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Sustainability of prevention practices at the workplace: safety, simplification, productivity and effectiveness

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Abstract

Traditional full-time employment has evolved into various types of occupational situations, and, nowadays, new work organization strategies have been developed. Previously overlooked risk factors have emerged, such as traffic accidents while commuting or during work hours, poor work organization, and detrimental lifestyles (like alcohol and substance abuse, although recent statistics seem to show a declining trend for the latter).
The global scenario shows greater attention to occupational risks, but also, to the reduced degree of protection. Moreover, the elevated costs, the unacceptably high fatal accident rates in some sectors, the complexity of the prevention systems, the lack of prevention training, the inadequate controls (despite the numerous independent supervisory bodies) and the obsolescence of certain precepts, call for a prompt review of the regulatory system. This is especially needed for general simplification, streamlining certification bodies and minimizing references to other provisions in the legislation that make it difficult for Italian and foreign workers to read and understand the rules "without legal interpreters".
"New" occupational diseases and occupational risk factors have also been reported in addition to pollution. There are concerns for continued economic and social destabilization, unemployment, commuting, temporary and precarious contracts.
All of these contribute to the lack of wellbeing in the working population. Thus, the timing, duration, and types of prevention training should be carefully assessed, making prevention more appealing by evaluating costs and benefits with a widespread use of indicators that make appropriate actions for health promotion "visible", thus encouraging awareness.
Although reducing prevention is never justified, it should still be "sustainable" economically in order to avoid waste of resources.
It is also essential to have laws which are easily and consistently interpreted and to work on the ethics of employers and employees to ensure that they conform to the standards of other European countries that currently operate with greater effectiveness and lower costs.

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Acronimi: BASICC = Basic Assessment Scheme for Intervention Costs and Consequences procedure; Co&Si = Cost and Safety (Costi & Sicurezza); DWF = Deferred Wage Fund; EU-OSHA = European Agency for Occupational Safety and Health Administration; HAI = Healthcare Associated Infections; ICOH = International Committee Occupational Health; INAIL = Italian National Institute for Insurance against Accidents at Work (Istituto Nazionale Assicurazione contro Infortuni sul Lavoro); INPS = Italian Social Security Agency (Istituto Nazionale Previdenza Sociale); ISTAT = Italian National Statistics Institute (Istituto Italiano di Statistica); OEL = Occupational Exposure Limits; OHSAS = Occupational Health and Safety Assessment Specification; PAT= Productivity Assessment Tool; ROI = Return On Investiment; SGSL = Workplace Health and Safety Management System; SMEs = Small and Medium Enterprises; US-AHRQ = US Agency for Healthcare Research and Quality; WHP = Workplace Health Promotion

Introduction: the changing work environment

Full-time employment, the predominant traditional work pattern in Italy, has been revolutionized, and new work organization strategies have evolved (mixed-formula and part-time contracts, internalization, outsourcing, continuous collaboration contracts (the Italian *co.co.co*), project-based contracts, intermittent employment, starter and fixed-term contracts, secondment, time-sharing, temporary work, telework, INPS (the Italian Social Security Agency) work vouchers, etc.). The latest labour legislation in Italy has focused in particular on apprenticeships, fixed-term contracts, project-based collaborations, and self-employment (1).

The reasons for such a significant transformation are due to the increasing life expectancy, falling birth rate, growing immigration and outsourcing of production, that, together with the expansion of a comfortable lifestyle and a greater collective sensitivity to environmental and health-related issues, have changed the social outlook and needs within the critical and highly competitive global context, where ethnic and social conflicts emerge from time to time (2, 3).

As a consequence, highly "flexible" work conditions have evolved, whose regulation at the national level was vague at best in the early 2000s, but has since been subject to numerous clarifications and revisions. Currently, special activities - often precarious - organized by the workers themselves, by companies and by co-operatives, for maintenance, cleaning, surveillance, catering, domestic work, small services (often declined by Italians), such as running the fuel station pumps during closing hours, selling small gadgets and flowers, temporary fruit stands, or caring for the disabled and the elderly, have emerged.

Even though the safety aspects of most forms of employment are regulated by section 3, paragraphs 1, 3, 4, 5 (administration), 6 (secondment), 7 (project-based contracts), 8 (contingent work), 9, 10 (remote work), 11 (self-employment), 12 (family businesses), 12b (volunteer work) and 13 (small and medium enterprises in the agricultural sector) of the Italian Legislative Decree 81/2008, widespread non-compliance with safety norms still persists, especially within small and medium enterprises (SMEs), and deficiencies related to insurance policies and cover are still common (4).

Moreover, these changes in work organization are taking place during a prolonged economical crisis, influenced by market volatility, unprecedented credit expansion, financial speculation and lack of economic resources, in particular in SMEs. All these factors have amplified the pre-existing issues, resulting in growing insecurity, also within the context of employment (2).

Additionally, the emergence and consolidation of a set of often psychological and organizational issues, related to unemployment, the massive discontinuity of employment opportunities, especially for young people, and unemployment or under-employment, in particular in the south of Italy, have resulted in a decline of social mobility (3) to the extent that some authors hypothesize that the poor application of meritocracy in the public and private sectors, the lack of transparency by public institutions, and the socio-political strategies for economic emancipation of young people have contributed, together with the excessive tax burden, to cause a marked deterioration of opportunities for social and occupational success of young people (2, 3).

Psychological problems, maladjustment, delays in taking (often disapproved and frustrating) occupational decisions, together with the arduous search for employment with frequently discouraging results, are further

causes of difficulties. Grievances, discontent with the increased cost of living, with social obligations and higher standards of wellbeing, are created by the awareness of one's rights and technological progress (4, 5).

To bring these issues into the complex and ever-evolving framework, various solutions and legislative changes have been proposed (6-9).

Moreover, with regard to aspirations and wellbeing at the workplace, some authors (2, 3) have observed that, despite social pressures, positions in the top occupational stratum are still often occupied by the elderly and even by old employees over retirement age. Many young people are still forced into socially unfavourable positions, and the recently introduced "short-term" university degrees have not produced significant benefits in terms of employment, considering that they have not prevented the continuing abandonment of artisan manufacturing practices, nor have the public and private administrative organs readily adapted their structures, functions and accessibility to accommodate these new professional figures.

On the legislative front, there is a particularly complex situation in Italy, compared to other countries where the failure to comply with preventive rules does not call for penal consequences. Furthermore, the transposition of European directives on occupational health and safety has been delayed in Italy, and further legislative decrees, still not perfected, have been required to implement these regulations.

Regulations for large-medium enterprises, often with burdensome costs and procedural practices, are also applied to SMEs in a bureaucratic and basically ineffective fashion, despite some differences, for example regarding research experience and work-related stress (10).

If the aim of increasing productivity through enhancing international competitivity and reducing labour costs cannot be achieved by charging the costs to the employees, growth and progress cannot take place without profound changes of traditional work patterns. These no longer ensure competitivity, social security and occupational stability. Some scholars have proposed the introduction of contractual changes and/or a more participatory approach (as originally called for by the European regulations), rather than the traditional "advisory" mechanism that currently characterizes the social aspects of employment in Italy. Greater employee loyalty towards the company, would require widespread and uniform implementation of more meritocratic and transparent conditions related to entering the workforce and career advancement. In addition, the development of public policies (economics, employment, education, housing, welfare etc.) aimed at reviving training and coaching opportunities, as well as emancipation and economic independence of young people, would be necessary (3).

In order to pro-actively improve the current situation, some recommendations have been formulated to regulate the public sector, highlighting transparency, equality and communication as essential prerequisites to ensure non-dysfunctional career development (11, 12). Even though these regulations do not seem to have been fully implemented yet, they were introduced as the foundation of a broader set of provisions, intended to minimize the incidence and effects of work-related stress, offer effective solutions to conflicts, and resolve dysfunctional organizational practices that determine a wide range of work-related conflicts (13, 14).

Within the current social framework, previously overlooked risk factors have emerged, such as traffic accidents while commuting or during work hours, detrimental lifestyles (smoking, alcohol drinking, drug abuse etc.) and poor work organization (biomechanical alterations caused by

repetitive movements, maltreatment, etc.). It could seem that the regulatory reform has produced some results in terms of decreasing the impact of some risk factors (addiction, overuse of medication etc.), since the latest statistics show that substance abuse is currently declining (15, 16). However, it is also plausible that other interventions have contributed to a reduction of these risk factors. Indeed, employees are checked for drug use, there are driving-licence drug tests and increased road checks by the police. Moreover, the reduced availability of economic resources, the improved diffusion of information, the increased awareness of risk and damage and the growing general perception of the risk of sanctions and loss, might all have contributed to reduce addiction and overuse of medications.

This illustrates how attention towards occupational risks is greater than in the past, but at the same time reveals declining expectations about career security and stability, often accompanied by a perception of decreased protection due also to the economic crisis which, in some cases, may delay the adoption of innovative preventive measures.

Today, it is commonly recognized that, in terms of management, many enterprises affected by the economic crisis are unable to create an environment of organizational wellbeing; in fact, work dis-organization is currently considered one of the main causes of work-related stress.

This complex panorama raises two questions: one being the overall effect of the numerous preventive regulations in force; the second, what possible alternative should be introduced.

Costs of prevention practices

In order to discuss the effectiveness of the current regulations, it is necessary to consider feasibility, advantages and disadvantages of a further comprehensive reform of the regulatory system. The cost of the present "prevention system" is very high and was estimated to be at least 30 billion Euros in 2002, including the budget of the Italian INAIL. According to some authors, the current annual cost of lack of prevention is approximately 47-60 billion euros, 39 of which are used to deal with the consequences of work accidents (17, 18). Given these data, one might wonder whether the results, in terms of reducing work accidents - especially fatal - and the incidence of occupational diseases, can be considered acceptable according to what was introduced by the legislative decrees 626/1994 and 81/2008 or whether the incidence of fatal accidents is still at an unacceptable level (in particular in the construction and agricultural sectors). Indeed, even if there has been a clear decrease in accidents reported by the INAIL in recent years, there are an estimated 5 million workers who are not insured under the INAIL system, and are therefore not included in the statistics on work-related deaths, diseases and accidents (e.g. self employed workers, merchants, armed forces, etc.). The Italian National Statistics Institute (ISTAT) data reveal that there are about 22-23 million employed people in the country, of whom approximately 18 million are insured by INAIL, while the other 4 to 5 million workers are employed "off the records" (19). Thus, it is clear that the current prevention system is highly complex. Moreover, supervisory bodies have observed that in drawing up the documents that should elucidate risk assessment practices, employers and "expert" consultants often choose to include all-encompassing previsions and generic requirements applicable to various types of situations, with excessive and repetitive use of terms to list various obligations (20), thus ending up with a risk assessment document that essentially duplicates the general regulations, thus wasting paper and reducing the usefulness and efficacy

of the document, which should ideally be streamlined and easy to use as it is achieved by many EU countries (also for work-related stress assessments).

Training interventions are perhaps too formal and often educationally outdated; it may seem that they are realized to satisfy the "employment needs of many prevention consultants" rather than to provide useful knowledge to the workers. Employees, supervisors and managers usually do not enjoy a good training in workplace safety during the pre-employment period, since no such education is currently given at school, and must therefore be fully provided by the employer. Therefore, employees in SMEs rarely have comprehensive knowledge of the complex and numerous prevention regulations prior to starting work.

Moreover, despite alterations and recent modifications (21) of the training regulations, there are still significant delays (18) in the adoption of current regulations, such as the "training certificate", announced in 2003 (Legislative Decree 276/2003 and Ministerial Decree issued on 10.10.2005), that would enable new workers and trainees/ interns to bypass the basic training in case of prior training received at school or otherwise.

The current regulations include redundant repetitions, certification and documentary requirements to the point that a recent proposal calls for the reduction of the over 306 sections of the current act (Legislative Decree 81/2008) to a mere 22 (9). At the moment, the law provides a certain level of autonomy to the individual enterprises (employer - health and safety manager - occupational health physician - managers - supervisors - health and safety representatives, who collaborate for the autonomous risk assessment), resulting in economic costs, procedural practices and ongoing training activities (20, 22). This system is overseen by a "higher-grade" organ to monitor the appropriate application of the risk management regulations through "auditing" and supervision as required by the section 30 of the Legislative Decree 81/2008 (Workplace Health and Safety Management System - SGSL), under the responsibility of the company administrator (23). A further system (official or institutional supervision) is supposed to ensure that the global prevention strategies defined by the other two systems are efficiently and conveniently implemented, but the activities of such organs are characterized by discrepancies, severe resource shortages and the involvement of various independent organizations (provincial employment departments, local health authorities, fire departments, regional authorities, ministries, port and airport health authorities, law enforcement agencies, army, coast guard, etc.). Each of these organizations operates in almost complete autonomy with limited staff, and totally disjointed policies and criteria, and are required to report any suspected misconduct to the judicial authorities. Such reports are frequent, given that basically any type of noncompliance with the regulations can be penally sanctioned, including minor breaches such as dirty light bulbs, dark walls or non-washable ceilings (22).

On the one hand, preventive activities seem to be overseen more efficiently, with the various official stances and decisions issued by the Advisory Commission of the Italian Ministry of Labour, while the actual organizational and standardizing activities of both the regional authorities and the relevant coordinating committees appear unconvincing. Additionally, various structures and institutions (bilateral bodies, joint committees) are involved in regulative, participatory, auxiliary, certificative and confirmative activities, even though this often leads to the seemingly uncontrolled presence of a myriad of non pertinent small organizations, to the point that regional deeds are often required to officially acknowledge such institutions (24, 25). Obviously, the

involvement of bilateral bodies and joint organizations (section 51 of the Legislative Decree 81/2008) – in particular in the building sector - has boosted the culture of prevention within some local contexts, but the primary objective of the consolidating act (to be the "primary reference source" for disputes on the application of representation, information and formation rights) is not always achieved (25).

Prevention laws are definitely not easy to interpret, in addition to being subject to continuous delays and modifications that further complicate their interpretation and make it difficult for citizens and workers (in particular foreigners) to understand the rules. The need for a continuing "cultural mediation" to understand the meaning of legislative decrees has practically become a tradition in Italy, providing employment for analysts and law attorneys, while hindering the full understanding of the regulations by citizens.

The fact that the implementation of these regulations has been ineffective over the past few years is further confirmed by the numerous legal investigations and epidemiological evidence that highlight damage caused by errors in assessment, management and prevention (for example the unassessed seismic risk and the situation caused by the recent earthquakes in Italy).

There is no doubt, however, that prevention strategies are generally efficient when properly applied (26). For example, a recent study (27) on the direct medical costs of healthcare associated infections (HAIs) in US hospitals showed that the benefits from the implementation of a set of preventive measures could lead to savings ranging from a minimum of 5.7-6.8 billion US dollars (20% of preventable infections) to up to 25-31.5 billion US dollars (70% of preventable infections) (28). HAIs can be considered a significant target for prevention, given that they have considerable economic consequences but are often underestimated within the national health system. According to the US Agency for Healthcare Research and Quality (US-AHRQ), the three main diagnoses with the highest total annual hospitalization costs are coronary disease (17.5 billion dollars), infarction (11.8 billion dollars) and congestive heart failure (11.2 billion dollars) (29). Although the effectiveness of HAI prevention strategies are relatively low, the direct medical costs of preventable HAIs are basically comparable to those of stroke (6.7 billion dollars), complications of diabetes mellitus (4.5 billion dollars) and chronic obstructive pulmonary disease (4.2 billion dollars) (30). Even though these are just estimates, it is clear that implementation of prevention strategies can produce significant economic benefits (31). Lowe wrote that "the research documents cost-benefit ratios of between USD $3 and $8 for every $1 invested in health promotion programs within 5 years of being launched" (32). Several efforts have been undertaken to summarize the literature on the financial return of WHP programmes (33-36) and in the past, other researchers estimated financial returns, as defined by averted medical costs, productivity-related costs or both, ranged from $1.4 to $4.6 per dollar spent (33).

In Italy, the INAIL is issuing recurring calls to reward enterprises that invest in workplace safety to promote the implementation of the current prevention regulations. New approaches to prevention include the evaluation of the Return on Investment (ROI) obtained following Workplace Health Promotion (WHP) interventions, in particular in the SME sector (28, 31, 32). Furthermore, the Productivity Assessment Tool (PAT) enables a relatively simple cost-benefit analysis of workplace safety interventions (37). In the USA, the public health system uses the Basic Assessment Scheme for Intervention Costs and Consequences procedure (BASICC) (38) to analyze the costs of such interventions and

the consequent direct economic benefits obtained using the following formula:

Net cost = cost of program + cost of side effects – cost of health problems averted.

During periods characterized by limited resources, assessing the cost and the effectiveness of prevention programs is crucial. Awareness of prevention program costs and knowledge of the associated effects should lead to the allocation of resources based on scientifically determined priorities, whenever possible. Remarkably, approximately 90% of US workplaces with over 50 employees have some form of health promotion program in place, and most enterprises invest in, and strongly promote, comprehensive health promotion programs, with the specific aim to create a better working environment and "health culture", to support employees and build up employees' loyalty, to help to keep them healthy and therefore reducing sick leave expenses. In this regard, the effects of some "Wellness" programs (dental hygiene, incentives for weight loss, adequate hydration, proper sleeping habits and fruit and vegetable intake) have been evaluated in the USA in order to assess their impact on employees' health and the cost of the program versus changes in the absenteeism rate. The interventions mentioned above, generated savings of about 15.60 US dollars for each dollar spent on the implementation of the program (39). Assessments of the costs of workplace accidents and lack of prevention practices, have also been carried out in Italy (40,41).

A publication from EU-OSHA (42) well summarized all costs derived from work accidents and professional diseases. The economic evaluation should investigate three different levels: the worker, the company, the society. There is no complete list of all costs to be included in the evaluation. Nevertheless, there are some essential costs to which other costs must be added considering the objective of the economic evaluation and the Country it refers to.

Table 1 - Overview of variables directly associated to costs of lesions and diseases at the individual level

Variable	Description	How costs are calculated
Health	Hospitalization (bed-days); other medical treatments, i.g. non hospital treatments, pharmaceutical treatments, permanent disability (grade, age) non medical rehabilitation (i.g. vocational rehabilitation), adaptation of house	Medical expences not paid by insucrance companies or employers
Quality of life	Expectation of life, expetation of healthy life, quality adjusted life years, years of life with disability.	Willingness to accept, ability to pay, payment of damages and compensation
Pain and suffering	For the victims but also for relations and families	There is no reliable method of calculating this costs
Loss of earned income	Loss of income from main and secundary jobs	Reduction of current income and loss of salary
Loss of future potential earnings	Also including the secondary occupation	Difference between expecting total future earning and compensation or pension
Expenses not covered by insurance	I.g. cost of transport, hospital visits, expenses associated with death (funeral costs)	Costs incurred for the victim and his/her family not compensated

Source: Agenzia Europea per la Sicurezza e la Salute sul lavoro. Inventario dei costi socioeconomici degli infortuni sul lavoro. FACTS 27. ISSN 1681-214X - https://agency.osha.eu.int

Table 2 - Overview of variables directly associated to costs of lesions and diseases for the society

Variable	Description	How costs are calculated
Costs related to health		
Health	Hospitalization (bed-days); other medical treatments, i.g. non hospital treatments, pharmaceutical treatments, permanent invalidity (grade, age) non medical rehabilitation (i.g. professional), adaptation of house	Real expenses for medical treatments and rehabilitation
Lethal accidents (numbers, age)	-	Ability to pay or willingness to accept
Quality of life	Expectation of life, expetation of healthy life, quality adjusted life years, years of life with disability.	Ability to pay or willingness to accept. Total amount of payments of damages and compensations
Pain and suffering	For the victims but also for relations and families	Ability to pay or willingness to accept. Total amount of payments of damages and compensations
Loss of real production	Loss earnings due to disease leave, absenteism, invalidity	Total loss of earnings during the leave period
Loss of future potential earnings and productivity	Loss of earnings during the period of permanent invalidity.	Total loss of earnings during the estimated invalidity period where income and length are evaluated from statistical data.
Expenses and damages not related to health		
Management of disease leaves, etc.	-	Total amount of salaries payed in this activity
Damages of equipments (due to accidents)	-	Expenses for replacement, market prices
Loss of productivity due to inability of employees or stop of production	-	Cost of loss of productivity

Source: Agenzia Europea per la Sicurezza e la Salute sul lavoro. Inventario dei costi socioeconomici degli infortuni sul lavoro. FACTS 27. ISSN 1681-214X - https://agency.osha.eu.int

Tables 1 and 2 present an inventory of costs that can be used as a starting point for economic evaluations at the individual and societal level.

Some consequences of a workplace accident are directly and easily quantifiable in money, but others are not and require further evaluation. Some examples are: fatal accidents, sick-leave, personnel replacement and training, damage sustained by work equipment, unavoidable production delays, overtime paid to other employees until the injured worker can be replaced, cost incurred from hiring the replacement on a fixed-term contract, working hours lost by other employees and consultant to report the accident, carrying out intervention assessments and dealing with supervising authorities, possible cost of modifying the work equipment involved, assistance costs (transportation to the emergency department, working hours lost by an escorting colleague, etc.), cost of legal procedures (attorney, technical consultant, etc.) and of management staff involved in the judicial trial, costs related to loss of reputation and image damage.

Simplification, simplicity, safety and productivity

The need for a substantial simplification and a more straightforward approach to comprehensive prevention and safety strategies, without compromising workers' rights, can also be seen at the European level.

At the same time, occupational diseases and their prevention cannot be underestimated, even in the current context of sustainability and reduced economic resources. Technological progress and toxicological research have not advanced in synchrony, and in many situations we now seem to be obliged to "chase after risks" that were virtually unknown in the past. Some dysfunctional circumstances seem to be highlighted and labelled as new occupational diseases (diseases caused by biomechanical overload), while others have become worrying phenomena due to their diffusion (i.e. occupational chronic bronchitis), and causative agents at the workplace add up to environmental pollution (i.e. allergic asthma in individuals simultaneously exposed to specific agents at the workplace and high levels of environmental pollutants like dust, nitrogen and sulphur oxides) or even to smoking; moreover, a growing number of employee categories (street cleaners, drivers, policemen, traffic wardens etc.) are being exposed to urban pollution, increasing the weight of this factor in the assessments aimed at planning prevention (43).

The horizons of occupational medicine interweave with environmental issues, and thus the Italian legislators have endorsed competent and positive occupational prevention strategies, also aimed at improving the environment surrounding the workplace, through the introduction of environmental considerations in the section 18, paragraph 1 "q" of the Legislative Decree 81/2008 and subsequent modifications (*to take ... measures to avoid that the technical actions...may cause health risks to the population or damage to the surrounding environment...*).

The importance of new issues (to which research has not yet provided exhaustive answers), such as the study of nanoparticles and the potential environmental and occupational risks involved (44), oncogenic research on tumours and occupational diseases (45-48), toxicological issues emerging from the incorrect disposal of industrial and other types of waste in the past, and often in the present should be noted.

Some of these issues will be highlighted by the upcoming approval of the proposed revision of the Directive on occupational tumours by the European Commission. The proposal calls for the adoption of strict Occupational Exposure Limits (OEL) for 13 substances, instead of just 3 as in the previous Directive, and the original proposal could be modified to include up to 50 substances, although the suggested limits for certain substances are significantly higher than those already in place in many member countries.

For example, crystalline silica (believed to cause respiratory diseases and even tumours) will have an occupational exposure limit of 100 micrograms per cubic meter according to the European Commission proposal, whereas the exposure limit already in place in Denmark, Finland and Spain, as well as in the USA, is just 50 micrograms per cubic meter.

Limits for the wood dust, the diesel engine emissions and the artificial mineral fibre also seem inadequate. The proposal has been strongly compromised by the perceived cost to enterprises since several member countries, public health and trade union organizations have not yet implemented "best practice regulations", aimed at improving the protection of workers against cancer, despite past observations by the European Parliament. Concerns for the continued economic and social destabilization caused by the global

crisis, unemployment benefits, hardship due to commuting, occupational impermanence and insecurity are accompanied by the awareness that past xenobiotic exposure could have caused irreversible damage; thus, following certain epidemiological findings, Italian legislators have issued, in recent years, several new regulations (fire safety, asbestos exposure, prevention of indoor risks, prevention of legionellosis, sharps safety), amply justified by both the significant number of exposed individuals and the cost and severity of potential consequences. Moreover, the currently widespread conviction, (incorporated into several laws and parliamentary reports), that workers need to be more efficiently and meticulously trained, should be addressed with the prospect that such training – considering the vast amount of notions and precepts to acquire – is best started at school age or at re-employment and, in any case, in a more efficient manner than in the past. While timing, modality, opportunity of training and attributes of tutors, have been meticulously defined (49), training and prevention measures need to be more appealing through the evaluation of costs and benefits. This can be achieved by introducing methods to visually and quantitatively document positive interventions promoting health and safety, by surveying such activities and by assessing their effectiveness in reducing morbidity rates (50).

Any decision not to reinforce or to actually weaken the prevention sector and its related activities appears unjustified in strategic and health policy terms. The international scientific community and internationally accredited public health institutions agree that boosting prevention is an excellent investment, particularly during economic and financial crises. Thus, it is still crucial to make prevention strategies sustainable within the current economic context, minimizing waste, in particular in situations where resources are scarce (40).

Although choices that undermine prevention activities may seem unreasonable, it is a common practice to avoid expenses considered less necessary and which are "visibly" beneficial in terms of profit. For example, prevention measures, during periods of severe resource shortages both in industrial and healthcare settings. Such expenses may be "invisible" in an entrepreneurial culture, but they still constitute the ethical basis for safe work practices, and should thus be considered essential. If anything, prevention costs could be made deductible or subsidizable when enterprises are faced with a prolonged need for lowering production costs to cope with increasing competition from emerging countries. The State should therefore be consistent in terms of strategic regulations of safety, and move on from the sporadic subsidy grants and the rigid application of criminal law – which is costly and difficult to monitor consistently – to a more generalized policy of fiscal justice based on extensive tax exemptions for major prevention measures, which could also stimulate the rapid diffusion of safety practices in workplaces.

In Italy, the INAIL is introducing a series of safety and prevention initiatives, including an algorithm-based system called Co&Si (cost and safety) to determine the perception of direct health and safety costs (insurance and prevention expenses) and the costs generated, or potentially generated, by workplace accidents (51). The aim of the Co&Si system is to estimate the possible economic benefits that a company could achieve through appropriate health and safety management, taking into account the decreased accident rates reported by similar companies that have invested in safety practices beyond mere regulatory compliance, selected from a pool of companies active in the same production sector, which have obtained the Occupational Health and Safety Assessment Specification (OHSAS 18001 certification) (52).

Moreover, it is also important to know that sometimes there is a dual aspect of some occupational medicine problems: on one hand, there is a seemingly impeccable formal analysis (according to Legislative Decree 81/2008 and International Committee Occupational Health (ICOH) regulations) but on the other hand the real problem is omitted. Such attitudes interfere with spreading awareness of correct health and safety practices, essential for efficient intervention strategies. One typical example is the widespread non-reporting of occupational diseases or accidents by all categories of physicians: family doctors, hospital physicians, specialists and company physicians, to the point that various institutions have carried out campaigns to uncover "hidden" occupational diseases (50, 53).

Possible improvements within the psychosocial context

Psychosocial aspects are today considered highly relevant to workplace health and safety practices. Some examples of possible interventions include revising work organization, increasing flexibility of working hours and location, promoting employees' participation to improve work organization and environment, and providing lifelong-learning opportunities. These interventions can target the work environment, such as the provision of social spaces, smoking bans or discouragement, offering a work environment that promotes psychosocial wellbeing. Other strategies can be implemented at an individual level, such as to offer funds and contributions for the development of social and solidal activities and sports events, encourage healthy and discourage unhealthy eating habits, offer programs to promote health improvements and adopt a healthy lifestyle, projects addressing obesity, smoking and mental wellbeing, i.e. through external private psychosocial consultations and stress counselling. The benefits of health promotion for companies are described in section 2 of the Italian Health and Safety Act (22) and therefore the regulations and core content of company prevention policies should be aimed at the continuing improvement of work conditions. The European-Occupational Safety and Health Administration (EU-OSHA) is based on the premise that a successful enterprise is built around healthy employees, working in a favourable environment. Improving the wellbeing and health of employees reduces absenteeism, enhances motivation, increases production rates, facilitates recruitment, reduces staff turnover and promotes a positive and attentive company image (54). Several companies, both in Europe and in Italy, have followed this path, reaching excellent results and significant success. Health promotion is attainable by any enterprise, large or small, but it is essential to note that launching such strategies is often burdensome, and should thus be facilitated and encouraged by the State.

The future of safety in Europe

The above considerations have taken into account the current European situation. The European Union seems to hesitate between protecting workers' rights (55) and giving up to the pressure of the economic crisis and its recessive effects. In recent years, a block of all new health and safety regulations has been proposed arguing that there are already too many rules that "damage" employers due to the excessive and costly "administrative burden" they generate. The possibility to "reduce" and "limit" the existing regulations has also been explored with the intention of enabling employers to save in health and safety costs and to act with increased autonomy. In this regard, a major controversy (not without political

consequences, given Brexit) recently emerged in the United Kingdom for the "invasiveness" of the European directives aimed at improving workplace safety, in particular with regard to ergonomics in the hairdressing and artisan sectors!

It is probable that a more "flexible" approach in terms of prevention strategies (and work-related stress monitoring, in Belgium, Holland, Denmark, Norway and Finland), in line with many other European countries (55), would be more compatible with the SME-based productive network in Italy, due to the lower costs, and, when accompanied by economic and fiscal incentives for safety investments, increased productivity. A disregard towards health and safety regulations by some employers, especially SMEs, somewhat hinders the introduction of such an approach in our country.

Riassunto

Sostenibilità della prevenzione nei luoghi di lavoro: sicurezza, semplificazione, produttività ed efficacia

Il lavoro subordinato full-time, prevalente tipologia del passato, oggi è mutato in variegate forme di lavoro e sono comparse nuove tipologie organizzative di produzione. Concorrono rischi in precedenza sottovalutati come gli incidenti stradali in itinere, le discrasie dell'organizzazione del lavoro e gli errati stili di vita (come il consumo di alcol e di sostanze d'abuso che recenti statistiche avrebbero mostrato comunque essere in calo nei consumi).

Lo scenario globale fa intravedere maggiore attenzione ai rischi, ma anche ai casi di ridotta tutela. Inoltre, i costi elevati, gli infortuni mortali (a livello ancora non accettabile in molti settori), l'elevata complessità "globale" del sistema prevenzione, l'assenza di preformazione scolastica, l'inadeguata vigilanza (pur con numerosi organi autonomi), l'obsolescenza di alcuni precetti, impongono ormai una verifica dell'impianto normativo. Questo si rende particolarmente necessario anche per quanto riguarda le istanze di semplificazione, le istituzioni di asseverazione, i continui rimandi nei testi di legge alle disposizioni che rendono difficile la lettura e la comprensione delle norme a lavoratori, italiani e stranieri, "senza interpreti giuridici". Si registrano anche "nuove" malattie professionali e agenti causali professionali che si aggiungono ai fattori di inquinamento. Ci sono preoccupazioni per la continua destabilizzazione economica e sociale, cassa integrazione, pendolarismo, temporaneità, precarietà, che concorrono alla determinazione di stati di disagio. Si dovrebbero allora monitorare con accuratezza i tempi e le modalità della formazione, rendere appetibili le misure di prevenzione valutandone costi e benefici e utilizzando in modo diffuso indicatori che rendano "visibili" e parametrabili i processi virtuosi di promozione della salute, cosi come conoscenza e pianificazione dei costi dei programmi di prevenzione ed i corretti effetti.

Se indebolire le attività di prevenzione non è mai giustificato, la prevenzione deve pur sempre essere "sostenibile" nel contesto economico evitando sprechi di risorse.

È necessario anche agire sull'etica degli operatori e rendere efficaci gli interventi, omogenizzando le norme sullo standard operativo ed interpretativo di altri paesi europei che operano con forse maggior efficacia e minor costo.

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