Conclusions: Occupational history is associated with HRQL in the general population in Almaty, Kazakhstan, but the mechanism explaining this association should be further elucidated.	Vinnikov, D., Raushanova, A., Romanova, Z., Tulekov, Z. Health-related quality of life in a general population sample in Kazakhstan and its sociodemographic and occupational determinants (2021) Health and Quality of Life Outcomes, 19 (1), статья No 199 **(74 процентиль, Q2)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85113264573&origin=resultslist
22	Exposure to respirable dust among workers fabricating aluminium trihydroxide-containing synthetic countertops	DOI:10.1038/s41598-021-00814-5	The aim of this study is to characterize personal exposure of workers to respirable particulate matter (PM) generated in cutting and other fabrication activities when fabricating acryl polymer/aluminium trihydroxide synthetic countertops. We collected 29 personal full-day samples of respirable PM from three workers in a small private workshop. We tested differences between- and within-worker variances of mass concentrations using the Kruskall-Wallis test. We used segmented regression to test the means and medians 15-min interval concentrations changes over time and to identify a breakpoint. Respirable PM concentrations ranged nearly 100-fold, from 0.280 to 25.4 mg/m3 with a median of 2.0 mg/m3 (1-min concentrations from 13,920 data points). There were no statistical difference in daily median or geometric mean concentrations among workers, whereas the concentrations were significantly higher on days with three versus two workers present. The 15-min median concentrations (n = 974 measures) increased until 2.35 h (beta 0.177; $p < 0.05$), representing a 0.70 mg increase in exposure per hour. This was followed by a plateau in concentrations.	Vinnikov, D., Blanc, P.D., Raushanova, A., Beisbekova, A., Abraham, J.L., Zlobina, Y. Exposure to respirable dust among workers fabricating aluminium trihydroxide-containing synthetic countertops (2021) Scientific Reports, 11 (1), статья No 21219 **(93 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85117912546&origin=resultslist

			The high levels of respirable PM we observed among workers fabricating aluminium trihydroxide-containing synthetic countertops highlight an unmet early prevention need.		
23	Testosterone and occupational burnout in professional male firefighters	DOI: 10.1186/s12889-021-10446-z	Very little is known about the biologic predictors of the occupational burnout in firefighters. The aim of this study was to characterize testosterone profile of active firefighters and quantify its association with three domains of the occupational burnout. Methods: We enrolled 100 firefighters (median age 28 (interquartile range (IQR) 9.8) years with 5 (IQR 9) years in service) of three fire departments in Almaty, Kazakhstan. Demographics, smoking status, health-related quality of life (HRQL) and burnout scores of Maslach Burnout Inventory were assessed using a questionnaire, while total blood testosterone was measured in venous blood. Logistic regression models were used to quantify the association of blood testosterone with each burnout domain in the adjusted for confounders models. Results: The median blood testosterone level was 14 (IQR 3.5) nmol/l and was only predicted by age (beta − 0.14, $p < 0.01$, 79% power). There were no differences in blood testosterone levels between occupational groups (Group 1 (firefighters), 14.6 (IQR 3.4); Group 2 (fire truck drivers), 14.7 (IQR 5.6); Group 3 (shift commanders, division heads, department managers and engineers), 14 (IQR 4.1) nmol/l, Kruskal-Wallis $p = 0.32$) or departments. Testosterone could not predict EX or CY, but had a negative association with PE score reflecting more burnout (odds ratio 1.18 (95% confidence interval 1.01;1.38)), adjusted for age, mental component of HRQL and education. Conclusions: Firefighters with higher testosterone may develop burnout in PE earlier, and this should be considered for proper work placement within the rescue system.	Vinnikov, D., Romanova, Z., Kapanova, G., Raushanova, A., Kalmakhanov, S., Zhigalin, A. Testosterone and occupational burnout in professional male firefighters (2021) BMC Public Health, 21 (1), статья No 397 **(77 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85101346298&origin=resultslist#metrics
24	Effects of air temperature on the number of ambulance calls for asthma during cold season in Nur-Sultan– the second coldest capital in the world	DOI: 10.1080/22423982.2021.1978228	Deleterious effect of cold on overall mortality is well-established. We studied associations between the air temperature and the number f ambulance calls for asthma in Nur-Sultan, Kazakhstan–the second coldest capital in the world. Daily counts of ambulance calls for asthma in Nur-Sultan for the cold seasons (October-March) 2006–2010 were obtained from the Municipal Ambulance Station. Associations between the number of calls and mean and minimum apparent temperatures (average for lags 0–15) were studied using first-order Poisson auto-regression models controlling for wind speed and effects of month, year, weekends and holidays. Altogether, there were 7373 ambulance calls for asthma during the study period. An inverse association between minimum apparent temperature and the number of calls was observed for the age-group 60 years and older. A decrease of the minimum apparent temperature by 1°C was associated with an increase in the number of calls by 1.7% (95% CI: 0.1%-3.3%) across the whole temperature spectrum. No associations in other age groups were found. Our results suggest an inverse association between the average 15-day lag minimum apparent temperature and the number of	Grjibovski, A.M., Adilbekova, B., Omralina, E., Imangazinova, S., Akhmetova, Z., Ainabai, A., Kalmakhanov, S., Aituganova, A., Kosbayeva, A., Menne, B., Odland, J.Ø. Effects of air temperature on the number of ambulance calls for asthma during cold season in Nur-Sultan– the second coldest capital in the world (2021) International Journal of Circumpolar Health, 80	https://www.scopus.com/record/display.uri?eid=2-s2.0-85115294069&origin=resultslist

			ambulance calls during the cold season in Nur-Sultan, but this is limited to the oldest age-group.	(1), статья No 1978228 **(55 процентиль, Q2)**	
25	Concentrations of persistent organic pollutants in women's serum in the European arctic Russia	DOI: 10.3390/toxics9010006	Persistent organic pollutants (POPs) are heterogeneous carbon-based compounds that can seriously affect human health. The aim of this study was to measure serum concentrations of POPs in women residing in the Euro-Arctic Region of Russia. A total of 204 women from seven rural settlements of the Nenets Autonomous Okrug (NAO) took part in the study. We measured serum concentrations of 11 polychlorinated biphenyls (PCBs) and 17 organochlorine pesticides (OCPs) across the study sites and among Nenets and non-Nenets residents. Measurement of POPs was performed using an Agilent 7890A gas chromatograph equipped with an Agilent 7000 series MS/MS triple quadrupole system. The concentrations of all POPs were low and similar to findings from other Arctic countries. However, significant geographic differences between the settlements were observed with exceptionally high concentrations of PCBs in Varnek located on Vaygach Island. Both ΣDDT ($p = 0.011$) and ΣPCB ($p = 0.038$) concentrations were significantly lower in Nenets. Our main findings suggest that the serum concentrations of the legacy POPs in women in the Euro-Arctic Region of Russia are low and similar to those in other Arctic countries. Significant variations between settlements, and between Nenets and non-Nenets residents, were found. Arctic biomonitoring research in Russia should include studies on the associations between nutrition and concentrations of POPs.	Varakina, Y., Lahmanov, D., Aksenov, A., Trofimova, A., Korobitsyna, R., Belova, N., Sobolev, N., Kotsur, D., Sorokina, T., Grjibovski, A.M., Chashchin, V., Thomassen, Y. Concentrations of persistent organic pollutants in women's serum in the European arctic Russia (2021) Toxics, 9 (1), статья No 6, pp. 1-12. **(86 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85099606067&origin=resultslist
26	Essential and non-essential elements in biological samples of inhabitants residing in Nenets Autonomous Okrug of the Russian Arctic	DOI: 10.1016/j.envint.2021.106510	Exposure of Arctic residents to environmental pollutants is an emerging public health problem receiving little global attention. The objective of this study was to assess whole blood concentrations of nine selected essential (Co, Cu, Mn, Se, Zn) and non-essential (As, Cd, Hg, Pb) elements among Nenets and non-Nenets adult residents of the Nenets Autonomous Okrug (NAO) living in seven coastal and inland settlements. Urine was collected in two settlements for assessment of iodine status. Altogether 297 whole blood and 68 urine samples were analysed by inductively coupled mass spectrometry and the accuracy of the measurements was assessed by use of human whole blood and urine quality control materials. Several essential and non-essential showed significant variations in whole blood concentrations characterized by gender, population group and locality. Cd levels among non-Nenets non-smokers (0.19 μg/L) indicated a dietary intake at a natural global background level. Hg concentrations in whole blood show that not more than 10% of women in the fertile age had a Hg intake above the EFAS's recommendation. The Pb concentrations were in the range of, or partly exceeding reference values for increased risk of nephrotoxicity, and there is a need for a continued effort to reduce Pb exposure among the population groups in NAO. With high prevalence of obesity among the Nenets and non-Nenets population, a high prevalence of Fe-deficiency among menstruating women (<50 years) (37.2%)	Sobolev, N., Ellingsen, D.G., Belova, N., Aksenov, A., Sorokina, T., Trofimova, A., Varakina, Y., Kotsur, D., Grjibovski, A.M., Chashchin, V., Bogolitsyn, K., Thomassen, Y. Essential and non-essential elements in biological samples of inhabitants residing in Nenets Autonomous Okrug of the Russian Arctic (2021) Environment International, 152, статья No 106510 **(96 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85099568206&origin=resultslist

			and a lower I status than recommended by WHO, these nutritional dependent components deserve further attention.		
27	Public health rehabilition after acute myocardial infarction: A randomized controlled study	DOI: 10.33396/1728-0869-2021-8-57-64	Cardiovascular diseases (CVD) are the main causes of death worldwide. The incidence of and mortality from CVD in Kazakhstan is greater than in most neighboring countries warranting urgent public health measures related to both primary, secondary and tertiary prevention. Aims: To assess whether a newly developed 6-months public health rehabilitation program for patients with acute myocardial infarction (AMI) with home visits performed by physician assistants is superior to the standard rehabilitation of these patients in Western Kazakhstan. Methods: A randomized controlled study. A total of 75 AMI patients were enrolled after discharge form the hospital and 72 completed the trial. The control group (n = 34) participated in the standard rehabilitation program while the intervention group (n = 38) underwent and experimental rehabilitation program with home visits in addition to the standard program. Body mass index, waist circumference, blood pressure, heart rate, blood lipids, smoking and compliance to the treatment were assessed at the enrollment and after 6 months of the follow-up. Differences between the changes in the intervention and in the control group were compared using Mann-Whitney tests. Results: The experimental program was superior to the standard program in reducing systolic- (-22.5 vs. -2.9 mm Hg, p < 0.004) and diastolic (-6.3 vs. -0.6 mm Hg, p = 0.032) blood pressure, body mass index (-0.99 vs. 0.53 kg/m2, p < 0.001), waist circumference (-3.0 vs. 1.7 cm, p < 0.001) and the number of smoked cigarettes (-12 vs. -3, p = 0.002). Blood lipid profiles improved in both groups. Although slightly more pronounced changes were observed in the intervention group, the differences did not reach the level of statistical significance. Conclusions: The program was more effective on blood pressure, smoking and obesity-related indicators than the standard rehabilitation. Larger studies are warranted to corroborate our findings prior to implementation of the program in practice.	Zhamankulova, D.G., Zhamaliyeva, L.M., Kurmanalina, G.L., Tanbetova, Z., Grjibovski, A.M. Public health rehabilition after acute myocardial infarction: A randomized controlled study (2021) Ekologiya Cheloveka (Human Ecology), 2021 (8), pp. 57-64. **(33 процентиль, Q3)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85116324790&origin=resultslist
28	Breast cancer in western Kazakhstan: Incidence, mortality and factors associated with survival	DOI: 10.33396/1728-0869-2021-7-51-57	Breast cancer is the most common cancer among women. Incidence of and mortality from breast cancer varies considerably between countries. The evidence from Kazakhstan, however, is almost non-existent in international peer-reviewed literature. Aim: To study incidence of and mortality from breast cancer in Western Kazakhstan and assesse selected determinants of survival among breast cancer patients. Methods: A registry-based historical cohort study. Data on all primary cases of breast cancer in the Aktobe region in 2014-2018 and their follow-up data were obtained from the regional cancer registry. Standardized incidence and mortality data were calculated using Segi world reference population. One- and five-years survival was calculated using actuarial analysis. Factors associated with survival were assessed using multivariable Cox regression. Crude and adjusted hazard ratios (HR) were	Aitmagambetova, M.A., Bekmukhambetov, Y.Z., Smagulova, G.A., Tulyayeva, A.B., Koyshybaev, A.K., Grjibovski, A.M. Breast cancer in western Kazakhstan: Incidence, mortality and factors associated with survival (2021) Ekologiya Cheloveka (Human Ecology), 2021 (7),	https://www.scopus.com/record/display.uri?eid=2-s2.0-85112764186&origin=resultslist

			calculated with 9 5 % confidence intervals (CI). Results: From 2014 to 2018, 891 new cases and 251 deaths from breast cancer were registered in the Aktobe region. Standardized incidence of breast cancer increased from 40.8 to 44.6 per 100,000 while standardized mortality decreased from 12.4 to 8.8 per 100,000 during the study period. Only 16.4 % of cases were diagnosed at stage I, while 21.6 % of cancer cases were detected at stage III or IV. One- and five-year survival estimates based on the registry data was 94.5 % (95 % CI: 92.5-96.5) and 90.2 % (95 % CI: 88.2-92.2), respectively. Patients with stage III (HR = 7.4, 95 % CI: 1.7-31.6) and stage IV (HR = 29.7, 95 % CI: 6.7-131.8) had shorter survival than patients with stage I. Conclusions: Both incidence and mortality of breast cancer in Western Kazakhstan are lower than in most European countries. The incidence has been gradually increasing while no clear pattern on mortality was observed. Surprisingly high level of five-year survival in the study area requires further investigation. The results should be interpreted with caution assuming valid data on cancer-specific mortality and non-differential reporting of deaths across the studied characteristics.	pp. 51-57. **(33 процентиль, Q3)**	
29	Sociodemographic factors influencing the health of pregnant women: Changes in the arctic countries over the past decades	DOI: 10.18565/aig.2021.6.5-13	To study the past decades' changes in the sociodemographic factors that determine the health of reproductive-aged women in the Arctic countries. Materials and methods. The paper presents a systematic review of studies that evaluate trends in the prevalence of sociodemographic factors that determine the health of reproductive-aged women in the Arctic countries over the past decades. The 1970–2019 publications were sought by the results of cross-sectional, cohort studies of the trend in the MEDLINE and e-LIBRARY databases in Russian and English. The review also includes reports from the Federal Service for State Statistics of the Russian Federation (RF), the statistical centers of Norway, Finland, and Denmark. Twenty-three studies met the selection criteria. Results. The investigators found pan-Artic trends: an increase in the mean age of primiparas, decreases in the teenage birth rate and in the proportion of married mothers, increases in the proportion of common-law mothers and in that of mothers who did highly skilled labor. By 2018, the mean age of mothers in the RF increased to 28.7 years. The mean age of primiparas in Finland in 2018 was 29.3 years; and that in Norway and Denmark in 2019 was 29.8 and 29.5 years, respectively. The teenage birth rate in the RF fell to 20.7 births per 1,000 girls aged 15-19, but this figure was much higher than that in Canada (8.4), Norway (5.1), Sweden (5.1), Finland (5.8), and Denmark (4.1). The proportion of married puerperas in the USSR in 1970 was 89.4% and that decreased to 78.2% (the RF data) in 2018. In Norway, that of married primiparas almost halved over this period. There was an increase in the proportion of primiparas with upper secondary and higher education. Conclusion. Over the past decades, considerable changes have been identified in the portrait of a pregnant woman, namely: there is an increase in the mean age	Treskina, N.A., Postoev, V.A., Usynina, A.A., Grjibovski, A.M., Odland, J.Ø. Sociodemographic factors influencing the health of pregnant women: Changes in the arctic countries over the past decades (2021) Akusherstvo i Ginekologiya (Russian Federation), 2021 (6), pp. 5-13. **(29 процентиль, Q3)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85112252709&origin=resultslist

			of primiparas, decreases in the teenage birth rate and in the proportion of married mothers, and increases in the proportion of common-law mothers and in that of mothers who have upper secondary and higher education, and, consequently, are involved in highly skilled labor.		
30	Blood alcohol concentration in 2006-2018 in the sakha (Yakutia) republic: A forensic autopsy study	DOI: 10.33396/1728-0869-2021-5-44-52	Excessive alcohol consumption has been recognized as a threat to the national security of the Russian Federation. Chal-lenges in studying volume and pattern of alcohol consumption, registration and identification of cases of alcohol-associated deaths are among the reasons for insufficient data for prevention of alcohol-associated deaths. Decision-makers should be aware of alcohol-attributable mortality in their federal subjects to develop region-specific prevention programs. Aim: To study temporal trends in blood (urine, muscle) alcohol concentration using the data from forensic autopsy protocols from 2007-2018 in the Sakha (Yakuta) Republic, North-Eastern Russia. Methods: Data on blood (urine, muscle) alcohol concentration (BAC) were obtained for all autopsied individuals in 2007-2018 in the Sakha Republic using medical documentation from the Republican Forensic Bureau. Temporal trends in average concentrations were assessed using Jonkheer-Terpstra tests. Ordinal variables were studied with ordinal regression models. Poisson models were applied for the analysis of time trends for binomial outcomes. Results: The proportion of individuals with BAC between 3.0 and 5.0 ‰ and more than 5.0 ‰) decreased 25.3 % to 18.0 % (p [removed] 0.3 ‰ decreased on average by 34.8 % being more pronounced among the women. Conclusions: Our finding suggest a gradual decrease in average blood alcohol concentrations as well as in the proportion of deceased with high and lethal BAC in autopsied individuals in the Sakha (Yakutia) Republic over the study period. More pronounced decrease was observed among the women. Our findings should be generalized and interpreted with due caution taking into account the limita-tions of the forensic autopsy study design.	Bessonova, O.G., Savvina, N.V., Grjibovski, A.M. Blood alcohol concentration in 2006-2018 in the sakha (Yakutia) republic: A forensic autopsy study (2021) Ekologiya Cheloveka (Human Ecology), 2021 (5), pp. 44-52. **(33 процентиль, Q3)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85108822921&origin=resultslist
31	Intelligent data analysis in biomedical research: Artificial neural networks	DOI: 10.33396/1728-0869-2021-4-55-64	Substantial amounts of biomedical data are being accumulated every year. Large datasets are accumulated in specialized repositories, electronic document management systems, medical information systems, and other repositories. Classical statistical analysis does not always provide opportunities for analysis of these large datasets; therefore, intelligent data analysis (IDA) is becoming more popular in biomedical research. This paper is an introduction to artificial neural networks-one of the most popular methods of IDA. An artificial neural network is an attempt to build a mathematical analog of the brain and mathematically simulate the transmission of a nerve impulse between neurons. We present an example of the application of artificial neural networks in medical research using SPSS and Statistica software packages. The article describes a medical research question, an example of a dataset and a guide on	Narkevich, A.N., Vinogradov, K.A., Paraskevopulo, K.M., Grjibovski, A.M. Intelligent data analysis in biomedical research: Artificial neural networks (2021) Ekologiya Cheloveka (Human Ecology), 2021 (4), pp. 55-64. **(33 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85108244619&origin=resultslist

			construction and training of an artificial neural network as well as interpretation of the results.		
32	Intelligent data analysis in biomedical research: Classification trees	DOI: 10.33396/1728-0869-2021-3-54-64	Modern analytical tasks in biomedical research require increasingly sophisticated methods of data analysis. In recent years, the term data analysis is not only related to classical statistical tests for hypothesis testing and correlation analysis for studying associations between variables. Classification tree or decision tree analysis is getting more and more frequently used in biomedical research. In this paper we present the use of classification trees in biomedical research and provide examples of their construction in the most commonly used statistical programs. The article is constructed as a problem solving exercise using classification trees with an example of a data set for creation of classification trees and description of how to build a classification tree model in IBM SPSS Statistics and StatSoft Statistica software. Moreover, we provide recommendations on how the results of this analysis should be presented in a scientific article. The use of the classification trees has a potential to contribute to better understanding of the factors behind the observed phenomena in medicine and biology.	Narkevich, A.N., Vinogradov, K.A., Grjibovski, A.M. Intelligent data analysis in biomedical research: Classification trees (2021) Ekologiya Cheloveka (Human Ecology), 2021 (3), pp. 54-64. **(33 процентиль, Q3)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85104326963&origin=resultslist
33	Survival of stomach cancer patients in western Kazakhstan: A registry-based study	DOI: 10.33396/1728-0869-2021-1-51-56	Stomach cancer is the fourth most common cancer worldwide. Although there is a lot of international evidence on survival of stomach cancer patients, the data from Central Asia is still scarce. Aims: To study one- and five-years survival of stomach cancer patients and its correlates in Western Kazakhstan. Methods: All histologically confirmed cases of stomach cancer (ICD10 code: C16) registered from 2015 to 2019 in the Aktobe region, Western Kazakhstan, were included in a registry-based historical cohort study. One- and five-years survival with 95 % confidence intervals (CI) was calculated by life tables method. Independent associations between survival and its correlates were studied using Cox regression and presented as crude and adjusted hazard ratios (HR). Results: Altogether, there were 793 new cases of and 587 deaths from stomach cancer in the Aktobe region over the study period. Sixty-five percent of cases were diagnosed at stage III or IV. The overall one- and five-year survival was 33.1 % and 8.4 %, respectively. Significant differences in survival functions across categories were observed for cancer stage ($p < 0.001$), morphological type ($p < 0.001$) and ethnic background ($p = 0.017$). After adjustment, only stage and morphological type of tumor remained significantly associated with the out come. Stage III (HR = 2.3, 95 % CI: 1.5-3.6) and stage IV (HR = 4.4, 95 % CI: 2.8-6.9) were associated with shorter survival compared to the reference category. Patients with intestinal type of cancer were more likely to survive longer (HR = 0.7, 95 % CI: 0.6-0.8). Conclusions: High proportion of cases diagnosed at advance stage and low survival warrant urgent measures on both population and institutional levels. Preventive activities, increased awareness of the population and implementation of routine screening should be among the	Tulyayeva, A.B., Bekmuhamedov, Y.J., Zhamalieva, L.M., Iztleuov, Y.M., Aitmagambetova, M.A., Zholmuhamedova, D.A., Zhurabekova, G.A., Grjibovski, A.M. Survival of stomach cancer patients in western Kazakhstan: A registry-based study (2021) Ekologiya Cheloveka (Human Ecology), 2021 (1), pp. 51-56. **(33 процентиль, Q3)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85103135910&origin=resultslist

			priority actions to improve survival of stomach cancer patients and decrease cancer mortality in Western Kazakhstan.		
34	Molecular genetic tests in survival factors in patients with NSCLC in the clinical practice of Kazakhstan	DOI:10.47176/mjiri.35.133	Recent changes in understanding of the nature of cancer allow us, in some cases, to consider it a chronic process that requires constant or periodic treatment. The purpose of this study was to assess the efficacy of the methods for diagnosis and treatment of non-small cell lung cancer (NSCLC) in the Republic of Kazakhstan and present scientifically proven methods for the improvement of existing diagnostic algorithms and treatment programs. Methods: This work was a retrospective study. A retrospective study using descriptive and analytical statistics was used as the main method. Reported data and medical records of the patients with NSCLC who were treated from 2015 to 2017 in 6 oncology clinics in the Republic of Kazakhstan were used as study materials. The methods used for histological studies and influence of the patient's sex on the frequency of various histological forms of NSCLC were studied. Polymerase chain reaction (PCR) studies to determine the epidermal growth factor receptor (EGFR) gene status as well as surgical methods were also studied. Results: A comparative analysis of the compliance of oncologists from various regions of the republic with molecular genetic testing as an essential component of the diagnosis of NSCLC showed that the coverage of patients with immunohistochemical (IHC) and PCR studies in this country is low, 50.9% and 21.2%, respectively. The study included data on 423 patients. At the same time, the majority of studies, 64.2% (IHC) and 100% (PCR), were performed in patients in Almaty and only 35.8% of IHC studies were performed in other 5 regions included in this study. Conclusion: The morphological verification of malignant neoplasms in the lungs was based on histological studies. IHC and PCR coverage of the patients in the country was low. Most of the patients received pharmacotherapy. Surgical interventions were rarely performed. Also, the lack of IHC status data were a risk factor for the patients with NSCLC	Yessentayeva, S.Y., Makarov, V.A., Kalmatayeva, Z.A., Zhakenova, Z.K., Arybzhanov, D.T. Molecular genetic tests in survival factors in patients with NSCLC in the clinical practice of Kazakhstan (2021) Medical Journal of the Islamic Republic of Iran, 35 (1), pp. 1-11. **(56 процентиль, Q2)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85115752957&origin=resultslist
35	Medicine storage, wastage, and associated determinants among urban households: a systematic review and meta-analysis of household surveys	DOI:10.1186/s12889-021-11100-4	Irrational household storage of medicines is a world-wide problem, which triggers medicine wastage as well as its associated harms. This study aimed to include all available evidences from literature to perform a focused examination of the prevalence and factors associated with medicine storage and wastage among urban households. This systematic review and meta-analysis mapped the existing literature on the burden, outcomes, and affective socio-economic factors of medicine storage among urban households. In addition, this study estimated pooled effect sizes for storage and wastage rates. Methods: Household surveys evaluating modality, size, costs, and affective factors of medicines storage at home were searched in PubMed, EMBASE, OVID, SCOPUS, ProQuest, and Google scholar databases in 2019. Random effect meta-analysis and subgroup analysis were used to pool effect sizes for medicine	Jafarzadeh, A., Mahboub-Ahari, A., Najafi, M., Yousefi, M., Dalal, K. Medicine storage, wastage, and associated determinants among urban households: a systematic review and meta-analysis of household surveys (2021) BMC Public Health, 21 (1), статья No 1127, **(77 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85107761869&origin=resultslist

			storage and wastage prevalence among different geographical regions. Results: From the 2604 initial records, 20 studies were selected for systematic review and 16 articles were selected for meta-analysis. An overall pooled-prevalence of medicine storage and real wastage rate was 77 and 15%, respectively. In this regard, some significant differences were observed between geographical regions. Southwest Asia region had the highest storage and wastage rates. The most common classes of medicines found in households belonged to the Infective agents for systemic (17.4%) and the Nervous system (16.4%). Moreover, income, education, age, the presence of chronic illness, female gender, and insurance coverage were found to be associated with higher home storage. The most commonly used method of disposal was throwing them in the garbage. Conclusions: Factors beyond medical needs were also found to be associated with medicine storage, which urges effective strategies in the supply and demand side of the medicine consumption chain. The first necessary step to mitigate home storage is establishing an adequate legislation and strict enforcement of regulations on dispensing, prescription, and marketing of medicines. Patient's pressure on excessive prescription, irrational storage, and use of medicines deserve efficient community-centered programs, in order to increase awareness on these issues. So, hazardous consequences of inappropriate disposal should be mitigated by different take back programs, particularly in low and middle income countries.		
36	Assessing service availability and readiness to manage cervical cancer in Bangladesh	DOI:10.1186/s12885-021-08387-2	The second most common cancer among females in Bangladesh is cervical cancer. The national strategy for cervical cancer needs monitoring to ensure that patients have access to care. In order to provide accurate information to policymakers in Bangladesh and other low and middle income countries, it is vital to assess current service availability and readiness to manage cervical cancer at health facilities in Bangladesh. Methods: An interviewer-administered questionnaire adapted from the World Health Organization Service Availability and Readiness Assessment Standard Tool was used to collect cross-sectional data from health administrators of 323 health facilities in Bangladesh. Services provided were categorized into domains and service readiness was determined by mean readiness index (RI) scores. Data analysis was conducted using STATA version 13. Results: There were seven tertiary and specialized hospitals, 118 secondary level health facilities, 124 primary level health facilities, and 74 NGO/private hospitals included in the study. Twenty-six per cent of the health facilities provided services to cancer patients. Among the 34 tracer items used to assess cancer management capacity of health facilities, four cervical cancer-specific tracer items were used to determine service readiness for cervical cancer. On average, tertiary and specialized hospitals surpassed the readiness index cutoff of 70% with adequate staff and training (100%), equipment (100%), and diagnostic facilities (85.7%), indicating that they were	Rakhshanda, S., Dalal, K., Chowdhury, H.A., Mayaboti, C.A., Paromita, P., Rahman, A.K.M.F., Hussain, A.H.M.E., Mashreky, S.R. Assessing service availability and readiness to manage cervical cancer in Bangladesh (2021) BMC Cancer, 21 (1), статья No 670 **(68 процентиль, Q2)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85107194988&origin=resultslist

			ready to manage cervical cancer. The mean RI scores for the rest of the health facilities were below the cutoff value, meaning that they were not prepared to provide adequate cervical cancer services. Conclusion: The health facilities in Bangladesh (except for some tertiary hospitals) lack readiness in cervical cancer management in terms of guidelines on diagnosis and treatment, training of staff, and shortage of equipment. Given that cervical cancer accounts for more than one-fourth of all female cancers in Bangladesh, management of cervical cancer needs to be available at all levels of health facilities, with primary level facilities focusing on early diagnosis. It is recommended that appropriate standard operating procedures on cervical cancer be developed for each level of health facilities to contribute towards attaining sustainable developmental goals.		
37	Assessment of medical equipment maintenance management: proposed checklist using Iranian experience	DOI:10.1186/s12938-021-00885-5	Effective maintenance management of medical equipment is one of the major issues for quality of care, for providing cost-effective health services and for saving scarce resources. This study aimed to develop a comprehensive checklist for assessing the medical equipment maintenance management (MEMM) in the Iranian hospitals. Methods: This is a multi-methods study. First, data related to factors which affect the assessment of MEMM were collected through a systematic review in PubMed, ProQuest, Scopus, Embase, and web of science without any time limitation until October 2015, updated in June 2017. Then, we investigated these factors affecting using document review and interviews with experts in the Iranian hospitals. In the end, the results of the first and second stages were combined using content analysis and the final checklist was developed in a two-round Delphi. Results: Using a combination of factors extracted from the systematic and qualitative studies, the primary checklist was developed in the form of assessment checklists in seven dimensions. The final checklist includes 7 dimensions and 19 sub-categories: “resources = 3,” “quality control = 3,” “information bank = 4,” “education = 1,” “service = 3,” “inspection and preventive maintenance = 2” and “design and implementation = 3.” Conclusions: Developing an assessment checklist for MEMM provide a comprehensive framework for the proper implementation of accurate assessment of medical equipment maintenance. This checklist can be used to improve the profitability of health facilities and the reliability of medical equipment. In addition, it is implicated in the decision-making in support of selection, purchase, repair and maintenance of medical equipment, especially for capital equipment managers and medical engineers in hospitals and also for the assessment of this process.	Arab-Zozani, M., Imani, A., Doshmangir, L., Dalal, K., Bahreini, R. Assessment of medical equipment maintenance management: proposed checklist using Iranian experience (2021) BioMedical Engineering Online, 20 (1), статья No 49, **(81 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85106749243&origin=resultslist
38	Perceptions and practices on newborn care and managing complications at	DOI:10.1186/s12887-021-02633-z	Community misperception on newborn care and poor treatment of sick newborn attributes to neonatal death and illness severity. Misperceptions and malpractices regarding neonatal care and neonatal complications are the leading causes of neonatal deaths in Bangladesh. The study was conducted to explore neonatal care’s perceptions and practices and manage complications among	Abdullah, A.S.M., Dalal, K., Yasmin, M., Ussatayeva, G., Halim, A., Biswas, A. Perceptions and practices on newborn care and managing	https://www.scopus.com/record/display.uri?eid=2-s2.0-85104120687&origin=resultslist

	rural communities in Bangladesh: a qualitative study		Bangladesh's rural communities. Methods: A qualitative study was conducted in Netrakona district of Bangladesh from April to June 2015. Three sub-districts (Upazilas) including Purbadhala, Durgapur and Atpara of Netrakona district were selected purposively. Five focus group discussions (FGDs) and twenty in-depth interviews (IDIs) were conducted in the rural community. Themes were identified through reading and re-reading the qualitative data and thematic analysis was performed. Results: Community people were far behind, regarding the knowledge of neonatal complications. Most of them felt that the complications occurred due to lack of care by the parents. Some believed that mothers did not follow the religious customs after delivery, which affected the newborns. Many of them followed the practice of bathing the newborns and cutting their hair immediately after birth. The community still preferred to receive traditional treatment from their community, usually from Kabiraj (traditional healer), village doctor, or traditional birth attendant. Families also refrained from seeking treatment from the health facilities during neonatal complications. Instead, they preferred to wait until the traditional healers or village doctors recommended transferring the newborn. Conclusions: Poor knowledge, beliefs and practices are the key barriers to ensure the quality of care for the newborns during complications. The communities still depend on traditional practices and the level of demand for facility care is low. Appropriate interventions focusing on these issues might improve the overall neonatal mortality in Bangladesh.	complications at rural communities in Bangladesh: a qualitative study (2021) BMC Pediatrics, 21 (1), статья No 168 **(63 процентиль, Q2)**	
39	The catastrophic out-of-pocket health expenditure of multiple sclerosis patients in Iran	DOI:10.1186/s12913-021-06251-4	The present study was designed and conducted to evaluate multiple sclerosis (MS) treatment costs and the resulting economic impact imposed on MS patients in Iran. Methods: This was a cross-sectional study, among randomly selected 300 MS patients, registered in the MS Association of East Azerbaijan Province, Iran (1 year after their treatment began). The regression analysis, ANOVA, T-test, and chi-square were used. Results: The average amount of out-of-pocket payments (OOPs) by MS patients during the previous year was 1669.20 USD, most of which was spent on medication, rehabilitation care, and physician visits. Their mean annual income was 5182.84 USD. Fifty four percent of families with an MS patient suffer from catastrophic health expenditure (CHE) and 44% experience poverty caused by the OOPs. Occupational status, having supplemental health insurance, and being residents of Tabriz significantly affect OOPs, CHE, and the resulting poverty ($P < 0.05$). Conclusion: The catastrophic financial burden of health care costs on MS patients and their families justifies health policymakers to promote pre-payment systems and provide subsidies to less well-off patients to protect them from the unfairness of OOPs and its resulting CHE and poverty.	Gharibi, F., Imani, A., Dalal, K. The catastrophic out-of-pocket health expenditure of multiple sclerosis patients in Iran (2021) BMC Health Services Research, 21 (1), статья No 257 **(72 процентиль, Q3)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85102737593&origin=resultslist

40	Prevalence of intimate partner violence against women in republic of Benin	DOI:10.29063/ajrh2021/v25i4.7	The present study was conducted to estimate the prevalence of intimate partner violence against women (IPVAW) of reproductive age in Benin and to assess the factors related to the experience of IPVAW and attitude towards wife beating among women. The study also assessed whether a family history of violence is a risk factor for experiencing IPVAW. The study used the Benin Demographic and Health Survey 2017-18 data for analyses. A national representative sample of 4488 ever married women was selected to respond to a domestic violence and abuse questionnaire. Cross-tabulation and multivariate logistic regression analyses were performed. The prevalence of IPVAW experience in Benin was as follows: emotional violence, 35.4%; physical violence, 18.4%; and sexual violence, 8.2%. Older age, rural residence, the practice of Vodoun religion, living in a household headed by a male member, family history of domestic violence, and attitudes towards wife beating were significantly associated with the prevalence of IPVAW. Thirty-two percent of women supported wife beating. Women residing in urban areas, having higher educational qualification, higher socioeconomic status, and no family history of domestic violence were less likely to support wife beating. Policymakers should place emphasis on evidence-based prevention programs, gender equality, women empowerment, and policy priority for curbing IPVAW.	Ou, C.-Y., Yasmin, M., Ussatayeva, G., Lee, M.-S., Dalal, K. Prevalence of intimate partner violence against women in republic of Benin (2021) African Journal of Reproductive Health, 25 (4), pp. 63-75. **(37 процентиль, Q3)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85117795477&origin=resultslist
41	COVID-19 Transmission due to Mass Mobility Before and After the Largest Festival in Bangladesh: An Epidemiologic Study	DOI:10.1177/00469580211023464	Festivals traditionally result in mass public mobility from large cities to rural or semi-urban areas in low- and middle-Income Countries (LMIC), which are inadequately prepared for tackling the consequences of the COVID-19 pandemic. This study aimed to explore the trend of COVID-19 infection in a peripheral region of Bangladesh during one of the largest festivals to develop an evidence-based hypothesis for its influence on the transmission rate of COVID-19. This study conducted a quantitative analysis of secondary data on COVID-19 collected from the Directorate General of Health Services Bangladesh (DGHS) and divisional director's office in the Mymensingh division. To explore the influence of one of the biggest festivals (Eid-ul-Adha) on the trend of COVID-19 infection, we analyzed data from a week before the festival to 2 weeks following the festival. The infection rate (positive cases per million of the population) and the test positivity rate (positive cases among the total number of conducted diagnostic tests) of each day during this period were calculated both for the Mymensingh region and national level. Both the test positivity rate (TPR) and infection rates in the Mymensingh region demonstrated an increasing trend. The mean test positivity rate of the Mymensingh region on the week before the festival was 9.5%. It increased to a mean test positivity rate of 13% in the following week and further rose to a rate of 17% in the next week. The infection rate of Mymensingh also increased more than 2 folds from the day of the festival (2.0-5.3 cases per million) within the next 2 weeks. The TPR and infection rate on the national level remained similar	Rahman, F.N., Rahman, A.K.M.F., Iwuagwu, A.O., Dalal, K. COVID-19 Transmission due to Mass Mobility Before and After the Largest Festival in Bangladesh: An Epidemiologic Study (2021) Inquiry (United States), 58 **(50 процентиль, Q2)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85108621939&origin=resultslist

			throughout the study period. Mass mobility during Eid-ul-Adha influences the increased transmission of COVID-19 among the peripheral regions of Bangladesh from the central capital city Dhaka. The findings will help policymakers plan and implement travel restrictions during festivals during the pandemic in LMICs.		
42	Lifestyle risk factor assessment through who step approach in Tabriz, Iran	DOI:10.2147/CEOR.S304189	The aim of this study was to assess the lifestyle behaviour and risk factors for lifestyle-related diseases in East Azerbaijan province, Iran. Methods: A household study using a two-stage cluster sampling method was performed. Tabriz city was randomly selected for data collection among five geographic regions in the East-Azerbaijan province. Short WHO-STEP and Ultra-short version of Socio-Economic Status assessment questionnaire were used. Six hundred households were asked to respond to the STEP questionnaire. Results: A total of 1196 people have participated in the study. People with higher socioeconomic status consumed more fruits, vegetables and fish than the people with lower socioeconomic status. People with academic education less likely to be hypertensive com-pared to people with non-academic education. People with a medium socioeconomic status are less likely to be hypertensive than people with high socioeconomic status. The majority of participants had poor dietary habits. In this study, 17.22%, 7.53% and 4.35% of respon-dents had hypertension, diabetes and depression, respectively. Conclusion: Considering that lifestyle-related risk factors are common among people. Due to the direct link between lifestyle and the occurrence of many chronic diseases, campaigns for and training programs to implement healthy lifestyle habits are recommended.	Golestani, M., Sadeghi-Bazargani, H., Saadati, M., Farahbakhsh, M., Dalal, K. Lifestyle risk factor assessment through who step approach in Tabriz, Iran (2021) ClinicoEconomics and Outcomes Research, 13, pp. 487-492. **(78 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85108099908&origin=resultslist
43	Maternal Delivery at Home: Issues in India	DOI:10.1007/s12325-020-01551-3	Maternal delivery at home without skilled care at birth is a major public health issue. The current study aimed to assess the various contributing and eliminating factors of maternal delivery at home in India. The reasons for not delivering at healthcare facilities were also explored. Methods: The study used the National Family Health Surveys (NFHS)-4 (2015–2016) data from states and union territories of India for analysis. A national representative sample of 699,686 women of reproductive age group (15–49 years) was used. Cross-tabulation and multivariate logistic regression analyses were performed. Results: The prevalence of home delivery in India was 22%, among which 34% of women believed that institutional delivery was not a necessity. Financial constraints, lack of proper transportation facilities, non-accessibility of healthcare institutions and not getting permission from family members were the main reasons cited by the women for delivering at home. The proportion of home deliveries was much higher among women from more disadvantaged socioeconomic areas than women from less disadvantaged socioeconomic areas. Domestic violence and partner control were essential factors contributing to the prevalence of home delivery. However, the women who owned mobile phones	Ou, C.-Y., Yasmin, M., Ussatayeva, G., Lee, M.-S., Dalal, K. Maternal Delivery at Home: Issues in India (2021) Advances in Therapy, 38 (1), pp. 386-398. **(76 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85094665350&origin=resultslist

			and used a short message service (SMS) facility delivered at home less often. Conclusion: Policymakers should focus more on the women living in disadvantaged socioeconomic areas and other marginalised populations with less education and low economic levels to provide them with optimum delivery care utilisation. Strengthening of public healthcare facilities and more effective use of skilled birth attendents and their networking are essential steps. Electronic and economic empowerment of women should be emphasised to bring about a significant reduction in the proportion of home deliveries in India.		
44	Evolutionary Changes in the Interaction of miRNA With mRNA of Candidate Genes for Parkinson's Disease.	DOI 10.3389/fgene.2021.647288	Parkinson's disease (PD) exhibits the second-highest rate of mortality among neurodegenerative diseases. PD is difficult to diagnose and treat due to its polygenic nature. In recent years, numerous studies have established a correlation between this disease and miRNA expression; however, it remains necessary to determine the quantitative characteristics of the interactions between miRNAs and their target genes. In this study, using novel bioinformatics approaches, the quantitative characteristics of the interactions between miRNAs and the mRNAs of candidate PD genes were established. Of the 6,756 miRNAs studied, more than one hundred efficiently bound to mRNA of 61 candidate PD genes. The miRNA binding sites (BS) were located in the 5′-untranslated region (5′UTR), coding sequence (CDS) and 3′-untranslated region (3′UTR) of the mRNAs. In the mRNAs of many genes, the locations of miRNA BS with overlapping nucleotide sequences (clusters) were identified. Such clusters substantially reduced the proportion of nucleotide sequences of miRNA BS in the 5′UTRs, CDSs, and 3′UTRs. The organization of miRNA BS into clusters leads to competition among miRNAs to bind mRNAs. Differences in the binding characteristics of miRNAs to the mRNAs of genes expressed at different rates were identified. Single miRNA BS, polysites for the binding for one miRNA, and multiple BS for two or more miRNAs in one mRNA were identified. Evolutionary changes in the BS of miRNAs and their clusters in 5′UTRs, CDSs and 3′UTRs of mRNA of orthologous candidate PD genes were established. Based on the quantitative characteristics of the interactions between miRNAs and mRNAs candidate PD genes, several associations recommended as markers for the diagnosis of PD	Акимниязова Айгуль Нурланкызы Frontiers in Genetics Том 1230 March 2021 Номер статьи 647288 ISSN 16648021 DOI 10.3389/fgene.2021.647288	https://www.scopus.com/record/display.uri?eid=2-s2.0-85104157514&origin=resultslist&sort=plf-f&src=s&sid=3cfb4ccfd14174202038a66af83c1f47&sot=aut&sdt=a&sl=18&s=AU-ID%285719441597 1%29&relpos=0&citeCnt=0&searchTerm=
45	Predicting associations of mirnas and candidate gastric cancer genes for nanomedicine	DOI 10.3390/nano11030691	Nanoscale miRNAs regulate the synthesis of most human proteins involved in differentiation, proliferation, cell cycle, apoptosis, and other processes associated with the growth and the development of an organism. miRNAs also play a number of important roles in the development of gastric cancer. In this work, we studied the quantitative characteristics of miRNA interactions with 69 candidate gastric cancer genes using bioinformatics approaches. To this end, the MirTarget program was used, which determines the characteristics of miRNA binding to mRNA in the 5′UTR, CDS, and 3'UTR. Associations of miRNAs with alternative target genes and associations of genes with alternative miRNAs	Nanomaterials Том 11, Выпуск 3, Страницы 1 - 16March 2021 Номер статьи 691 ISSN 20794991 DOI 10.3390/nano11030691	https://www.scopus.com/record/display.uri?eid=2-s2.0-85102107419&origin=resultslist&sort=plf-f&src=s&sid=3cfb4ccfd14174202038a66af83c1f47&sot

			were established. The cluster organization of miRNA binding sites (BSs) in mRNA was revealed, leading to the emergence of miRNA competition for binding to the mRNA of a target gene. Groups of target genes with clusters of overlapping BSs include miR-5095,miR-619-5p, miR-1273 family, miR-466, ID01030.3p-miR, ID00436.3p-miR, miR-574-5p, and ID00470.5p-miR. In the defined associations of target genes and miRNAs, miRNA BSs are organized into clusters of multiple BSs, which facilitate the design and the development of a system of chips that can be used to control the state of miRNA and target genes associations in gastric cancer.		=aut&sdt=a&sl=18&s=AU-ID%285719441597 1%29&relpos=1&c iteCnt=0&searchTe rm=
46	Heavy metal contents in plants of phytocenoses of the point of Besqaynar, Kyzylkairat and Taukaraturyk. Pak. J. Bot., 53(2)	DOI 10.30848/PJB202 1-2(33)	This article presents data on the determination of heavy metals (Pb+2, Zn+2, Cu+2, Fe+2, Ni+2, Co+3, Mn+2, Cr+2, Cd+2) in plant samples collected from Almaty Region, Talgar District of Kazakhstan. For a number of reasons, plants cannot absorb most of the heavy metals and, unlike animals, are able to accumulate them in large quantities. The following points were selected for sampling: Control point – Taukarutuk, 2 point – Besqaynar and 3 point – Kyzylkairat. Rumex confertus, Artemisia annua, and Trifolium pratence were identified as the most highly accumulating species of heavy metals in all three monitoring groups. It was investigated that, in the studied points, Besqaynar and Kyzylkairat, all presented plant samples have a large adsorption capacity for such elements as Cd+2 and Zn+2. © 2021, Pakistan Botanical Society. All rights reserved.	Айтжан Ментай ISSN 05563321 DOI 10.30848/PJB2021-2(33) Pakistan Journal of BotanyТом 53, Выпуск 2, Страницы 511 - 5162021	https://www.scopus .com/record/display .uri?eid=2-s2.0-85103066505&orig in=resultslist
47	Systematic analysis of combined antioxidant and membrane-stabilizing properties of several lamiaceae family Kazakhstani plants for potential production of tea beverages	DOI 10.3390/plants100 40666	One of the most important compounds that exhibit a wide range of biological activities with especially strong antioxidant action are plant polyphenols. In the course of the experiment, the dose-dependent effects of polyphenols-rich extracts isolated from the Lamiaceae family Ka-zakhstani plants were studied on the processes of lipid peroxidation and on the degree of erythrocytes hemolysis. The activity of aqueous-ethanolic extracts from dried parts of plants, such as Origanum vulgare, Ziziphora bungeana, Dracocephalum integrifolium, Mentha piperita, Leonurus turke-stanicus, Thymus serpyllum, and Salvia officinalis, was studied in a Wistar rat model. Lipid peroxi-dation (LPO) in liver microsomes was assessed by measuring malondialdehyde content in the form of thiobarbituric acid-reacting substances (TBARS). Estimation of osmotic resistance of isolated erythrocytes was evaluated based on hemoglobin absorbance. The amount of total phenolics in the extracts was measured using the Folin-Ciocalteu reagent method. Based on the results, Thymus serpyllum extract exhibited a significantly higher antioxidant activity (IC50 = 3.3 ± 0.7) compared to other plant extracts. Accordingly, among the extracts studied, those from Salvia officinalis, Thymus serpyllum, and Origanum vulgare show the most pronounced membrane-stabilizing activity. Anti-oxidant and antihemolytic properties of green tea and Origanum vulgare extract mixtures were similar to that of each individual plant extract. Similar results were obtained when the	0 a Plants ISSN 22237747 DOI 10.3390/plants10040666 Том 10, Выпуск 4April 2021 Номер статьи 666	https://www.scopus .com/record/display .uri?origin=citedby &eid=2-s2.0-85103287898&no Highlight=false&re lpos=

			green tea extract was mixed with Mentha piperita, Ziziphora bungeana, and Dracocephalum integrifolium ex-tracts, indicating no discernible synergistic interaction.		
48	Lignite biosolubilization and bioconversion by Bacillus sp.: the collation of analytical data	DOI 10.1080/17597269.2020.1753936	The vast metabolic potential of microbes in brown coal (lignite) processing and utilization can greatly contribute to innovative approaches to sustainable production of high-value products from coal. In this study, the multi-faceted and complex coal biosolubilization process by Bacillus sp. RKB 7 isolate from the Kazakhstan coal-mining soil is reported, and the derived products are characterized. Lignite solubilization tests performed for surface and suspension cultures testify to the formation of numerous soluble lignite-derived substances. Almost 24% of crude lignite (5% w/v) was solubilized within 14 days under slightly alkaline conditions (pH 8.2). FTIR analysis revealed various functional groups in the obtained biosolubilization products. Analyses of the lignite-derived humic products by UV-Vis and fluorescence spectrometry as well as elemental analysis yielded compatible results indicating the emerging products had a lower molecular weight and degree of aromaticity. Furthermore, XRD and SEM analyses were used to evaluate the biosolubilization processes from mineralogical and microscopic points of view. The findings not only contribute to a deeper understanding of microbe–mineral interactions in coal environments, but also contribute to knowledge of coal biosolubilization and bioconversion with regard to sustainable production of humic substances. The detailed and comprehensive analyses demonstrate the huge biotechnological potential of Bacillus sp. for agricultural productivity and environmental health. © 2020 Informa UK Limited, trading as Taylor & Francis Group.	Тастамбек Куаныш Талғатұлы ISSN 17597269 DOI 10.1080/17597269.2020.1753936 Biofuels Том 12, Выпуск 3, Страницы 247 - 2582021	https://www.scopus.com/record/display.uri?eid=2-s2.0-85084269972&origin=recordpage
49	Mass gap for a monopole interacting with a nonlinear spinor field	DOI 10.1103/PhysRevD.104.056010	Within SU(2) Yang-Mills theory with a source of the non-Abelian gauge field in the form of a classical spinor field, we study the dependence of the mass gap on the coupling constant between the gauge and nonlinear spinor fields. It is shown that the total dimensionless energy of the monopole interacting with the nonlinear spinor fields depends only on the dimensionless coupling constant. © 2021 authors. Published by the American Physical Society.	Серикболова Альбина Аскаровна ISSN 24700010 DOI 10.1103/PhysRevD.104.056010 Physical Review D Том 104, Выпуск 51 September 2021 Номер статьи 056010	https://www.scopus.com/record/display.uri?eid=2-s2.0-85114889338&origin=recordpage
50	Effect of sulfur-containing agrochemicals on growth, yield,	DOI 10.1016/j.sjbs.2020.11.033	In this study, effect of different forms of sulfur-containing agrochemicals on growth, yield, and protein content of soybean grains have been evaluated. Three forms were used, such as powdery, solute, and pasty, in which elemental sulfur is contained in a nanostructured state. Plants treated with powdered and solute	Төленова Қаракөз Дидаркызы ISSN	https://www.scopus.com/record/display.uri?eid=2-s2.0-85096526496&orig

	and protein content of soybeans (Glycine max (L.) Merr)		sulfur-containing agrochemicals had the highest growth and grain yield values, and the effect of applying pasty sulfur-containing agrochemicals did not differ from the control, in which there was low yield on all variants. The use of powdered and solute sulfur-containing agrochemicals increased all protein fractions in soybeans. The results show that the use of powdered and solute sulfur-containing agrochemicals is necessary to boost the yield of soy and increase the supply of proteins in the grains. A key factor in the availability of sulfur for soybean plants is the conversion of sulfur to a nanodisperse state. This study provides relevant information about sulfur-containing agrochemicals, which can promote higher seed yields and increase the content of protein in soybeans.	1319562X DOI 10.1016/j.sjbs.2020.11.033 Saudi Journal of Biological Sciences Том 28, Выпуск 1, Страницы 891 - 900January 2021	in=AuthorNamesList&txGid=d3dbb8e85195a8df53021c5b35a89d85
51	The Contribution of Genetic Variants to the Risk of Papillary Thyroid Carcinoma in the Kazakh Population: Study of Common Single Nucleotide Polymorphisms and Their Clinicopathological Correlations	DOI 10.3389/fendo.2020.543500	Objective: Risk for developing papillary thyroid carcinoma (PTC), the most common endocrine malignancy, is thought to be mediated by lifestyle, environmental exposures and genetic factors. Recent progress in the genome-wide association studies of thyroid cancer leads to the identification of several genetic variants conferring risk to this malignancy across different ethnicities. We set out to elucidate the impact of selected single nucleotide polymorphisms (SNPs) on PTC risk and to evaluate clinicopathological correlations of these genetic variants in the Kazakh population for the first time. Methods: Eight SNPs were genotyped in 485 patients with PTC and 1,008 healthy control Kazakh subjects. The association analysis and multivariable modeling of PTC risk by the genetic factors, supplemented with rigorous statistical validation, were performed. Result: Five of the eight SNPs: rs965513 (FOXE1/PTCSC2, P = 1.3E-16), rs1867277 (FOXE1 5'UTR, P = 7.5E-06), rs2439302 (NRG1 intron 1, P = 4.0E-05), rs944289 (PTCSC3/NKX2-1, P = 4.5E-06) and rs10136427 (BATF upstream, P = 9.8E-03) were significantly associated with PTC. rs966423 (DIRC3, P = 0.07) showed a suggestive association. rs7267944 (DHX35) was associated with PTC risk in males (P = 0.02), rs1867277 (FOXE1) conferred the higher risk in subjects older than 55 years (P = 7.0E-05), and rs6983267 (POU5F1B/CCAT2) was associated with pT3–T4 tumors (P = 0.01). The contribution of genetic component (unidirectional independent effects of rs965513, rs944289, rs2439302 and rs10136427 adjusted for age and sex) to PTC risk in the analyzed series was estimated to be 30–40%. Conclusion: Genetic factors analyzed in the present work display significant association signals with PTC either on the whole group analysis or in particular clinicopathological groups and account for about one-third of the risk for PTC in the Kazakh population. © Copyright © 2021 Mussazhanova, Rogounovitch, Saenko, Krykpayeva, Espenbetova, Azizov, Kondo, Matsuda, Kalmatayeva, Issayeva, Yeleubayeva, Madiyeva, Mukanova, Sandybayev, Bolsynbekova, Kozykenova, Yamashita and Nakashima.	Мусажанова Жанна Бахытгереевна ISSN 16642392 DOI 10.3389/fendo.2020.543500 Frontiers in Endocrinology Том 1122 January 2021 Номер статьи 543500	https://www.scopus.com/record/display.uri?eid=2-s2.0-85100555871&origin=recordpage

52	53bp1 expression as a biomarker to differentiate thyroid follicular tumors	DOI 10.1530/EC-20-0630	We have previously reported that the expression of p53-binding protein 1 (53BP1) in nuclear foci (NF), a marker reflecting DNA damage response (DDR), detected using immunofluorescence (IF) is useful to estimate the malignant potency of diverse cancers. In this prospective study, we clarified the impact of 53BP1 expression via IF as a biomarker to differentiate thyroid follicular tumors (FTs) with liquid-based cytology (LBC). A total of 183 consecutively obtained-LBC samples, which were preoperatively suspected as FTs, were analyzed. Before histological diagnosis, the type of 53BP1 immunoreactivity in LBC was classified as follows: low DDR type, one or two NF; high DDR type, three or more NF; large foci type, larger than 1.0 μm; abnormal type, intense nuclear staining. Among the 183 cases, 136 cases were postoperatively diagnosed as FTs, including adenomatous goiter (AG, n = 30), follicular adenoma (FA, n = 60), FT-uncertain malignant potency (FT-UMP, n = 18), and follicular carcinoma (FC, n = 28), and 47 cases were diagnosed as tumors other than FTs or technically inadequate materials. Total 136 FT cases were collated with the type of 53BP1 immunoreactivity in LBC. The mean incidence expressing abnormal 53BP1 expression was significantly higher in FC than FA (9.5% vs 2.6%, P-value < 0.001). When adopting 4.3% as a cut-off value to distinguish FC from FA, the sensitivity, specificity, positive predictive value, and negative predictive value were 89.3, 83.3, 71.4, and 94.3%, respectively. Therefore, IF analysis of 53BP1 expression can be employed as a novel technique to diagnose FTs and to distinguish between different types of FTs using LBC.	Мусажанова Жанна Бахытгереевна ISSN 20493614 DOI 10.1530/EC-20-0630 Endocrine Connections Том 10, Выпуск 3, Страницы 309 - 3152021	https://www.scopus.com/record/display.uri?eid=2-s2.0-85104193410&origin=recordpage
53	Survival of stomach cancer patients in western Kazakhstan: A registry-based study	DOI 10.33396/1728-0869-2021-1-51-56	Introduction: Stomach cancer is the fourth most common cancer worldwide. Although there is a lot of international evidence on survival of stomach cancer patients, the data from Central Asia is still scarce. Aims: To study one- and five-years survival of stomach cancer patients and its correlates in Western Kazakhstan. Methods: All histologically confirmed cases of stomach cancer (ICD10 code: C16) registered from 2015 to 2019 in the Aktobe region, Western Kazakhstan, were included in a registry-based historical cohort study. One- and five-years survival with 95 % confidence intervals (CI) was calculated by life tables method. Independent associations between survival and its correlates were studied using Cox regression and presented as crude and adjusted hazard ratios (HR). Results: Altogether, there were 793 new cases of and 587 deaths from stomach cancer in the Aktobe region over the study period. Sixty-five percent of cases were diagnosed at stage III or IV. The overall one- and five-year survival was 33.1 % and 8.4 %, respectively. Significant differences in survival functions across categories were observed for cancer stage (p < 0.001), morphological type (p < 0.001) and ethnic background (p = 0.017). After adjustment, only stage and morphological type of tumor remained significantly associated with the out come. Stage III (HR = 2.3, 95 % CI: 1.5-3.6) and stage	Журабекова Гульмира Атагуловна ISSN 17280869 DOI 10.33396/1728-0869-2021-1-51-56 Ekologiya Cheloveka (Human Ecology) Том 2021, Выпуск 1, Страницы 51 - 562021	https://www.scopus.com/record/display.uri?eid=2-s2.0-85103135910&origin=recordpage

			IV (HR = 4.4, 95 % CI: 2.8-6.9) were associated with shorter survival compared to the reference category. Patients with intestinal type of cancer were more likely to survive longer (HR = 0.7, 95 % CI: 0.6-0.8). Conclusions: High proportion of cases diagnosed at advance stage and low survival warrant urgent measures on both population and institutional levels. Preventive activities, increased awareness of the population and implementation of routine screening should be among the priority actions to improve survival of stomach cancer patients and decrease cancer mortality in Western Kazakhstan.		
54	Prediction of arrhythmia recurrence after atrial fibrillation ablation in patients with normal anatomy of the left atrium	https://doi.org/10.1111/ijcp.14083	Background: Enlarged left atrium is an established predictor of atrial fibrillation recurrence after pulmonary vein isolation but arrhythmia recurrence is also observed in patients with normal anatomy of the left atrium. The aim of the study is to evaluate arrhythmia recurrence predictors in patients with normal anatomy of the left atrium. Methods: The study included 182 patients with normal anatomy of the left atrium who underwent pulmonary vein isolation using catheter ablation. Various parameters were also compared, including age, gender, history of arrhythmia, arterial hypertension, concomitant coronary pathology, echocardiography findings, such as mitral valve and tricuspid valve regurgitation and procedure parameters, between patients with and without relapses. Statistical analysis was performed using the IBM SPSS Statistics-19 software. Results: Transthoracic echocardiography was performed by independent specialists with extensive experience. Trans-esophageal echocardiography was performed before each ablation procedure. Standard trans-septal puncture was performed under fluoroscopic control. Radiofrequency ablation was performed in the ipsilateral pulmonary vein antrum with a wide capture of nearby lung tissue. Conclusions: It was concluded that the tricuspid valve regurgitation and arterial hypertension correlate with atrial fibrillation recurrence after pulmonary vein isolation in patients with normal left atrial anatomy.	Абзалиев Куат Баяндыевич DOI 10.1111/ijcp.14083 International Journal of Clinical Practice Том 75, Выпуск 6June 2021	https://www.scopus.com/record/display.uri?eid=2-s2.0-85101888076&origin=resultslist&sort=plf-f&src=s&sid=3aeebdf4bf0431601cb795ff50a2e21d&sot=aut&sdt=a&sl=17&s=AU-ID%286507066553%29&relpos=0&citeCnt=0&searchTerm=
55	Modern approaches for diagnosing transformations of the heart in qualified athletes	10.7752/jpes.2021.02101	Background: The lack of clear standards for medical supervision of athletes considerably limits the ability to diagnose and prevent overstrain of the cardiovascular system. To date, in the Republic of Kazakhstan, an assessment of the significance of early cardiomarkers, reflecting the state of maladjustment of the heart to physical exertion among highly qualified athletes involved in martial arts, has not been performed. Aims: The aim of this study is to determine the level and diagnostic significance of cardiac biomarker IL1RL1 (sST2 - serum-soluble) and the role of psychological stress on the risk of cardiovascular disease in qualified sport veterans engaged in speed-strength sports. Methods: A prospective study on wrestlers was performed at the Centre for Sports Medicine and Rehabilitation (Almaty, Republic of Kazakhstan). All participants (n = 30) were males aged 30 to 44 years s, masters of sports of international class, and honoured masters of sports). The control group	Абзалиев Куат Баяндыевич Journal of Physical Education and Sport Том 21, Выпуск 2, Страницы 813 - 818 March 2021 Номер статьи 101 ISSN 22478051 DOI 10.7752/jpes.2021.02101	https://www.scopus.com/record/display.uri?eid=2-s2.0-85104125878&origin=resultslist&sort=plf-f&src=s&sid=3aeebdf4bf0431601cb795ff50a2e21d&sot=aut&sdt=a&sl=17&s=AU-ID%286507066553%29&relpos=1&cit

			consisted of volunteers (VO) (n = 30). The sST2 level was determined before (BT) and immediately after (AT) training. Anthropometric and hemodynamic parameters of athletes were studied along with electrocardiography and echocardiography tests. Results: The average age of 30 athletes was 36.3 ± 0.5 years; the largest proportion of athletes was 35-39 years old (66.7%, n = 20); 6 sports veterans (20%) were 30- 34 years old; the smallest proportion of athletes was under 40-44 years old (13.3%, n = 5). According to the electrocardiography (ECG) data, minor deviations from the norm (16.6 %) and abnormal ECG (30%) were identified. The echo-CG data showed “moderate” and “pronounced changes” in 40.0% and 60.0% of cases, respectively.The sST2 level of VO (337.1 ± 61.8 pg/mL) was lower than that of BT (570.1 ± 32.6 pg/mL) and AT (768.7 ± 71.6 pg/mL) (p [removed] 0.05). Conclusion: Athletes’ sST2 levels exceeded thresholds both before and after training. Our findings indicate that the elevated sST2 concentrations in athletes can be used as the predictive valueshow maladaptation of the cardiovascular.		eCnt=0&searchTerm=
56	The efficacy and safety of cryoballoon catheter ablation in patients with paroxysmal atrial fibrillation	DOI 10.1007/s11845-021-02560-z	Background: Electrical isolation of pulmonary vein ostia is an established therapy for paroxysmal atrial fibrillation. Aims: The purpose of this study is to evaluate the long-term efficacy and safety of cryoballoon catheter ablation in paroxysmal atrial fibrillation with normal anatomy of the left atrium. Methods: Two hundred fifteen consecutive patients were included in the study (from November 2014 to November 2016). All the patients had symptoms of paroxysmal atrial fibrillation resistant to antiarrhythmic drugs and underwent pulmonary vein cryoisolation using second-generation cryoballoons. Standard “single-shot” cryoballoon exposures were used alternately for each of the four pulmonary veins. The endpoint of the ablation procedure was the electrical isolation of each pulmonary vein. Results: Sixty-nine patients had stable atrial fibrillation recurrences and left atrial flutter with 30 of 69 patients having atrial fibrillation paroxysms during the first year after primary ablation. Repeated ablation was performed within 6–12 months after the first ablation. In 39 of 69 cases, arrhythmia recurrences were registered during the second and third year after the first ablation. These patients underwent repeated ablation within 12–36 months after the first ablation. In 98% of the patients, no disease progression with a transition to a persistent form of atrial fibrillation was observed. During the mean 5-year follow-up period, no disease progression with the transition to persistent forms of atrial fibrillation was observed. Conclusions: It was concluded that in patients with paroxysmal atrial fibrillation, with normal left atrium anatomy and no risk factors, it can be controlled with single pulmonary vein isolation without additional atrial substrate modification.	Абзалиев Куат Баяндыевич Irish Journal of Medical Science 2021 ISSN 00211265 DOI 10.1007/s11845-021-02560-z	https://www.scopus.com/record/display.uri?eid=2-s2.0-85101805854&origin=resultslist&sort=plf-f&src=s&sid=3aeebdf4bf0431601cb795ff50a2e21d&sot=aut&sdt=a&sl=17&s=AU-ID%286507066553%29&relpos=2&citeCnt=0&searchTerm=
57	Prognostic value of serum soluble ST2 in	DOI 10.47197/RETOS.V43I0.87966	Background: The predictive value of serum soluble ST2 (sST2) biomarker for diagnostics of cardiovascular pathologies is still poorly understood as well as the role of psychological stress on the risk of heart disease. Aim: This study	Абзалиев Куат Баяндыевич ISSN 15791726	https://www.scopus.com/record/display.uri?eid=2-s2.0-

	professional athletes Valor pronóstico de ST2 soluble en suero en deportistas profesionales		aimed at determining the diagnostic significance of the sST2 level in athletes involved in speed-strength sports. In addition, stress as a risk factor for the development of cardiovascular pathology was assessed and analysed as well. Methods: A prospective study on Greco-Roman wrestlers was carried out at the Centre for Sports Medicine and Rehabilitation (Almaty, Republic of Kazakhstan). All participants (n = 30) were males aged 20 to 34 years. The control group consisted of volunteers (VO) (n = 30). Anthropometric and hemodynamic parameters of athletes were studied along with electrocardiography (ECG) and ECG tests. The sST2 level was determined before (BT) and immediately after (AT) training. The stress level was determined using The Perceived Stress Scale- 10 (PSS-10). Results: The average age of the athletes was 26.57 ± 3.6 years. The total training experience was 14.57 ± 4.02 years. According to the ECG data, minor deviations from the norm (13.3%) and an abnormal ECG (33.3%) were identified. Echo-CG data showed «moderate» and «pronounced changes» in 23.3% and 53.3% of cases, respectively. The sST2 level of VO (337.1 ± 61.8 pg / mL) was lower than that of BT (548.1 ± 32.6 pg / mL) (p d» 0.001). The sST2 level of AT, it was significantly higher (830.01 ± 71.6 pg / mL) than BT (p d» 0.001). The average and high level of stress among athletes was in 43.3% and 56.7% of cases, respectively. Stress increased the likelihood of developing distinctly abnormal ECG (OR = 1.06, 95% CI 1.01-1.08; p = 0.02). The stress level showed a positive correlation with the sST2 level (r = 0.752, p = 0.01). The sST2 concentration and categorical echocardiography data demonstrated a dependent positive correlation (r = 0.6, p = 0.01). Conclusions: Athletes' sST2 levels exceeded thresholds both before and after training. Moreover, the relationship between an increase in sST2 levels and abnormal ECG abnormalities and a high level of stress in athletes was determined. sST2 concentration was associated with cardio-pulmonary stress triggered by the cumulative exercise dose as well as with lifelong psychological stress. Our findings indicate that the elevated sST2 concentrations in athletes could be used as the predictive value. However, clinical relevance and results validity require further intensive studies. © 2021 Federacion Espanola de Docentes de Educacion Fisica. All rights reserved.	DOI 10.47197/RETOS.V43I0.87966 RetosОткрытый доступТом 43, Страницы 428 - 4372021	85115332349&origin=resultslist&sort=plf-f&src=s&sid=18ae2081d5d9bca57db31820afa0e3ca&sot=aut&sdt=a&sl=17&s=AU-ID%286507066553%29&relpos=2&citeCnt=0&searchTerm=
58	Evolutionary Changes in the Interaction of miRNA With mRNA of Candidate Genes for Parkinson's Disease	DOI 10.3389/fgene.2021.647288	Parkinson's disease (PD) exhibits the second-highest rate of mortality among neurodegenerative diseases. PD is difficult to diagnose and treat due to its polygenic nature. In recent years, numerous studies have established a correlation between this disease and miRNA expression; however, it remains necessary to determine the quantitative characteristics of the interactions between miRNAs and their target genes. In this study, using novel bioinformatics approaches, the quantitative characteristics of the interactions between miRNAs and the mRNAs of candidate PD genes were established. Of the 6,756 miRNAs studied, more than one hundred efficiently bound to mRNA	Кондыбаева Аида Муратовна ISSN 16648021 DOI 10.3389/fgene.2021.647288	https://www.scopus.com/record/display.uri?eid=2-s2.0-85104157514&origin=resultslist

			of 61 candidate PD genes. The miRNA binding sites (BS) were located in the 5′-untranslated region (5′UTR), coding sequence (CDS) and 3′-untranslated region (3′UTR) of the mRNAs. In the mRNAs of many genes, the locations of miRNA BS with overlapping nucleotide sequences (clusters) were identified. Such clusters substantially reduced the proportion of nucleotide sequences of miRNA BS in the 5′UTRs, CDSs, and 3′UTRs. The organization of miRNA BS into clusters leads to competition among miRNAs to bind mRNAs. Differences in the binding characteristics of miRNAs to the mRNAs of genes expressed at different rates were identified. Single miRNA BS, polysites for the binding for one miRNA, and multiple BS for two or more miRNAs in one mRNA were identified. Evolutionary changes in the BS of miRNAs and their clusters in 5′UTRs, CDSs and 3′UTRs of mRNA of orthologous candidate PD genes were established. Based on the quantitative characteristics of the interactions between miRNAs and mRNAs candidate PD genes, several associations recommended as markers for the diagnosis of PD.	Frontiers in Genetics Том 1230 March 2021 Номер статьи 647288	
59	Global Impact of COVID-19 on Stroke Care and IV Thrombolysis	DOI 10.1212/WNL.0000000000011885	OBJECTIVE: To measure the global impact of COVID-19 pandemic on volumes of IV thrombolysis (IVT), IVT transfers, and stroke hospitalizations over 4 months at the height of the pandemic (March 1 to June 30, 2020) compared with 2 control 4-month periods. METHODS: We conducted a cross-sectional, observational, retrospective study across 6 continents, 70 countries, and 457 stroke centers. Diagnoses were identified by their ICD-10 codes or classifications in stroke databases. RESULTS: There were 91,373 stroke admissions in the 4 months immediately before compared to 80,894 admissions during the pandemic months, representing an 11.5% (95% confidence interval [CI] -11.7 to -11.3, p < 0.0001) decline. There were 13,334 IVT therapies in the 4 months preceding compared to 11,570 procedures during the pandemic, representing a 13.2% (95% CI -13.8 to -12.7, p < 0.0001) drop. Interfacility IVT transfers decreased from 1,337 to 1,178, or an 11.9% decrease (95% CI -13.7 to -10.3, p = 0.001). Recovery of stroke hospitalization volume (9.5%, 95% CI 9.2-9.8, p < 0.0001) was noted over the 2 later (May, June) vs the 2 earlier (March, April) pandemic months. There was a 1.48% stroke rate across 119,967 COVID-19 hospitalizations. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection was noted in 3.3% (1,722/52,026) of all stroke admissions. CONCLUSIONS: The COVID-19 pandemic was associated with a global decline in the volume of stroke hospitalizations, IVT, and interfacility IVT transfers. Primary stroke centers and centers with higher COVID-19 inpatient volumes experienced steeper declines. Recovery of stroke hospitalization was noted in the later pandemic months.	Кондыбаева Аида Муратовна ISSN 1526632X DOI 10.1212/WNL.0000000000011885 NeurologyОткрытый доступТом 96, Выпуск 23, Страницы e2824 - e28388 June 2021	https://www.scopus.com/record/display.uri?eid=2-s2.0-85106084873&origin=recordpage
60	Global Impact of COVID-19 on	DOI 10.1212/WNL.0000000000011885	OBJECTIVE: To measure the global impact of COVID-19 pandemic on volumes of IV thrombolysis (IVT), IVT transfers, and stroke hospitalizations over 4 months at the height of the pandemic (March 1 to June 30, 2020)	Жанузаков М.А. ISSN 1526632X	https://www.scopus.com/record/display.uri?eid=2-s2.0-

	Stroke Care and IV Thrombolysis		compared with 2 control 4-month periods. METHODS: We conducted a cross-sectional, observational, retrospective study across 6 continents, 70 countries, and 457 stroke centers. Diagnoses were identified by their ICD-10 codes or classifications in stroke databases. RESULTS: There were 91,373 stroke admissions in the 4 months immediately before compared to 80,894 admissions during the pandemic months, representing an 11.5% (95% confidence interval [CI] -11.7 to -11.3, p < 0.0001) decline. There were 13,334 IVT therapies in the 4 months preceding compared to 11,570 procedures during the pandemic, representing a 13.2% (95% CI -13.8 to -12.7, p < 0.0001) drop. Interfacility IVT transfers decreased from 1,337 to 1,178, or an 11.9% decrease (95% CI -13.7 to -10.3, p = 0.001). Recovery of stroke hospitalization volume (9.5%, 95% CI 9.2-9.8, p < 0.0001) was noted over the 2 later (May, June) vs the 2 earlier (March, April) pandemic months. There was a 1.48% stroke rate across 119,967 COVID-19 hospitalizations. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection was noted in 3.3% (1,722/52,026) of all stroke admissions. CONCLUSIONS: The COVID-19 pandemic was associated with a global decline in the volume of stroke hospitalizations, IVT, and interfacility IVT transfers. Primary stroke centers and centers with higher COVID-19 inpatient volumes experienced steeper declines. Recovery of stroke hospitalization was noted in the later pandemic months. © 2021 American Academy of Neurology.	DOI 10.1212/WNL.0000000000011885 NeurologyОткрытый доступТом 96, Выпуск 23, Страницы e2824 - e28388 June 2021	85106084873&origin=recordpage
61	Evolutionary Changes in the Interaction of miRNA With mRNA of Candidate Genes for Parkinson's Disease	DOI 10.3389/fgene.2021.647288	Parkinson's disease (PD) exhibits the second-highest rate of mortality among neurodegenerative diseases. PD is difficult to diagnose and treat due to its polygenic nature. In recent years, numerous studies have established a correlation between this disease and miRNA expression; however, it remains necessary to determine the quantitative characteristics of the interactions between miRNAs and their target genes. In this study, using novel bioinformatics approaches, the quantitative characteristics of the interactions between miRNAs and the mRNAs of candidate PD genes were established. Of the 6,756 miRNAs studied, more than one hundred efficiently bound to mRNA of 61 candidate PD genes. The miRNA binding sites (BS) were located in the 5′-untranslated region (5′UTR), coding sequence (CDS) and 3′-untranslated region (3′UTR) of the mRNAs. In the mRNAs of many genes, the locations of miRNA BS with overlapping nucleotide sequences (clusters) were identified. Such clusters substantially reduced the proportion of nucleotide sequences of miRNA BS in the 5′UTRs, CDSs, and 3′UTRs. The organization of miRNA BS into clusters leads to competition among miRNAs to bind mRNAs. Differences in the binding characteristics of miRNAs to the mRNAs of genes expressed at different rates were identified. Single miRNA BS, polysites for the binding for one miRNA, and multiple BS for two or more miRNAs in one mRNA were identified. Evolutionary changes in the BS of miRNAs and their clusters in	Kamenova S. ISSN 16648021 DOI 10.3389/fgene.2021.647288 Frontiers in GeneticsОткрытый доступТом 1230 March 2021 Номер статьи 647288	https://www.scopus.com/record/display.uri?eid=2-s2.0-85104157514&origin=resultslist

			5′UTRs, CDSs and 3′UTRs of mRNA of orthologous candidate PD genes were established. Based on the quantitative characteristics of the interactions between miRNAs and mRNAs candidate PD genes, several associations recommended as markers for the diagnosis of PD.		
2020 год					
62	Repositioning of the global epicentre of non-optimal cholesterol	DOI:10.1038/s41586-020-2338-1	High blood cholesterol is typically considered a feature of wealthy western countries1,2. However, dietary and behavioural determinants of blood cholesterol are changing rapidly throughout the world3 and countries are using lipid-lowering medications at varying rates. These changes can have distinct effects on the levels of high-density lipoprotein (HDL) cholesterol and non-HDL cholesterol, which have different effects on human health4,5. However, the trends of HDL and non-HDL cholesterol levels over time have not been previously reported in a global analysis. Here we pooled 1,127 population-based studies that measured blood lipids in 102.6 million individuals aged 18 years and older to estimate trends from 1980 to 2018 in mean total, non-HDL and HDL cholesterol levels for 200 countries. Globally, there was little change in total or non-HDL cholesterol from 1980 to 2018. This was a net effect of increases in low- and middle-income countries, especially in east and southeast Asia, and decreases in high-income western countries, especially those in northwestern Europe, and in central and eastern Europe. As a result, countries with the highest level of non-HDL cholesterol—which is a marker of cardiovascular risk—changed from those in western Europe such as Belgium, Finland, Greenland, Iceland, Norway, Sweden, Switzerland and Malta in 1980 to those in Asia and the Pacific, such as Tokelau, Malaysia, The Philippines and Thailand. In 2017, high non-HDL cholesterol was responsible for an estimated 3.9 million (95% credible interval 3.7 million–4.2 million) worldwide deaths, half of which occurred in east, southeast and south Asia. The global repositioning of lipid-related risk, with non-optimal cholesterol shifting from a distinct feature of high-income countries in northwestern Europe, north America and Australasia to one that affects countries in east and southeast Asia and Oceania should motivate the use of population-based policies and personal interventions to improve nutrition and enhance access to treatment throughout the world.	……Davletov K., Mereke A……Repositioning of the global epicentre of non-optimal cholesterol (2020) Nature, 582 (7810), pp. 73-77. **(99 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85085994877&origin=resultslist
63	The INVICTUS rheumatic heart disease research program: Rationale, design and baseline characteristics of a randomized trial	DOI:10.1016/j.ahj.2020.03.018	Rheumatic heart disease (RHD) is a neglected disease affecting 33 million people, mainly in low and middle income countries. Yet very few large trials or registries have been conducted in this population. The INVICTUS program of research in RHD consists of a randomized-controlled trial (RCT) of 4500 patients comparing rivaroxaban with vitamin K antagonists (VKA) in patients with RHD and atrial fibrillation (AF), a registry of 17,000 patients to document the contemporary clinical course of patients with RHD, including a focused sub-study on pregnant women with RHD within the registry. This paper describes	Karthikeyan, G., Connolly, S.J., Ntsekhe, M., Benz, A., Rangarajan, S., Lewis, G., Yun, Y., Sharma, S.K., Maklady, F., Elghamrawy, A.E., Kazmi, K., Cabral, T.T.J., Dayi, H., Changsheng, M., Gitura,	https://www.scopus.com/record/display.uri?eid=2-s2.0-85085397329&origin=resultslist

	of rivaroxaban compared to vitamin K antagonists in rheumatic valvular disease and atrial fibrillation		the rationale, design, organization and baseline characteristics of the RCT and a summary of the design of the registry and its sub-study. Patients with RHD and AF are considered to be at high risk of embolic strokes, and oral anticoagulation with VKAs is recommended for stroke prevention. But the quality of anticoagulation with VKA is poor in developing countries. A drug which does not require monitoring, and which is safe and effective for preventing stroke in patients with valvular AF, would fulfill a major unmet need. Methods: The INVestIgation of rheumatiC AF Treatment Using VKAs, rivaroxaban or aspirin Studies (INVICTUS-VKA) trial is an international, multicentre, randomized, open-label, parallel group trial, testing whether rivaroxaban 20 mg given once daily is non-inferior (or superior) to VKA in patients with RHD, AF, and an elevated risk of stroke (mitral stenosis with valve area ≤2 cm2, left atrial spontaneous echo-contrast or thrombus, or a CHA2DS2VASc score ≥2). The primary efficacy outcome is a composite of stroke or systemic embolism and the primary safety outcome is the occurrence of major bleeding. The trial has enrolled 4565 patients from 138 sites in 23 countries from Africa, Asia and South America. The Registry plans to enroll an additional 17,000 patients with RHD and document their treatments, and their clinical course for at least 2 years. The pregnancy sub-study will document the clinical course of pregnant women with RHD. Conclusion: INVICTUS is the largest program of clinical research focused on a neglected cardiovascular disease and will provide new information on the clinical course of patients with RHD, and approaches to anticoagulation in those with concomitant AF.	B.M., Avezum, A., Zuhlke, L., Lwabi, P., Haileamlak, A., Ogah, O., Chillo, P., Paniagua, M., ElSayed, A., Dans, A., Gondwe-Chunda, L., Molefe-Baikai, O.J., Gonzalez-Hermosillo, J.A., Hakim, J., Damasceno, A., Kamanzi, E.R., Musuku, J., Davletov, K., Connolly, K., Mayosi, B.M., Yusuf, S., INVICTUS Investigators The INVICTUS rheumatic heart disease research program: Rationale, design and baseline characteristics of a randomized trial of rivaroxaban compared to vitamin K antagonists in rheumatic valvular disease and atrial fibrillation (2020) American Heart Journal, 225, pp. 69-77. **(85 процентиль, Q1)**	
64	Variations between women and men in risk factors, treatments, cardiovascular disease incidence, and death in 27 high-income, middle-income, and low-income countries (PURE): a prospective cohort study	DOI:10.1016/S0140-6736(20)30543-2	Some studies, mainly from high-income countries (HICs), report that women receive less care (investigations and treatments) for cardiovascular disease than do men and might have a higher risk of death. However, very few studies systematically report risk factors, use of primary or secondary prevention medications, incidence of cardiovascular disease, or death in populations drawn from the community. Given that most cardiovascular disease occurs in low-income and middle-income countries (LMICs), there is a need for comprehensive information comparing treatments and outcomes between women and men in HICs, middle-income countries, and low-income countries from community-based population studies. Methods: In the Prospective Urban Rural Epidemiological study (PURE), individuals aged 35–70 years from urban and rural communities in 27 countries were considered for inclusion. We recorded information on participants' sociodemographic characteristics, risk factors, medication use, cardiac investigations, and interventions. 168 490	Walli-Attaei, M., Joseph, P., Rosengren, A., Chow, C.K., Rangarajan, S., Lear, S.A., AlHabib, K.F., Davletov, K., Dans, A., Lanas, F., Yeates, K., Poirier, P., Teo, K.K., Bahonar, A., Camilo, F., Chifamba, J., Diaz, R., Didkowska, J.A., Irazola, V., Ismail, R., Kaur, M., Khatib, R., Liu, X., Mańczuk, M., Miranda, J.J., Oguz, A., Perez-Mayorga, M., Szuba,	https://www.scopus.com/record/display.uri?eid=2-s2.0-85085746302&origin=resultslist

			participants who enrolled in the first two of the three phases of PURE were followed up prospectively for incident cardiovascular disease and death. Findings: From Jan 6, 2005 to May 6, 2019, 202 072 individuals were recruited to the study. The mean age of women included in the study was 50·8 (SD 9·9) years compared with 51·7 (10) years for men. Participants were followed up for a median of 9·5 (IQR 8·5–10·9) years. Women had a lower cardiovascular disease risk factor burden using two different risk scores (INTERHEART and Framingham). Primary prevention strategies, such as adoption of several healthy lifestyle behaviours and use of proven medicines, were more frequent in women than men. Incidence of cardiovascular disease (4·1 [95% CI 4·0–4·2] for women vs 6·4 [6·2–6·6] for men per 1000 person-years; adjusted hazard ratio [aHR] 0·75 [95% CI 0·72–0·79]) and all-cause death (4·5 [95% CI 4·4–4·7] for women vs 7·4 [7·2–7·7] for men per 1000 person-years; aHR 0·62 [95% CI 0·60–0·65]) were also lower in women. By contrast, secondary prevention treatments, cardiac investigations, and coronary revascularisation were less frequent in women than men with coronary artery disease in all groups of countries. Despite this, women had lower risk of recurrent cardiovascular disease events (20·0 [95% CI 18·2–21·7] versus 27·7 [95% CI 25·6–29·8] per 1000 person-years in men, adjusted hazard ratio 0·73 [95% CI 0·64-0·83]) and women had lower 30-day mortality after a new cardiovascular disease event compared with men (22% in women versus 28% in men; p<0·0001). Differences between women and men in treatments and outcomes were more marked in LMICs with little differences in HICs in those with or without previous cardiovascular disease. Interpretation: Treatments for cardiovascular disease are more common in women than men in primary prevention, but the reverse is seen in secondary prevention. However, consistently better outcomes are observed in women than in men, both in those with and without previous cardiovascular disease. Improving cardiovascular disease prevention and treatment, especially in LMICs, should be vigorously pursued in both women and men. Funding: Full funding sources are listed at the end of the paper (see Acknowledgments).	A., Tsolekile, L.P., Prasad Varma, R., Yusufali, A., Yusuf, R., Wei, L., Anand, S.S., Yusuf, S. Variations between women and men in risk factors, treatments, cardiovascular disease incidence, and death in 27 high-income, middle-income, and low-income countries (PURE): a prospective cohort study (2020) The Lancet, 396 (10244), pp. 97-109. **(99 процентиль, Q1)**	
65	Measuring universal health coverage based on an index of effective coverage of health services in 204 countries and territories, 1990–2019: a systematic	DOI:10.1016/S0140-6736(20)30750-9	Achieving universal health coverage (UHC) involves all people receiving the health services they need, of high quality, without experiencing financial hardship. Making progress towards UHC is a policy priority for both countries and global institutions, as highlighted by the agenda of the UN Sustainable Development Goals (SDGs) and WHO's Thirteenth General Programme of Work (GPW13). Measuring effective coverage at the health-system level is important for understanding whether health services are aligned with countries' health profiles and are of sufficient quality to produce health gains for populations of all ages. Methods: Based on the Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) 2019, we assessed UHC effective	.....Davletov K.....Measuring universal health coverage based on an index of effective coverage of health services in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease	https://www.scopus.com/record/display.uri?eid=2-s2.0-85090485900&origin=resultslist

	analysis for the Global Burden of Disease Study 2019		coverage for 204 countries and territories from 1990 to 2019. Drawing from a measurement framework developed through WHO's GPW13 consultation, we mapped 23 effective coverage indicators to a matrix representing health service types (eg, promotion, prevention, and treatment) and five population-age groups spanning from reproductive and newborn to older adults (≥65 years). Effective coverage indicators were based on intervention coverage or outcome-based measures such as mortality-to-incidence ratios to approximate access to quality care; outcome-based measures were transformed to values on a scale of 0–100 based on the 2·5th and 97·5th percentile of location-year values. We constructed the UHC effective coverage index by weighting each effective coverage indicator relative to its associated potential health gains, as measured by disability-adjusted life-years for each location-year and population-age group. For three tests of validity (content, known-groups, and convergent), UHC effective coverage index performance was generally better than that of other UHC service coverage indices from WHO (ie, the current metric for SDG indicator 3.8.1 on UHC service coverage), the World Bank, and GBD 2017. We quantified frontiers of UHC effective coverage performance on the basis of pooled health spending per capita, representing UHC effective coverage index levels achieved in 2019 relative to country-level government health spending, prepaid private expenditures, and development assistance for health. To assess current trajectories towards the GPW13 UHC billion target—1 billion more people benefiting from UHC by 2023—we estimated additional population equivalents with UHC effective coverage from 2018 to 2023. Findings: Globally, performance on the UHC effective coverage index improved from 45·8 (95% uncertainty interval 44·2–47·5) in 1990 to 60·3 (58·7–61·9) in 2019, yet country-level UHC effective coverage in 2019 still spanned from 95 or higher in Japan and Iceland to lower than 25 in Somalia and the Central African Republic. Since 2010, sub-Saharan Africa showed accelerated gains on the UHC effective coverage index (at an average increase of 2·6% [1·9–3·3] per year up to 2019); by contrast, most other GBD super-regions had slowed rates of progress in 2010–2019 relative to 1990–2010. Many countries showed lagging performance on effective coverage indicators for non-communicable diseases relative to those for communicable diseases and maternal and child health, despite non-communicable diseases accounting for a greater proportion of potential health gains in 2019, suggesting that many health systems are not keeping pace with the rising non-communicable disease burden and associated population health needs. In 2019, the UHC effective coverage index was associated with pooled health spending per capita (r=0·79), although countries across the development spectrum had much lower UHC effective coverage than is potentially achievable relative to their health spending. Under maximum efficiency of translating health spending into UHC effective coverage	Study 2019 (2020) The Lancet, 396 (10258), pp. 1250-1284. **(99 процентиль, Q1)**	

			performance, countries would need to reach $1398 pooled health spending per capita (US$ adjusted for purchasing power parity) in order to achieve 80 on the UHC effective coverage index. From 2018 to 2023, an estimated 388·9 million (358·6–421·3) more population equivalents would have UHC effective coverage, falling well short of the GPW13 target of 1 billion more people benefiting from UHC during this time. Current projections point to an estimated 3·1 billion (3·0–3·2) population equivalents still lacking UHC effective coverage in 2023, with nearly a third (968·1 million [903·5–1040·3]) residing in south Asia. Interpretation: The present study demonstrates the utility of measuring effective coverage and its role in supporting improved health outcomes for all people—the ultimate goal of UHC and its achievement. Global ambitions to accelerate progress on UHC service coverage are increasingly unlikely unless concerted action on non-communicable diseases occurs and countries can better translate health spending into improved performance. Focusing on effective coverage and accounting for the world's evolving health needs lays the groundwork for better understanding how close—or how far—all populations are in benefiting from UHC. Funding: Bill & Melinda Gates Foundation.		
66	Global age-sex-specific fertility, mortality, healthy life expectancy (HALE), and population estimates in 204 countries and territories, 1950–2019: a comprehensive demographic analysis for the Global Burden of Disease Study 2019	DOI:10.1016/S0140-6736(20)30977-6	Accurate and up-to-date assessment of demographic metrics is crucial for understanding a wide range of social, economic, and public health issues that affect populations worldwide. The Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) 2019 produced updated and comprehensive demographic assessments of the key indicators of fertility, mortality, migration, and population for 204 countries and territories and selected subnational locations from 1950 to 2019. Methods: 8078 country-years of vital registration and sample registration data, 938 surveys, 349 censuses, and 238 other sources were identified and used to estimate age-specific fertility. Spatiotemporal Gaussian process regression (ST-GPR) was used to generate age-specific fertility rates for 5-year age groups between ages 15 and 49 years. With extensions to age groups 10–14 and 50–54 years, the total fertility rate (TFR) was then aggregated using the estimated age-specific fertility between ages 10 and 54 years. 7417 sources were used for under-5 mortality estimation and 7355 for adult mortality. ST-GPR was used to synthesise data sources after correction for known biases. Adult mortality was measured as the probability of death between ages 15 and 60 years based on vital registration, sample registration, and sibling histories, and was also estimated using ST-GPR. HIV-free life tables were then estimated using estimates of under-5 and adult mortality rates using a relational model life table system created for GBD, which closely tracks observed age-specific mortality rates from complete vital registration when available. Independent estimates of HIV-specific mortality generated by an epidemiological analysis of HIV prevalence surveys and antenatal clinic	.....Davletov K., Mereke A.....Global age-sex-specific fertility, mortality, healthy life expectancy (HALE), and population estimates in 204 countries and territories, 1950–2019: a comprehensive demographic analysis for the Global Burden of Disease Study 2019 (2020) The Lancet, 396 (10258), pp. 1160-1203. **(99 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85092447915&origin=resultslist

			serosurveillance and other sources were incorporated into the estimates in countries with large epidemics. Annual and single-year age estimates of net migration and population for each country and territory were generated using a Bayesian hierarchical cohort component model that analysed estimated age-specific fertility and mortality rates along with 1250 censuses and 747 population registry years. We classified location-years into seven categories on the basis of the natural rate of increase in population (calculated by subtracting the crude death rate from the crude birth rate) and the net migration rate. We computed healthy life expectancy (HALE) using years lived with disability (YLDs) per capita, life tables, and standard demographic methods. Uncertainty was propagated throughout the demographic estimation process, including fertility, mortality, and population, with 1000 draw-level estimates produced for each metric. Findings: The global TFR decreased from 2·72 (95% uncertainty interval [UI] 2·66–2·79) in 2000 to 2·31 (2·17–2·46) in 2019. Global annual livebirths increased from 134·5 million (131·5–137·8) in 2000 to a peak of 139·6 million (133·0–146·9) in 2016. Global livebirths then declined to 135·3 million (127·2–144·1) in 2019. Of the 204 countries and territories included in this study, in 2019, 102 had a TFR lower than 2·1, which is considered a good approximation of replacement-level fertility. All countries in sub-Saharan Africa had TFRs above replacement level in 2019 and accounted for 27·1% (95% UI 26·4–27·8) of global livebirths. Global life expectancy at birth increased from 67·2 years (95% UI 66·8–67·6) in 2000 to 73·5 years (72·8–74·3) in 2019. The total number of deaths increased from 50·7 million (49·5–51·9) in 2000 to 56·5 million (53·7–59·2) in 2019. Under-5 deaths declined from 9·6 million (9·1–10·3) in 2000 to 5·0 million (4·3–6·0) in 2019. Global population increased by 25·7%, from 6·2 billion (6·0–6·3) in 2000 to 7·7 billion (7·5–8·0) in 2019. In 2019, 34 countries had negative natural rates of increase; in 17 of these, the population declined because immigration was not sufficient to counteract the negative rate of decline. Globally, HALE increased from 58·6 years (56·1–60·8) in 2000 to 63·5 years (60·8–66·1) in 2019. HALE increased in 202 of 204 countries and territories between 2000 and 2019. Interpretation: Over the past 20 years, fertility rates have been dropping steadily and life expectancy has been increasing, with few exceptions. Much of this change follows historical patterns linking social and economic determinants, such as those captured by the GBD Socio-demographic Index, with demographic outcomes. More recently, several countries have experienced a combination of low fertility and stagnating improvement in mortality rates, pushing more populations into the late stages of the demographic transition. Tracking demographic change and the emergence of new patterns will be essential for global health monitoring. Funding: Bill & Melinda Gates Foundation.		

67	Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019	DOI:10.1016/S0140-6736(20)30925-9	In an era of shifting global agendas and expanded emphasis on non-communicable diseases and injuries along with communicable diseases, sound evidence on trends by cause at the national level is essential. The Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) provides a systematic scientific assessment of published, publicly available, and contributed data on incidence, prevalence, and mortality for a mutually exclusive and collectively exhaustive list of diseases and injuries. Methods: GBD estimates incidence, prevalence, mortality, years of life lost (YLLs), years lived with disability (YLDs), and disability-adjusted life-years (DALYs) due to 369 diseases and injuries, for two sexes, and for 204 countries and territories. Input data were extracted from censuses, household surveys, civil registration and vital statistics, disease registries, health service use, air pollution monitors, satellite imaging, disease notifications, and other sources. Cause-specific death rates and cause fractions were calculated using the Cause of Death Ensemble model and spatiotemporal Gaussian process regression. Cause-specific deaths were adjusted to match the total all-cause deaths calculated as part of the GBD population, fertility, and mortality estimates. Deaths were multiplied by standard life expectancy at each age to calculate YLLs. A Bayesian meta-regression modelling tool, DisMod-MR 2.1, was used to ensure consistency between incidence, prevalence, remission, excess mortality, and cause-specific mortality for most causes. Prevalence estimates were multiplied by disability weights for mutually exclusive sequelae of diseases and injuries to calculate YLDs. We considered results in the context of the Socio-demographic Index (SDI), a composite indicator of income per capita, years of schooling, and fertility rate in females younger than 25 years. Uncertainty intervals (UIs) were generated for every metric using the 25th and 975th ordered 1000 draw values of the posterior distribution. Findings: Global health has steadily improved over the past 30 years as measured by age-standardised DALY rates. After taking into account population growth and ageing, the absolute number of DALYs has remained stable. Since 2010, the pace of decline in global age-standardised DALY rates has accelerated in age groups younger than 50 years compared with the 1990–2010 time period, with the greatest annualised rate of decline occurring in the 0–9-year age group. Six infectious diseases were among the top ten causes of DALYs in children younger than 10 years in 2019: lower respiratory infections (ranked second), diarrhoeal diseases (third), malaria (fifth), meningitis (sixth), whooping cough (ninth), and sexually transmitted infections (which, in this age group, is fully accounted for by congenital syphilis; ranked tenth). In adolescents aged 10–24 years, three injury causes were among the top causes of DALYs: road injuries (ranked first), self-harm (third), and interpersonal violence (fifth). Five of the causes that were in the top ten for ages 10–24 years were also in the top ten in the 25–49-year age group:	……Merke A., Davletov K….....Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019 (2020) The Lancet, 396 (10258), pp. 1204-1222. **(99 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85092481765&origin=resultslist

			road injuries (ranked first), HIV/AIDS (second), low back pain (fourth), headache disorders (fifth), and depressive disorders (sixth). In 2019, ischaemic heart disease and stroke were the top-ranked causes of DALYs in both the 50–74-year and 75-years-and-older age groups. Since 1990, there has been a marked shift towards a greater proportion of burden due to YLDs from non-communicable diseases and injuries. In 2019, there were 11 countries where non-communicable disease and injury YLDs constituted more than half of all disease burden. Decreases in age-standardised DALY rates have accelerated over the past decade in countries at the lower end of the SDI range, while improvements have started to stagnate or even reverse in countries with higher SDI. Interpretation: As disability becomes an increasingly large component of disease burden and a larger component of health expenditure, greater research and development investment is needed to identify new, more effective intervention strategies. With a rapidly ageing global population, the demands on health services to deal with disabling outcomes, which increase with age, will require policy makers to anticipate these changes. The mix of universal and more geographically specific influences on health reinforces the need for regular reporting on population health in detail and by underlying cause to help decision makers to identify success stories of disease control to emulate, as well as opportunities to improve. Funding: Bill & Melinda Gates Foundation.		
68	Five insights from the Global Burden of Disease Study 2019	DOI:10.1016/S0140-6736(20)31404-5	The Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) 2019 provides a rules-based synthesis of the available evidence on levels and trends in health outcomes, a diverse set of risk factors, and health system responses. GBD 2019 covered 204 countries and territories, as well as first administrative level disaggregations for 22 countries, from 1990 to 2019. Because GBD is highly standardised and comprehensive, spanning both fatal and non-fatal outcomes, and uses a mutually exclusive and collectively exhaustive list of hierarchical disease and injury causes, the study provides a powerful basis for detailed and broad insights on global health trends and emerging challenges. GBD 2019 incorporates data from 281 586 sources and provides more than 3·5 billion estimates of health outcome and health system measures of interest for global, national, and subnational policy dialogue. All GBD estimates are publicly available and adhere to the Guidelines on Accurate and Transparent Health Estimate Reporting. From this vast amount of information, five key insights that are important for health, social, and economic development strategies have been distilled. These insights are subject to the many limitations outlined in each of the component GBD capstone papers.	…….Davletov K., Mereke A……..Five insights from the Global Burden of Disease Study 2019 (2020) The Lancet, 396 (10258), pp. 1135-1159. **(99 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85092708402&origin=resultslist
69	Alcohol consumption patterns across Europe and	DOI:10.1016/j.atherosclerosis.2020.09.009	Alcohol consumption is an important risk factor for cardiovascular morbidity and mortality worldwide. The highest levels of alcohol consumption are observed in Europe, where alcohol as contributing cause of coronary heart disease (CHD) is also most significant. We aimed to describe alcohol	van de Luitgaarden, I.A.T., Schrieks, I.C., De Bacquer, D., van Oort, S., Mirrakhimov, E.M.,	https://www.scopus.com/record/display.uri?eid=2-s2.0-

	adherence to the European guidelines in coronary patients: Findings from the ESC-EORP EUROASPIRE V survey		consumption patterns across European regions and adherence to the current guidelines in patients with a recent CHD event. Methods: The ESC-EORP survey (EUROASPIRE V) has been conducted in 2016–2017 at 131 centers in 27 European countries in 7350 patients with a recent CHD. Median alcohol consumption, as well as the proportion of abstainers and excessive drinkers (i.e. >70 g/week for women and >140 for men, as recommended by the European guidelines on cardiovascular prevention), was calculated for each region. To assess adherence to guidelines, proportions of participants who were advised to reduce excessive alcohol consumption and participants who were incorrectly not advised were calculated per region. Results: Mean age was 64 years (SD: 9.5), 75% were male. Abstention rates were 53% in males and 77% in females, whereas excessive drinking was reported by 9% and 5% of them, respectively. Overall, 57% of the participants were advised to reduce alcohol consumption. In the total population, 3% were incorrectly not advised, however, this percentage differed per region (range: 1%–9%). In regions where alcohol consumption was highest, participants were less often advised to reduce their consumption. Conclusion: In this EUROASPIRE V survey, the majority of CHD patients adhere to the current drinking guidelines, but substantial heterogeneity exists between European regions.	Pogosova, N., Davletov, K., Dolzhenko, M., van Ballegooijen, A.J., Kotseva, K., Grobbee, D.E., Beulens, J.W.J., On behalf of the EUROASPIRE V investigators group Alcohol consumption patterns across Europe and adherence to the European guidelines in coronary patients: Findings from the ESC-EORP EUROASPIRE V survey (2020) Atherosclerosis, 313, pp. 35-42. **(86 процентиль, Q1)**	85091929111&origin=resultslist
70	Global Burden of Cardiovascular Diseases and Risk Factors, 1990-2019: Update From the GBD 2019 Study	DOI:10.1016/j.jacc.2020.11.010	Cardiovascular diseases (CVDs), principally ischemic heart disease (IHD) and stroke, are the leading cause of global mortality and a major contributor to disability. This paper reviews the magnitude of total CVD burden, including 13 underlying causes of cardiovascular death and 9 related risk factors, using estimates from the Global Burden of Disease (GBD) Study 2019. GBD, an ongoing multinational collaboration to provide comparable and consistent estimates of population health over time, used all available population-level data sources on incidence, prevalence, case fatality, mortality, and health risks to produce estimates for 204 countries and territories from 1990 to 2019. Prevalent cases of total CVD nearly doubled from 271 million (95% uncertainty interval [UI]: 257 to 285 million) in 1990 to 523 million (95% UI: 497 to 550 million) in 2019, and the number of CVD deaths steadily increased from 12.1 million (95% UI:11.4 to 12.6 million) in 1990, reaching 18.6 million (95% UI: 17.1 to 19.7 million) in 2019. The global trends for disability-adjusted life years (DALYs) and years of life lost also increased significantly, and years lived with disability doubled from 17.7 million (95% UI: 12.9 to 22.5 million) to 34.4 million (95% UI:24.9 to 43.6 million) over that period. The total number of DALYs due to IHD has risen steadily since 1990, reaching 182 million (95% UI: 170 to 194 million) DALYs, 9.14 million (95% UI: 8.40 to 9.74 million) deaths in the year 2019, and 197 million (95% UI: 178 to 220 million) prevalent cases of IHD in 2019. The total number of DALYs due to stroke has risen steadily since 1990, reaching 143 million (95% UI: 133 to 153 million) DALYs,	……Davletov K……...Global Burden of Cardiovascular Diseases and Risk Factors, 1990-2019: Update From the GBD 2019 Study (2020) Journal of the American College of Cardiology, 76 (25), pp. 2982-3021. **(99 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85098835749&origin=resultslist

			6.55 million (95% UI: 6.00 to 7.02 million) deaths in the year 2019, and 101 million (95% UI: 93.2 to 111 million) prevalent cases of stroke in 2019. Cardiovascular diseases remain the leading cause of disease burden in the world. CVD burden continues its decades-long rise for almost all countries outside high-income countries, and alarmingly, the age-standardized rate of CVD has begun to rise in some locations where it was previously declining in high-income countries. There is an urgent need to focus on implementing existing cost-effective policies and interventions if the world is to meet the targets for Sustainable Development Goal 3 and achieve a 30% reduction in premature mortality due to noncommunicable diseases.		
71	Update in chronic obstructive pulmonary disease 2019	DOI:10.1164/rccm.202002-0370UP	Chronic obstructive pulmonary disease (COPD) is believed to be associated with both intrinsic and exogenous disease determinants. The former comprise genetic (1, 2) and epigenetic (2–4) factors. The latter involve various nonhost disease determinants (5–7), such as pathogens or air pollution. Advancing our understanding, several studies interrogated genetic and epigenetic factors as contributors to clinical manifestations. The studies focused either on a single candidate gene (8–11) or a group of genes (12, 13) with or without previously demonstrated associations with COPD. In line with previous studies (14), several reports converged on the SERPINA1 gene (9, 12, 13). The SERPINA1 (serpin family A member 1) gene encodes the inhibitor of neutrophil elastase, alpha-1 antitrypsin, the genetic deficiency of which causes a monogenic disease with respiratory manifestations similar to those in COPD (15). These observations highlight the prominence of the intrinsic disease component in COPD (14).	Alter, P., Baker, J.R., Dauletbaev, N., Donnelly, L.E., Pistenmaa, C., Schmeck, B., Washko, G., Vogelmeier, C.F. Update in chronic obstructive pulmonary disease 2019 (2020) American Journal of Respiratory and Critical Care Medicine, 202 (3), pp. 348-355. **(99 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85089129006&origin=resultslist
72	The phosphodiesterase inhibitor ensifentrine reduces production of proinflammatory mediators in well differentiated bronchial epithelial cells by inhibiting PDE4	DOI:10.1124/JPET.120.000080	Cystic fibrosis (CF) is caused by mutations in the cystic fibrosis transmembrane conductance regulator (CFTR) anion channel that impair airway salt and fluid secretion. Excessive release of proinflammatory cytokines and chemokines by CF bronchial epithelium during airway infection leads to chronic inflammation and a slow decline in lung function; thus, there is much interest in finding safe and effective treatments that reduce inflammation in CF. We showed previously that the cyclic nucleotide phosphodiesterase (PDE) inhibitor ensifentrine (RPL554; Verona Pharma) stimulates the channel function of CFTR mutants with abnormal gating and also those with defective trafficking that are partially rescued using a clinically approved corrector drug. PDE inhibitors also have known anti-inflammatory effects; therefore, we examined whether ensifentrine alters the production of proinflammatory cytokines in CF bronchial epithelial cells. Ensifentrine reduced the production of monocyte chemoattractant protein-1 and granulocyte monocyte colony-stimulating factor (GM-CSF) during challenge with interleukin-1b. Comparing the effect of ensifentrine with milrinone and roflumilast, selective PDE3 and PDE4 inhibitors, respectively, demonstrated that the anti-inflammatory effect of ensifentrine was mainly due	Turner, M.J., Dauletbaev, N., Lands, L.C., Hanrahan, J.W. The phosphodiesterase inhibitor ensifentrine reduces production of proinflammatory mediators in well differentiated bronchial epithelial cells by inhibiting PDE4 (2020) Journal of Pharmacology and Experimental Therapeutics, 375 (3), pp. 414-429 **(77 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85096508328&origin=resultslist

			to inhibition of PDE4. Beneficial modulation of GM-CSF was further enhanced when ensifentrine was combined with low concentrations of the b2-adrenergic agonist isoproterenol or the corticosteroid dexamethasone. The results indicate that ensifentrine may have beneficial anti-inflammatory effects in CF airways particularly when used in combination with b2adrenergic agonists or corticosteroids. SIGNIFICANCE STATEMENT Airway inflammation that is disproportionate to the burden of chronic airway infection causes much of the pathology in the cystic fibrosis (CF) lung. We show here that ensifentrine beneficially modulates the release of proinflammatory factors in well differentiated CF bronchial epithelial cells that is further enhanced when combined with b2-adrenergic agonists or low-concentration corticosteroids. The results encourage further clinical testing of ensifentrine, alone and in combination with b2-adrenergic agonists or low-concentration corticosteroids, as a novel anti-inflammatory therapy for CF. Copyright		
73	Parental occupational exposures and the risk of cerebral palsy in children	DOI:10.4038/sljch.v49i2.8965	Association of parental occupational exposure to chemicals with cerebral palsy (CP) in children remains poorly characterized. Objectives: To ascertain the role of parents' occupational exposure in CP in children in major Kazakhstan cities using a case-control design. Method: We enrolled 150 cases, including children one month to 18 years old, and 150 controls in all regions of Kazakhstan. Cases were children with confirmed diagnoses on treatment or rehabilitation, whereas controls were their counterparts with no CP. Exposure to hazardous chemicals of parents at work and other demographics were collected with structured questionnaires, and logistic regression models, crude and adjusted, were used to calculate the odds of CP in children, expressed as odds ratios (OR) with their 95% confidence intervals (CI). Results: Most cases (52%) were children below one year of age. Prevalence of parents' alcohol use did not differ between the groups, whereas we found more smokers in parents of controls compared to cases. There were more fathers in cases with exposure to chemicals (21% vs. 5% in controls, p<0.001). Father's occupational chemical exposure increased the odds of CP in children (OR 18.7 (95% CI 3.3; 105.7), adjusted for age, sex, father's highest attained education and mother's education; and OR 36.8 (95% CI 3.6; 370.5) if further adjusted for father's and mother's smoking). Conclusions: Father's occupational chemical exposure increased the odds of CP in children (OR 18.7 (95% CI 3.3; 105.7), adjusted for age, sex, father's highest attained education and mother's education	Issayeva, R., Karzhaubaeva, S., Alibi, E., Vinnikov, D. Parental occupational exposures and the risk of cerebral palsy in children (2020) Sri Lanka Journal of Child Health, 49 (2), pp. 156-161. **(18 процентиль, Q4)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85096003973&origin=resultslist
74	Polymorphisms in GSTM1, GSTP1 and GSTT1 genes and breast cancer risk in women from Kyrgyzstan	DOI:10.37469/0507-3758-2020-66-5-514-523	We studied the intergenic interactions and the contribution of polymorphic loci for GSTT1, GSTM1, GSTP1 genes in the formation of predisposition to breast cancer (BC) in women of Kyrgyz nationality. Material and method: The study included 87 women of the Kyrgyz ethnic group with the morphologically verified diagnosis of BC and 96 women without cancer and chronic diseases. Genotyping of single-nucleotide polymorphisms (SNPs) was performed using	Isakova, Zh.T., Kipen, V.N., Aitbaev, K.A., Usufova, M.A., Vinnikov, D.V., Bykyev, N.M., Sultangazieva, B.B., Aldasheva, N.M.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85099606297&origin=resultslist

			PCR-RFLP for rsl695 GSTP1 gene. Deletion polymophisms in GSTT1 and GSTMl genes were determined using allele-specific real-time PCR. Analysis of the intergenic interactions conducted with MDR 3.0.2 software. Results: Among women of Kyrgyz nationality, deletion of the GSTMl gene region is a genetic marker associated with an increased likelihood of developing breast cancer (OR = 2.18, 95% CI 1.38-3.44), p = 0.0007). The absence of deletion in this gene is associated with a protective effect. Analysis of polymorphic markers null (GSTT1 gene) and p.Ilel05Val (GSTP1 gene) did not reveal statistically significant differences in the frequency distribution of genotypes and alleles between breast cancer patients and women from the comparison group (p > 0.05). Analysis of intergenic interactions using MDR analysis showed that, with the simultaneous presence of the Arg/Gln genotypes (XRCC1 gene) and null (GSTMl gene), the probability of developing breast cancer was-OR = 2.63. Conclusions: Deletion of the GSTMl gene and combinations of the Arg/Gln genotypes (XRCC1 gene) and null (GSTMl gene) may contribute to the genetic susceptibility of BC in Kyrgyz women.	Polymorphisms in GSTM1, GSTP1 and GSTT1 genes and breast cancer risk in women from Kyrgyzstan (2020) Voprosy Onkologii, 66 (5), pp. 514-523. **(9 процентиль, Q4)**	
75	Gene-to-gene interactions and the association of TP53, XRCC1, TNFα, HMMR, MDM2 and PALB2 with breast cancer in Kyrgyz females	DOI:10.1007/s12282-020-01092-1	At present, little is known about the genetic background of breast cancer (BC) in Kyrgyz. Therefore, the aim of this study was to assess gene-to-gene interactions and the contribution of p.Arg72Pro (TP53 gene), p.Gln399Arg (XRCC1 gene), p.Arg194Trp (XRCC1 gene), g.4682G > A (TNFα gene), p.Val353Ala (HMMR gene), c.14 + 309 T > G (MDM2 gene) and g.38444 T > G (PALB2 gene) polymorphic loci in breast cancer (BC) risk in females of Kyrgyz ethnicity. Methods: The case–control study comprised 103 females with histologically verified BC and 102 controls with no cancer. We used polymerase chain reaction-based restriction fragment length polymorphism to genotype polymorphic loci. Results: Gln/Arg heterozygous variant of XRCC1 gene's p.Gln399Arg locus, as well as combined carriage of Arg/Gln//Arg/Pro of XRCC1/TP53; Arg/Gln//T/T of XRCC1/MDM2; Arg/Gln//G/G and Arg/Gln//G/A of XRCC1/TNFα, Arg/Gln//T/T of XRCC1/PALB2; Arg/Gln//Arg/Arg and Arg/Gln//Arg/Trp for p.Gln399Arg and p.Arg194Trp polymorphic loci of XRCC1 were associated with BC in Kyrgyz females. Conclusion: TP53, XRCC1, TNFα, HMMR, MDM2 and PALB2 genes' polymorphic site combinations appear to be candidate markers of genetic predisposition to BC in Kyrgyz population and prompt targeted personalized care.	Isakova, J.T., Vinnikov, D., Kipen, V.N., Talaibekova, E.T., Aldashev, A.A., Aldasheva, N.M., Makieva, K.B., Semetei kyzy, A., Bukuev, N.M., Tilekov, E.A., Shaimbetov, B.O., Kudaibergenova, I.O. Gene-to-gene interactions and the association of TP53, XRCC1, TNFα, HMMR, MDM2 and PALB2 with breast cancer in Kyrgyz females (2020) Breast Cancer, 27 (5), pp. 938-946. **(81 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85083791652&origin=resultslist
76	Assessment of comfort variation among different types of driving agricultural tractors:	DOI:10.3390/ijerph17238836	Over the past years, in the agricultural field, geo-localization has been introduced in order to develop specific farming processes, optimize resources, and reduce environmental pollution. Researchers have found alternative driving methods to traditional ones, such as assisted and semi-automatic driving. The aim of this study was to monitor the musculoskeletal efforts necessary to carry out different kinds of driving. The muscular strain was assessed using surface	Romano, E., Bisaglia, C., Calcante, A., Oberti, R., Zani, A., Vinnikov, D., Marconi, A., Vitale, E., Bracci, M., Rapisarda, V. Assessment of comfort	https://www.scopus.com/record/display.uri?eid=2-s2.0-85096943470&origin=resultslist

	Traditional, satellite-assisted and semi-automatic		electromyographic devices, the distribution of the pressure exerted by the operator's body on the seat was observed by using two barometric pads applied on the seat back and on the seat, respectively, while the body movements and postures were analyzed through a Microsoft Kinect Camera 3D acquisition system. Results showed a significantly greater muscular activation during manual and assisted driving conditions. The pressure exerted by the operator on the barometric pads was significantly higher in manual and semi-automatic driving modes than in the assisted one. A remarkable increase in the average swinging speed of examined joints was also detected, as well as the distances run by the joints in semi-automatic driving. From our study, assisted driving seems to be the best driving mode both in terms of joint economy and from the efficiency of agricultural processes.	variation among different types of driving agricultural tractors: Traditional, satellite-assisted and semi-automatic (2020) International Journal of Environmental Research and Public Health, 17 (23), статья No 8836 **(66 процентиль, Q2)**	
77	Smoking practices in relation to exhaled carbon monoxide in an occupational cohort	DOI:10.1186/s12889-020-09997-4	Exposure to carbon monoxide (CO) remains a leading occupational hazard in firefighters, but cigarette and waterpipe smoking likely contributes to the other sources of CO in such workers. The aim of this study was to estimate the contribution of self-reported active cigarette smoking, waterpipe use, and potential job-related sources of CO to the level of exhaled CO in firefighters. Methods: We surveyed the personnel of 18 fire stations (N = 842), median age 28 years, who participated at an annual screening not timed to coincide with recent firefighting. We surveyed smoking and waterpipe history, exposure to secondhand smoke (SHS), use of coal for health and biomass for cooking and time since last exposure to firefighting in the workplace. We measured exhaled CO with an instantaneous reading device (piCO Smokerlyzer). We used multivariable regression models to test the association of time since last smoked cigarette (≤12 h) and waterpipe (≤12 h) and time since last fire (≤6 h) with exhaled CO. Results: In analysis limited to men (93.5% of all surveyed), 42% were daily cigarette; 1% were waterpipe smokers; 94% were exposed to SHS, 29% used coal for heating and 4% used biomass for cooking. The median CO was 4 (interquartile range 3;8) ppm. Age (beta 0.74 per 10 years, $p < 0.001$), use of biomass fuel for cooking (beta 1.38, $p = 0.05$), cigarette smoked in the last 12 h (beta 8.22, $p < 0.001$), waterpipe smoked in the last 12 h (beta 23.10, $p < 0.001$) were statistically associated with CO, but not time since last fire (≤6 h) (beta 4.12, $p = 0.12$). There was a significant interaction between older age and firefighting for exhaled CO ($p = 0.03$). Conclusions: Cigarette and recent waterpipe smoking are associated with increased exhaled CO in firefighters. Firefighting itself was a less potent contributor to exhaled CO when measured at an annual screening, but an age interaction was manifested.	Vinnikov, D., Tulekov, Z., Romanova, Z., Krugovykh, I., Blanc, P.D. Smoking practices in relation to exhaled carbon monoxide in an occupational cohort (2020) BMC Public Health, 20 (1), статья No 1894 **(77 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85097320415&origin=resultslist
78	Prevalence and patient awareness of inflammatory bowel disease in	DOI:10.5217/ir.2019.00099	Background/Aims There has been a paucity of published data on the epidemiology of inflammatory bowel disease (IBD) in Central Asia and Kazakhstan. Therefore, we aimed to study IBD prevalence and patient awareness among adults in	Kaibullayeva, J., Ualiyeva, A., Oshibayeva, A., Dushpanova, A., Marshall, J.K.	https://www.scopus.com/record/display.uri?eid=2-s2.0-

	Kazakhstan: a cross-sectional study		Kazakhstan. Methods The cross-sectional study was carried out among subjects of both sexes aged 18 years and older using IBD Alert Questionnaire (CalproQuest), single fecal calprotectin test, and endoscopy with biopsy to verify IBD from January to December 2017, across regions of Kazakhstan. All participants were included in the study after providing informed consent. Results Out of 115,556 subjects, there were 128 confirmed IBD cases, in which 36 Crohn's disease (CD) and 92 ulcerative colitis (UC) cases identified. The age and sex-adjusted IBD prevalence were 113.9 (95% confidence interval [CI], 69.0–158.9) per 100,000 population. The age- and sex-adjusted prevalence for UC were 84.4 (95% CI, 44.8–123.9) and for CD were 29.5 (95% CI, 8.2–50.9) per 100,000 population. Conclusions This is the first report on the prevalence of IBD with a verified diagnosis in the Central Asia and could be used to better plan and allocate healthcare resources for IBD management program.	Prevalence and patient awareness of inflammatory bowel disease in Kazakhstan: a cross-sectional study (2020) Intestinal Research, 18 (4), pp. 430-437. **(67 процентиль, Q2)**	85097510850&origin=resultslist
79	Height and body-mass index trajectories of school-aged children and adolescents from 1985 to 2019 in 200 countries and territories: a pooled analysis of 2181 population-based studies with 65 million participants	DOI:10.1016/S0140-6736(20)31859-6	Comparable global data on health and nutrition of school-aged children and adolescents are scarce. We aimed to estimate age trajectories and time trends in mean height and mean body-mass index (BMI), which measures weight gain beyond what is expected from height gain, for school-aged children and adolescents. Methods: For this pooled analysis, we used a database of cardiometabolic risk factors collated by the Non-Communicable Disease Risk Factor Collaboration. We applied a Bayesian hierarchical model to estimate trends from 1985 to 2019 in mean height and mean BMI in 1-year age groups for ages 5–19 years. The model allowed for non-linear changes over time in mean height and mean BMI and for non-linear changes with age of children and adolescents, including periods of rapid growth during adolescence. Findings: We pooled data from 2181 population-based studies, with measurements of height and weight in 65 million participants in 200 countries and territories. In 2019, we estimated a difference of 20 cm or higher in mean height of 19-year-old adolescents between countries with the tallest populations (the Netherlands, Montenegro, Estonia, and Bosnia and Herzegovina for boys; and the Netherlands, Montenegro, Denmark, and Iceland for girls) and those with the shortest populations (Timor-Leste, Laos, Solomon Islands, and Papua New Guinea for boys; and Guatemala, Bangladesh, Nepal, and Timor-Leste for girls). In the same year, the difference between the highest mean BMI (in Pacific island countries, Kuwait, Bahrain, The Bahamas, Chile, the USA, and New Zealand for both boys and girls and in South Africa for girls) and lowest mean BMI (in India, Bangladesh, Timor-Leste, Ethiopia, and Chad for boys and	.....Davletov K., Dushpanova A., Mereke A., Kalmatayeva Zh..... Height and body-mass index trajectories of school-aged children and adolescents from 1985 to 2019 in 200 countries and territories: a pooled analysis of 2181 population-based studies with 65 million participants (2020) The Lancet, 396 (10261), pp. 1511-1524. **(99 процентиль, Q1)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85095409894&origin=resultslist

			girls; and in Japan and Romania for girls) was approximately 9–10 kg/m2. In some countries, children aged 5 years started with healthier height or BMI than the global median and, in some cases, as healthy as the best performing countries, but they became progressively less healthy compared with their comparators as they grew older by not growing as tall (eg, boys in Austria and Barbados, and girls in Belgium and Puerto Rico) or gaining too much weight for their height (eg, girls and boys in Kuwait, Bahrain, Fiji, Jamaica, and Mexico; and girls in South Africa and New Zealand). In other countries, growing children overtook the height of their comparators (eg, Latvia, Czech Republic, Morocco, and Iran) or curbed their weight gain (eg, Italy, France, and Croatia) in late childhood and adolescence. When changes in both height and BMI were considered, girls in South Korea, Vietnam, Saudi Arabia, Turkey, and some central Asian countries (eg, Armenia and Azerbaijan), and boys in central and western Europe (eg, Portugal, Denmark, Poland, and Montenegro) had the healthiest changes in anthropometric status over the past 3·5 decades because, compared with children and adolescents in other countries, they had a much larger gain in height than they did in BMI. The unhealthiest changes—gaining too little height, too much weight for their height compared with children in other countries, or both—occurred in many countries in sub-Saharan Africa, New Zealand, and the USA for boys and girls; in Malaysia and some Pacific island nations for boys; and in Mexico for girls. Interpretation: The height and BMI trajectories over age and time of school-aged children and adolescents are highly variable across countries, which indicates heterogeneous nutritional quality and lifelong health advantages and risks.		
80	Occupational exposure to particulate matter from air pollution in the outdoor workplaces in Almaty during the cold season	DOI:10.1371/journal.pone.0227447	Background A large fraction of population in Almaty and other Kazakhstan cities is employed in the outdoor jobs and likely exposed to high levels of particulate matter (PM) during the cold season. The magnitude of such occupational exposure remains unknown; therefore, the aim was to quantify the levels of exposure to PM10 in the outdoor workplaces in Almaty in order to guide future interventions of primary prevention. Methods Outdoor security non-smoking guards (N = 12) wore TSI DustTrack AM520 aerosol monitors with a 10-μm impactor for 8 hours of outdoor shift. Ten samples (k = 10) from each worker were obtained for the cold season (November-March) from various locations across Almaty. Total sampling time was 57600 minutes. We compared normalized time-weighted average (TWA) concentrations for 8-hour shifts within and between workers using analysis of variance (ANOVA) and assessed compliance with environmental exposure limit (EEL) (0.060 mg/m3) via exceedance (γ) and probability of overexposure (θ). Results PM10 TWA ranged from 0.050 to 2.075 mg/m3 with the geometric mean 0.366 and median 0.352 mg/m3. PM10 TWA distribution was left-skewed with large variation. The fold-range of within-person variability, containing 95% of the exposure	study	https://www.scopus.com/record/display.uri?eid=2-s2.0-85077765750&origin=resultslist

			concentration (wR0.95) was 13, whereas between-person fold-range (bR0.95) was 3. However, between-person variance exceeded the one within with F-ratio 2.797 (p = 0.003) with statistical power 97% at α = 0.05. Only two of 120 samples had TWA below EEL, yielding γ = 0.995 and θ = 1. Conclusions Outdoor workers in polluted cities like Almaty are exposed to very high levels of PM10 during the cold season. Urgent action should be taken to regulate such occupational exposure and to raise awareness of workers and employers on hazards associated with it.		
81	Rethinking priorities in hospital management: a case from Central Asia	DOI: 10.1016/j.hlpt.2020.06.002	To evaluate post-Soviet aspects of hospital management in Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan, considering indicators of health care and information on planning processes and factors that affect strategy in their hospitals. Methods: Data on indicators of health care were obtained from government agencies, the WHO and the World Bank. A survey of hospital managers in each of the countries was undertaken to obtain opinions on matters influencing the operation of their organizations. Results: There was some increase in health expenditure for three countries and a recent decline for Kyrgyzstan. All countries had levels of out of pocket expenditure that were higher than recommended by WHO. Hospital bed occupancy was relatively constant. Average length of stay was higher than in European health systems. Managers in all countries reported greater motivation of staff in their work as a planning benefit. Difficulties with the implementation of plans were greater for Kyrgyzstan than the other countries. Inappropriate assessment during planning seemed important for two countries and changes in environment during implementation for two others. Issues with health policy and regulation, new health technologies, and changes in health behaviour and morbidity were considered significant by managers from all countries. Conclusions: The health care indicator data and survey findings may reflect differences between the countries in the rate of reorganization of hospital sectors, available resources and political circumstances. They point to areas in need of attention for future hospital planning and challenges for managers in maintaining essential health services.	(2020) Intestinal Research, 18 (4), pp. 430-437.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85086431652&origin=resultslist
82	Regulation of RUNX proteins by long non-coding RNAs and circular RNAs in different cancers	DOI: 10.1016/j.ncrna.2021.05.001	RUNX proteins have been shown to behave as “double-edge sword” in wide variety of cancers. Discovery of non-coding RNAs has played linchpin role in improving our understanding about the post-transcriptional regulation of different cell signaling pathways. Several new mechanistic insights and distinct modes of cross-regulation of RUNX proteins and non-coding RNAs have been highlighted by recent research. In this review we have attempted to provide an intricate interplay between non-coding RNAs and RUNX proteins in different cancers. Better conceptual and mechanistic understanding of layered regulation of RUNX proteins by non-coding RNAs will be helpful in effective translation of the laboratory findings to clinically effective therapeutics.	Farooqi, A.A., Gulnara, K., Mukhanbetzhanovna, A.A., Datkhayev, U., Kussainov, A.Z., Adylova, A. Regulation of RUNX proteins by long non-coding RNAs and circular RNAs in different cancers (2021) Non-coding RNA	https://www.scopus.com/record/display.uri?eid=2-s2.0-85107733601&origin=resultslist

				Research, 6 (2), pp. 100-106. **(80 процентиль, Q1)**	
83	Iodine status of women and infants in russia: A systematic review	DOI: 10.3390/ijerph17228346	This systematic review presents a critical synthesis of the available information on the iodine status among women and infants in Russia. Literature search was performed in accordance with PRISMA guidelines using PubMed, Scopus Web of Science databases as well as eLIBRARY— the Russian national source. Altogether, 277 papers were identified and 19 of them were eligible for the review. The data on median urinary iodine concentration (UIC) in women and infants from 25 Russian regions were presented. A substantial variability in UIC across the country with no clear geographical pattern was observed. Despite substantial heterogeneity in research methodology and data presentation the results suggest that the iodine status among pregnant women and infants in Russia is below the recommended levels. Our findings demonstrate that iodine deficiency is a re-emerging public health problem in Russia. Urgent public health measures on national, regional and individual levels are warranted.	Korobitsyna, R., Aksenov, A., Sorokina, T., Trofimova, A., Sobolev, N., Grjibovski, A.M., Chashchin, V., Thomassen, Y. Iodine status of women and infants in russia: A systematic review (2020) International Journal of Environmental Research and Public Health, 17 (22), статья No 8346, pp. 1-15. **(66 процентиль, Q2)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85095993056&origin=resultslist
84	Weather conditions and outdoor fall injuries in Northwestern Russia	DOI: 10.3390/ijerph17176096	This study aimed to investigate associations between the weather conditions and the frequency of medically-treated, non-fatal accidental outdoor fall injuries (AOFIs) in a provincial region of Northwestern Russia. Data on all non-fatal AOFIs that occurred from January 2015 through June 2018 (N = 1125) were extracted from the population-based Shenkursk Injury Registry (SHIR). Associations between the weather conditions and AOFIs were investigated separately for the cold (15 October–14 April) and the warm (15 April–14 October) seasons. Negative binomial regression was used to investigate daily numbers of AOFIs in the cold season, while zero-inflated Poisson regression was used for the warm season. The mean daily number of AOFIs was 1.7 times higher in the cold season compared to the warm season (1.10 vs. 0.65, respectively). The most typical accident mechanism in the cold season was slipping (83%), whereas stepping wrong or stumbling over something was most common (49%) in the warm season. The highest mean daily incidence of AOFIs in the cold season (20.2 per 100,000 population) was observed on days when the ground surface was covered by compact or wet snow, air temperature ranged from −7.0◦ C to −0.7◦ C, and the amount of precipitation was above 0.4 mm. In the warm season, the highest mean daily incidence (7.0 per 100,000 population) was observed when the air temperature and atmospheric pressure were between 9.0◦ C and 15.1◦ C and 1003.6 to 1010.9 hPa, respectively. Along with local weather forecasts, broadcasting warnings about the increased risks of outdoor falls may serve as an effective AOFI prevention tool.	Unguryanu, T.N., Grjibovski, A.M., Trovik, T.A., Ytterstad, B., Kudryavtsev, A.V. Weather conditions and outdoor fall injuries in Northwestern Russia (2020) International Journal of Environmental Research and Public Health, 17 (17), статья No 6096, pp. 1-16. **(66 процентиль, Q2)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85089701982&origin=resultslist
85	Mechanisms of accidental fall injuries and	DOI: 10.1186/s40621-020-0234-7	Falls are the leading cause of injury-related morbidity and mortality worldwide, but fall injury circumstances differ by age. We studied the circumstances of accidental fall injuries by age in Shenkursk District, Northwest Russia, using	Unguryanu, T.N., Grjibovski, A.M., Trovik, T.A., Ytterstad, B., Kudryavtsev,	https://www.scopus.com/record/display.uri?eid=2-s2.0-

	involved injury factors: A registry-based study		the data from the population-based Shenkursk Injury Registry. Methods: Data on accidental fall injuries (hereafter: fall injuries) occurring in January 2015-June 2018 were extracted from the Shenkursk Injury Registry (N = 1551) and categorized by age group (0-6, 7-17, 18-59, and 60+ years). The chi-square test and ANOVA were used to compare descriptive injury variables across age groups, and a two-step cluster analysis was performed to identify homogeneous groups of fall injuries by preceding circumstances. Results: Half of recorded fall injuries in the 0-6 year age group occurred inside dwellings (49%). The largest cluster of falls (64%) mainly included climbing up or down on home furnishings. In the 7-17 year age group, public outdoor residential areas were the most common fall injury site (29%), and the largest cluster of falls (37%) involved physical exercise and sport or play equipment. Homestead lands or areas near a dwelling were the most typical fall injury sites in the age groups 18-59 and 60+ years (31 and 33%, respectively). Most frequently, fall injury circumstances in these groups involved slipping on ice-covered surfaces (32% in 18-59 years, 37% in 60+ years). Conclusion: The circumstances of fall injuries in the Shenkursk District varied across age groups. This knowledge can be used to guide age-specific preventive strategies in the study area and similar settings.	A.V. Mechanisms of accidental fall injuries and involved injury factors: A registry-based study (2020) Injury Epidemiology, 7 (1), статья No 8 **(77 процентиль, Q1)**	85082088377&origin=resultslist
86	Multiple comparisons in biomedical research: The problem and its solutions	DOI: 10.33396/1728-0869-2020-10-55-64	One of the most common but rarely discussed problems in Russian biomedical research is a problem of multiple comparisons. When a researcher performs pairwise comparisons of means in several groups the number of tested ststistical hypotheses increases leading to inflation of the alpha-error. In international scientific literature this issue is well-described and several solutions are offered. The aim of this article is to describe the problem of alpha error inflation and present methods for solving the problem of multiple comparisons. The methods suggested in this paper can be applied at the stages of research planning, data analysis and interpretation of the results. Bonferroni, Sidak, Holm-Bonferroni, Holm-Sidak and the Benjamin-Hochberg methods are described in details. We also present user-friendly examples for manual calculations as well as a description of implementation of the suggested solutions using SPSS software.	Narkevich, A.N., Vinogradov, K.A., Grjibovski, A.M. Multiple comparisons in biomedical research: The problem and its solutions (2020) Ekologiya Cheloveka (Human Ecology), 2020 (10), pp. 55-64. **(33 процентиль, Q3)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85093925217&origin=resultslist
87	Estimation method of contribution of cause-specific mortality to life expectancy	DOI: 10.33396/1728-0869-2020-5-57-64	An increase in life expectancy is one of the main strategic objectives declared by the Russian Federation. Thus, an understanding of how this objective can be achieved with available recourses in the most efficient way is warranted. We propose an automated method for estimating the contribution of cause-specific mortality to life expectancy. To illustrate the proposed method, we used the data from primary mortality databases in the Krasnoyarsk region-one of the largest federal subjects of the Russian Federation-and the data on the average population of the of the region from 1999 to 2018 from the Federal state statistics office in Krasnoyarsk, Khakassia Republic and Tyva Republic. A computer program “DeathAnalytics” has been developed by the authors for	Mironova, A.A., Narkevich, A.N., Vinogradov, K.A., Kurbanismayilov, R.B., Grjibovski, A.M. Estimation method of contribution of cause-specific mortality to life expectancy (2020) Ekologiya Cheloveka (Human Ecology), 2020 (5),	https://www.scopus.com/record/display.uri?eid=2-s2.0-85090734058&origin=resultslist

			automated calculation of the contribution of cause-specific mortality to life expectancy. The main idea behind is to calculate an integral indicator that takes into account both the contribution of deaths from various causes and the absolute number of these deaths. The paper presents the stages of calculation, interpretation and a practical example. The use of the methodology presented in the article allows to identify the causes of death that have the greatest impact contribution to reduction of life expectancy, which in turn allows to identify targets for public health measures that will most effectively increase life expectancy of the population.	pp. 57-64. **(33 процентиль, Q3)**	
88	Perception of the state of emergency due to covid-19 by medical students and staff in a Kazakhstani university	DOI: 10.33396/1728-0869-2020-6-4-12	Aim: to assess perception of the state of emergency and associated restrictive conditions due to COVID-19 among medical students and university staff in a Kazakhstani setting. Methods. A cross-sectional study. Altogether, 228 students and staff of the Pavlodar branch of the Semey Medical University participated in an online survey. The visual analog scales were used to study difficulties related to maintaining self-isolation/social distancing, the intensity of information flow, and the extent of psychological stress. The Hospital Anxiety and Depression Scale was used to assess affective symptoms. Categorical variables were analyzed using chi-squared-and Fisher exact tests. Mann-Whitney tests were used for numeric data. Spearman's correlation were calculated for associations between self-isolation/social distancing and the perception thereof. Results. In total, 30.3 % of respondents experienced substantial difficulties in maintaining self-isolation/social distancing. Their proportion was higher among those frequently watching, reading or listening to news about COVID-19 (41.7 % vs. 20.0 %, $p < 0.001$), and getting the information from online bloggers (42.9 % vs. 26.8 %, $p = 0.03$). The psychological stress was reported by 92.7 % of the respondents. Those who experienced the difficulties with self-isolation/social distancing were more likely to feel excessive stress due to mobility restrictions (30.4 % vs. 6.9 %, $p = 0.001$), limited interpersonal communication (37.7 % vs. 17.0 %, $p < 0.001$), distance education (26.1 % vs. 11.3 %, $p = 0.006$), the suspension/reduction of clinical practice (33.3 % vs. 20.1 %, $p = 0.044$) than the others. That group with the difficulties had a higher proportion of anxiety (26.1 % vs. 11.9 %, $p = 0.008$) and depression symptoms (40.6 % vs. 22.0 %, $p = 0.004$). Positive correlations were observed between the severity of the perceived difficulties and the frequency of watching, reading or listening to COVID-19 news ($r = 0.26$ $p < 0.001$). The difficulties correlated with symptoms of anxiety ($r = 0.36$, $p < 0.001$) and depression ($r = 0.25$, $p < 0.001$), stress due to mobility restrictions ($r = 0.50$, $p < 0.001$), limited interpersonal communication ($r = 0.39$, $p < 0.001$), and distance education ($r = 0.31$, $p < 0.001$). Conclusions. The absolute majority of the respondents experienced psychological stress, severity of which varied in particular conditions of the state of emergency. The difficulties with self-	Prilutskaya, M.V., Grjibovski, A.M. Perception of the state of emergency due to covid-19 by medical students and staff in a Kazakhstani university (2020) Ekologiya Cheloveka (Human Ecology), 2020 (6), pp. 4-12. **(33 процентиль, Q3)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85090709583&origin=resultslist

			isolation/social distancing were significantly associated with anxiety and depression symptoms.		
89	The role of self-talk in predicting death anxiety, obsessive-compulsive disorder, and coping strategies in the face of coronavirus disease (COVID-19)	ISSN: 17354587	Nowadays, the outbreak of Coronavirus (COVID-19) is one of the most stressful resources that has led to the rise of different levels of psychological crisis. In addition to the countries affected by the COVID-19, such as China, European and American countries, Iran has appeared as one of the most affected countries with high infected cases and deaths. Thus, the purpose of this study was to investigate the role of self-talk in predicting death anxiety, obsessive-compulsive disorder, and coping strategies in the face of COVID-19. Method: This descriptive and correlational study was conducted on 354 adults living in Ardabil, Iran, who were selected using cluster sampling from 21 January to 19 March 2020. Self-Talk questionnaires, Coping Strategies, Death Anxiety, and Obsessive-Compulsive questionnaires were used for data collection. Descriptive statistics, Pearson correlation, and multiple linear regression were used for data analysis. Results: The findings revealed a significant positive relationship between self-talk and problem-centered coping style. Also, significant negative relationships were found between self-talk and emotional coping style, death anxiety, and obsessive-compulsive disorder. Furthermore, based on the results of the regression test, self-talk predicted problem-centered style, emotional-coping style, death anxiety, and obsessive-compulsive disorder. Conclusion: The results of this study emphasize the need for psychological crisis intervention during the COVID-19 outbreak. Also, this study provides an important step in shifting attention to self-talk skills from sport psychology fields toward clinical psychology, especially about the mental impacts of COVID-19.	Damirchi, E.S., Mojarrad, A., Pireinaladin, S., Grjibovski, A.M. The role of self-talk in predicting death anxiety, obsessive-compulsive disorder, and coping strategies in the face of coronavirus disease (COVID-19) (2020) Iranian Journal of Psychiatry, 15 (3), pp. 182-188. **(49 процентиль, Q3)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85090603360&origin=resultslist
90	The use of a populaiton-based birth registry to study infant mortality in an arctic russian setting	DOI: 10.33396/1728-0869-2020-3-54-59	The paper presents experience in probabilistic linkage of the records in the Arkhangelsk County Birth Registry with regional infant mortality data. Practical issues of the procedure of independent depersonalized datasets linkage are discussed. Two datasets have similar indirect identifiers that were used to match the records. The combined database contains information on maternal health and pregnancy outcome as well as infant health. Also, it includes data on infant's age at death and cause of death. Our experience can be useful for researchers dealing with registry-based studies in settings where personal identification numbers are not available. Linked data sets give an opportunity to explore risk factors of neonatal and infant death and to investigate survival in newborns having different health problems, including prematurity. Our experience can be used for development of large birth cohorts using the data from the population-based birth registries in the Russian North as baseline for studying long-term effects of factors during pregnancy on health later in life.	Usynina, A.A., Postoev, V.A., Pastbina, I.M., Odland, J.Ø., Grjibovski, A.M. The use of a populaiton-based birth registry to study infant mortality in an arctic russian setting (2020) Ekologiya Cheloveka (Human Ecology), 2020 (3), pp. 54-59. **(33 процентиль, Q3)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85083715875&origin=resultslist
91	Risk factors for small for	DOI: 10.24110/0031-	Objective of the research: to assess the prevalence and risk factors of such a pathology as «small for gestational age (SGA)». Materials and methods: data on	Usynina, A.A., Chumakova, G.N., Postoev, V.A., Odland,	https://www.scopus.com/record/display

	gestational age infants: A study based on the arkhangelsk county birth registry	403X-2020-99-1-32-39	live-born full-term infants born from a singleton pregnancy registered in the Arkhangelsk County Birth Registry for 2012–2015 (n=52,149) were used. Socio-demographic, medical, and maternal lifestyle characteristics were assessed. Differences between groups of children with and without the studied pathology were determined on the basis of Pearson's chi-squared criterion. Unadjusted and adjusted odds ratios (ORs) with 95% confidence intervals (CIs) were determined using multivariate logistic regression analysis. Results: 3,3% (n=1696) of children were considered as SGA. Risk factors for SGA infants were a low level of maternal education (OR=1,32 [95% CI 1,06; 1,64]), her unemployment (OR=1,2 [95% CI 1,06; 1,37]), smoking (OR=1,99 [95% CI 1,75; 2,27]), alcohol abuse (OR=2,01 [95% CI 1,14; 3,56]), low body weight (OR=1,5 [95% CI 1,27; 1,78]), first birth (OR=1,61 [95% CI 1,44; 1,8]), chronic hypertension in a pregnant woman (OR=1,99 [95% CI 1,52; 2,61]), preeclampsia/eclampsia (OR=2,26 [95% CI 1,8; 2,84]). Also, the risk was increased by congenital malformation in infant (OR=1,49 [95% CI 1,18; 1,87]). Conclusion: maternal socio-demographic and lifestyle factors, as well as chronic arterial hypertension and preeclampsia/eclampsia in mothers and congenital malformations increase the risk of SGA infants.	J.O., Grjibovski, A.M. Risk factors for small for gestational age infants: A study based on the arkhangelsk county birth registry (2020) Pediatriya - Zhurnal im G.N. Speranskogo, 99 (1), pp. 32-39. **(13 процентиль, Q4)**	.uri?eid=2-s2.0-85079717696&origin=resultslist
92	Two case reports of neuroinvasive West Nile virus infection in the Almaty region, Kazakhstan	DOI:10.1016/j.idcr.2020.e00872	West Nile virus (WNV) is a member of the genus Flavivirus, which transmitted to humans mainly by mosquitoes. Recent pilot serosurveillance data from the Almaty region, Kazakhstan, suggest widespread WNV circulation in this area. This report includes two cases of neuroinvasive WNV infection in the same family living in a rural area near Tekeli city, Eskeldinsky district, Almaty region, Kazakhstan. Occurring concurrently and manifesting as WNV infection with febrile illness and symptoms of meningoencephalitis. Methods: The study performed retrospective analysis of clinical histories and achieved serum samples obtained from patients with febrile and meningoencephalitic syndromes of unknown origin in the Almaty region spanning from April 1 to October 31, 2019. All sera samples obtained from patients with clinically suspected cases of acute WNV infection were retrospectively tested for WNV and tick-borne encephalitis virus by commercial immunoassays. Two cases were selected. Cases presentation: We report two cases that occurred in August 2019 in a rural area near Tekeli city. Previously healthy 28- and 19-year-old husband and wife with febrile illness and neurological manifestations were hospitalized with the diagnosis of meningoencephalitis of unknown etiology and treated empirically. Retrospective serological analysis showed the presence of high titers of IgG against WNV on day 9 after onset of symptoms in cases. Conclusions: This is the first report of aseptic meningitis with WNV infection in the background in Kazakhstan. The obtained data suggest circulation of WNV in the Almaty region and emphasize importance of laboratory testing for WNV in suspicious cases occurring in the region.	Ostapchuk, Y.O., Zhigailov, A.V., Perfilyeva, Y.V., Shumilina, A.G., Yeraliyeva, L.T., Nizkorodova, A.S., Kuznetsova, T.V., Iskakova, F.A., Berdygulova, Z.A., Neupokoyeva, A.S., Mamadaliyev, S.M., Dmitrovskiy, A.M. Two case reports of neuroinvasive West Nile virus infection in the Almaty region, Kazakhstan (2020) IDCases, 21, статья No e00872 **(25 процентиль, Q3)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85087531234&origin=AuthorNamesList&txGid=871bee0385227cb9c7d5d5023dade9f7

93	[Modern diagnostic approaches for early detection of antiphospholipid syndrome][Enfoques diagnósticos modernos para la detección temprana del síndrome antifosfolípido]	DOI:10.5281/zenodo.4716017	Currently, Antiphospholipid syndrome is a multidisciplinary problem, as it is one of the causes of death and disability of patients. Cardiovascular diseases occupy a leading position among the causes of mortality. The reproductive function of women determines not only the quality of their life and offspring, but also the health and quality of life of the nation. Based on a comprehensive assessment of the results of clinical, laboratory and instrumental studies, general and distinctive features of the primary and secondary Antiphospholipid syndrome are shown, on which their differential diagnosis is based. The use of a multiplex test-immunoblotting will reliably reveal the primary Antiphospholipid syndrome.	Arapbaevna, K.Z., Ardak, A., Abzhanovna, A.G., Bahitkerevna, D.A., Uringalievna, B.A., Izbasarovna, K.E., Malikovna, D.A., Erbolovna, D.A. Modern diagnostic approaches for early detection of antiphospholipid syndrome [Article@Enfoques diagnósticos modernos para la detección temprana del síndrome antifosfolípido] (2021) Archivos Venezolanos de Farmacologia y Terapeutica, 40 (2), pp. 178-186. **(23 процентиль, Q4)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85106151917&origin=AuthorNamesList&txGid=dc700d99170a7587e66a17e5528f7e3f
94	Economic costs incurred by the patients with multiple sclerosis at different levels of the disease: A cross-sectional study in Northwest Iran	DOI:10.1186/s12883-020-01790-5	Multiple sclerosis (MS) causes significant economic burden to the patients, families, health systems and society. This study aimed to estimate the annual economic costs incurred by patients with multiple sclerosis (pwms) at different levels of the disease. Method: This was a cross-sectional study, using the Expanded Disability Status Scale (EDSS) tool for assessing the disease level of 300 (=N) pwms in East Azerbaijan province, Iran. To estimate the cost of MS, a questionnaire with its validity and reliability (CVR 92% and CVI 87%) and pilot test (Cronbach's alpha score 0.89) was used. The data were collected by interviewing pwms and reviewing their clinical records. Multivariate linear regression was used to assess the relationship between disease levels and incurred costs. Results: The results revealed that the mean annual cost for pwms in Iran is 97,521,740 IRR (equivalent to 2321.94 USD; 1978.93 EURO) and the mean score of EDSS in pwms was 3.14. The annual cost incurred by pwms with mild, moderate and severe levels of disease were 83,918,150 IRR (1998.05 USD; 1702.88EURO), 137,772,660 IRR (3280.30 USD; 2795.71 EURO) and 119,962,670 IRR (2856.25 USD;2434.30 EURO), respectively. Also, on average, each increase in EDSS score in pwms in Iran led to increase 8,139,260 IRR (equivalent to 193.79 USD; and 165.16 EURO) in total annual cost which must paid from pwms and their households exclusively. Also, there was a significant relationship between total annual cost and disease severity in such a way that any increase in EDSS degree is led to 8,139,260 IRR (193.79 USD; 165.16 EURO) added cost for pwms. Conclusion: The study results could be	Условия использования Политика конфиденциальности Авторское право © 2021 Elsevier B.V. Все права защищены. Scopus® является зарегистрированным товарным знаком Elsevier B.V. Документы Дата экспорта: 09 Nov 2021 Поиск: AUTHOR-NAME(Ussatayeva G) 1) Imani, A., Gharibi, F., Khezri, A., Joudyian, N., Dalal, K. Economic costs incurred by the patients with multiple sclerosis at different levels of the disease: A cross-sectional study in Northwest Iran	https://www.scopus.com/record/display.uri?eid=2-s2.0-85085390302&origin=resultslist

			helpful for Iranian health managers to solve problems which are facing by the patients with multiple sclerosis and their families.	(2020) BMC Neurology, 20 (1), статья No 205 **(46 процентиль, Q3)**	
95	Barriers to managing and delivery of care to war-injured survivors or patients with non-communicable disease: A qualitative study of Palestinian patients' and policy-makers' perspectives	DOI:10.1186/s12913-020-05302-6	Improving access to optimal quality of care is a core priority and ambitious health policy goal in spite of impediments, threats and challenges in Palestine. Understanding the factors that may impede quality of care is essential in developing an effective healthcare intervention for patient with non-communicable disease (NCD) or war-injured survivors. Methods: Qualitative interviews were performed using a purposive sampling strategy of 18 political-key informants, 10 patients with NCD and 7 war-injured survivors from different health facilities in Gaza Strip. A semi-structured interview guide was developed for data collection. The interviews were audio recorded and transcribed verbatim. Important field notes of the individual interviews were also reported. Thematic-driven analytic approach was used to identify key themes and patterns. Results: From the policy maker's perspective, the following important barriers to accessing optimal healthcare for patients with NCD or war-injured survivors' treatment were identified; 1) organizational/structural 2) availability 3) communication 4) personnel/lack of staff 5) financial and political barriers. Patient with NCD or war-injury had similar experiences of barriers as the policy makers. In addition, they also identified socioeconomic, physical and psychological barriers for accessing optimal healthcare and treatment. Conclusions: The main perceived barriers explored through this study will be very interesting and useful if they are considered seriously and handled carefully, in order to ensure efficient, productive, cost-effective intervention and delivery of a high-standard quality of care and better disease management.	Mosleh, M., Al Jeesh, Y., Dalal, K., Eriksson, C., Carlerby, H., Viitasara, E. Barriers to managing and delivery of care to war-injured survivors or patients with non-communicable disease: A qualitative study of Palestinian patients' and policy-makers' perspectives (2020) BMC Health Services Research, 20 (1), статья No 406 **(72 процентиль, Q2)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85084544965&origin=resultslist
96	Non-utilization of public healthcare facilities during sickness: a national study in India	DOI:10.1007/s10389-020-01363-3	Healthcare utilization is a major challenge for low- and middle-income countries, especially for the publicly funded facilities. The study has tried to explore the women's opinion behind the non-utilization of public healthcare facilities in India. Subjects and methods: This was a cross-sectional study using nationally representative samples of 351,625 women of reproductive age (15–49 years) from the 29 States and seven Union Territories. Indian National Family Health Surveys NFHS-4 (2015–2016) was the data source. The respondents were asked why the members of their households do not utilize public healthcare facilities when members of their households are sick. They have options to respond either 'yes' or 'no'. Five reasons for non-utilization of public healthcare were asked: (i) 'there is no nearby facility'; (ii) 'facility timing is not convenient'; (iii) 'health personnel are often absent'; (iv) 'waiting time is too long'; and (v) 'poor quality of care'. Results: The majority of the women in India (88%) said that their family members did not use public healthcare facilities. The reasons behind this were 'no nearby facilities' (42.4%),	Bagchi, T., Das, A., Dawad, S., Dalal, K. Non-utilization of public healthcare facilities during sickness: a national study in India (2020) Journal of Public Health (Germany) **(33 процентиль, Q3)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85088871065&origin=resultslist

			'inconvenient facility timing' (29.6%), 'poor quality of care' (52.3%), 'health personnel often absent' (16.8%) and 'long waiting time' (39.9%). Conclusions: importantly, during the last 10 years, the utilization of public health care facilities has dropped significantly, which should be taken seriously as the Indian Parliament has been placing emphasis on equity.		
97	Perceptions of non-communicable disease and war injury management in the palestinian health system: A qualitative study of healthcare providers perspectives	DOI:10.2147/JMDH.S253080	Palestine, like other low-income countries, is confronting an increasing epidemic of non-communicable disease (NCD) and trend of war injury. The management of health problems often presents a critical challenge to the Palestinian health system (PHS). Understanding the perceptions of healthcare providers is essential in exploring the gaps in the health system to develop an effective healthcare intervention. Unfortunately, health research on management of NCD and war injury has largely been neglected and received little attention. Therefore, the study aimed to explore the perspectives of healthcare providers regarding NCD and war injury management in the PHS in the Gaza Strip. Methods: A qualitative study approach was used, based on four focus group discussions (FGDs) involving a purposive sampling strategy of 30 healthcare providers from three main public hospitals in Gaza Strip. A semi-structured topic guide was used, and the focus group interviews data were analyzed using manifest content analysis. The study was approved by the Palestinian Health Research Council (PHRC) for ethics approval. Results: From the healthcare providers perspective, four main themes and several subthemes have emerged from the descriptive manifest content analysis: functioning of healthcare system; system-related challenges; patients-related challenges; strategies and actions to navigating the challenges and improving care. Informants frequently discussed that despite some positive aspects in the system, fundamental changes and significant improvements are needed. Some expressed serious concerns that the healthcare system needs complete rebuilding to facilitate the management of NCD and war-related injury. They perceived important barriers to effective management of NCD and war injury such as poor hospital infrastructure and logistics, shortage of micro and sub-specialities and essential resources. Participants also expressed a dilemma and troubles in communication and interactions, especially during emergencies or crises. The informants stressed the unused of updated clinical management guidelines. There was a consensus regarding poor shared-care/task sharing, partnership, and cooperation among healthcare facilities. Conclusion: Our findings suggest that fundamental changes and significant reforms are needed in the health system to make healthcare services more effective, timely, and efficient. The study disclosed the non-use of clinical guidelines as well as suboptimal sectorial tasksharing among different stakeholders and healthcare providers. A clear and comprehensive healthcare policy considering the gaps in the system must be adopted for the improvement and development of care in the PHS.	Mosleh, M., Aljeesh, Y., Dalal, K., Eriksson, C., Carlerby, H., Viitasara, E. Perceptions of non-communicable disease and war injury management in the palestinian health system: A qualitative study of healthcare providers perspectives (2020) Journal of Multidisciplinary Healthcare, 13, pp. 593-605. **(69 процентиль, Q2)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85088226970&origin=resultslist

98	Evaluation of Kazakhstan Students'Views on Health, Lifestyle, and Physical Activity	DOI:10.26773/smj.200607	The purpose of this research was to investigate students' perception of their health, the development of their healthy lifestyle habits, and the role and place of physical activity in their daily lives. The research subjects were freshmen of one of the largest universities in the country, Al-Faraby Kazakh National University (n=100), at the age of 17.77±0.12 years, 64 of whom were female, and 36 were male. Respondents were asked to reply to a questionnaire consisting of 39 questions at the initial stage of adaptation to academic and physical activity at the university. The questionnaire included research on students' perception of their health, the development of healthy lifestyle habits, such as the quality of food, water consumption, the amount of time dedicated to sleep and its quality, the presence of bad habits, as well as the research on the role and place of working out in shaping the students' lifestyle, volume and intensity of physical activity. It was revealed that students, even those having an understanding of the role and place of a healthy lifestyle, the significance of health in life, including their future professional career, were still distinguished by the insufficiently formed habits of healthy lifestyles, and did not work out to preserve and strengthen their health. The physical activity of most of the surveyed students did not even meet the recommended minimum. This research showed that the problem of a healthy lifestyle for young people studying in different socio-cultural contexts remains relevant and requires further more extensive research.	Otaraly, S., Alikey, A., Sabyrbek, Z., Zhumanova, A., Martynenko, I., Poteliuniene, S. Evaluation of Kazakhstan Students'Views on Health, Lifestyle, and Physical Activity (2020) Sport Mont, 18 (2), pp. 67-72. **(56 процентиль, Q2)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85090732854&origin=resultslist
99	[Influence of an individual health – improving training program on the physical and functional preparedness of students][Individualios sveikatą stiprinančios programos veiksmingumas studentų fiziniam ir funkciniam parengtumui]	DOI:10.15823/p.2020.138.6	The purpose of this study is to investigate the influence of an individual health-im-proving training program on the physical and functional fitness of 1st-year students. The results of the study confirm the positive impact of an individual health-improving training program on the physical and functional fitness of students. Analysis of obtained data proves the need to further larger-scale research in the field of incorporating individual health-improving training programs into the educational process of physical education.	Otaraly, S., Zhumanova, A., Alikey, A., Sabyrbek, Z., Shepetiuk, N., Poteliūnienė, S. Influence of an individual health – improving training program on the physical and functional preparedness of students [Article@Individualios sveikatą stiprinančios programos veiksmingumas studentų fiziniam ir funkciniam parengtumui] (2020) Pedagogika, 138 (2), pp. 96-115. **(21 процентиль, Q4)**	https://www.scopus.com/record/display.uri?eid=2-s2.0-85091323139&origin=resultslist
100	[Can a high-energy diet affect the physical	DOI:10.15823/p.2020.139.12	The aim of the study was to investigate the effect of high energy diets, which were elaborated by the study authors, on the change of physical fitness of athletes of various sports. 90 athletes aged 17–30 years participated in the	Yerzhanova, Y., Madiyeva, G., Sabyrbek, Z., Dilmakhambetov, E.,	https://www.scopus.com/record/display.uri?eid=2-s2.0-

	fitness of elite athletes?][Ar gali padidintos energetinės vertės dieta veikti didelio meistriškumo sportininkų fizinį parengtumą?]		research. They were divided into three groups of 30 each. Our research has shown that prepared high-energy diets, used during 3 months in the preparatory period, per week-long training microcycles, had a greater positive effect on changes in the fitness of elite athletes of various sports compared to changes in the fitness of lower-per-formance athletes.	Milasius, K. Can a high-energy diet affect the physical fitness of elite athletes? [Article@Ar gali padidintos energetinės vertės dieta veikti didelio meistriškumo sportininkų fizinį parengtumą?] (2020) Pedagogika, 139 (3), pp. 239-252. **(21 процентиль, Q4)**	85097657717&origin=resultslist
101	Global Impact of COVID-19 on Stroke Care and IV Thrombolysis	doi: 10.1212/WNL.0000000000011885.	Objective: To measure the global impact of COVID-19 pandemic on volumes of IV thrombolysis (IVT), IVT transfers, and stroke hospitalizations over 4 months at the height of the pandemic (March 1 to June 30, 2020) compared with 2 control 4-month periods. Methods: We conducted a cross-sectional, observational, retrospective study across 6 continents, 70 countries, and 457 stroke centers. Diagnoses were identified by their ICD-10 codes or classifications in stroke databases. Results: There were 91,373 stroke admissions in the 4 months immediately before compared to 80,894 admissions during the pandemic months, representing an 11.5% (95% confidence interval [CI] -11.7 to -11.3, $p < 0.0001$) decline. There were 13,334 IVT therapies in the 4 months preceding compared to 11,570 procedures during the pandemic, representing a 13.2% (95% CI -13.8 to -12.7, $p < 0.0001$) drop. Interfacility IVT transfers decreased from 1,337 to 1,178, or an 11.9% decrease (95% CI -13.7 to -10.3, $p = 0.001$). Recovery of stroke hospitalization volume (9.5%, 95% CI 9.2-9.8, $p < 0.0001$) was noted over the 2 later (May, June) vs the 2 earlier (March, April) pandemic months. There was a 1.48% stroke rate across 119,967 COVID-19 hospitalizations. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection was noted in 3.3% (1,722/52,026) of all stroke admissions. Conclusions: The COVID-19 pandemic was associated with a global decline in the volume of stroke hospitalizations, IVT, and interfacility IVT transfers. Primary stroke centers and centers with higher COVID-19 inpatient volumes experienced steeper declines. Recovery of stroke hospitalization was noted in the later pandemic months.	https://pubmed.ncbi.nlm.nih.gov/33766997/	https://pubmed.ncbi.nlm.nih.gov/33766997/

102	Stroke Care Trends During COVID-19 Pandemic in Zanjan Province, Iran. From the CASCADE Initiative: Statistical Analysis Plan and Preliminary Results	doi: 10.1016/j.jstrokecerebrovasdis.2020.105321.	Background: The emergence of the COVID-19 pandemic has significantly impacted global healthcare systems and this may affect stroke care and outcomes. This study examines the changes in stroke epidemiology and care during the COVID-19 pandemic in Zanjan Province, Iran. Methods: This study is part of the CASCADE international initiative. From February 18, 2019, to July 18, 2020, we followed ischemic and hemorrhagic stroke hospitalization rates and outcomes in Valiasr Hospital, Zanjan, Iran. We used a Bayesian hierarchical model and an interrupted time series analysis (ITS) to identify changes in stroke hospitalization rate, baseline stroke severity [measured by the National Institutes of Health Stroke Scale (NIHSS)], disability [measured by the modified Rankin Scale (mRS)], presentation time (last seen normal to hospital presentation), thrombolytic therapy rate, median door-to-needle time, length of hospital stay, and in-hospital mortality. We compared in-hospital mortality between study periods using Cox-regression model. Results: During the study period, 1,026 stroke patients were hospitalized. Stroke hospitalization rates per 100,000 population decreased from 68.09 before the pandemic to 44.50 during the pandemic, with a significant decline in both Bayesian [Beta: -1.034; Standard Error (SE): 0.22, 95% CrI: -1.48, -0.59] and ITS analysis (estimate: -1.03, SE = 0.24, $p < 0.0001$). Furthermore, we observed lower admission rates for patients with mild (NIHSS < 5) ischemic stroke ($p < 0.0001$). Although, the presentation time and door-to-needle time did not change during the pandemic, a lower proportion of patients received thrombolysis (-10.1%; $p = 0.004$). We did not see significant changes in admission rate to the stroke unit and in-hospital mortality rate; however, disability at discharge increased ($p < 0.0001$). Conclusion: In Zanjan, Iran, the COVID-19 pandemic has significantly impacted stroke outcomes and altered the delivery of stroke care. Observed lower admission rates for milder stroke may possibly be due to fear of exposure related to COVID-19. The decrease in patients treated with thrombolysis and the increased disability at discharge may indicate changes in the delivery of stroke care and increased pressure on existing stroke acute and subacute services. The results of this research will contribute to a similar analysis of the larger CASCADE dataset in order to confirm findings at a global scale and improve measures to ensure the best quality of care for stroke patients during the COVID-19 pandemic.	https://pubmed.ncbi.nlm.nih.gov/33069086/	https://pubmed.ncbi.nlm.nih.gov/33069086/
103	Prediction of miRNA interaction with	DOI: 10.1007/s10072-019-04158-x	Background: The role of miRNA in tissue affected by stroke is actively studied, but it remains unclear which miRNAs and target genes are involved in the development of stroke.	Akimniyazova A., ISSN 15901874	https://pubmed.ncbi.nlm.nih.gov/31784845/

	mRNA of stroke candidate genes		Methods: The MirTarget program defines the following features of a miRNA binding to a mRNA: the binding start site, the location of the binding site in mRNA, the free energy of a miRNA binding with a mRNA, and the interaction schemes of miRNA and mRNA. Results: The interaction of 6565 miRNAs with mRNAs of stroke candidate genes was determined. The association of the mRNAs of stroke candidate genes with miRNAs depends on the level of gene expression. Some highly expressed candidate genes are targets of miR-619-5p and miR-5095, which have binding sites located on overlapping mRNA nucleotide sequences (clusters). miR-619-5p and miR-5095 bind to mRNA of 15 genes. Clusters for the binding of miR-1273f,d,e are in mRNAs of highly expressed genes. The start sites of miR-1273d and miR-1273e binding in all clusters are in sequences with one and ten nucleotides, respectively. The clusters of multiple miR-574-5p and ID00470.5p-miR binding sites and the clusters of the miR-466, ID01030.3p-miR, and ID00436.3p-miR binding sites are in mRNAs of some genes expressed at low levels. Conclusion: The organization of miRNA binding sites into clusters reduces the length of mRNA and creates competition between miRNAs for binding to mRNA of a target gene. The characteristics of miRNA associations with target genes can be used to recommend markers for a diagnosis of stroke. Keywords: Expression; Gene; Stroke; mRNA; miRNA.	DOI 10.1007/s10072-019-04158-x Neurological SciencesТом 41, Выпуск 4, Страницы 799 - 8081 April 2020	https://www.scopus.com/record/display.uri?eid=2-s2.0-85075681697&origin=resultslist&sort=plf-f&src=s&sid=1d0be2093efb72f2454440892827702&sot=b&sdt=b&sl=82&s=TITLE-ABS-KEY%28Prediction+of+miRNA+interaction+with+mRNA+of+stroke+candidate+genes%29&relpos=1&citeCnt=5&searchTerm=
104	SARS-CoV-2 vaccination modelling for safe surgery to save lives: data from an international prospective cohort study.	doi: 10.1093/bjs/znab101.	Abstract Background: Preoperative SARS-CoV-2 vaccination could support safer elective surgery. Vaccine numbers are limited so this study aimed to inform their prioritization by modelling. Methods: The primary outcome was the number needed to vaccinate (NNV) to prevent one COVID-19-related death in 1 year. NNVs were based on postoperative SARS-CoV-2 rates and mortality in an international cohort study (surgical patients), and community SARS-CoV-2 incidence and case fatality data (general population). NNV estimates were stratified by age (18-49, 50-69, 70 or more years) and type of surgery. Best- and worst-case scenarios were used to describe uncertainty. Results: NNVs were more favourable in surgical patients than the general population. The most favourable NNVs were in patients aged 70 years or more needing cancer surgery (351; best case 196, worst case 816) or non-cancer	https://www.ncbi.nlm.nih.gov/nlmcatalog?term=%22Br+J+Surg%22%5BTitle+Abbreviation%5D 2021 Sep 27;108(9):1056-1063.	https://www.ncbi.nlm.nih.gov/nlmcatalog?term=%22Br+J+Surg%22%5BTitle+Abbreviation%5D

			surgery (733; best case 407, worst case 1664). Both exceeded the NNV in the general population (1840; best case 1196, worst case 3066). NNVs for surgical patients remained favourable at a range of SARS-CoV-2 incidence rates in sensitivity analysis modelling. Globally, prioritizing preoperative vaccination of patients needing elective surgery ahead of the general population could prevent an additional 58 687 (best case 115 007, worst case 20 177) COVID-19-related deaths in 1 year. Conclusion: As global roll out of SARS-CoV-2 vaccination proceeds, patients needing elective surgery should be prioritized ahead of the general population.		
105	Enhanced Fatty Acid Synthesis Leads to Subset Imbalance and IFN-γ Overproduction in T Helper 1 Cells	DOI 10.3389/fimmu.2020.593103	Recent reports have shown the importance of IFN-γ and T-bet+ B cells in the pathology of SLE, suggesting the involvement of IFN-γ-producing T-bet+ CD4+ cells, i.e., Th1 cells. This study determined the changes in Th1 subsets with metabolic shift and their potential as therapeutic targets in SLE. Compared with healthy donors, patients with SLE had higher numbers of T-bethiCXCR3lo effector cells and T-bet+Foxp3lo non-suppressive cells, which excessively produce IFN-γ, and lower number of non-IFN-γ-producing T-bet+Foxp3hi activated-Treg cells. These changes were considered to be involved in treatment resistance. The differentiation mechanism of Th1 subsets was investigated in vitro using memory CD4+ cells obtained from healthy donors and patients with SLE. In memory CD4+ cells of healthy donors, both rapamycin and 2-deoxy-D-glucose (2DG) suppressed T-bet+Foxp3- cells, and induced T-bet+Foxp3+(lo/hi) cells. Rapamycin induced IFN-γ-producing T-bet+Foxp3lo cells accompanied with enhanced lipid metabolism, whereas 2DG induced IFN-γ-non-producing T-bet+Foxp3hi cells. In memory CD4+ cells of SLE patients, inhibition of fatty acid synthesis, but not β-oxidation, suppressed IFN-γ production, and up-regulated of Foxp3 expression in T-bet+Foxp3+ cells. Metabolic regulators such as fatty acid synthesis inhibitors may improve the pathological status by correcting Th1 subset imbalance and overproduction of IFN-γ in SLE.	Тримова Г. Ш. ISSN 16643224 DOI 10.3389/fimmu.2020.593103 e Frontiers in ImmunologyОткрытый доступТом 1130 November 2020 Номер статьи 593103	https://www.scopus.com/record/display.uri?eid=2-s2.0-85097629017&origin=recordpage
106	Evaluation of the effectiveness of the use of instruments to attract savings in Kazakhstan (for example, BCC Invest JSC)	DOI 10.1051/e3sconf/202015904014	The growth of population's savings, their socio-economic structure, and the efficiency of the use of these resources in a modern market economy - all this is of fundamental importance for the formation of the most important proportions of expanded reproduction. Moreover, savings significantly determining the direction of the investment process, the scale and structure of demand and supply, and affects the cyclical nature economic development, including the emergence of crises. With the development of the financial market, securities began to play a crucial role in the mechanism of formation and use of savings. The stock market is an important element of the mechanism for turning people's savings into investments. The stock market functioning affects the preservation and enhancement of savings, the growth of the welfare of the population and the	Нургалиева Г.К. ISSN 25550403 DOI 10.1051/e3sconf/202015904014 E3S Web of Conferences Том 15924 March 2020 Номер статьи 040141st International Conference on	https://www.scopus.com/record/display.uri?eid=2-s2.0-85084056246&origin=resultslist

			strengthening of socio-economic stability in society. In modern economic theory, the category of savings occupies one of the leading places. The economic interests of all classes of society, social strata intersect in solving a variety of socio-economic issues related to the functioning of the category of savings. In the system of economic relations, consumption, savings and investments are both the result and condition of the reproduction process.	Business Technology for a Sustainable Environmental System	
107	Enhanced Fatty Acid Synthesis Leads to Subset Imbalance and IFN-γ Overproduction in T Helper 1 Cells	DOI 10.3389/fimmu.2020.593103	Recent reports have shown the importance of IFN-γ and T-bet+ B cells in the pathology of SLE, suggesting the involvement of IFN-γ-producing T-bet+ CD4+ cells, i.e., Th1 cells. This study determined the changes in Th1 subsets with metabolic shift and their potential as therapeutic targets in SLE. Compared with healthy donors, patients with SLE had higher numbers of T-bethiCXCR3lo effector cells and T-bet+Foxp3lo non-suppressive cells, which excessively produce IFN-γ, and lower number of non-IFN-γ-producing T-bet+Foxp3hi activated-Treg cells. These changes were considered to be involved in treatment resistance. The differentiation mechanism of Th1 subsets was investigated in vitro using memory CD4+ cells obtained from healthy donors and patients with SLE. In memory CD4+ cells of healthy donors, both rapamycin and 2-deoxy-D-glucose (2DG) suppressed T-bet+Foxp3- cells, and induced T-bet+Foxp3+(lo/hi) cells. Rapamycin induced IFN-γ-producing T-bet+Foxp3lo cells accompanied with enhanced lipid metabolism, whereas 2DG induced IFN-γ-non-producing T-bet+Foxp3hi cells. In memory CD4+ cells of SLE patients, inhibition of fatty acid synthesis, but not β-oxidation, suppressed IFN-γ production, and up-regulated of Foxp3 expression in T-bet+Foxp3+ cells. Metabolic regulators such as fatty acid synthesis inhibitors may improve the pathological status by correcting Th1 subset imbalance and overproduction of IFN-γ in SLE. © Copyright © 2020 Iwata, Zhang, Hao, Trimova, Hajime, Miyazaki, Ohkubo, Satoh Kanda, Todoroki, Miyata, Ueno, Nagayasu, Nakayamada, Sakata and Tanaka.	Тримова Г. Ш. ISSN 16643224 DOI 10.3389/fimmu.2020.593103 e Frontiers in ImmunologyОткрытый доступТом 1130 November 2020 Номер статьи 593103	https://www.scopus.com/record/display.uri?eid=2-s2.0-85097629017&origin=recordpage
108	Diagnostic criteria of seronegative spondyloarthritis: Stages of development and optimization (comparative analyses)	DOI 10.31838/ijpr/2020.SP1.149	Seronegative spondyloarthritis (SPA) is a group of chronic inflammatory rheumatic diseases characterized by a common clinical and radiological picture, early diagnosis, which still remains a problem for rheumatologists and general practitioners. Over the past decade, fundamental changes have occurred in early diagnosis through the evolution and optimization of diagnostic criteria. For example, the proposed diagnostic criteria for axial spondylitis are based on only two diagnostic components: the presence of a genetic marker-HLA-B27 or sacroiliitis, confirmed by magnetic resonance imaging or radiography. Before evaluating the effectiveness and functionality of all diagnostic criteria in comparison with the ASAS criteria (2009, 2011), we would like to study in detail the history of the emergence and optimization of classification criteria as new data are collected. This work allows us to analyze the strengths and weaknesses of the diagnostic criteria, evaluate and compare them with each	Курманова Г.М. ISSN 09752366 DOI 10.31838/ijpr/2020.SP1.149 International Journal of Pharmaceutical ResearchТом 12, Страницы 994 - 10112020	https://www.scopus.com/record/display.uri?eid=2-s2.0-85089608022&origin=resultslist&sort=plf-f&src=s&sid=1d492dbac0fdd2ee3296c56730a30451&sot=aut&sdt=a&sl=17&s=AU-ID%286507474504%29&relpos=0&cit

			other and further understand the need to develop new criteria for the early diagnosis of SPA in the epidemic zone for brucellosis and the effective work of doctors. © 2020, Advanced Scientific Research. All rights reserved. Ключевые слова автора Ankylosing spondylitis (AS); ASAS; Difference in diagnostic criteria; Modified New York criteria; Seronegative spondyloarthritis		eCnt=0&searchTerm=
109	Numerical simulation of the oxidant's temperature and influence on the liquid fuel combustion processes at high pressures	DOI: 10.36478/jeasci.2015.90.95	This study is devoted to the study of important from the view point of modern physics of numerical modeling of injection, ignition and combustion of liquid fuel at high pressures. It was investigated the oxidant's temperature and influence on the liquid fuel combustion processes at high pressures. In the course of work were obtained distribution of the gas temperature, concentration of combustion products, dispersion of particles for two types of fuels and distribution of velocity.	https://www.medwelljournals.com/abstract/?doi=jeasci.2015.90.95	https://www.medwelljournals.com
110	Features of development and teaching of clinical pharmacy in the healthcare system of the Republic of Kazakhstan	DOI 10.31838/ijpr/2020.SP1.148	These days, in many developed countries of the world, a coherent system of interaction in the sequence of "doctor-clinical pharmacist-patient" is needed for health services delivery, including pharmaceutical care. In the 21st century, numerous research with participation of clinical pharmacists has been conducted that proved the effectiveness of work of the latter in the medical cooperation when prescribing medication. Participation of a clinical pharmacist in the rational pharmacotherapy is integral to the work of the healthcare practitioners team in healthcare organizations in many world countries. The WHO proposed 12 key provisions for rational prescription and use of medicines and formulated the very concept of "rational use of medicines." All these provisions imply the active involvement of pharmacists. The healthcare system's need for specialists in the clinical pharmacy is constantly increasing. In this regard the training of highly qualified professionals according to the requirements of the labor market is characterized by the introduction of new specialties. The program of implementation of a new model that integrates education, innovations, research and development of educational technologies is aimed at the training of the specialists that are capable of finding solutions to innovative challenges basing on the present-day intellectual technologies. To provide the population and patients with high-quality, effective and safe medicines, it is required to cooperate with clinical pharmacists, specialists of new pharmacy, and the higher educational institutions of the Republic of Kazakhstan are undertaking the training of such specialists.	Курманова Г.М. ISSN 09752366 DOI 10.31838/ijpr/2020.SP1.148 International Journal of Pharmaceutical ResearchТом 12, Страницы 985 - 9932020	https://www.scopus.com/record/display.uri?eid=2-s2.0-85089306618&origin=resultslist&sort=plf-f&src=s&sid=1d492dbac0fdd2ee3296c56730a30451&sot=aut&sdt=a&sl=17&s=AU-ID%286507474504%29&relpos=1&citeCnt=0&searchTerm=
111	Results of the Thoracoscopic Radiofrequency Epicardial	DOI 10.1051/e3sconf/202015908007	Thoracoscopic ablation using the 'box lesion' technique was performed using a bipolar radio frequency clamp. A total of 48 patients, including 38 men and 10 women, mean age 58 years (range 33 74). The mean duration of AF was 4 yrs (range 1.5 months 21), the mean size of the atrium 4.15 ± 0.9 cm (2.9-8.8 cm),	Абзалиев Куат Баяндыевич E3S Web of Conferences Том 15924 March 2020 Номер статьи	https://www.scopus.com/record/display.uri?eid=2-s2.0-85084071114&orig

	Ablation with a Bipolar Electrode during Longstanding Persistent form of Atrial Fibrillation		mean LVEF was 57.7% (39 -73%). Mitral regurgitation of 1-2 degrees was present in 14 patients, EDV LV 147.7 ml (81-224). Primary catheter ablation was performed in 22 patients, where 5 of them (22,7%) were performed repeatedly. Resection of the left atrial appendage (LAA) during the operation was performed in 44 patients (91%). Input and output block was achieved in all patients. In the postoperative period, all patients were administered supporting antiarrhythmic therapy with amiodarone and β-blockers, anticoagulant therapy with warfarin or PLA for 6-12 months. The effectiveness of treatment was monitored by a cardiomonitor Reveal XT in the period 1, 3, 6, 12, 24 months after surgery, the mean follow-up length was 498 ± 19 days. Sinus rhythm was restored during surgery in all patients and remained until discharge.	08007 ISSN 25550403 DOI 10.1051/e3sconf/202015908007	in=resultslist&sort=plf-f&src=s&sid=3aeebdf4bf0431601cb795ff50a2e21d&sot=aut&sdt=a&sl=17&s=AU-ID%286507066553%29&relpos=3&citeCnt=0&searchTerm=
112	Vitamin d and the host-gut microbiome: A brief overview	DOI 10.1267/ahc.20011	There is a growing body of evidence for the effects of vitamin D on intestinal host-microbiome interactions related to gut dysbiosis and bowel inflammation. This brief review highlights the potential links between vitamin D and gut health, emphasizing the role of vitamin D in microbiological and immunological mechanisms of inflammatory bowel diseases. A comprehensive literature search was carried out in PubMed and Google Scholar using combinations of keywords “vitamin D,” “intestines,” “gut microflora,” “bowel inflammation”. Only articles published in English and related to the study topic are included in the review. We discuss how vitamin D (a) modulates intestinal microbiome function, (b) controls antimicrobial peptide expression, and (c) has a protective effect on epithelial barriers in the gut mucosa. Vitamin D and its nuclear receptor (VDR) regulate intestinal barrier integrity, and control innate and adaptive immunity in the gut. Metabolites from the gut microbiota may also regulate expression of VDR, while vitamin D may influence the gut microbiota and exert anti-inflammatory and immune-modulating effects. The underlying mechanism of vitamin D in the pathogenesis of bowel diseases is not fully understood, but maintaining an optimal vitamin D status appears to be beneficial for gut health. Future studies will shed light on the molecular mechanisms through which vitamin D and VDR interactions affect intestinal mucosal immunity, pathogen invasion, symbiont colonization, and antimicrobial peptide expression.	Шерелхан Динара Күмісханқызы ISSN 00445991 DOI 10.1267/ahc.20011 Acta Histochemica et Cytochemica Том 53, Выпуск 3, Страницы 33 - 422020	https://www.scopus.com/record/display.uri?eid=2-s2.0-85087133209&origin=resultslist
113	Causative role for defective expression of mitochondria-eating protein in accumulation of mitochondria in	DOI 10.1111/cas.14501	Oncocytic cell tumor of the thyroid is composed of large polygonal cells with eosinophilic cytoplasm that is rich in mitochondria. These tumors frequently have the mutations in mitochondrial DNA encoding the mitochondrial electron transport system complex I. However, the mechanism for accumulation of abnormal mitochondria is unknown. A noncanonical mitophagy system has recently been identified, and mitochondria-eating protein (MIEAP) plays a key role in this system. We therefore hypothesized that accumulation of abnormal mitochondria could be attributed to defective MIEAP expression in these	Мусажанова Жанна Бахытгереевна ISSN 13479032 DOI 10.1111/cas.14501 Cancer Science Том 111,	https://www.scopus.com/record/display.uri?eid=2-s2.0-85087156601&origin=recordpage

	thyroid oncocytic cell tumors		tumors. We first show that MIEAP was expressed in all the conventional thyroid follicular adenomas (FAs)/adenomatous goiters (AGs) but not in oncocytic FAs/AGs; its expression was defective not only in oncocytic thyroid cancers but also in the majority of conventional thyroid cancers. Expression of MIEAP was not correlated with methylation status of the 5′-UTR of the gene. Our functional analysis showed that exogenously induced MIEAP, but not PARK2, reduced the amounts of abnormal mitochondria, as indicated by decreased reactive oxygen species levels, mitochondrial DNA / nuclear DNA ratios, and cytoplasmic acidification. Therefore, together with previous studies showing that impaired mitochondrial function triggers compensatory mitochondrial biogenesis that causes an increase in the amounts of mitochondria, we conclude that, in oncocytic cell tumors of the thyroid, increased abnormal mitochondria cannot be efficiently eliminated because of a loss of MIEAP expression, ie impaired MIEAP-mediated noncanonical mitophagy.	Выпуск 8, Страницы 2814 - 28231 August 2020	
114	Cerebral palsy risk factors: International experience	DOI 10.1051/e3sconf/202015908006	This review article aims to outline several risk factors for the Cerebral Palsy (CP) development worldwide. CP is the most prevalent disabling condition in children that imposes a significant socio-economical responsibility on the system of the health care. Despite a solid body of extant research, the exact etiology of CP remains unknown. There are several risk factors that may be triggering CP development at pre-, intra- and postnatal periods, particularly, gestational age, birth weight, mother's health, placental abnormalities, thrombophillia, asphyxia, brain ischemia and multiple pregnancies. According to extant literature, the majority of CP cases develop within antenatal period in high-income countries. Contrastingly, in developing countries, there is a slightly higher proportion of a postnatally acquired CP cases linked to post-infectious brain damage following meningitis, septicaemia, as well as other conditions, such as malaria. However, these studies were of a small size and not case-controlled or population-based, which significantly curtails the results and underestimating the real picture. With very small number of survivors of early preterm, common risk factors identified to be the maternal rhesus allergenic immunization and birth asphyxia, or hereditary diseases, such as dehydrogenase of glucose-6-phosphate (G6PD) deficiency and encephalopathy of subsequent bilirubin. According to standardized data from international surveillance programs, important risk factors are strongly associated with CP development in most countries.	Исаева Раушан Биномовна ISSN 25550403 DOI 10.1051/e3sconf/202015908006 Смотреть больше E3S Web of ConferencesОткрытый доступТом 15924 March 2020 Номер статьи 080061st International Conference on Business Technology for a Sustainable Environmental System, BTSES 2020Almaty19 March 2020 до 20 March 2020Код 159310	https://www.scopus.com/record/display.uri?eid=2-s2.0-85084037547&origin=recordpage
115	Comprehensive assessment of the Aral Sea region children's health conditions	DOI 10.1051/e3sconf/202015908005	A comprehensive assessment of the health status of 757 children in the Aral Sea region was performed, by assesing the direction of their pathology based on the results of medical, clinical, laboratory, instrumental and socio-psychological studies. The distribution by health groups showed a predominance of functional abnormalities among children (group II (50.0%), group III (28.7%), and chronic	Исаева Раушан Биномовна ISSN 25550403 DOI 10.1051/e3sconf/202015908	https://www.scopus.com/record/display.uri?eid=2-s2.0-85084073113&origin=recordpage

			diseases at the age of 11-15 years. Healthy children accounted for only 9.2%. According to the structure of morbidity, vegeto-vascular dystonia dominated in 55.2%, 52.2% showed functional disorders of the digestive system and iron-deficient anemia (19.7%). The revealed psychological features manifested by a high level of anxiety in children of the Aktobe region (57, 0%). Studies have indicated low children's health in environmentally depressed areas, which may be one of the significant factors contributing to the formation of various forms of chronic pathology.	05 E3S Web of Conferences Том 15924 March 2020 Номер статьи 080051st International Conference on Business Technology for a Sustainable Environmental System	
116	Features of development and teaching of clinical pharmacy in the healthcare system of the Republic of Kazakhstan	DOI 10.31838/ijpr/2020.SP1.148	These days, in many developed countries of the world, a coherent system of interaction in the sequence of “doctor-clinical pharmacist-patient” is needed for health services delivery, including pharmaceutical care. In the 21st century, numerous research with participation of clinical pharmacists has been conducted that proved the effectiveness of work of the latter in the medical cooperation when prescribing medication. Participation of a clinical pharmacist in the rational pharmacotherapy is integral to the work of the healthcare practitioners team in healthcare organizations in many world countries. The WHO proposed 12 key provisions for rational prescription and use of medicines and formulated the very concept of “rational use of medicines.” All these provisions imply the active involvement of pharmacists. The healthcare system’s need for specialists in the clinical pharmacy is constantly increasing. In this regard the training of highly qualified professionals according to the requirements of the labor market is characterized by the introduction of new specialties. The program of implementation of a new model that integrates education, innovations, research and development of educational technologies is aimed at the training of the specialists that are capable of finding solutions to innovative challenges basing on the present-day intellectual technologies. To provide the population and patients with high-quality, effective and safe medicines, it is required to cooperate with clinical pharmacists, specialists of new pharmacy, and the higher educational institutions of the Republic of Kazakhstan are undertaking the training of such specialists.	Курманова Г.М. ISSN 09752366 DOI 10.31838/ijpr/2020.SP1.148 International Journal of Pharmaceutical ResearchТом 12, Страницы 985 - 9932020	https://www.scopus.com/record/display.uri?eid=2-s2.0-85089306618&origin=resultslist&sort=plf-f&src=s&sid=1d492dbac0fdd2ee3296c56730a30451&sot=aut&sdt=a&sl=17&s=AU-ID%286507474504%29&relpos=1&citeCnt=0&searchTerm=
117	Thick branes with codimension 1 in modified gravities	DOI 10.1142/S0217751X20400199	Vacuum solutions describing thick branes with codimension 1 within higher-dimensional f(R) = -αRn modified gravity are constructed. The dependence of these solutions on the parameters determining the solutions is studied numerically.	Серикболова Альбина Аскаровна ISSN 0217751X DOI 10.1142/S0217751X20400199 International Journal of	https://www.scopus.com/record/display.uri?eid=2-s2.0-85078765398&origin=recordpage

				Modern Physics AТом 35, Выпуск 2-330 January 2020 Номер статьи 2040019	
118	miRNA Binding Site Clusters in mRNAs of Colorectal Cancer Candidate Genes	DOI 10.1134/S1995078020060038	Abstract: Colorectal cancer is one of the three most common oncological diseases worldwide and has a high mortality rate. The complexity of early diagnosis of the disease lies in its polygenic nature. Colorectal cancer is accompanied by a change in the concentration of nanoscale miRNAs (mRNA-inhibiting RNA), which can alter the expression of candidate genes associated with the disease. The purpose of this study was to identify the interactions between 6274 human miRNAs and 28 mRNAs (messenger RNA) of colorectal cancer candidate gene. The quantitative characteristics of these interactions were determined using the MirTarget program. The binding sites of 142 miRNAs in 28 candidate gene mRNAs were determined. 28 miRNAs and mRNA genes associations in 5′UTR (5′-untranslated region), ten in CDS (coding sequence) with a free energy of interaction more than -130 kJ/mol, and multiple binding sites clusters of ID00436.3p-miR, ID01030.3p-miR, miR-466 and ID00470.5p-miR, miR-574-5p are recommended for the diagnosis of colorectal cancer. Significant differences were found in the characteristics of the miRNA interactions in the 5′UTR, CDS and 3′UTR (3′-untranslated region) of mRNA candidate genes. The features of the miRNA binding sites have been established depending on their location in the 5′UTR, CDS and 3′UTR. The miRNA binding sites with overlapping nucleotide sequences that form clusters were identified. The organization of binding sites on clusters leads to compaction and competition between miRNAs for binding in the cluster. The most effective associations between miRNAs and candidate target genes, which are proposed as markers for the development of methods for the early diagnosis of colorectal cancer are determined.	Nanotechnologies in RussiaТом 15, Выпуск 11-12, Страницы 807 - 818 November 2020 ISSN 19950780 DOI 10.1134/S1995078020060038	https://www.scopus.com/record/display.uri?eid=2-s2.0-85105514179&origin=resultslist&sort=plf-f&src=s&sid=3cfb4ccfd14174202038a66af83c1f47&sot=aut&sdt=a&sl=18&s=AU-ID%28571944159971%29&relpos=2&citeCnt=0&searchTerm=
119	Prediction of miRNA interaction with mRNA of stroke candidate genes	DOI 10.1007/s10072-019-04158-x	Background: The role of miRNA in tissue affected by stroke is actively studied, but it remains unclear which miRNAs and target genes are involved in the development of stroke. Methods: The MirTarget program defines the following features of a miRNA binding to a mRNA: the binding start site, the location of the binding site in mRNA, the free energy of a miRNA binding with a mRNA, and the interaction schemes of miRNA and mRNA. Results: The interaction of 6565 miRNAs with mRNAs of stroke candidate genes was determined. The association of the mRNAs of stroke candidate genes with miRNAs depends on the level of gene expression. Some highly expressed candidate genes are targets of miR-619-5p and miR-5095, which have binding sites located on overlapping mRNA nucleotide sequences (clusters). miR-619-5p and miR-5095 bind to mRNA of 15 genes. Clusters for the binding of miR-1273f,d,e are in mRNAs of highly expressed genes. The start sites of miR-1273d and miR-1273e binding in all clusters are in sequences with one and ten nucleotides, respectively. The	Акимниязова Айгуль Нурланкызы ISSN15901874 DOI10.1007/s10072-019-04158-x Neurological Sciences Том 41, Выпуск 4, Страницы 799 - 8081 April 2020	https://www.scopus.com/record/display.uri?eid=2-s2.0-85075681697&origin=resultslist&sort=plf-f&src=s&sid=3cfb4ccfd14174202038a66af83c1f47&sot=aut&sdt=a&sl=18&s=AU-ID%285719441597 1%29&relpos=3&c

			clusters of multiple miR-574-5p and ID00470.5p-miR binding sites and the clusters of the miR-466, ID01030.3p-miR, and ID00436.3p-miR binding sites are in mRNAs of some genes expressed at low levels. Conclusion: The organization of miRNA binding sites into clusters reduces the length of mRNA and creates competition between miRNAs for binding to mRNA of a target gene. The characteristics of miRNA associations with target genes can be used to recommend markers for a diagnosis of stroke.		iteCnt=1&searchTerm=
120	Annual river runoff of the ile-balkash basin and prospects of its assessment due to climatic changes and water economy activities	DOI 10.21660/2020.69.32068	The water regime of the rivers of arid territories caused by not only to meteorological features, but also to a greater extent to the factors of the underlying surface of the earth. In addition, changes in river flow is determined by human economic activity. Ile-Balkhash region of Kazakhstan is the most densely populated and economically developed region. Large agro-industrial complexes, numerous settlements and cities are centered here. As a result, consideration and prospects of water consumption are the most important challenges in planning the social and economic development of the region on the basis of changing water resources in modern climatic conditions. The article presents the calculated features of flow for different time periods with the development of economic activity and climate change. It is established that there has been a rather intensive increase in the water content of the basin's watercourses since the seventies of the last century. The changes in the features of the annual flow of rivers for 90-100 year periods are calculated. Thus, the average annual water consumption of the Ile River in the lower reaches has increased over the past 40-50 years by an average of about 45 %, which has led, at present, to an increase in the water level in Balkhash Lake. The level of the lake decreased significantly after the building of the Kapshagai reservoir in the riverbed in 1970, primarily due to losses on its filling and increase in evaporation. Primarily, the development of the region is determined by changes in water resources in the future, its rational use and modern water-saving irrigation systems and hydraulic structures. The calculated flowoff features of the rivers of the Ile-Balkash basin make it possible to make a system of sustainable development of the region with the possibilities of water consumption, as well as regional models of flow formation.	Тастамбек Куаныш Талғатұлы ISSN 21862982 DOI 10.21660/2020.69.32068 International Journal of GEOMATE Том 18, Выпуск 69, Страницы 230 - 239May 2020	https://www.scopus.com/record/display.uri?eid=2-s2.0-85083786635&origin=recordpage
121	Lignite Biosolubilization by Bacillus sp. RKB 2 and Characterization of its Products	DOI 10.1080/01490451.2019.1695022	Nowadays, the advancements of coal microbiology and biotechnology have been highly emphasized, providing leading-edge approaches in sustainable development of agriculture and the protection of the environment. The biosolubilization of low-rank coals, such as lignite and leonardite is a promising technology for converting these sedimentary rocks into valuable products. In this study, the process involved in lignite biosolubilization by Bacillus sp. RKB 2 was investigated. The biotransformed lignite and the produced humic substances were determined in vitro in a liquid medium and on a solid matrix. The bacterial strain was isolated from untreated Kazakhstani lignite and was	Тастамбек Куаныш Талғатұлы ISSN 01490451 DOI 10.1080/01490451.2019.1695022	https://www.scopus.com/record/display.uri?eid=2-s2.0-85075558881&origin=recordpage

			shown to be capable of effectively solubilizing and transforming lignite (5% w/v). Fourier Transform Infrared (FTIR) and UHPLC-QqQ-MS/MS analyses were performed to examine the solubilization products and lignite humic substances processed by bacteria. The absorption peaks of FTIR showed the diverse nature of the bacteria-induced humic substances, and the vast majority of intense peaks detected are mainly below an m/z of 1000 Da (liquid chromatography-mass spectrometry [LC-MS] (QqQ)). Data analysis concluded that our isolate could depolymerize lignite and form bio-humic substances. Due to its ability to solubilize lignite Bacillus sp. RKB 2 may be useful in the coal-bed for in situ bioutilization of low-rank coal.	Geomicrobiology Journal Том 37, Выпуск 3, Страницы 255 - 26115 March 2020	
122	Monopole solutions in SU(2) Yang-Mills-plus-massive-nonlinear-spinor-field theory	DOI 10.1016/j.physletb.2020.135480	Monopole solutions in SU(2) Yang-Mills theory which includes spinor fields described by the nonlinear Dirac equation are obtained. It is demonstrated that the energy spectrum of such a system possesses a global minimum whose appearance is brought about solely by the nonlinear spinor fields. It is shown that the monopole solution obtained differs in principle from the 't Hooft-Polyakov monopole in that it is topologically trivial.	Серикболова Альбина Аскаровна ISSN 03702693 DOI 10.1016/j.physletb.2020.135480 Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics Том 80610 July 2020 Номер статьи 135480	https://www.scopus.com/record/display.uri?eid=2-s2.0-85084766983&origin=recordpage
123	Features of development and teaching of clinical pharmacy in the healthcare system of the Republic of Kazakhstan	DOI 10.29333/ejgm/8459	According to the article, pregnancy in adolescence is associated with a high risk of developing adverse outcomes both during pregnancy and childbirth in the later period. The purpose of our study was to identify the features of pregnancy and childbirth, the postpartum period in young mothers. Materials and methods. A retrospective analysis of the birth history of 299 maternity hospitals was performed. The research material was archived data from the Regional perinatal center No. 3 in Turkestan (Kazakhstan). The main (1) group was formed by 199 maternity women under 19 years of age (2019). The control (2) group was formed by 100 maternity women aged 20 to 30 years, whose sexual life began after the age of 18. Results. The age of the surveyed women in group 1 ranges from 15 to 19 years, averaging ~16.9 years. 17-year-old girls predominated (66.7%). The average age of women in group 2 was ~25.8 years. Adolescent pregnancy is a risk factor for adverse child outcomes, such as premature birth, low birth weight, fetal growth retardation, neonatal and infant mortality. In the adolescent pregnancy and delivery group, preterm birth occurred in 35 cases, which accounted for 6.8% of the total preterm birth population for 2019, but in the adolescent birth group it was 17.5%. Of the 199 births in 2 were multiple	Курманова Алмагуль Медеубаевна ISSN 25163507 DOI 10.29333/ejgm/8459 Electronic Journal of General MedicineОткрытый доступТом 17, Выпуск 6, Страницы 1 - 8December 2020 Номер статьи em260	https://www.scopus.com/record/display.uri?eid=2-s2.0-85089707797&origin=resultslist

			births (1%), 197 live births, the percentage of live births among adolescents was 98%, respectively, the stillbirth rate was 2% (4 cases). Conclusion: the frequency of teenage pregnancy in the dynamics of years does not tend to decrease, among young mothers only every 6 received pre-pregnancy training, and every 5 was re-pregnant and among re-pregnant women under 19 years. © 2020 by Author/s and Licensed by Modestum.		