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NUTRITION AND OCCUPATIONAL SAFETY: AN INTEGRATED PERSPECTIVE

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Modern production demands a comprehensive approach to occupational safety, moving beyond traditional accident prevention to address physiological, psychological, and social factors that impact employee performance. Key elements such as sleep, physical activity, emotional state, and diet are essential for both well-being and safety. Research consistently shows that proper nutrition enhances health, energy, focus, and endurance – vital for efficiency, motivation, and risk reduction. Poor nutrition contributes to fatigue, cognitive decline, and increased error rates, especially in high-risk industries, while a healthy diet improves productivity and job satisfaction.

Employers increasingly recognise the importance of holistic employee well-being, acknowledging that stress, motivation, and management style influence performance and safety outcomes. However, in many countries, including Ukraine, inadequate workplace catering fosters unhealthy eating habits. To address this, employers should provide access

to balanced meals and health education, integrating nutrition into broader safety and wellness strategies.

Although scientific literature highlights the role of nutrition in health, productivity, and risk prevention, its connection to occupational safety management has historically received less attention. This gap is narrowing, as recent studies demonstrate that poor diets reduce resistance to harmful factors, increase fatigue, and elevate error rates [1, 2]. The World Health Organisation (WHO) identifies balanced nutrition as essential for preventing chronic diseases that impair work capacity and raise injury risk.

Emerging research links nutrition directly to risk management. Diets high in sugar and fat impair attention and increase accident risks, while even minor nutritional deficiencies can affect performance in complex tasks. Quality workplace meals are associated with reduced fatigue and burnout, and programs like “Healthy Workplace” have been shown to decrease temporary disability rates [3].

The human factor is central to work efficiency and safety, making diet a key element of risk reduction. Rational nutrition aligns energy needs with work conditions and biorhythms – not only through calories and nutrients, but also through meal timing, distribution, and protective effects against stress and fatigue.

High-quality nutrition supports attention, stamina, decision-making, and stress resilience. In contrast, poor diets cause drowsiness, irritability, weak focus, and increased errors. Proteins aid muscle and tissue repair, fatty acids support brain function, and vitamins sustain metabolism. Improper diets raise injury risks in both physical and mental work environments.

Poor nutrition leads to exhaustion, slower reactions, and reduced emergency performance. Chronic illnesses such as obesity, diabetes, and hypertension increase workplace risks. Nutrient deficiencies can cause emotional imbalance, raising the potential for conflict. Dehydration disrupts thermoregulation and may cause muscle spasms – further impairing performance and safety.

Thus, nutrition is a physiological need and a critical factor in occupational safety, directly influencing performance, health, and accident prevention.

Proper nutrition is a cornerstone of employee health, safety, motivation, and productivity. Occupational safety management functions as a tool for hazard prevention, a component of social responsibility, and a tool for employee retention. Catering models vary: own canteen/café: Full control over quality, menu, and specific needs; outsourced catering: Lower employer costs, but reduced quality control; food courts/vending/buffets:

Limited options, often lacking nutritional balance; meal compensation/cards: Convenient, but without guarantees of healthy choices.

The appropriate model depends on company size, budget, and safety policy. However, all models should be evaluated for their ability to support nutritional goals.

Recommendations for Company Nutrition Policy: develop clear food policies aligned with safety objectives; invest in catering facilities and equipment; partner with catering services or subsidise healthy meals; provide flexible schedules to accommodate meal breaks; educate staff on rational nutrition; integrate nutrition into stress and fatigue prevention programs.

Employee nutrition remains a significant yet underutilised factor in occupational safety. An employee's physical health—shaped by the quality and regularity of their diet – directly affects work capacity, vigilance, and stress resistance, thereby influencing the likelihood of errors and injuries. International experience confirms that integrating nutrition into safety programs reduces injuries and enhances motivation and productivity. Malnutrition and dehydration are directly linked to industrial accidents.

Future research should focus on quantifying the economic benefits of nutrition programs, developing profession-specific dietary standards, and exploring the psycho-emotional effects of food in the workplace.

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