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PREVENTION OF MUSCULOSKELETAL DISEASES IN AGRICULTURE

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Musculoskeletal disorders in agriculture at the European level are the important group of recognized occupational diseases.

Due to their consequences in human, social and economic dimension, prevention of these diseases is considered to be a challenge for both the workplaces and society.

With this in mind, on November 21st, 2005, upon the initiative of the European Commission, the European agreement was signed on reducing the risk of musculoskeletal disorders in agricultural workers exposed to this type of occupational diseases.

In France, the rapid increase in the number of declared cases of occupational diseases in agriculture (3127 cases identified among farmers in 2007 compared with 1824 cases in 2000) is quite disturbing, especially as it is known that the number of identified diseases is underestimated.

That is why the Agricultural Social Insurance Fund, MSA, in agreement with various partners, has developed a strategy to prevent the risk of these diseases, based on the following assumptions: increased knowledge of the risk of musculoskeletal disorders, information policy and public sensitization on the issue, promoting a collective approach. In connection with the proposed strategy, two challenges emerge: one regarding a permanent policy of disease prevention, and the second related to the evaluation of actions taken.

Raising awareness about the risk of musculoskeletal disorders

Observational study of musculoskeletal disorders

Under the provisions of the European agreement of November 21st, 2005, in 2008, the MSA Fund created observational study of musculoskeletal disorders, whose task is to collect data on the population employed in agriculture, as well as tracking changes and the annual publication specifications and lists, and the assessment of individual indicators of the phenomenon. These indicators are primarily a source of information on the prevalence of musculoskeletal disorders according to age, gender, region, administrative areas, field of action, the causative agent, as well as the syndrome and agricultural activity. In addition, the study also examines the costs associated with such diseases: the total cost, cost of medical care, the cost of daily compensation, pensions, the average cost with consideration of the pathology.

Data developed by the observational study

In France, in 2003-2007 among the farming population, the musculoskeletal diseases accounted for an average of 91% of recognized occupational diseases. In most cases they were related to people aged over 40 years (67% workers and 86% owners). Mostly women suffer from the problem as well as workers in industries that require small movements (conditioning), and those working in the milking and poultry fattening industries.

Four areas of agricultural activity covered by the largest number of cases of musculoskeletal disorders include vine-growing, breed of large animals (including trade in live animals), the sector of meat production (slaughterhouse and cutting), and specialized crops (gardening and horticulture).

In 2007, the average annual cost of musculoskeletal disorders per worker of the agricultural sector amounted to 18 800 euros, while the cost of occupational accidents amounted to 3600 euros.

Surveys conducted in the most affected sectors.

In 2003, the MSA Fund conducted survey on labor safety in the meat industry in Brittany, on the basis of a multidisciplinary approach: epidemiology, psycho-dynamics, ergonomics, and CVs of 40 people who stopped working at the plant. This study, by creating employment-exposure matrix, allowed to evaluate the situation in which there is a risk of disease for the slaughterhouse jobs. Information is used by counselors in the prevention and by physicians in MSA.

In 2006, the survey was carried out in the vine planting sector, and sent by mail containing a questionnaire, with participation of 18,000 owners and employees in this sector, selected at random. Response rate was 23.6%. Survey was to examine the three phenomena: 1) the relationship between the periarticular problems and restrictions in activities in vine growing, 2) establishing a link between the ailments and the types of agricultural activity, 3) observing the relationship between the symptoms the patients complain about and their feelings at psychological level. The results of the survey show that over 90% of people working in viticulture declares pain within 12 months, which is a very high rate. On the basis of the data, the relationship was found between pain location and the following factors: age, gender, land planted with vines, as well as individual tasks performed in the vineyards. Also it was observed that the negative effects of pain on the work have are more strongly related to the psychological factors than to the type of work tasks. Among these lists, for example, lack of freedom of action or a sense of scarcity of material resources for work.

Also other studies for various activities were conducted, such as fattening of geese and ducks, milking dairy cows, growing vegetables, which helped to highlight the factors determining the occurrence of musculoskeletal disorders and to propose the actions of a preventive nature.

Information and sensitization of public opinion

Information campaigns

In March 2008, Minister of Labor, in cooperation with various preventive institutions, has launched a national information campaign on musculoskeletal disorders focused on

the general public (the information was disseminated via television, radio and newspapers) with the trademark of an open jaw, showing the pain felt.

In 2009, the MSA Fund has launched a new campaign specifically targeting employers and workers, using posters and leaflets depicting the famous "jaw" with the emphasis on a message that says: "Take advantage of solutions. Contact the aid organizations".

Information website www.info-tms.fr was created.

On its website: references-sante-securite.msa.fr the MSA Fund created a section on musculoskeletal disorders, which provides the persons employed in agriculture with access to statistical data, research results, as well as the preventive measures proposed by brochures targeted on specific sectors of activity .

Provision of information by experts from the industry take place at the conferences, experience exchange, and industry meetings.

At the national level, in 2009 the Minister of Agriculture, MSA Fund, and the agency for improvement of working conditions, with participation of various partners organized a conference on the prevention of musculoskeletal diseases in the agricultural and food industry. With regard to regional activities, MSA Fund regularly invites industry experts to information meetings and panels of experience exchange in respect of knowledge on the pathology, multiple causes and good practices implemented in the factories.

In order to revitalize the situation regarding the prevention of the phenomenon in professional circles, MSA Fund has developed two tools:

- "Tamal'ou" interactive tool to sensitize visitors to the risk of musculoskeletal diseases.

It is a model of the human body consisting of illuminated LEDs. Visitors enter the code on the desktop, corresponding to the agricultural activity. LEDs corresponding to zones of the body exposed to musculoskeletal disease in the indicated activity light up, red – most vulnerable, orange – the potentially affected area.

- Joint of the hand holding the pruning shears. When the hand puts the pruning shears in motion, you can see tendon strain effort.

In both cases, the visitor is lead by a consultant for the Prevention, who provides guidance and information on prevention of musculoskeletal diseases.

Accompanying Measures: collective participation, and training-action

Parallel to the studies and surveys conducted for better understanding of the risks associated with musculoskeletal diseases, together with its partners MSA Fund organized wide-ranging campaigns in the sectors mostly exposed to these diseases: the meat industry - butchery and viticulture.

The meat industry - butchery

The campaign is carried out in cooperation with several institutions responsible for disease prevention, as well as persons professionally involved.

It is based on promoting the approach of the “knife, which cuts” initiated on grounds of a statement that the work at the meat cutting position is the vicious circle. For the knife to meet its basic cutting function *one should maintain it in good condition and retain good quality for a whole day of work. The worse the knife cuts, the longer the work to be done and the less time for knife sharpening. Employee is strained, tired, nervous, and consequently, the quality suffers. Work colleagues are slowed down. Employee under stress speeds up the work to overcome the delay. It is a vicious circle. That is why the individual sharpening and grinding operations are so important.*

It is an important approach, in which employees or managerial staff are actively involved in developing the concept of risk and submitting proposals for seeking the solutions to improve the situation. Specific stages include: sensitization of managerial staff, job analysis, training employees in knives sharpening, in-house training regarding sharpening tools, investment in equipment (knives, sharpeners ...), adaptation of workplaces.

Evaluation of this campaign conducted in pig slaughterhouse produced the following results: improvement of working conditions in cutting plants, reducing the number of complaints related to the use of the knife, the development and maintenance of lost skills, increased productivity, significant reduction in the number of knives used during the year. It shows that beside the technical aspect of sharpening a knife, these efforts allow the plants to consider organizing their activities in terms of improving working conditions, product quality, and productivity.

Efforts were included in the practical guide addressed to those responsible for the butcher industry.

Training-shares in the plantation industry

The MSA Fund wanted to move the knife-related approach to vine-growing sector for the operations of the grape harvest, which with the use of the pruning shears, constitutes a risk similar to that which accompanies the meat cutting. The context of viticulture, however, differs from the situation in butcher's industry: the first includes the 60,000 owners and 500,000 people employed in small scattered structures in contrast to the large slaughterhouses, which have committees for labor safety, and management, and, where MSA Fund may be interested in training courses inside the establishment.

So how can we reach such a large and distributed public opinion and so many different practices depending on the crop land? In this situation, the MSA Fund decided to organize a training campaign at a distance adapted to each area of crops. The Fund has entrusted each department with the organization of multidisciplinary training courses based on a panel consisting of an expert in the field of vines, responsible for the technical support for the selection and maintenance of pruning pruning shears, adviser on the prevention of occupational diseases, and a doctor of occupational medicine, the latter two under the MSA Fund.

In the first stage the MSA Fund provided training to the panel of three experts, at the national level, in order to organize a training for workers, owners, and students at the local level.

Since the launch of the campaign, 150 trained professionals have organized 420 training sessions for over 4,600 people (54% of workers, 16% owners and 30% of students). Training was aimed at promotion of knowledge among the people involved in vine growing on the prevention of musculoskeletal diseases in the upper limbs and helping them to apply simple and effective preventive measure in practice s. Recognizing the risk

factors (posture, repetitive gestures, muscle exercises, rhythm), and further deterioration factors (cold, vibrating tools, quality and maintenance of equipment, stress), the objective is to reduce the risk by organization, shaping, and hygiene of life. The training also allows to refer to subject of other factors such as organization, planning with the rotation of the posts, cultivation techniques, and other matters as the vertebral column pathologies.

These are not easy tasks. They require convincing the managers about the fairness and appropriateness of training, which they should undergo and communicate to their employees. That's why the MSA Fund is based on the network of selected persons, including the professionals in the field, who find it easier to reach and persuade other experts from the industry to business arising from this type of training. The training must also consider the concerns of trainees, trainers have to prove the validity of the case, so before the end of the training obstacles vanish and the validity of the training module is approved.

Two challenges

Constant prevention of musculoskeletal diseases

Labor safety departments of MSA Fund at the workplace in some factories observe slowing growth of prevention programs. There are new or recurrent cases of musculoskeletal disorders, despite effective actions commenced several years ago. At stake in this game, therefore, is to understand the conditions necessary to develop solutions to the sustainable preventive program.

The first element of response to this challenge is to spot the problem on the eve of the development of musculoskeletal disorder cases and the establishment of criteria such as the expression of pain, and situations experienced at work allowing for early diagnosis of the problem.

The second element is the need for long-term aid from the external plants. Business competition and the current way of plant management leads to regular and rapid changes of executive and managerial staff in companies and hence of business strategies (especially in large companies), which cause loss of information on issues and approaches in the prevention program implemented in the plant. Labor safety teams of MSA Fund at the work plants may play the role of witnesses and participants in the "history of prevention at the workplace".

The third aspect relates to the need to initiate a social dialogue at the workplace.

Assessment of the actions

Development of evaluation of prevention activities was one of the objectives from the perspective of social insurance in 2005-2009. The MSA Fund committed itself in 2008 to the process of assessing the impact of training activities undertaken in the industry of vine growing. The main goal of this evaluation, in accordance with the ergonomic approach, is to identify the effects of preventive measures taken in the vineyards in respect of the employees (evaluation of the knowledge, practice modification ...). Expected results at the end of 2010 should allow for progress in our efforts in prevention policy of musculoskeletal diseases to improve the health status of farmers.