Dear Reader,

This issue of GOHNET aims at raising awareness of psychosocial risks and work-related stress through a variety of articles which describe national situations and the state-of-the-art with respect to the impact/influence of these risks to mental and physical health. Contributions received cover five of the six WHO Regions.

This topic has either not or only scarcely been addressed in countries in economic transition, in newly industrialized countries, and in developing countries (afterwards referred to as: target countries). There is ample research from developed countries outlining the relationship between workers’ health and consequences of work-related stress originating from psychosocial risks. However, we have little knowledge about assessment methodologies, risk management and interventions from the target countries. The lack of research in this field and the need to prioritize actions considering other well-known and traditional occupational risks (chemicals, biological mechanical, and physical hazards) may be the reason why addressing and controlling emerging hazards such as work-related stress and its consequences for the health of workers is often seen as a lower priorities in these countries. Traditional hazards have been increasingly controlled in industrialized countries and the focus has moved to the modern hazards of working life. For example, current priorities in Europe concern primarily musculoskeletal disorders and work-related stress.

Clearly one cannot assume that the existing body of research, including prevention and intervention methods, can be extrapolated and applied to the target countries’ contexts without consideration of specific aspects, including a high prevalence of infectious diseases, stigma, gender inequalities, high informal sector employment, emerging industries, cultural and behavioural norms, absence of legislation, precarious employment arrangements, poverty, lack of education, unavailability or inadequacy of data recording systems, and lack of standardized instruments.

People in the African Region experience some of the greatest psychosocial strains in different areas, including those related to work, but the resources to help them cope with mental health problems are scarce. At the same time priority is given to communicable diseases although there is a strong indication that non-communicable diseases, including mental health and substance abuse, are increasing in the Region, with a substantial impact on health, economic and development indicators. The lack of research and data also contribute to the fact that little attention is paid to the impact of psychosocial risks on the population and that even though specific programmes or initiatives can be implemented at country level, little is done to address the problem.

The WHO is working on several processes addressing the health of workers in an integrated and comprehensive manner. Firstly, the 60th WHO World
Health Assembly held in Geneva, Switzerland, from 14-23 May this year, approved the WHO Global Plan of Action on Workers’ Health (2008-2017). This Action Plan (http://www.who.int/gb/ebwha/pdf_files/WHA60/A60_20-en.pdf) has a number of objectives and stipulates that the workplace should not be detrimental to health and well-being and that primary prevention of occupational health hazards should be given priority. It further stresses that the workplace can serve as a setting for delivery of health promotion activities and other essential public-health interventions. All stakeholders should participate in such activities to ensure appropriate action and ownership of the process to work towards the goal that all workers should be able to enjoy the highest attainable standard of physical and mental well-being. The Plan of Action proposes concretely the improvement of the assessment and management of health risks at the workplace by defining essential interventions for prevention and control of mechanical, physical, chemical, biological and psychosocial risks in the working environment. Work is also under way in the development of basic occupational health service provisions which can represent a framework to address work-related risks in a comprehensive manner in underserved populations, such as those belonging to the informal economic sector.

Furthermore, to address the risks inherent in the psychosocial working environment, the Occupational Health Programme has undertaken steps to establish an international group covering the six WHO regions in close collaboration with the Regional Advisers in Occupational Health (see WHO contacts in this Newsletter). The members of this group can exert influence in their respective countries as concerns awareness raising and promotional activities, or the adaptation, development and use of intervention tools to address psychosocial risks and work-related stress in workplaces in their countries. They mostly have academic and practical experience, as well as multi-disciplinary backgrounds ranging from psychologists, psychiatrists, epidemiologists, medical doctors to general occupational health and safety specialists. They assist WHO in addressing the issues of psychosocial risks and work-related stress, their impact on workers’ health in their respective countries, in priority-setting given that the field of issues is throughout rather vast, and lastly in the definition and identification of essential interventions to address psychosocial risks in the working environment.

A survey for participation in the group can be completed online

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Work-related stress and psychosocial risks: trends in developing and newly industrialized countries

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Keywords: developing and newly industrialized countries, work-related stress, globalization, vulnerable groups

Work-related stress is perhaps one of the most common social determinants of health for the employed. At times it can be as dangerous as unemployment, known as a great cause of distress and poor health. WHO Commission on Social Determinants of Health, 2006.

Introduction

Work itself can have a positive effect on human mental and physical health. However, work-related stress generated through certain adverse working conditions can have negative effects on individuals’ health. Stress-related disorders involve enormous human suffering and huge costs to society in terms of mental strain, stress related diseases, such as depression and heart disease, and absenteeism. Long-term exposure to job stress has been linked to an increased risk of musculoskeletal disorders and depression as well as syndromes such as burnout, and may contribute to a range of other debilitating diseases. Recent research data from the WHO Global Burden of Disease studies show that 8% of depression can be attributed globally to environmental factors, in particular occupational stress (1).

Stressful working conditions may also interfere with an employee’s ability to work safely, contributing to work injuries and illnesses. The ILO reports that in the workplace of the 1990s the most highly ranked and frequently reported organizational stressors were potential job loss, technological innovation, change, and ineffective top management. At the work unit level, work overload, poor supervision, and inadequate training were the top-ranking stressors.

The crucial distinction between job stress and stress focuses on prevention. Removing or ameliorating stressors in the workplace is associated with alleviation of the stress, whereas with mental ill health this may not be the case (2). This may be explained by the fact that mental health strategies and actions focus mainly on treatment and rehabilitation of mental disorders which include mood disorders, substance use disorders, schizophrenia, anxiety and personality disorders. In contrast, emotional experiences and behaviours associated with psychosocial hazards include mobbing, stress, drug & alcohol abuse, and depression. However, these experiences can eventually result in mental health problems without diagnosis of any disorder (see also GOHNET no. 10 (3)).

Developing and newly industrialized countries

Countries with more advanced economies among the developing nations but those that have not yet fully demonstrated the signs of a developed country, are called newly industrialized countries. Countries fitting this profile are currently China and India.

The invisible nature of the subject, the difficult attribution of causes to negative health outcomes, as well as the struggle with well-known and traditional occupational risks (chemicals, biological, mechanical and physical) may indicate why developing and newly industrialized countries hardly address and control emerging hazards, including work-related stress and its consequences for workers’ mental and physical health. Traditional hazards receive priority as they are not yet controlled. There are some regulations that refer to exposure limits, but enforcement is not assured everywhere. This is, for example, the case in Latin America, however, where there is no inclusion of any mandate related to ergonomic or psychosocial factors derived from work organization (4). Traditional hazards are intrinsically related to psychosocial hazards, since both have the potential for detrimentally affecting social and psychological health as well as physical health. Therefore, psychosocial hazards represent risks to psychological and physical health (5), and need to be addressed through a comprehensive and integrated approach.

The general argument frequently heard is that work-related stress is not a priority in any developing country per se. However, it becomes
increasingly clear that there is a potential for a gradually growing experience of work-related stress and the ensuing health consequences due to a number of developments, including the changing structural nature of work, company policies of multi-nationals in developing countries that strive for reduced production costs, and, in addition, the processes inherent in globalization and their consequences. The growth of large multinational companies has been accompanied by greater decentralization, outsourcing and flexible working environments, with wide variations in the conditions of work and in exposure to occupational hazards (6). For example, Loewenson (7) stresses that “the impact of global changes in the working environment has benefited industrialized or strong economies and marginalised those that are weak”.

**Effects of globalization**

Globalization, or the process of global economic change, is largely an intensification of the processes of interaction involving travel, trade, migration and dissemination of knowledge that have shaped the progress of the world over millennia (8). Globalization affects individuals, families and the society. It has the potential to promote development and increase the wealth of the community by improving the national economy. This can have a positive impact as it may increase the income of employees, facilitate access to education and training, and improve working conditions, which in turn will have a positive effect on the mental health of employees. On the downside, globalization also brings with it other developments which have less positive impact on employment and working conditions and which are structural in nature, such as organizational restructuring in terms of substitution of the labour force with machinery causing increased competition and feelings of job insecurity, increased job instability and unemployment through mergers, downsizing and outsourcing. De-standardization of work contracts surround these changes, causing a short-term contract culture and precarious employment situations.

**Changing employment conditions and new industries**

Research confirms the increase of employment conditions offering precarious contracts (short-term and insecure), and these workers do continue to report more difficult work situations than permanent employees. The precariousness of their working conditions adds feelings of insecurity concerning their future. While unemployment has well-known and significant effects on health and psychological well-being, insecure jobs also appear to have health consequences. Even if the effects on individuals are not as serious as unemployment - and this is yet to be demonstrated - the overall effect of precarious employment appears to be negative (3). Poverty and economic insecurity, in turn, have multiple effects on exposure and vulnerability, mediated by housing, working conditions, and access to nutrition and education (9).

There is also an emerging trend, even in the developing nations, in the growth of service industries, with hazards resulting in musculoskeletal disorders from repetitive and forceful movements and stress-related diseases (10). The manufacturing sector includes both labour intensive processes as well as flexible or lean production. A body studies has emphasized stress-related issues in such types of work organization (11), (12).

Globalization has also led to the emergence of new industries. In Central America, for example, “maquiladora” or ‘export-processing zones’, which represent the assembly industry, have emerged. In this industry, 90% of employees are women or children, and workplaces are often characterized by unstable jobs, low wages, long working hours, sexual harassment, temporary contracts and subcontracting (13). The case of Mexico’s maquiladora is often cited to illustrate how aggressive pursuit of integration into the global market can result in growing economic and social inequalities among workers (14). Export-processing zones are characterized by a number of problems, including high levels of machine-related accidents, dust, noise, poor ventilation, exposure to toxic chemicals, and high levels of job stress. A combination of accidents, stress, and intense exposure to other common hazards arises out a common factor in many export-processing zones, that of unrealistic production quotas, productivity incentives, and inadequate controls on overtime that create pressures for highly intense work. The stress generated in this working environment has been documented to produce cardiovascular and psychological disorders (15). While these new industries make an important contribution to the national economy, such working conditions are likely to have a negative impact on the mental health of employees and their families. It is also
recognized that globalization supports the trend to ‘transfer’ hazardous work and machinery from the industrialized to the developing countries, hence the high number of machine-related accidents.

Particularly challenging issues to be addressed in the longer term are those concerning workers in the informal economic sector where the largest workforce can be found in most developing countries. The informal economic sector is growing rapidly, however, the economic activity is not recognized, recorded, protected or regulated by the public authorities. They are rarely covered by any occupational health legislation, or social protection programmes (such as unemployment or pension benefits, health insurance coverage, etc.), though they are often the outsourced workers of large local and international companies. It has been argued, that there is a drive towards informal economy often due to lack of jobs (for example 16).

The extent of the informal economic sector activity varies in countries. Currently we have estimates from Latin America with approximately 60%; in Mexico there are approximately 18 million people and their families; in India the informal economy generates about 60% of national income, and of 88 million women workers only 4.5 million work in the organized sector. Benin, Chad and Mali have large economic sectors of 95% (16), and Zambia with a population of 10 million states 400,000 official jobs.

**Trends in health outcomes**

Some more global trends in terms of health outcomes include a significant increase in work-related cerebrovascular & cardiovascular diseases. This is, for example, the case in the Democratic Republic of Korea. The Republic has experienced a dramatic increase in work-related musculoskeletal disorders caused by psychosocial factors and awkward working postures & repetitive body movements since the year 2000 (17). Since the late 1990s, an increase in work-related stress in the banking business, which started growing rapidly, has been recorded in Bangladesh (18). In India, the majority of the workforce is active in the informal sector of the economy. “In 2020 India will be the 3rd largest economy in the world after the US and China. IT is the fastest growing sector resulting in increased work-related stress” (19).

**Work-related and psychosocial stress: Framing the main issues**

It appears to be a particularly impressive challenge to address and frame work-related and psychosocial stress? And this is not a problem in developing countries per se, but also in industrialized nations, although some frameworks have been developed, such as the Framework Agreement on Work-related Stress1, which is based on social dialogue, or the UK Management Standards for Work-Related Stress2. Going beyond the European context, Gee and Paynes-Sturges (20) suggest that psychosocial stress (in general and not particularly related to work) may be the vulnerability factor that links social conditions with environmental hazards. Brenner (21) elaborated that economic stress within a community may exacerbate tensions between social groups, magnify workplace stressors, and induce ‘maladaptive’ coping behaviours such as smoking and alcohol use. Hence, workplace stressor may derive from a variety of sources, which points to a real need to benchmark the issues, and at the same time to consider the most relevant social and economic contextual issues when addressing interventions for workplace stress. Current prevalent definitions of psychosocial risks used for industrialized working contexts may need to be extended for the developing country and newly industrialized country contexts to include these most relevant issues to go beyond design and management of work, and the organizational context to embrace the larger community context.

**Addressing the challenges**

Better mental health conditions of workers will benefit the worker and his or her family, the employer, the community and the nation at large. To achieve this, provision of information, raising awareness and protective action will be beneficial to companies in terms of decreased sickness absences, and produce an educated, motivated and committed workforce. The emerging trend towards stress-related diseases in developing and newly industrialized countries needs to be addressed, and the first step would be to undertake an assessment of the situation. This seems necessary to explore the nature, and possibly the perception, of psychosocial hazards and the emerging work-related stress and health outcomes. The primary purpose is to identify priorities for action within

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a comprehensive research framework accounting for broader contextual issues.


We encourage all readers to provide feedback on the tools and approaches described in the booklet. If you agree to provide insight from your experience while relating to the booklet content, please enter the following location:

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Username: stress/
Password: stress/

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We thank you in advance for your participation.

References


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Introduction
The contemporary workplace is characterized by complex events that undertake the dynamics of human actions. Under normal circumstances the reaction of employees should enable them to find balances in responses to situations. However, the physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources or needs of the employee bring about stress and constitute a threat to safety and health. Inability to cope with stress could challenge the physical and psychological wellbeing of employees (1). Such a situation requires that deliberate policies and actions are put in place by management of organizations to serve as preventive and control mechanisms for the psychosocial problems emerging as major challenges to employees' health and safety in the workplace.

The impact of psychosocial hazards and work-related stress on the health outcome of workers is multidimensional. Apart from their direct consequences on an individual's physiological, psychological, and behavioural capabilities, the productive capacity of the worker is equally affected. It is only a healthy worker that can contribute optimally to the organisation's objectives and success. The attendant effects of psychosocial hazards and stress in work settings are numerous and relate strongly to workers' health outcomes. For instance, work-related stress has been implicated in lowered self-esteem, depersonalization, job burnout, increased blood pressure, heart rate, breathing difficulties, anxiety, depression, increased gastrointestinal disorders, high turnover rates, higher alcohol and other drug abuses, impulsive behaviours, work-family conflict - a major problem affecting female bank workers in Nigeria (2) - , relationship problems, high absenteeism and presenteeism, irritability and nervousness (3). Similarly, work-related stress has been found in studies on workplace violence (4). As a psychosocial hazard, workplace violence concerns incidences where employees are abused, threatened, assaulted, or subjected to other offensive experiences in circumstances related to their work.

Legislation and policy on psychosocial hazards and work-related stress
Despite the prevalence of these psychosocial challenges to health and safety, they are highly underestimated by organizations in Nigeria. Presently, they are not emphasized in policies on health by public and private enterprises. Government legislation on workers' health places much emphasis on medical issues in health outcomes. There is little in existence to address psychosocial hazards and work-related stress. The situation is worse among artisans in the informal sector. They do not understand psychosocial hazards and work-related stress as issues of concern. It is common to find workers in the informal sector engaging in high substance abuse and risky sexual behaviours as coping strategies for unpleasant experiences in the workplace. They are seldom considered in any type of public policy that address traditional issues in safety and health of workers in Nigeria.

In a recent survey of 118 (67 males and 51 females) middle level managers from different organizations (students in a weekend Master's programme in Managerial Psychology at the University of Ibadan), 112 of them said they do not know of any legislation in Nigeria that has been put in place to address psychosocial hazards and work-related stress. However, the remaining six respondents indicated knowledge of legislation, but were also quick to say that such legislation covered only medical and more traditional hazards that impact on workers' health and safety. They too are not aware of legislation that addresses psychosocial hazards and work-related stress as they concern health outcomes. When asked if they knew of specific workplace policy in their respective organizations or voluntary action which has been put in place to address the emerging issues, 92 out of the entire sample (118) reported lack of it. The remaining 26 admitted that there is some form of actions...
and policies that address HIV/AIDS issues, due to the efforts of National Action Committee on AIDS, but not more than that. Such policy/actions, where they exist, usually consist of caution about stigmatization and discrimination against workers living with HIV/AIDS, and other practices or behaviours that can lead to infection and ways of preventing them. The organizational policy/deliberate actions can be found mainly in multi-national enterprises that try to follow their global policies. Even where it exists, work-related stress is rarely considered.

Currently, there are no known comprehensive policies and actions to prevent and control issues such as sexual harassment, post-traumatic stress disorders (PTSD) from workplace violence and other harmful experiences, including work-related stress. In Nigeria, there are frequent cases of armed robbery attacks on banks and hostage-taking of workers in oil and gas fields. The job design in many workplaces, including that of the police, traditionally generates high level of stress and makes the workers to be highly vulnerable. Yet, it’s not considered a major aspect of workers’ health outcomes that require attention. An interview with some policemen in Nigeria in 2003, indicated that over 90% of the respondents are not aware of what stress management programmes are. For instance, those with 10 years or more working as policemen are not aware of any point in their career when the police authority organized stress management workshops for them. Similarly, there is no bank that has any action or policy in place to evaluate the workers after robbery experiences on PTSD and psychological intervention for those that are severely affected.

In organizations where some policies are in place, the implementation is another major problem due to lack of government legislation and monitoring to ensure compliance. Respondents from multinational enterprises in the recent survey were unanimous in their response to the issue of specific attention to work-related stress. Though there are some practices that are considered employee assistance programmes (EAP), which exist in some organizations, they are however not guided by legislation. Therefore, they are not sustainable. Hence, an organization can implement an EAP in one year and it might not be available the following year. Where work-related stress is mentioned at all, it concerns only executive stress. In a class discussion on the issue, some participants reported that it is only senior executives that attend stress management workshops periodically from their organizations. As far as they are concerned, “there is only executive stress and not workers’ stress”.

In developed countries, psychosocial hazards and work-related stress have become emerging issues that are given priority in legislation and policies on occupational health and safety. The emphasis has led to a new awareness and re-evaluation of the importance of all psychological risks at work and their implication for health outcomes of workers. The efforts have resulted in significant reduction of work-related actions and inactions that are known to bring about psychosocial hazards and work-related stress. In order to make the policies effective, organizations in western countries usually involve all stakeholders (workers and employers) in the formulation and development of the policy.

In a developing country like Nigeria, it is not common to involve workers in policy formulation and development as it is done in western societies. This is due to a number of factors including low level of unionism, high level of unemployment and lay-offs of workers, and lack of public legislation to guide organizational practices. The absence of a mechanism to involve workers in developing health promotion policy accounts largely for the high level of ignorance among workers in Nigeria about the psychological risks some work-related issues could present.

The dearth of policies and voluntary actions in organizations that address psychosocial hazards and work-related stress is a major explanation for the low level of psychological services available to workers in Nigeria. In recent times, however, a few multinational enterprises have realized the need to prepare their workers for premature and mature retirement. This effort came largely from the workers union in the food and beverage industry. They sold the idea to management and a few of them saw the need. Specifically, Guinness Breweries and Nigerian Breweries (Heineken) provide the lead in this regard. Since 2004, both breweries periodically organize ‘Social adjustment workshops’ for all categories of workers. This is aimed at preparing them to cope with the challenges of retirement. Many other organizations in the same food and beverage industry are yet to follow in such activity.

**Conclusion**

From the foregoing, it is obvious that there are no known legislation in place and policies which
comprehensively target psychosocial hazards and work-related stress in Nigeria. They are not considered important aspects of workers’ health outcomes. Consequently, there is a low level of awareness among workers about issues in work settings that constitute psychological risks and threats to health and safety. Where voluntary actions exist to address such issues in organizations, they are not sustainable and rarely comprehensive and effective. My practical experience with a few organizations that make attempts to address psychosocial issues affecting workers shows that much vacuum exists in attention to workers’ health and safety which are primary needs of every individual in the workplace (5).

Therefore, to effectively address these issues in Nigeria, there is the need to know the various practices and policy contents that are available in developed and developing countries. Collaborative and multi-disciplinary research would be very useful in this regard as it will help to identify country-specific and common issues that can guide frameworks for workable policy development. This should be followed by promoting knowledge and advocacy for increased awareness through seminars and workshops for CEOs, workers’ unions, and government functionaries from Labour and Health departments. When these are in place, it would facilitate the fostering of safe and healthy work environments through legislation and the development of policies that promote the prevention and control of psychosocial hazards and work-related stress for workers in Nigeria.

References

Work and time in teaching: findings in an exploratory survey in six countries of Latin America

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Introduction
Working time – an organizational feature of jobs – is considered a psychosocial factor because it is the consequence of an interaction between employers and employees where autonomy and control are challenged, resulting in a compromise not usually favourable for the workers. Time schedules determine many outcomes of interest for occupational health and are strongly related to bad or good psychological health of workers. Conflicts among time devoted to work, to leisure, to rest, to family, and to domestic duties have a long history in labour issues, but still remain a problem. Shiftwork, resting periods during work time, and work pacing, are always topics of focus in the area of occupational health.

Psychosocial factors involved in the teaching profession have been a concern in many countries, from both views, the rights of teachers to have a healthy job, and the demands of societies to improve the quality of education. Burnout, violence in schools, stress among teachers, emotional climate, and others issues have been investigated. Working time has been less studied, in spite of the very usual practice of extending job duties to unpaid time, thus invading rest and domestic time after work.

Peeters and Rutte (1) analysed time management in 123 primary school teachers in a context of increasing workload as a result of new duties assigned to teachers concerning the emotional and social development of children, an increased number of children per room, and an increase of working hours. Good management of time predicts less emotional exhaustion. Exhaustion was higher...
in teachers working under high demands and low autonomy situations, but only among those who exhibited bad time management. Aronson et al (2) observed a high correlation between tiredness in the morning and concerns about teaching and job issues during leisure and resting time after work. Teachers, who cannot recover from accumulated fatigue, because they worry about job matters after work, experience more digestive problems, headaches and sick leave. The authors highlight the widely extended problem of lack of autonomy for planning free time in the teaching profession.

Sutton (3), who studied strategies used by teachers for regulating emotions in the classroom, observed that one recurrent strategy was to prepare lessons at home to regulate anger and frustration. This observation suggests that intervention should consider reasons why teachers use their resting and leisure time for job duties, and not only reorganize time schedules. Ritvanen el al (4) explored cardiovascular physiological outcomes in teachers who badly recover after work or who do not recover at all. In a sample of female teachers the older ones exhibited higher blood pressure and heart rate after work during periods of high work stress and high workload.

The survey
A collaborative exploratory survey about working conditions and health problems of teachers was conducted from December 2004 to April 2005 in six cities of Latin America (Rosario, Argentina; Guanajuato, Mexico; Quito, Ecuador; Lima, Peru; Montevideo, Uruguay; Santiago, Chile). The survey was coordinated by OREALC (Regional Bureau for Education in Latin America and the Caribbean, regional branch of UNESCO). The approach was multidisciplinary. The objective was to identify the main common problems of teachers’ health in Latin America to provide direction for future research (5). Background issues for inclusion, methods and field activities, were discussed and agreed in a workshop where researchers, occupational health and educational specialists, and teacher representatives from all countries concerned participated. Six primary public schools in urban zones with more than 500 children were selected in each city. Field activities took place in the six cities. These were: a) interviews with school directors; b) meetings or workshops with teachers; c) round visit to schools applying a checklist; and d) a self-applied questionnaire about working conditions and health. Topics for the interviews, checklists and questionnaires were designed by the coordinating team. A database was designed and pre-programmed in EpiInfo 2000, and distributed to the six local teams with a format for analysis and reports.

Working time in Latin American teachers
Most of the samples are female and experienced teachers. The majority of men and women are married. The survey explored how many hours were devoted to domestic duties every week, and married people had a considerable load in this respect. Mean years of teaching suggest that a career was pursued, which reflects in high percentages of teachers having permanent contracts (more than 60%). However, they contrast with the proportions of teachers (male and female) who have additional jobs, ranging from 17% in the sample of Guanajuato (Mexico) to 32% in the case of Lima (Peru) (Table 1). Though salaries were not part of the survey, additional jobs are an indication for insufficient family earnings in Latin American countries. Also, additional jobs need to be viewed in the context of working time organization, one of the main common problems.

Table 1. Demographic characteristics of the sample

<table>
<thead>
<tr>
<th>Sample</th>
<th>N</th>
<th>% women</th>
<th>% married (men and women)</th>
<th>Age (mean)</th>
<th>Years of teaching (mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosario, Argentina</td>
<td>219</td>
<td>89</td>
<td>54</td>
<td>38</td>
<td>12</td>
</tr>
<tr>
<td>Santiago, Chile</td>
<td>158</td>
<td>72</td>
<td>65</td>
<td>49</td>
<td>23</td>
</tr>
<tr>
<td>Quito, Ecuador</td>
<td>147</td>
<td>67</td>
<td>76</td>
<td>44</td>
<td>22</td>
</tr>
<tr>
<td>Guanajuato, Mexico</td>
<td>117</td>
<td>69</td>
<td>74</td>
<td>41</td>
<td>18</td>
</tr>
<tr>
<td>Lima, Peru</td>
<td>161</td>
<td>80</td>
<td>66</td>
<td>43</td>
<td>17</td>
</tr>
<tr>
<td>Montevideo, Uruguay</td>
<td>182</td>
<td>96</td>
<td>67</td>
<td>41</td>
<td>16</td>
</tr>
</tbody>
</table>

One critical issue related to teaching is the widely extended practice of using unpaid time outside schools for teaching activities, which results in reduced time for leisure activities, family and rest activities. In this survey, teachers were asked about the number of hours they devoted to teaching activities outside the job. To obtain a more exact figure about working hours per week, column $b$ in Table 2 shows the percentages of teachers whose ratio of work time outside/inside school is over 0.5, ranging from 14% in Lima (Peru) to 43% in Guanajuato (Mexico). In most of the formal jobs, industrial or service activities, this ratio is expected to be zero. However, all teachers in these samples declared that they spend some time outside schools in core activities relating to their jobs.

Workload in unpaid time (outside school) was calculated in Table 3. The workload outside school was qualified as high or very high when more than 5 out of 10 activities were declared, which teachers carry out in their homes (for example, planning and/or preparing lectures, correcting tests, giving tutorials and seeing pupils). In this case, samples ranged from 35% in Lima (Peru) to 90% in Montevideo (Uruguay).

Although the time demanded for teaching activities is high outside the school, it is also high at school. There is a high proportion of teachers who declare no more than 15 minutes of rest time during the working day. This concerns 84% in Rosario (Argentina), 44% in Santiago (Chile), and 82% in Montevideo (Uruguay).

Finally, time dedicated to domestic activities was also declared by teachers in this survey. Table 4 shows a high percentage of female and male teachers who spend more than 20 hours per week in such activities.

### Table 2. Characteristics of working time organization

<table>
<thead>
<tr>
<th>Sample</th>
<th>&gt; 40 hours weekly (%)</th>
<th>Ratio of work outside/inside school &gt;0.5 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosario, Argentina</td>
<td>13</td>
<td>39</td>
</tr>
<tr>
<td>Santiago, Chile</td>
<td>58</td>
<td>23</td>
</tr>
<tr>
<td>Quito, Ecuador</td>
<td>28</td>
<td>30</td>
</tr>
<tr>
<td>Guanajuato, Mexico</td>
<td>51</td>
<td>14</td>
</tr>
<tr>
<td>Lima, Peru</td>
<td>50</td>
<td>43</td>
</tr>
<tr>
<td>Montevideo, Uruguay</td>
<td>21</td>
<td>20</td>
</tr>
</tbody>
</table>


- Total hours per week are calculated adding hours dedicated to teaching activities inside and outside school.
- Ratio Outside / Inside school is calculated dividing hours dedicated to teaching activities inside school by hours dedicated to teaching outside school. Both columns give approximate values, based on hours declared by teachers.

### Table 3. Workload in unpaid working time

<table>
<thead>
<tr>
<th>Sample</th>
<th>High or very high workload (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosario, Argentina</td>
<td>71</td>
</tr>
<tr>
<td>Santiago, Chile</td>
<td>50</td>
</tr>
<tr>
<td>Quito, Ecuador</td>
<td>43</td>
</tr>
<tr>
<td>Guanajuato, Mexico</td>
<td>70</td>
</tr>
<tr>
<td>Lima, Peru</td>
<td>35</td>
</tr>
<tr>
<td>Montevideo, Uruguay</td>
<td>90</td>
</tr>
</tbody>
</table>


- High – very high => >5 teaching activities carried out in unpaid time declared out of 10 possible activities.

### A call for interventions

This survey was designed as an exploratory study and no correlations were established. Other issues explored concern material conditions, resources for the jobs, the social environment of the schools, social problems of children and families impacting on the job, job satisfaction, burnout, health problems experienced by teachers, and impact on pedagogical outcomes. Time appears to be an unresolved problem, given the traditional practices exposed in the introduction, and revealed by the survey. Future studies could focus on stress, fatigue, back pain, and emotional exhaustion, which were found in this survey, and how these correlate with work time practices.
Many interventions to improve the health of teachers focus on behaviours and skills to manage emotions, improve communication and relationships. But if this extended practice of extra time demanded after work as a resource of the educational system is not addressed and changed, few possibilities for a real improvement could be expected. Public health policies promote rest as a way to protect health after work. They promote active leisure time and the practice of sports and recreation to maintain cardiovascular and mental health. They also stress the importance of family and social networks as a buffer for mental health, and the need of unwinding from daily work to cope more successfully with the everyday workload. However, after looking at working time practices, healthy behaviours and skills are difficult to practice for a high percentage of teachers in Latin America.

Determining the origins of diseases derived from stress - occupational or common - in Colombia: Recent developments

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The Colombian legislation related to occupational risks includes, since 1994 stress-related diseases within the professional disease list (Ordinance 1832 of 1994 (1)). This shows a significant progress in Colombia compared with other countries worldwide. This legislative innovation helps to explain some of the increased interest for the need to conduct interventions that can reduce the associated disorders described by law: myocardial infarct, arterial hypertension, or other cardiovascular emergencies, anxiety and depression disorders, acid peptic disease, and irritable bowel syndrome.

The amount of health problems associated with stress reactions are significantly high according to the Colombian Ministry of Labor and Social Affairs. We know there is under-reporting of occupational illnesses in general, especially those related to stress. The insurance companies of professional risk administrators, as they are known in Colombia, reported that stress–related illnesses occupy the third place of importance as being subject to epidemiological surveillance, after accidents and musculoskeletal disorders. Statistics confirm that it is very common among health professionals not to investigate sufficiently as concerns the etiology of these kinds of illnesses during patients’ consultation.

In relation to occupational stress-related diseases in Colombia, the information provided by some professional risk administrators, shows the following results during the period of 1994 to March of 2002 (2):

- 48 cases were diseases caused by occupational stress. 44 (91%) were male and 4 (9%) female workers.
- Stress-related cases were recorded in 14 cities; a third was diagnosed in Bogota, the country’s capital.
- 40% of the cases occurred in official security services personnel (prisons and civil intelligence), followed by 33% of cases for workers of different service enterprises (financial, energy, education, communication, temporary services, and security agencies).
- The occupations most affected were prison guards, followed by intelligence investigators.

References

When considering the diseases, 40% of cases were related to posttraumatic stress disorders, usually caused after an explosion or work accident. Other cases included depression (6%), disorders caused by kidnapping (20%) and anxiety crisis (30%).

The statistical analysis related to occupational diseases, conducted by the Colombian Federation of Insurance Companies FASECOLDA in 2002, show that 0.5% of occupational diseases are caused by stress. As a conclusion, violence is one of the most important causes of occupational stress disorders in Colombia. Nevertheless, it is interesting to analyze the causal participation of the psychosocial risk factors in other health disorders.

In another research developed with information provided by 45 different social security institutions in Colombia, who are responsible for disease impairment grading for the workers’ compensation, it was found that the number of cases reported as diseases caused by stress reactions are increasing (3).

The detailed data related to the period of 1994 to June 2004 is presented in the following table.

Table 1 – Absolute and Relative Frequency of suspicious stress-related diseases reported for study during the period August 1994 to June 2004

<table>
<thead>
<tr>
<th>QUALIFICATION OF THE ORIGIN OF STRESS RELATED DISEASES</th>
<th>NUMBER OF CASES 1994 a 2004 (1rst semester)</th>
<th>% OF THE TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work-related</td>
<td>185</td>
<td>22%</td>
</tr>
<tr>
<td>Non-work-related</td>
<td>484</td>
<td>57%</td>
</tr>
<tr>
<td>In process</td>
<td>16</td>
<td>2%</td>
</tr>
<tr>
<td>With no information</td>
<td>162</td>
<td>19%</td>
</tr>
<tr>
<td>Total cases</td>
<td>847</td>
<td>100%</td>
</tr>
</tbody>
</table>

Only 22% of cases were considered as occupational illnesses, a proportion that can be considered as low when compared with the number of workers who reported work stress.

Some explanation of the above mentioned low frequency could be:

- not all stress disorders are disabling, so there are fewer people who claim an evaluation from a social security institution; and
- health professionals and workers are not sufficiently aware about stress as a precursor of diseases.

It is important to take into account that the scientific findings reaffirm the multi-factorial character of the diseases. This represents a challenge to researchers in completing the web of causes and in clarifying the participation of stress in these.

In order to provide the social security system with a homogeneous and valid method for the search, evaluation and analysis of relevant information, and needing to take decisions about the origin, occupational or non-occupational, of the diseases related to stress, the research group of Social Security and Professional Risks Subcenter of the Javeriana University, developed a protocol to determine the origin of these (4).

The protocol construction involved the revision of the state of the art related to cardiovascular, gastrointestinal, musculoskeletal, endocrine and central nervous disorders, associated with stress reactions. At the same time, the legal aspects were analysed and the origin qualification processes followed in other countries, as well as the psychosocial risks assessment procedures.

The associated risk factors of every disease studied were arranged and ordered according to their importance, using the paired comparison method. The protocol was tested with a sample of workers who had asked for health assistance from the social security system, based on their assumptions that their diseases were caused by stress.

The protocol provides a procedure to establish the role of occupational stress in the following health disorders: essential hypertension, heart infarct, other ischemic heart diseases, stroke, peptic ulcer, irritable bowel syndrome, major depression (unique episode), generalized anxiety disorder and adaptive disorders. The criteria for the
psychosocial risk factor assessment are applied to estimate the exposure level, considering exposure time, frequency of risk exposition, and intensity.

A set of risk evaluation matrices was developed for each disease and each one was validated in 181 of 201 cases of workers. With this information the relative operating characteristic (ROC curves) were calculated to define the cutting point that indicates the final decision for every case.

The protocol validation was carried out comparing the decisions taken by a group of experts (Gold standard) with the ones taken by another group who used the protocol matrices. The protocol sensibility was 83% and its specificity was 71%.

In conclusion, this protocol provides an important and an innovative tool that enables us to make more objective decisions about the origins and effects of stress, especially in those countries in which stress diseases are recognized as work-related diseases.

Protocol for the determining the origin of diseases derived from stress (available in Spanish only): http://www.fondoriesgosprofesionales.gov.co/Publicaciones/ Publicaciones_Tec/Protocolo%20Origen%20Estrés%20Ocupacional.pdf

References

Psychosocial factors and work stress research in Mexico: A new Latin-American Network

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There is no doubt that the current process of globalization results in the generation of new work systems that are crucial for the health and well-being of workers worldwide. In 1984 ILO/WHO expert meetings on psychosocial factors concluded that various aspects of work organization influence the health and the performance of working people and, therefore, constitute a problem necessitating caution and prevention (1).

In recent years, in a very consistent way an extensive body of investigations carried out mainly in U.S and Europe have shown that psychosocial factors and stress do not only represent a problem of well-being in itself, but are also related to diverse problems of chronic health, including mental health disorders such as burnout, depression, as well as cardiovascular disease and hypertension (2,3), which in turn are main causes of morbidity and mortality in industrialized countries. In fact, the European Agency for Safety and Health from the European Union has targeted work-related stress as the main priority for the next decades (4).

Nevertheless despite increasing evidence and advances in the field, there has been little
attention in Latin-American countries to work-related psychosocial factors. One of the most common findings at international fora focused on this theme has been the lack of studies from Latin-American countries (e.g., APA/NIOSH Conference in Miami, 2006). It is widely believed that in Latin America the characteristics and systems of work have high adverse effects, and yet the paradigms of occupational health practice are frequently incomplete with an emphasis on chemical and physical risks factors and the neglect of the psychosocial work environment.

It has been understood for quite some time that there is an urgency to address this need with studies and this has become a challenge for the Latin-American investigators and stakeholders involved in the work and health areas. The next decades will hopefully provide the necessary interest and resources to begin covering this need through important programs such as the Psychosocial Risk Management Toolkit (PRIMAT) developed by an international Consortium including the WHO (See GOHNET Newsletter # 10, 2006. http://www.who.int/occupational_health/publications/newsletter/gohnet10e310806.pdf).

**Psychosocial factors and work-related stress research in Mexico; a growing area in occupational health research**

Almost 30 years have passed since the first wide-scope study of work and stress in Mexico was carried out by Laurell and colleagues (6) demonstrating the noxious link between working conditions, stress and health in workers of the Federal Mexican Electrics Company. This study was the starting point of a promising area involving numerous researchers who had attempted to develop specific training programs including the creation of a postgraduate program on Occupational Mental Health at the University of Morelos at the 80’s (7).

Nevertheless, this promising area of research was neglected for many years due to the existing strong emphasis on traditional occupational health issues which discouraged the development of postgraduate programs (as mentioned above) and which resisted integration of psychosocial stress research into the dominant medical paradigm. Sadly, psychosocial research in Mexico has been characterized by isolated efforts. Therefore it is frequently the case to find research, prevention, surveillance and intervention in Mexico on psychosocial factors that is undeveloped and this situation represents a huge challenge for the near future.

It should be mentioned that recently there has been a growing interest in workplace psychosocial factors and mental health research in Latin America. Three or four strong groups of researchers with more than 20 years of experience on job psychosocial stress in Mexico are still undertaking research, applying different methodologies and making some important contributions to this topic. A number of young researchers are currently joining this effort to extend the work across the country.

The most important meeting of research in Occupational Health (OH) sponsored each year by the Mexican Institute for Social Security (IMSS), shows an increase in psychosocial factor studies each year (8) reaching up to 25% of all studies presented in 2006 (9).

However the challenge is huge, due to scarce research, and because the phenomenon is not well known and remains mostly complex despite advanced research in developed countries. Many questions remain unanswered and need to be solved through Mexican and developing countries’ own research.

Perhaps the most important necessity is to integrate efforts among Mexican and Latin-American researchers in order to have an initial idea on how psychosocial factors and work-related stress are affecting the Latin Workforce, and what can be done to improve these conditions.

**1st Meeting of researchers on psychosocial factors and the establishment of a Network**

One of the first initiatives to address the issue was to organize the “1st America’s Meeting of Research on psychosocial factors, Stress and Mental Health in the Workplace”. This meeting was held in Cuernavaca Morelos, Mexico, in October 2006 with the support of the UCLA/
With the goal of continuing previous collaborations in Mexico, the UCLA/Fogarty Program and US colleagues sponsored this important meeting with the participation of prestigious American colleagues and Mexican researchers, as well as with the participation of investigators from Argentina, Chile, Colombia and Spain.

The meeting had the following objectives:

1. to identify the current status of research in the area of psychosocial factors at work and to assess their impact on mental and physical health in workers, with special emphasis on Mexico and other Latin-American countries.

2. to define priorities and opportunity areas of this topic at research, diagnostic, surveillance and intervention levels so as to promote the well-being and the quality of workers’ lives.

3. to promote the exchange among researchers, students and professionals interested in the topic with emphasis on formation, updating, and possibilities of advanced training.

4. to establish a possible permanent forum where future research advances on the topic could be presented at least every two years, as well as the constitution of an international formal network of researchers and experts concerned with the topic of job psychosocial factors in Mexico.

With about 30 speakers and more than 100 attendants, the meeting was the first one in Mexico to address specifically workplace psychosocial factors and involve an important number (the majority) of Mexican researchers in this area.

The main results following the same order of the objectives were:

1. There are very few national researchers in this area, but the number of investigators is growing fast. Most investigations presented case studies with cross-sectional designs and showed associations among work processes and diverse psychosocial factors (e.g., different types of job demands, supervisor support, control over task, etc) with well-being and several health outcomes which confirmed evidence from developed countries. Studies with longitudinal designs were lacking and their usefulness was discussed. Participatory action research came up several times including the importance of using qualitative data collection techniques to identify worksite stressors of concern to working people. Burnout studies in service occupations remained the most common investigations. Between 16 and 30% of prevalence was documented and associated with different psychosocial aspects of work. Mobbing showed between 8 and 12% of prevalence. High job strain in 24% of workers was found in studies conducted in Mexico and Argentina.

2. Efforts in Mexican organizations about psychosocial diagnosis and intervention remain unknown, but it is hypothesized that there are few if any actual programs. Some multinational corporations have programs that focus on individual interventions to the expense of organizational interventions. While not an essential goal of the meeting, the lack of participation of unions, employers and government representatives needs to be addressed when planning future meetings. In Mexico there is no legislation, little awareness, and hence little interest concerning these issues. Conference participants addressed this challenge.

3. Interchange for advanced training inside Mexican Institutions emerged as a goal as well as an opportunity for educational visits to other developed countries (UCLA, USA; University of Valencia, Spain).

4. For the first time in Mexico the opportunity was provided to share experiences from psychosocial research. Joint projects and investigations emerged from this meeting, such as, for example, a multi-center study of psychosocial factors and blood pressure in four Latin-American Countries and joint publications (books), and the development of a website to facilitate contact (10). Certainly, the most important achievement of the meeting was the development of the Network of Researchers in Psychosocial Factors (NORPF) which has the following main objectives:

- to connect researchers, students, workers and any other person interested in the study of psychosocial factors and their repercussions on physical and mental health, and to create real and virtual spaces of permanent contact (e.g., new website).
to develop high quality investigations under similar theoretical-methodological procedures, which will allow comparisons inside a country or among the different Latin-American countries that incorporate this network.

- to combine diverse efforts to stimulate discussions that allow the generation of health promotion activities in workplaces to prevent negative psychosocial factors and at the same time to promote workers’ health and the quality of their lives.

Currently, the core actions that follow from these objectives are 1) the creation and development of a web page located at http://www.uaem.mx/foroamericas_memorias/Bienvenida.html, 2) the emergent collaboration of joint research projects, 3) the establishment of permanent seminars on psychosocial factors and the confirmation of the 2nd Meeting of Research on Psychosocial Factors at Guadalajara, Mexico in October, 2008.

With these initial objectives, we plan as a collective force to attempt in the midterm to pursue the development of epidemiological surveillance programs, as well as interventions at workplaces with the support of Institutions and stakeholders. Likewise, we will seek the enactment of legislation and mandatory labor rules with the goal of limiting exposure at the workplace to psychosocial risks.

Obviously, critical aspects of the Mexican situation were identified as a result of the meeting. However, according to colleagues from the other Latin-American countries, most of their situations are very similar. There is scarce research, lack of cohorts and longitudinal designs. Burnout studies in service organizations are the most common form of research conducted, but there is poor dissemination of research results and only few experts and researchers. Last, but not least, there is a serious lack of funding and support for research in this area.

We hope that the meeting and the new network will act as a stone in a pool of water with the resulting ripples raising interest in colleagues from other Latin-American countries, so that we can reach our goal of improved health and quality of working life for workers in Latin-America.

References
8. Instituto Mexicano del Seguro Social (IMSS). Estadísticas de estudios presentados en las Reuniones de Investigación en el Trabajo. Available at: www.saludeneltrabajo.org

NORPF (Network of Researchers in Psychosocial Factors) has the following main objectives:

- to network researchers, students, workers and any other person interested in the study of psychosocial factors utilizing a new website http://www.uaem.mx/foroamericas_memorias/Bienvenida.html, to promote communications.
- to develop high quality research investigations using similar theoretical-methodological procedures so as to allow comparisons within and between Latin-American countries.
- to encourage health promotion activities in workplaces in order to prevent and reduce negative psychosocial factors and at the same time to promote workers’ health and the quality of their lives.

Funds are badly needed for these activities. Please contact:
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Surgical Nurses, Stress at Work and Burnout Syndrome

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Background: Healthcare workers belong to a working population particularly vulnerable to stress at work. The burnout syndrome as a psychological syndrome provoked by exposure to professional stress is often recognized among this working population. The aim of this study is to assess the most frequent work-related stressful factors for surgical nurses working in operating rooms, and to evaluate the presence of emotional and behavioural changes or even the development of the burnout syndrome in Macedonia.

Methods: This study included 205 surgical nurses across different hospitals in Macedonia. Nurses were divided into two groups, based on the duration of their working experience. Group I, comprised of 88 nurses with 1 to 15 years working experience; mean age: 32±5.1 years; mean working experience: 8.9±4 years. Group II, comprised of 117 nurses with over 15 years of working experience; mean age: 44.3±4.9; mean working experience: 23.6±4.8 years. Questionnaires used included the professional stress questionnaire for healthcare workers, the Occupational Stress questionnaire, and the MBI-Human services survey.

Results: The data from the first questionnaire presented the most frequent stressful factors among all examinees. The average values obtained with statistical (t-test) processing of the data from the MBI questionnaire show moderate levels of emotional exhaustion within both groups (mean value 23.5±11, mean value 26.1±11.6), which are not statistically different. The moderate level of reduction of personal accomplishment within Group I reached a mean value of 38±8.1 and is statistically significant higher (p<0.05) than the low level mean value 40.5±5.8 within Group II. The average values of depersonalization within both groups are low.

Conclusion: Surgical nurses in Macedonia are exposed to stress at the workplace, and while completely developed burnout syndrome is present only in a low percentage of nurses, emotional changes have been found in more than 50%, suggesting the need for preventive measures.

Introduction

Socio-political and socio-economical changes, globalization which implies labour exchange, international collaboration and meeting international standards, as well as scientific and technological advances, rapidly change the nature of work. Increased demands on workers due to new ways of working, learning of new skills, prolonged working hours, time pressure and a need for higher production, and better quality of work, increase the number of stressful factors at work. The working population is seriously faced with work related stress. The EU estimates that more than 41 million Europeans are hit by work-related stress (1). Studies report that one-fourth of the employed Americans view their jobs as the number one stressor in their lives. (2)

Work-related stress can be defined as harmful physical and emotional responses that occur when requirements of the work do not match the capabilities, resources or needs of the worker. Work related stress can lead to poor health and even injury (2). Work related stress is not trivial and can significantly alter the behaviour of the persons involved, impair the quality of their life and damage their health. (1)

Health problems usually begin with emotional changes, such as anxiety or depression episodes, and are accompanied by physical signs such as fatigue, exhaustion, sleep disturbances and various somatic complaints. Some studies indicate that high job demands may result in seven times higher risk for emotional exhaustion (3). Behavioural changes that occur in a later stage are manifested through a negative, intolerant or detached attitude.
towards people, a negative attitude towards life with changed habits (increased smoking, increased alcohol consumption, sedative use and irregular diet), and a negative attitude towards work (decreased quality of work, decreased efficiency, increased fluctuation and absenteeism). Studies in the EU suggest that between 50% and 60% of all lost working days are related to stress (1).

If the exposure continues without appropriate recovery periods, development of somatic diseases can be provoked depending on the individual characteristics, habits, environmental and social conditions. In fact, some research findings have shown that low job control may result in a two times higher risk for cardiovascular mortality and that low co-worker support may result in a two times higher risk for back, neck and shoulder problems. (3)

The group of described emotional and behavioural symptoms and signs, distributed in three components, form the burnout syndrome. The first component, emotional exhaustion, refers to depletion of one’s emotional and physical resources. The second component, depersonalization or cynicism, refers to a negative and distant attitude towards people. And the third component, reduced personal accomplishment or reduced efficiency, refers to the feeling of lack of achievement or productivity at work.

The burnout syndrome, as a psychological syndrome provoked by prolonged exposure to professional stress, is often recognized among healthcare workers. The initial work on burnout developed from the occupational sector of human services, thus burnout research had its roots in care giving and service occupations. (4) There is evidence that those occupations involving continued contact with and responsibility for people are of higher risk. (5)

The aim of our study was to assess the most frequent stressful factors at the workplace for surgical nurses working in operating rooms, and to identify aspects related to the work situation that might contribute to experiencing stress and burnout. We also wanted to evaluate the presence of emotional exhaustion, depersonalization and reduction of personal accomplishment, or even completely developed burnout syndrome among nurses, and whether its development depended on the duration of working experience and age. The present study is part of the research “Specific professional risks among health care workers in Macedonia” conducted by the Institute of Occupational Health from Skopje. The study was carried out in twenty-one healthcare institutions from ten towns across the country, during spring 2006.

Methods: The study included 205 surgical nurses, from different hospitals of several towns in Macedonia. The nurses were divided into two groups, based on the duration of their working experience. Group I, comprised of 88 nurses with 1 to 15 years working experience; mean age: 32±5,1 years; mean working experience: 8,9±4 years. Group II, comprised of 117 nurses with over 15 years of working experience; mean age: 44,3±4,9; mean working experience: 23,6±4,8 years. The study questionnaire consisted of the following instruments:

1. The Professional Stress Questionnaire for healthcare workers (Institute of Occupational Health, Skopje) contains 25 questions: five questions to obtain personal data and twenty to determine the most frequent stressful factors at work.

2. The Occupational stress questionnaire (Finnish Association of Industrial Medicine), short version, contains 13 questions divided into three subscales to estimate some important aspects of the job: four questions related to work context, five to work content and four questions relate to stress and satisfaction.

3. The Maslach Burnout Inventory (MBI) – Human services survey, the most widely used standardized measure of burnout. It consists of 22 items for quantitative estimation of the three dimensions of the burnout syndrome: emotional exhaustion, depersonalization, and personal accomplishment. High scores on the emotional exhaustion and depersonalization subscale indicate higher degrees of burnout. Low scores on the personal accomplishment subscale (which means high level of reduced personal accomplishment) indicate higher degrees of burnout.

Results show that the data obtained from the Professional Stress Questionnaire for healthcare workers helped divide nurses into two groups according to working experience. The t-test values indicated statistically significant differences between the groups regarding age and duration of working experience (table 1).
Table 1. Comparison of mean age and mean working experience between the first and the second group.

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Group I n=88</th>
<th>Group II n=117</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Age</td>
<td>32.0</td>
<td>5.1</td>
<td>44.3</td>
</tr>
<tr>
<td>Working experience</td>
<td>8.9</td>
<td>4.0</td>
<td>23.6</td>
</tr>
</tbody>
</table>

The results of this questionnaire also identified those aspects of the job that surgical nurses find most stressful. The results from both groups are respectively presented in table 2.

Table 2. The most frequent stressful factors at work

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lack of appropriate reward for work</td>
<td>75%</td>
<td>77.8%</td>
</tr>
<tr>
<td>2. Work overload</td>
<td>68.2%</td>
<td>67.5%</td>
</tr>
<tr>
<td>3. Lack of work organization</td>
<td>64.8%</td>
<td>65%</td>
</tr>
<tr>
<td>4. Work with infectious diseases</td>
<td>71.6%</td>
<td>53%</td>
</tr>
<tr>
<td>5. Emergency interventions</td>
<td>58%</td>
<td>62.4%</td>
</tr>
<tr>
<td>6. Work with incurable diseases</td>
<td>60.2%</td>
<td>58.1%</td>
</tr>
<tr>
<td>7. Low opportunity for career development</td>
<td>55.7%</td>
<td>65.8%</td>
</tr>
<tr>
<td>8. Responsibility for patients</td>
<td>58%</td>
<td>55.6%</td>
</tr>
<tr>
<td>9. Night work</td>
<td>55.7%</td>
<td>50.4%</td>
</tr>
<tr>
<td>10. Responsibility for decision making</td>
<td>53.4%</td>
<td>62.5%</td>
</tr>
</tbody>
</table>

The results of the Occupational Stress Questionnaire presented in Table 3 indicate how nurses see their job. High scores were obtained on the second subscale which refers to job content and the question of experiencing stress.

Table 3. How the nurses consider their job

<table>
<thead>
<tr>
<th>Group I</th>
<th>Group II</th>
<th>How the nurses consider their job</th>
</tr>
</thead>
<tbody>
<tr>
<td>80.7%</td>
<td>91.5%</td>
<td>Emotionally exhausting</td>
</tr>
<tr>
<td>77.3%</td>
<td>83.8%</td>
<td>Physically demanding</td>
</tr>
<tr>
<td>64.8%</td>
<td>70.9%</td>
<td>Time urgent (work pace)</td>
</tr>
<tr>
<td>51.7%</td>
<td>56.4%</td>
<td>Periodically work overloaded</td>
</tr>
<tr>
<td>48.9%</td>
<td>53.8%</td>
<td>Stressful (feeling intense, upset, nervous or worried, having sleeping disturbances)</td>
</tr>
</tbody>
</table>

The results from the MBI show the percentage of nurses which experience a high or moderate level of emotional exhaustion, depersonalization and reduction of personal accomplishment (graph 1). More than 70% of the respondents from each Group respectively have high or moderate scores on emotional exhaustion. More than 40% of the respondents from Group I and about 30% from Group II have low or moderate scores on personal accomplishment. Only 20% of nurses from Group I and less than 20% from Group II have high or moderate values on depersonalisation. Mean values indicate moderate levels of emotional exhaustion in both groups, moderate levels of personal accomplishment in Group I and low level for this dimension in the second group, and low level of depersonalisation in both groups (Graph 2).
High levels of emotional exhaustion and depersonalization, as well as the low level of personal accomplishment, have diagnostic significance. Moderate levels of the three dimensions should not be ignored because they draw out arising problems.

Results obtained with t-test analysis indicate that nurses from Group I have significant low personal accomplishment than those from the second group. This indicates that they feel inefficient, lacking achievements and productivity at work. Regarding emotional exhaustion and depersonalisation values, there were no statistically significant differences between groups (Table 4).

Table 4. Comparison of MBI scores between first and second group.

<table>
<thead>
<tr>
<th>MBI Dimensions</th>
<th>Group I n=88</th>
<th></th>
<th>Group II n=117</th>
<th></th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD₁</td>
<td>Mean</td>
<td>SD₂</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional exhaustion</td>
<td>23,5</td>
<td>11</td>
<td>26,1</td>
<td>11,6</td>
<td>-1,6</td>
<td>&gt; 0,05</td>
</tr>
<tr>
<td>Depersonalisation</td>
<td>3,3</td>
<td>4,8</td>
<td>2,4</td>
<td>3,8</td>
<td>1,5</td>
<td>&gt; 0,05</td>
</tr>
<tr>
<td>Personal accomplishment</td>
<td>38</td>
<td>8,1</td>
<td>40,5</td>
<td>5,8</td>
<td>-2,45</td>
<td>&lt; 0,05</td>
</tr>
</tbody>
</table>

Conclusion

The results of our study indicate that both groups of surgical nurses experience, on average, moderate levels of emotional exhaustion, regardless of the length of working experience. The nurses that have less working experience show moderate levels of personal accomplishment. This indicates that they experience higher levels of burnout when compared to nurses with longer working experience. These results have been confirmed by other research findings showing that among the younger employees the level of burnout is higher than for those over 30 or 40 years old. (4) Experience comes with age and it helps people to become aware of the importance of their job. It increases their self-confidence and enables coping better with occupational demands and emotional stress. Therefore, burnout appears to be more of a risk earlier in one’s career.

Regardless of the level of change, our results confirm that nurses are exposed to stress at work. Results from our study helped us to identify work-related aspects that might contribute to experiencing stress and eventually burnout. Identifying the sources of stress may help to find ways to support nurses. The emotional and behavioural changes suggest a need for preventive measures. Prevention of work-related stress is a stepwise process that involves: detecting signs of work related stress, analysis of risk factors and risk groups, designing and implementing an action plan and evaluating interventions. (3) Our research is part of the initial steps in work-related stress prevention among nurses in Macedonia.
References:

Occupational stressors in carpet weavers in Iran
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Summary
Carpet weaving is an important handicraft industry in rural areas of Iran and has a very long history. All “oriental” carpets are hand-woven, mainly made in family workplaces, with all the members of the household, often including very small children, working long days and with poor posture. It is an acknowledged fact that Iranian carpet weavers are subject to excessive fatigue. Women and girls start weaving carpets in early childhood and well before puberty in dimly lit workshops. The weavers have to remain in a sitting posture for a long time which disrupts the normal development of their hip bones.

The objectives of the present study, which was carried out in the Iranian hand-woven carpet industry, were

■ to identify the ways the working conditions affected human comfort, health and performance in the handcraft section;
■ to determine the prevalence of musculoskeletal disorder (MSD) symptoms, as well as major factors associated with MSD symptoms, and
■ to develop guidelines for improving working conditions.

450 weaving workshops were randomly selected and 1365 weavers participated in this study. The location is a rural area in the central part of Iran. Statistical data was analysed using SPSS software.

We found a high prevalence rate of MSDs among the weavers compared with the control group. In fact, MSDs are most common in these workers. Bending knees, carpal tunnel syndrome (CTS), low back pain, and pain in the neck and shoulders were widespread. Moreover, the statistical analysis reveals a high prevalence of MSDs and low back pain among weavers working with poor lighting and bad seating posture (P<0.05). Women carpet weavers are more at risk of complications at birth delivery and for vision impairments compared to other women who are not weavers. The results are compared to a control group, consisting of women living in the same area who are not weavers. Another outcome of the research was the high prevalence rate of depression and psychological disorders among weavers.

Introduction
History
Carpets were probably first made by nomadic peoples to cover the earthen floor in their tents. It is not certain however, if the Egyptians, the Chinese, or even the Mayas first invented carpet making. It is quite possible that many peoples, none of whom were in contact with each other, began to make carpets at about the same time.

Throughout its history, Persia has remained the epicentre of the carpet making craft, which developed into an art form. It is said that the tomb of Cyrus, who was buried at Pasargadae (Persepolis), was covered with precious carpets. Even before his time, it is very likely that Persian nomads knew about the use of knotted carpets. Their herds of sheep and goats provided them with
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high quality and durable wool for this purpose. The first documented evidence of the existence of carpets came from Chinese texts dating back to the Sassanid Dynasty (AD 224-641). In AD 628, the Emperor Heraclius brought back a variety of carpets from the conquest of Ctesiphon, the Sassanian capital. The Arabs also conquered Ctesiphon in 637, and among the spoils brought back it was said to be many carpets, one of which was the famous garden carpet, the "Spring time of Khosrooe". This carpet has entered history as the most precious one of all times. (2)Persian carpets from eight of the most renowned centres for carpet weaving in Iran are the Bakhtiyari, Isfahan, Kashan, Kerman, Nain, Shiraz, Tabriz, and Khorasan carpets.

The process
Carpet weaving is one of the major occupations among the majority of women and girls who spend long hours daily on the job in Bakhtiyari Province, Iran. The carpet sector is Iran's largest employer with some 2.2 million people employed in this section, mostly in rural areas. The processes involved in the manufacture of a carpet are yarn preparation, consisting of wool sorting, washing, spinning and dyeing; designing; and the actual weaving. (2) In some cases the yarn is received at the weaving place already spun and dyed. In others, the raw fibre, usually wool, is prepared, spun and dyed at the weaving place. After the sorting of the wool fibre into grades, which is usually done by women sitting on the floor, it is washed and spun by hand. The dyeing is carried out in open vessels using mostly aniline-based or alizarin dyestuffs. Natural dyestuffs are no longer being used. In most cases, the loom consists of two horizontal wooden rollers supported by the main frame, one about ten to thirty centimetres above floor level and the other about three metres above it.

The warp yarn passes from the top roller to the bottom roller in a vertical plane. There is usually one weaver working at the loom, but for wide carpets there may be as many as six weavers working side by side. In about 50% of the cases, the weavers squat on the floor in front of the bottom roller. In other cases, they may have a narrow horizontal plank on which to sit. It is raised up to four metres above the floor as weaving proceeds. The weaver has to tie short pieces of woollen or silk yarn into knots around pairs of warp threads and then move the thread by hand across the whole length of the carpet. Picks of weft are beaten up into the fibre of the carpet by means of a beater or hand comb. The tufts of yarn protruding from the fibre are trimmed or cut down by scissors.

As the carpet is woven, it is usually wound onto the lower roller, which increases its diameter. When the workers squat on the floor, the position of the lower roller prevents them from stretching their legs, and as the diameter of the rolled-up carpet increases, they have to sit further back but must still lean forward to reach the position in which they tie in the knots of yarn (Figure 1). This is avoided when the weavers sit or squat on the plank, which may be raised as high as four metres above the floor. However, there may still not be enough room for their legs and they are often forced into uncomfortable positions. In some instances the weaver is provided with a back rest and a pillow (in effect, a legless chair), which may be moved horizontally along the plank as the work progresses. Recently, improved types of elevated looms have been developed that allow the weaver to sit on a chair, with ample room for the legs.

In some parts of Iran, the warp in the carpet loom is horizontal instead of vertical, and the worker sits on the carpet itself while working; this makes the task even more difficult (Figure 2).

As a largely cottage industry, carpet weaving is fraught with the hazards imposed on by impoverished homes with small, crowded rooms that have poor lighting and inadequate ventilation. The equipment and processes are passed along from generation to generation with little or no opportunity for education and training that might spark a break with the traditional methods. Carpet weavers are subject to skeletal
deformations, eyesight disorders and mechanical and toxic hazards. (3)

Since the overwhelming majority of weavers’ health problems originate from ergonomic risk factors, it is concluded that any priority improvement program in this industry should focus on ergonomic aspects. (4)

**Methods and Activities**

To determine the extent of the occupational stress associated with weavers’ activities, we studied 450 workshops in a rural area (in Chaharmahal Va Bakhtiary Province, Iran). The study sample included 1365 weavers consisting of 100% women of which 89% were full-time weavers aged 18–66. Most of them with at least five years tenure using non-ergonomic looms (Table 1). In ergonomic looms, the lower roller of the loom is raised mechanically and the weavers are able to sit in a comfortable posture. Moreover, the results are compared to the control group.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Workshops</td>
<td>450</td>
</tr>
<tr>
<td>Total Weavers</td>
<td>1365</td>
</tr>
<tr>
<td>Sex</td>
<td>100% Female</td>
</tr>
<tr>
<td>Positions</td>
<td>40 foreman (White Collar)</td>
</tr>
<tr>
<td></td>
<td>540 workers (Blue Collar)</td>
</tr>
<tr>
<td>Employment</td>
<td>89% full-time, 12% part-time</td>
</tr>
<tr>
<td>Age</td>
<td>18-66 Years</td>
</tr>
<tr>
<td>Experience</td>
<td>More than 5 years</td>
</tr>
<tr>
<td>Loom Position</td>
<td>81% Vertical, 19% Horizontal</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Loom condition (Ergonomic Design)</th>
<th>Vertical</th>
<th>12% Ergonomic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Horizontal</td>
<td>100% Non-Ergonomic</td>
</tr>
</tbody>
</table>

**Table 1: Sample characteristics**

To collect data about working conditions, personal characteristics, and MSD symptoms, we used a questionnaire in the target and the control group. We studied traditional customs and habits, as well as local cultural aspects among weavers during performance of the task. In addition, we evaluated physical harmful agents in the working environment, such as noise and lighting using sound level metre and lux metre.(1)

To improve awareness of the study group about work-related musculoskeletal disorders, suitable working posture, personal habits, stressors and about harmful agents in working environment, a simple training program was designed, in which all members participated.

**Results**

A 4-hour training course about occupational stressors resulted in impressive effects. The weavers used to sit in a squat style, which lead to acute fatigue in a few minutes and they had never tried to change this position, since they had learnt this traditional style in childhood from the family. Taking breaks during shift work was considered a very bad habit and weavers had to stay continuously in squat posture for 4 hours. Paying attention to exercise, especially in rural areas, was considered a fantasy and unnecessary matter. We tried to change these habits by improving their awareness via the training program. In fact, it was as a very useful opportunity to describe the advantages of changing personal beliefs about lifestyle and working life.

The results revealed that the prevalence rates for symptoms in different body regions were high as compared to the control group (for neck and back, p <.0005). Interestingly the rate of MSDs among those weavers using non-ergonomic looms is considerably higher compared with those using ergonomic looms. (p <0.01). In other words, the ergonomic looms had the highest productivity figures, because of the degree of comfort.
Results from lighting measurements show that in 77% of looms lighting is inferior to the threshold limit presented by IES (Illumination Engineering Society). The statistical analysis reveals that the rate of MSDs, as well as low back pain is seriously affected by poor lighting and seat posture (P<0.05). It seems that weavers have to sit closer to the loom in uncomfortable posture when the lighting is insufficient. This suggests that working conditions have profound effects on workers’ health. The noise level in the workshops was not higher than the recommended values, and, therefore, does not represent a priority compared to the ergonomic hazard identified.

Another important outcome of the research was the high prevalence rate of depression and psychological disorders, as well as lack of job satisfaction among the weavers who work alone as compared to those who work in group workshops (using Chi-Square test P<0.05). Moreover, the rate of motivation and job satisfaction among those weavers using radio programs or listening to music during working hours was considerably higher than those working in a silent environment (p <0.05). In fact, the latter group was more susceptible to depression and psychological problems.

Conclusions and recommendations
This study identified a number of hazards for carpet weavers in Iran. A more in-depth assessment of all of the issues raised was not possible in this study, but could be addressed in prospective studies. This study provides evidence for the fact that a high degree of skills and constant attention to detail over long hours represent psychosocial stressors.

It seems that the most important mechanical improvement can be effected by implementing mechanisms that raise the lower roller of the loom. This would prevent weavers from having to squat on the floor in an unhealthy and uncomfortable fashion, and allow them to sit in a comfortable chair. Such an ergonomic improvement will not only improve the physical and psychological health of the workers but, once adopted, will increase their efficiency and productivity. The constant close focus on the point of weaving or knotting may cause considerable eyestrain, as well as MSDs particularly when the lighting is inadequate. Hence sufficient lighting is a basic need for carpet weaving workshops. Lastly, also pre-employment and annual medical examinations of all weavers would be highly desirable.

We hope that this review provides a first scientific basis for the occupational risk factors in the hand-woven carpet industry, and will ensure that environmental, occupational and individual factors will be included in the health protection agenda.

References

Work stress and health-
current research activities
and implications in China

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As a developing country with rapid industrialization, China is undergoing dramatic transformation due to economic globalization. However, the psychosocial working conditions have remained unsatisfactory though they have already improved substantially during the past thirty years. Based on the data from the Organization for Economic Cooperation and Development (OECD) and the International...
Labour Organization (ILO), the standardized unemployment rate was still relatively lower in China than in other countries, but the increasing trend of unemployment may raise alarm for our labour market (the rate has climbed up from 2.8% to 4.2% during 1994-2004). Another critical issue is the number of working hours. Although working hours tend to be shorter than in the past (1), Chinese people have much longer hours to work than people in other countries (average annual working hours: China 2204, USA 1824, Japan 1789, and UK 1669). In 2004, an internet-based survey indicated that 39% of people said they felt burned out by their work. In our recent epidemiologic study among the general working population, the percentage of workers who reported they had high or very high work stress was 37.3% in men and 27.5% in women. Therefore, both researchers and the public have shown increasing concerns about work stress and its adverse health effects in China.

Measurement of the psychosocial work environment

At present, four instruments for measuring the psychosocial work environment from Western societies are validated and used in China with acceptable reliability and validity. They are: the Occupational Stress Indicator (OSI4) developed by Cooper et al (1988); the Generic Job Stress Questionnaire (GJSQ5) (US NIOSH); the Job Content Questionnaire (JCQ6) (Karasek et al, 1998), and the Effort-Reward Imbalance (ERI7) Questionnaire (Siegrist, 1996).

The OSI is reflective of a cognitive ergonomic-neurophysiologic approach. It contains a two-dimensional matrix with the stress dimensions and levels of human information transmission. The NIOSH model emphasizes the role of individual and other situational factors which can intervene to strengthen or weaken the direct influence of working conditions (called work stressors) on workers’ safety and health. While Karasek’s demand-control-support model postulates that job strain results from the joint effects of high job demand and low job control, while social support at work plays a buffering role in the interaction between job demand and control. Alternatively, the effort-reward imbalance model puts explicit emphasis on the non-reciprocity of social exchange (i.e. high-cost/low-gain conditions in the work contract), which defines a state of emotional distress. In addition, the ERI model includes the distinct coping characteristics of high intrinsic effort termed over-commitment, which aggravates stressful experience at work (2).

The identified work stressors are assumed to lead to the arousal of the autonomic nervous system and an associated neuroendocrine response. This contributes to the development of subsequent stress related diseases.

Work stress and health

Prior to 2007, a number of epidemiologic studies were conducted and reported in China evidencing the relationship between work stress and its various adverse health effects.

Seventeen studies from the mainland of China (only published in Chinese language) on work stress and cardiovascular disease have been reported: Ten with cross-sectional design, six with case-control design, and one with retrospective cohort design. All studies showed a positive association between work stress and increased blood pressure (P<0.05), hypertension (OR 1.31-2.72), or coronary heart disease (OR 1.55-2.18). The study population covered health care workers, teachers, civil servants, engineers, hospitalized patients, policemen, drivers, hotel workers, textile workers, railway workers, and airport workers in both men and women (3).

There were ten studies on mental illness/self-rated health, and all were designed as cross-sectional surveys in healthcare workers, teachers, railway workers, and migrant workers addressing men and women. The outcomes varied from mental distress (P<0.05), depression (OR 1.75-2.66), fatigue (P<0.05) to health functioning (OR 1.85-2.88). Five studies on reproductive dysfunction were found in women teachers, petrochemical workers, and textile workers (four with a cross-sectional design, and one with a prospective cohort design), the risk of low birth weight or menstrual disorders was greater among women with high work stress (OR 1.5-2.4).

However, there is not any study that reports on men’s reproductive function being influenced by work stress. There is only one cross-sectional study on musculoskeletal disorders which investigated male offshore oil installation workers. The results showed that several psychosocial factors were associated with musculoskeletal pain in different
body regions (OR 1.29-1.78). In addition, eleven cross-sectional studies examined the biomarkers of work stress, for example, cortisol, monamine neurotransmitters, heat shock protein, and immunoglobulin in serum or in saliva. Findings indicated that work stress could increase the levels of cortisol, monamine neurotransmitters, and heat shock protein, whereas work stress could decrease the level of immunoglobulin8 in the human body (1, 3).

Nowadays, most studies of work stress in China are just observatory studies and only one intervention study among 961 teachers in both men and women is available. With a one-year follow-up integrated interventions (including organizational and individual level intervention), the findings showed that interventions were efficient in reducing the teachers’ occupational stressors (P<0.05).

Implications

Current knowledge

Studies conducted in the most developed countries over the past 30 years have clearly pointed out that psychosocial stress at work has a great impact on health. Yet, the research on this issue in China is still at the early stage. So, the use of well-established questionnaires which have been widely recognized in the Western countries is an easy and convenient way to do current research, but the differing social contexts and cultural differences should be well considered. It is crucial to develop a well-validated instrument to measure psychosocial work characteristics for the Chinese working population (2).

Need for research

Up to now, only one prospective study on work stress and health in China (conducted by US researchers) has been reported, which makes it impossible to explore the long-term adverse health effects of work stress, or to draw any conclusion on causality of the observed associations between them. Moreover, for researchers and the Government, etiologic evidence (including molecule-based and intervention-based studies) from scientific research is an essential basis of any action to reduce work stress. Since 1 May 2002, the Law of Occupational Disease Prevention and Control has been applied in China.

The occupational psychology service in worksites and healthcare institutions is warranted to protect work ability and well-being in workers.

Attention to gender issues

Most work stress studies focus on men not only in Western but also in Eastern countries. Several reports indicate that employed women experience worse psychosocial working conditions than men (such as lower job control, and poor career opportunities), and that a higher health burden might result from these exposures. Alternatively, it has been proposed that women are more vulnerable to the effects of stress on health than men, given similar levels of exposure to work stress between men and women. The double burden of work and family has to be taken into account in the case of working women. However, about 80% of the Chinese population live in rural areas. Our current research does not include them, although the newly important phenomenon in the contemporary Chinese labour market is the rapid mobility of migrant workers, particularly those from rural areas to urban areas. Usually, they do the manual work in cities which contains more physical, chemical, biological, and psychosocial hazards, due to lack of skills and education. The inequality in access to health insurance and medical care in migrant workers is still not (well solved). Future studies should pay more attention to women, gender differences, and equity in health among disadvantaged working populations (1, 3).

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8 A glycoprotein acting like an antibody produced by white blood cells during an immune response.
References

Psychosocial Problems in the Working Population of Pakistan - An Overview

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Pakistan is a South Asian country with a population of 150 million. Approximately 60% of the population are able to work, not counting children or the aged. Thus, the estimated labour force in the country is around 42 million. The major working sectors of the country are: agriculture, industry, mining, healthcare, fishing, construction, transport and cottage industry. Agriculture is the main sector employing 40 percent of the workforce. The remaining 60 percent of the workforce is distributed to service and industrial sectors. Women comprise 14 percent of the total labour force.

Incidences of occupational injuries and illnesses are very high in Pakistan because the workers are routinely exposed to hazardous working environments. The hazardous environment causes physical illnesses which in turn give rise to enormous psychosocial problems in the working population. There is lack of data on occupational diseases and injuries because most of them are not reported.

Major psychosocial problems of workers are low salary, job insecurity, shift duties, long working hours, heavy workload, lack of career development, sexual harassment, lack of participation in decision making, lack of recreation and ‘irrational behaviour’ of employers. In Pakistan, the low income labour force is treated as inferior, employers routinely insult their subordinates, and workers receive little respect or appreciation (1, 2, 3). These social injustices reflect in many psychiatric problems among this population. The psychiatric problems like depression, post traumatic stress disorder, emotional-behavioural and interpersonal problems, adjustment disorders, psychosis, anxiety and stress are commonly observed.

Agriculture is the largest working sector employing around 17.5 million workers. In Pakistan, most of the farmers do not own agricultural lands; instead they get 1/4th of production at the end of crop season. Mostly the whole family works the land. In spite of that, many farmers are unable to meet their daily living requirements. Due to poverty and deprivation, the farming community is almost illiterate, caught in psychological problems and vulnerable to life threatening diseases. In addition, farmers are exposed to many health hazards such as sun heat stroke, awkward postures, pesticides, unsafe electricity and machines. In a five-year record of a tertiary care hospital, out of 578 poisoning cases, 47% were of occupational nature with a mortality rate of 15% (4). Bonded labour, a form of slavery, is also a problem in some areas of the country. Similarly, sexual harassment and malicious behaviour of land owners are very common issues faced by these poor people.

Female agricultural workers are in more desperate situations because, in a male-dominated society all financial affairs are in the hands of men and women have no direct access to money. Therefore, in such meagre social conditions psychiatric and psychosocial problems are unavoidable. Specialized services are only available in big
cities; farmers and their families do not have access to mental health care specialists. Hence, those in need of psychological or psychiatric care turn to spiritual healing centres, where most of these ill people do not get the care they need, and consequently are unable to respond in a different way to challenges or adversities they endure.

The industrial sector employs around six million workers. In Pakistan industrial workers are exposed to unhygienic and unsafe working conditions. Moreover, occupational health services are not available in most work places. In addition, low wages, long duty hours, shift work, job insecurity and lack of social and organizational support are the main social issues of this population.

A study of five different departments of a multinational corporation showed that employees had moderate levels of stress due to work overload, co-workers and repetitive work (1). A tertiary care hospital-based study showed that in 40% of respondents, the cause of stress was related to their work (5). Major causes of job stress in working women are lack of decision latitude (control), job timing, limited opportunities for career development and lack of social support at work, which affects their psychosocial well-being (2).

In 2004, the overall prevalence of anxiety and depressive disorder in the Pakistan was 34%. Among the common causes, poor socioeconomic conditions such as socio-political instability, economic uncertainty, lack of awareness about population planning, and difficulties with housing, finances and health were significant (6).

The mining sector accommodates about half a million workers. Working conditions are very poor and workers are exposed to life threatening hazards. In this epoch of modern technology, primitive methods of mining are the norm in Pakistan. 92% of workers are unaware of coal mine-related health hazards and 75% of workers are not using personal protective equipments (7).

The workers are mostly migrants. A middle man (contractor) recruits workers from remote areas of the country on very low wages and supplies manpower to the mines. Though no published data are available on mortality and morbidity for this cohort, the print-media draw attention to a large number of deaths and injuries occurring in this sector. Many of the coal miners suffer from chronic respiratory disease and become disabled with consequent psychosocial problems, such as poverty, depression and anxiety (7).

The health care sector is another large working group. In the course of carrying out their work, their own health becomes compromised. Prevalence of Hepatitis C and Hepatitis B in healthcare workers was found to be 6% and 2.4%, respectively, in a tertiary care hospital (8). Drug abuse, sexual harassment, violence at work and suicidal tendencies are commonly seen in this group. Long working hours and night shift duties also contribute to irritable behaviours. At a tertiary care hospital, administrative disorganization was a major cause of stress in nurses (3).

Construction is a booming economic sector of the country. Mostly, workers come to the big cities from rural areas of the country and live in under-constructed buildings or slums. In this sector, workers are employed on daily wages. Low wages, posture-related problems, unavailability of personal protective equipment, and job insecurity are their main issues. There is no available published data on the problems of construction workers are not available, but their poor working conditions are openly witnessed all over the country. Due to the prevailing job insecurity, their health, their children’s education, and post-retirement life, are jeopardized. Consequently, living in such uncertain and unsafe working conditions, psychosocial problems are inevitable.

The fishing sector engages around two million workers. Consistent with other sectors, working conditions in this sector are also very poor. Their job is weather-dependent and workers receive only a small percentage of their daily catch, with the major portion going to fishing-trawler
owners. In addition, they are not provided with life saving jackets and modern fishing tools. Most fishermen are illiterate and poverty is their main concern. Skin diseases, depression and anxiety are very common.

Child labour: Due to poverty, about three million children are unethically forced to work. Children living in slums of the big cities and also in remote areas of the country, work in the homes of high-class areas, garages, cottage industries and factories. Working conditions for them are ruthless. Long working hours, heavy work, sexual harassment, and home sickness put them in a vortex of anxiety and tension. Children and adolescents employed in the cottage industries suffer from health problems due to lack of knowledge on their part, improper ergonomics, and inadequate environmental and safety conditions at the workplace (9). In addition, to being away from family, growing up in an unsafe and unprotected environment, both physically but also emotionally, will translate into psychosocial developmental problems. Work that leads for instance to self-esteem building or to establishing interpersonal communication skills may not be provided. This will have implications for further human development and social integration, with negative impact on productivity and quality of work, as well as present the cause of nonspecific psychosocial problems during active working years.

Pakistan does not have comprehensive occupational health and safety laws. And there is no formal legislative process for setting up new standards, codes of practice and occupational exposure limits. Similarly, regulatory agencies neither have effective enforcement policies nor injury and illness reporting systems at workplaces. The prevailing outdated Factories Act, framed in 1934, and the Mines Act from 1923, contain only very basic levels of safety and health measures. Several important sectors, such as agriculture, construction, fishing, healthcare and the informal sector (self-employed) are not covered by any law. (Psychosocial problems related to the workplace are not part of these laws.) Furthermore, Pakistan has not yet signed the ILO Conventions regarding health and safety of workers.

Socio-political and economic conditions such as feudalism, aristocracy, corruption, illiteracy and poverty have prevented the development of an occupational health and safety culture in this country. Moreover, the absence of a national focal institution for providing training and advisory services for occupational health, the lack of coordination between Government and the private sector, insufficient funds for health and safety, have aggravated the problems. Inadequate and outdated labour laws have left the working population at the mercy of industrialists, landlords and employers.

All the above mentioned factors have given rise to an unhealthy, unskilled and non-motivated workforce resulting in poor quality work and low productivity leading to a weak economy. Thus productivity in many sectors does not meet the country’s needs, and therefore Pakistan depends heavily on imports. Due to the imbalance between export and import, Pakistan remains in economic crisis, forced to depend upon international financial institutions. This has put the country in a vicious cycle of loans, mark-ups and financial deficits. As a result, the Government is unable to find sufficient funds for human development.

Psychosocial problems are a great challenge for the working population of this country. All stakeholders, such as, the Government, employers, labour unions and UN agencies, such as WHO and ILO must come forward to intervene in their capacities. By doing so, the United Nations, Universal Declaration of Human Rights, article 22 could be achieved, which states that “Everyone, as a member of society, has the right to social security and is entitled to realization, through national effort and international co-operation and in accordance with the organization and resources of each state, of economic, social and cultural rights indispensable for his dignity and the free development of his personality”.

References

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