The needs of patients with cardiovascular disease and healthcare professionals with regard to communication and collaboration on work participation and return-to-work.

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different trajectories predict limitations in mobility (ML) and activities of daily living (ADL-disability) at old age.
Material and Methods: We studied workers above the age of 50 years (N=30300) using harmonized data from three cohort studies (FLAME, ELSA, HRS) from Europe and the United States. Repeated measurements of self-reported OPA were collected during approximately ten years. We studied persons who had data on OPA from at least two time points and had information on self-reported ML or ADL-disability at the last follow-up point. Latent class growth analysis was used to identify trajectories of OPA. Odds ratios (ORs) with 95% confidence intervals (CIs) for the associations of the trajectories and the outcomes were estimated and adjusted for confounders.
Results: Preliminary results show little heterogeneity in the development of OPA. Trajectories differed in terms of the level of OPA, but the trend remained rather stable across trajectories. Those with constantly high OPA had approximately 50% higher odds of ML and ADL-disability as compared to those with constantly low OPA. No difference between intermediate and low OPA trajectories was found.
Conclusions: OPA seems to remain relatively stable among the workers during the last years of their working career. High constant OPA from midlife to retirement may predict functional limitations in later life.

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Integration of Blockchain Technologies into the Professional Longevity Management System

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In the conditions of demographic aging, depopulation and workforce deficiency in Russia, the need of the employment of aged workers will grow every year. Timeliness and complexity of the solution of the employment problems among aged workers determines the expediency of the creation of a system for screening and monitoring workability, with special age-oriented working conditions and jobs in various professional groups for the most rational employment of aged workers.
The digital transformation of the Russian economy, changing business models, increasing the role of open innovations and internal integrators have determined the need for digitalization of predictive analytical approaches to human resource management. We suggest an innovative model «Age-Friendly Workplaces» (AFWP) for the preparation of jobs for aged workers, including integral criteria for the assessment of workability and adaptability of aged workers to the functional, physiological and psycho-physiological work loads. Because adapting work to one's abilities, skills and state of health should be a continuous and dynamic process, based on adequate risk assessment, adapting work to older workers' health status and needs should not present an additional burden. This required the maximum digitalization of the AFWP-model using blockchain technologies.
The implementation of the AFWP-model at the Lenpoligrafmash Technopark with the support of the Project office of Power Machines JSC proved that aged workers are able and willing to work longer when they can better cope with the working conditions, workload or working hours.

03. CARDIOLOGY IN OCCUPATIONAL HEALTH

030

Trends in lifestyle-related health indicators among Belgian workers

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Introduction: Cardiovascular diseases and diabetes are growing health problems worldwide. These lifestyle-related diseases also affect people at working age and compromise their workability.The aim of this study was to investigate the trend of lifestyle-related health indicators (treatment for hypertension, dyslipidaemia or diabetes, BMI and blood pressure) that were monitored during periodical health examinations of workers between 2011 and 2019.
Methods: A trend analysis was performed on the data of workers that had a health check by IDEWE, Belgian occupational health service, between 2011 and 2019. For these nine years, data on medication use, BMI and blood pressure were available for approximately 190 000 workers yearly. The trend of the use of antihypertensive, lipid-lowering and diabetes medication, overweight and hypertension was studied by age and gender groups and per economic sector.
Results: Overweight, hypertension and the use of diabetes medication increased significantly from 2011 to 2019. Since 2011 prevalence of these health indicators is highest in the transportation sector. The use of lipid-lowering medication showed a significant increase in men of 45 years or over. The use of antihypertensives was slightly decreasing between 2011 and 2019.
Conclusion: We confirm the significantly increasing trend of overweight and its health consequences (hypertension, diabetes, dyslipidaemia) in Belgian workers. To counter this evolution, it will be necessary to convince employers as well as employees of the importance of a healthy lifestyle and of the profit that can be made by investing in measures that support it.

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The needs of patients with cardiovascular disease and healthcare professionals with regard to communication and collaboration on work participation and return-to-work

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Introduction: Traditionally, care was organized around medical specialties or interventions, but to add more value for the patient, the full cycle of care is at the core of modern-days healthcare delivery. To efficiently deliver care over the full cycle of care, communication and collaboration is essential. The objective is to identify needs of clients with cardiovascular disease (CVD) and healthcare professionals in terms of communication and collaboration.

Materials and Methods: For the qualitative study, N=19 clients with CVD were interviewed about their experiences with work-related care and their needs in terms of communication and collaboration between stakeholders. Additionally, N=24 interviews were conducted with professionals (occupational and insurance physicians, general practitioners, physiotherapists).
Results: The analysis of interviews is currently underway and will be ready for presentation at the conference. Preliminary results show the following themes: (1) Need for more transparency about the aim of the contact between stakeholders, (2) Need for a permanent stakeholder (occupational and insurance physician), (3) Inadequate information exchange between the cardiologist and occupational physician (OP), (4) Request of medical file by OP gives a feeling of distrust, (5) Information loss due to flawed contact between OP and insurance physician (IP).
Conclusions: Identifying the needs of clients and healthcare professionals in terms of communication and collaboration between stakeholders in the work-related support process, offers the foundation for creating more integrated care.

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Syncope and work

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Introduction. Syncope, pre-syncope and falls of unknown causes occurring in the workplace may create harms and safety concerns. In addition, syncope recurrences may worsen the quality of working life. Little is known on the relationships between occupational distress (OD), sleep quality (SQ), mental health (MH), metabolic syndrome (MetS) and syncope occurrence.
Material and Methods. A retrospective study was performed on consecutive 741 workers who underwent periodic medical examinations. The survey form included ad hoc questions on syncope and standardized questionnaires on OD, SQ and MH. The workers underwent also medical examinations and laboratory tests searching for MetS.
Results. The prevalence of syncope was 13.9%, pre-syncope 26.0% and falls of unknown cause 10.3%. Syncope and pre-syncope were more prevalent in females than in males. In models adjusted for age and gender, the occurrence of syncope or pre-syncope was associated with a doubled risk of OD and with a more than doubled risk of low SQ and poor MH. Syncope recurrence had the strongest association with poor MH (OR 3.88; IC 95% 2.12-7.08). Neither syncope nor presyncope nor falls of unknown cause was associated with the presence of MetS.
Conclusions. The health promotion intervention in working place, aimed at reducing OD, improving SQ and MH, might positively impact on the risk of syncope, presyncope and falls.

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Synergism of Cardiovascular Risk Factors and Disturbance in Autonomic Cardiac Control - Key Mechanisms in the Etiopathogenesis of Cardiovascular Disease

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Introduction: The identification of the pathophysiological mechanisms of cardiovascular disease (CVD) in a state of allostatic stress can be used to enhance the early diagnostics of CVD.
Material and Methods: We used a diagnostic method for Analysis of Heart Rate Variability to study the functional state of the cardiovascular system. Job Analysis was performed to determine the psychological and occupational risk factors inherent in the professional activities of the studied groups: 83 physicians and 30 controls. We assessed cardiovascular risk factors to determine the cardiovascular risk. Research involving humans has been approved by an institutional ethics committee.
Results: Results of Job Analysis revealed that a variety of psychological and occupational risk factors prevailed in subject physicians. Allostatic job stress in physicians causes a process of reciprocally coupled inhibition of the parasympathetic branch of the Autonomic Nervous System (ANS) and activation of the sympathetic branch of the ANS. In response to cumulative exposure to the effect of allostatic job stress on cognitive functions, we observed decreases in parasympathetic activity with pNN50 and HF, and increase in sympathetic-to-parasympathetic activity with LFa/HFa. In both groups, clear synergism of cardiovascular risk factors was established.
Conclusions: Screening of the most significant pathophysiological mechanisms that determine the risk of CVD revealed dysfunctional autonomic control, and synergism of cardiovascular risk factors. Recognition of the increased risk of CVD in a state of allostatic stress contributes to the early diagnosis of CV

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Occupational exposure to different dusts and early effects on the cardiovascular system – during work and immediately after vacation

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Introduction: Ambient particle matter (PM) is a risk factor for cardiovascular disease (CVD). However, little is known about associations between PM in occupational settings and CVD. We investigated associations between occupational dust exposure and risk markers of CVD, and potential recovery effects after vacation.
Material and Methods: Non-smoking, male construction workers were recruited via large construction companies, trade union and industry organization. Dust exposure measurements (respirable silica, respirable dust < 4 μm, PM 0.1-10) were conducted once, and biological sampling (blood pressure, pulse, markers of inflammation, coagulation, metabolism) twice for each participant; during work and