

REVIEW ARTICLE

Occupational disease: a view from the primary health care perspective

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ABSTRACT

Introduction: workplaces constitute special environments in which exposures to occupational risk factors contribute to workers' morbidity and mortality; however, occupational diseases are not always recognized.

Objective: to evaluate aspects related to the most frequent occupational diseases in Villa Clara Province so that the family physician can differentiate them from common affections and make the opportune referral of the worker.

Methods: a bibliographic review was carried out from March to September 2022. Different search engines were used to access several referential databases (BIREME, Ebsco, SciELO regional, PubMed and others) that offered full texts, indexes and academic periodicals. The main theoretical procedures applied were induction-deduction, analysis-synthesis, abstraction and integration, which made it possible to perform a systemic assessment of the object of study.

Conclusions: the identification by the family physician of diseases of occupational or professional origin and their referral for early diagnosis is important not only for those who suffer from them, but also for the labor group, because the prevention of these ailments through systematic screening helps to detect people going through incipient stages and to take preventive measures to minimize or eliminate the causes.

Key words: occupational disease; positive diagnosis; family physician; health promotion and prevention

RESUMEN

Introducción: los centros de trabajo constituyen ambientes especiales en los que las exposiciones a factores de riesgos ocupacionales contribuyen a la morbilidad y a la mortalidad de los trabajadores; sin embargo, las enfermedades profesionales no siempre son reconocidas.

Objetivo: valorar aspectos relacionados con las enfermedades profesionales más frecuentes en la Provincia de Villa Clara de modo que el médico de familia pueda diferenciarlas de las afecciones comunes y efectuar la remisión oportuna del trabajador.

Métodos: se realizó una revisión bibliográfica en el período comprendido de marzo a septiembre de 2022. Se utilizaron diferentes motores de búsqueda que permitieron acceder a varias bases de datos referenciales (BIREME, Ebsco, SciELO regional, PubMed y otras) que ofrecieron textos completos, índices y publicaciones periódicas académicas. Los principales procedimientos teóricos aplicados fueron la inducción-deducción, el análisis-síntesis, la abstracción y la integración, que posibilitaron realizar una valoración sistémica del objeto estudio.

Conclusiones: la identificación por el médico de familia de enfermedades de origen profesional u ocupacional y su remisión a las consultas previstas para el diagnóstico temprano resulta importante no solo para quienes las padecen, sino también para el colectivo laboral, porque la prevención de estas dolencias a partir del pesquaje sistemático ayuda a detectar a las personas que atraviesan por estadios incipientes y a tomar las medidas preventivas que minimicen o eliminen las causas.

Palabras clave: enfermedad profesional; diagnóstico positivo; médico de familia; promoción y prevención en salud

INTRODUCTION

Occupational diseases take various clinical forms, but always have a causal agent of occupational origin, which makes it possible to classify jobs according to their potential capacity to cause them.⁽¹⁾

The International Labor Organization (ILO) and the World Health Organization (WHO) define them as follows:

“(...) They are nosologically well-defined alterations of health, produced by the direct action of work, in workers who are habitually exposed to etiological factors constantly present in certain professions or occupations, under the circumstances foreseen in the respective legislations”.

Their onset is slow and imperceptible, many of these diseases are irreversible and serious; however, others are predictable, some are insidious and undetectable at the beginning and their manifestations are evident after months or years, i.e., they may have a long latency period, which is why knowledge of the worker's work history becomes so necessary.⁽²⁾

The ILO estimates that, worldwide, there are almost 140 million new cases per year of professional or occupational diseases that are not always identified as such. Likewise, 202 million people die each year from work-related illnesses and accidents and another 317 million suffer from work-related conditions.⁽³⁾

In Cuba, the most frequent occupational diseases are related to chemical intoxications, chronic nodular laryngitis, occupational hypoacusis, dermatosis caused by physical, chemical and biological agents and those caused by repetitive intense movements and extreme postures such as epicondylitis and tenosynovitis of the hand and wrist.⁽⁴⁾

The Constitution of the Cuban Republic establishes that the right to work protection and hygiene must be guaranteed by the State through the adoption of adequate measures for the preservation of workers' health, the prevention of work accidents and occupational diseases. Preventive-curative medical care services for workers are provided at the three levels of care of the National Health System and as an integral part of it: primary level, medical services of Primary Health Care (PHC); secondary level, consultation of occupational diseases and Labor Medical Expertise Commissions; and tertiary level, National Institute of Health and Worker Care.⁽⁵⁾

Workplaces constitute special environments in which occupational exposures contribute to workers' morbidity and mortality; however, work-related and occupational diseases are not always recognized (the latter are on the increase, but only one to five percent of cases are reported).⁽⁶⁾ The aim of this article was to assess aspects related to the most frequent occupational diseases in Villa Clara Province so that the family physician can differentiate them from common conditions and make a timely referral of the worker.

METHODS

A bibliographic review was carried out from March to September 2022. Different search engines were used to access several reference databases (BIREME, Ebsco, SciELO regional, PubMed and others) that offered full texts, indexes and academic periodicals. The following health descriptors were used: occupational health, occupational disease, primary health care and family physician. The main theoretical procedures applied were induction-deduction, analysis-synthesis, abstraction and integration, which made it possible to perform a systemic assessment of the object of study.

DEVELOPMENT

Occupational disease as a dilemma in medical thinking

Law No. 116, Labor Code, December 20th, 2013, establishes in its Article 132 that the list of nationally recognized occupational diseases and the procedure for their analysis, prevention and control, are determined by the Ministry of Public Health (MINSAP, Ministerio de Salud Pública), a list that was established through Resolution No. 283/14.⁽⁷⁾

More than 30 types of occupational diseases are considered and MINSAP requires them to be notifiable. The current list is reviewed and updated according to new scientific-technical knowledge. In order to declare that a worker suffers from an occupational disease, it must be scientifically proven and several criteria for diagnosis must be taken into account:

- Occupational criteria: closely related to occupational history: where he/she works, activities performed, products manufactured, daily hours of exposure and time worked.
- Clinical criteria: signs and symptoms presented by the patient.
- Epidemiological hygienic criteria: study of the work and home environment, when considered necessary.
- Laboratory criteria: in humans, biological indicators and, in the environment, maximum permissible concentrations (MPC).
- Legal medical criteria: that the disease is included in the country's current legal resolution, which considers which diseases are occupational, since not all countries agree on them.

It is important to point out that occupational diseases are avoidable if working in adequate conditions and not all of them leave permanent sequelae. Irreversible damage depends on the type of condition, the stage at which the diagnosis is made and the treatment or conduct followed in the case.⁽⁸⁾

In Villa Clara Province, during the five-year period 2018-2022, the following occupational diseases were diagnosed and reported (Table 1):⁽⁹⁾

Table 1. Occupational diseases

Occupational diseases	Years				
	2018	2019	2020	2021	2022
Nodular laryngitis	6	3	0	0	2
Occupational dermatosis	2	9	0	0	0
Occupational hearing loss	13	7	0	1	0
Saturnism	1	2	0	0	0
Hydrargyris	1	1	0	0	0
Pesticide poisoning	0	2	0	0	0
Musculoskeletal disorders	13	15	3	3	5
Total	36	39	3	4	7

Source: Department of Statistics. Provincial Directorate of Health

Despite the low number of occupational diseases diagnosed in the territory in the last three years, the authors considered important to relate the source of exposure and the clinical picture and to address epidemiological and statistical aspects of interest in the international and national context.

➤ Nodular laryngitis

Jobs or occupations in which the risk exists: they occur more frequently in people who use the voice as part of their work (teachers, telephone operators, receptionists, lawyers, leaders, social communicators, singers and speakers, among others). Other irritating factors such as respiratory tract infections, smoking, alcoholism, gastroesophageal reflux and those of the work environment such as smoke, gases, chemicals, dust and aerosols may also play a role.

Positive diagnosis: traumatic-phonatory lesions produced by abuse and hyperfunction or hyperactivity and misuse of the vocal cords. It is characterized by dysphonia, which is the alteration that occurs in the voice, with modifications of its timbre, intensity, pitch and duration. It worsens with work activity, especially at the end of the day, and improves with rest. Its diagnosis is confirmed by examination of the larynx, which is performed in a specialized office, either ENT or phoniatics. It is advisable that every worker who presents a dysphonia of more than 30 days of evolution (chronic) be evaluated by the Specialists.⁽¹⁰⁾

The WHO estimates that in Latin America only one to four percent of all occupational diseases are reported; however, in Colombia different studies have been carried out showing the prevalence of occupational voice disorders in 39.5% of patients, and nodular laryngitis has been found to be the major triggering or predisposing factor in teachers.⁽¹¹⁾

The ILO establishes that teachers constitute the first professional category at risk of contracting occupational voice diseases due to their excessive use as a work tool, which has repercussions on their work performance and daily activity and diminishes their quality of life.⁽³⁾

In Cuba, in response to the gradual increase of chronic dysphonia in professionals, and to comply with the National Occupational Health Program of MINSAP, a protocol has been developed for the surveillance and control of the health of workers exposed to factors that promote this condition, considered as an occupational disease, especially in the education sector,

because it is one of the agencies with the largest number of workers who use the voice during the development of their teaching activities.⁽¹²⁾

➤ Occupational dermatosis

Jobs or occupations in which the risk exists: it ranks among the first four occupational diseases in the world. Plastics and synthetic resins, rubber products, pesticides and fertilizers and those related to the pharmacological and cosmetology industries are substances with a certain irritant or sensitizing power that can cause skin damage.

Positive diagnosis: it presents itself with different manifestations: cracks, thickening, eczema, scaling, spots, inflammation or some disorder in skin coloration. The alkaline substances handled by construction workers, which contain potassium bichromate as a constituent element of cements, act on the liquefied layer of the skin and irritate it. In addition, as it loses its defensive mantle, the epidermis becomes more vulnerable to the action of bacteria and fungi that can also infect it. In the case of mechanics, similar symptoms appear due to the use of solvents to remove grease. Workers who perform hygiene tasks due to the action of some detergents and cleaning substances may present lesions and inflammation in the root of the nails.^(13,14)

Occupational dermatitis is a condition that occurs frequently in the working population and is considered the most common occupational disease because it represents between 10.9% and 51% of all cases of dermatitis. The prevalence is estimated to be between four and 37% of workers, with an incidence of 5.5 cases per 1,000 persons per year.⁽¹⁵⁾

The most frequently affected sites are the hands and wrists, arms, face and legs; however, the exact location of the lesions depends importantly on the characteristics of the exposure. Lichenification, erythema and crusting were the most prevalent lesions.⁽¹⁵⁾

➤ Professional hearing loss

Jobs or occupations in which the risk exists: mining, road construction, quarrying, textile industry, work with the use of heavy equipment, railroads, aviation and agricultural mechanization are the occupational activities with the highest risk due to exposure to harmful noise levels above 85 dB (decibels).

Positive diagnosis: loss or decrease of hearing, usually occurring partially or completely in both ears. Difficulties in understanding speech. In the home environment these people ask that those who address them raise their voices, as well as the audio volumes of the radio and television. There may be tinnitus, irritability, headache or headache, as well as sleep disturbances.⁽¹⁶⁾

Noise-induced hearing loss is a worldwide public health problem because it is a preventable disease with an identified risk factor and established control measures. It affects the working population in all countries, with prevalence varying between seven and 21%, depending on the type of work, the conditions and the place where it is performed. It is estimated that approximately 600 million people suffer from it.

As a non-life-threatening condition, the disease burden has been progressively increasing, as evidenced by the fact that in 1990 the years lived with disability attributable to hearing loss worldwide was 25.0 million, while in 2019 it reached 43.5 million, figures that denote an increase of 73%. According to epidemiological and demographic estimates, it is expected that by the year 2050, approximately 2.5 billion people will be affected by this disease, equivalent to 25% of the world's population estimated for that date.⁽¹⁷⁾

The Occupational Safety and Health Administration (OSHA) in the United States is the regulatory agency responsible for establishing guidelines for the avoidance of hazardous occupational noise (defined as the permissible exposure level at 85 dB for eight hours) and limits the maximum sound pressure level of noise exposure to 140 dB, regardless of the duration of noise exposure. OSHA requires companies to have conservation programs that include annual audiometric evaluations, worker training on the risks posed by excessive noise exposure, and hearing protection devices to be worn by employees.⁽¹⁸⁾

➤ Saturnism or lead poisoning

Work or occupations in which the risk exists: processing of lead-containing minerals, production, separation, smelting and polishing operations in which lead and its compounds are used and all work activities in which there is a risk of exposure to this substance. It can enter the body by three routes: respiratory, digestive and dermal.

Positive diagnosis: as a result of occupational exposure to lead, the worker may develop an acute or chronic intoxication that may have a wide spectrum in its clinical presentation and a variable intensity depending mainly on the serum concentration of this metal. Asthenia, anorexia and weight loss are common symptoms that precede intoxication for months and years but, if not controlled, the following alterations may occur: sustained abdominal and periumbilical cramping which subsides only with the application of calcium; epigastralgia, constipation, diarrhea and nausea; dental or Burton's rim - blue line in the gums due to lead sulfide deposit- and nervousness, headache, fatigue, convulsions, plumbic encephalopathy, sexual impotence and paralysis of the extensors of the fingers and hand muscles, nocturia, jaundice, anemia, cutaneous-mucosal pallor, characteristic color of the skin - saturnine dye-, arterial hypertension and insomnia.

WHO estimated that, in 2017, lead exposure generated 1.06 million deaths and 24.4 million disability-adjusted life years lost due to its long-term health effects.⁽¹⁹⁾

A review of 47 articles published in 2016-2020 related to occupational lead exposure identified battery manufacturing, shooting ranges, automotive mechanics, and construction as sources of contamination. Forty reported clinical manifestations and diseases due to occupational lead exposure (or both) such as neurological (21.8%), hematological (12.5%), digestive and psychiatric (10.9%) alterations. Positive trends were found for lung cancer, heart attacks, heart disease and a high mortality rate for people with plumbemias >40 µg/dl; urinary lead concentration was considered as an independent predictor of mortality from stomach and lung cancer.⁽²⁰⁾

➤ Hydrargirism or mercury poisoning

Works or occupations in which the risk exists: treatment of mercury ores, production operations, separation or use of mercury and its compounds and all work activities in which this substance is present.

Positive diagnosis: it enters the body through the respiratory and digestive tracts and through the skin; acute poisoning is accidental. Chronic intoxication is the most common, manifested by irritability, anguish, delirium crisis, hallucinations, intentional fine tremor that begins in the fingers of the hands to extend to the whole body, paralysis of the arm extensors, small movements of the face, writing disorders, muscle contractions, monotonous and deep voice, opacity of the crystalline lens - green cataract -, stomatitis, chemical parotitis and blackish red border on the gums. Symptomatic triad of gingivitis, tremors and emotional instability.⁽²¹⁾

Mercury is considered by the WHO as one of the 10 most hazardous substances to health. An example that allows relating the routes of entry into the body with the sources of emission and the applications of heavy metals, in parallel with the risk of exposure, could be this metal, which is used in the manufacture of measuring instruments such as thermometers that, when discarded in hospitals, become part of the harmful hospital waste because, when incinerated, they emit metallic mercury vapors that can be inhaled through the respiratory tract, cause the health effects mentioned above and put workers at risk.⁽²²⁾

The poisonings diagnosed in workers in the Province of Santiago de Cuba, in the period 2000-2016, were associated with different jobs: battery repair, welding and plumbing and, in the case of mercury, there was a direct relationship with Dentistry. In Cuba there are mechanisms to attend, in a special way, occupational poisoning by heavy metals.⁽²³⁾

➤ Pesticide poisoning

Works or occupations in which the risk exists: all work activities that expose to risks such as the manufacture, preparation, packaging, storage and application of pesticides, insecticides, fungicides, herbicides and rodenticides.

Positive diagnosis: the routes of entry are respiratory, dermal and digestive. Signs and symptoms will depend, to a large extent, on the characteristics and nature of the product, its degree of concentration, the time of exposure, the means of protection used, the individual characteristics of the exposed worker and others.

Those that most frequently cause occupational poisoning are organophosphates, carbamates and some organochlorines. Their clinical picture has particularities in each case:

1. Intoxication by organophosphates: symptoms begin after the worker has stopped work, either on the way home or afterwards, so it can be ignored that it is an occupational intoxication. It starts with dizziness accompanied by weakness, headache, nausea, vomiting and sporadic stomach pains; there may be diarrhea, profuse sweating and sialorrhea. If it is very acute, respiratory disorders, loss of consciousness, coma and even death may occur.

2. Carbamate poisoning: symptoms appear rapidly during or after the massive exposure itself, so that the worker stops work before he has been able to absorb a dangerous dose. Recovery is rapid and complete with few chronic or cumulative effects.
3. Intoxication by organochlorines: the clinical picture shows individual differences according to the type of product and presents general characteristics, both for the acute and chronic form, so that intoxication is determined by laboratory tests.
 - a) Acute intoxication: restlessness, paresthesias in the oral region, numbness of the tongue, facial and extremities hyperesthesia, symptoms of excitability and hypersensitivity, photophobia, vertigo, nausea, headache, irritation of the conjunctival mucosa and respiratory tract, tremors of the eyelids, head and extremities, ataxic gait, delirium, mydriasis, bradycardia, tachycardia, convulsion and myocardial disorders such as pulmonary edema; death occurs in one to two weeks due to respiratory paralysis, ventricular fibrillation or claudication of the circulatory system.
 - b) Chronic intoxication: skin lesions ranging from erythema to acute dermatosis, anorexia, weight loss, general weakness and pallor, anemia, tremors, polyneuritis, psychic disorders, digestive and hepatic alterations, anginal crises, contractures, alopecia, keloids, arthritis, joint lesions, osteoporosis and others.⁽²⁴⁾

The United Nations report that the annual number of acute intoxications by pesticides oscillates between 500 000 to 1,528 000 and each year occur from 3 000 to 28 000 defunctions by that cause. The statistics indicate that poisonings account for 2.5 to 3% of the cases treated in emergencies. In addition, the total number of patients intoxicated, the 28% corresponds to organophosphorus and these, 15% missing by not having immediate access to a health area and receive timely care.⁽²⁵⁾

In Latin America, exposure to pesticides is a health problem. In countries such as Colombia, Chile, Peru and Costa Rica, a high rate of exposure to pesticides in working women of childbearing age has been demonstrated for the last 15 years, which involves a risk to health in general and even more so to reproduction.

In Colombia, due to the high agricultural production, pesticides are the major cause of intoxications in the whole region; it is estimated that they have an incidence of 68% and are responsible for 66% of mortality.

The International Code of Conduct on the Distribution and Use of Pesticides, adopted by the 123rd Session of the Council of the Food and Agriculture Organization (FAO), is a tool for the prevention of damage caused by their misuse. This document deals with the classification of pesticides according to their toxicity, the most frequent uses (control of pests affecting crops and diseases transmitted by vectors and rodents), the effects on the environment (direct contamination of agricultural crops), inadequate washing of container tanks, leaks in storage tanks and residues discharged and disposed of on the soil and the effects on health (route of entry and form of intoxication - inhaled air or water).⁽²⁶⁾

Cuba, an agricultural country, does not escape this worldwide problem and maintains a certain level of use of these agrochemical products which, due

to different circumstances, have caused regrettable human losses, with a higher incidence in the 1990s. The National Center of Toxicology (CENATOX, Centro Nacional de Toxicología) provides telephone consultations to intoxicated patients in the country; most of the intoxications are caused by pesticides.⁽²⁷⁾

➤ Musculoskeletal disorders

Works or occupations in which the risk exists: the probability of developing musculoskeletal disorders of the upper extremity depends on the presence in the tasks performed of risk factors such as the intensity and duration of the effort, repetitiveness, frequency and time of exposure. The condition is present in waitresses and cleaning assistants and in workers in gastronomy, offices, construction, maintenance, load handlers and craftsmen, among others. The musculoskeletal disorders with the highest incidence in the working population of Villaclore were carpal tunnel syndrome and epicondylitis.

Positive diagnosis:

Carpal tunnel syndrome: condition generated by compression of the median nerve in the carpal tunnel, which manifests with numbness and paresthesias that are accompanied, in most cases, by pain in the wrist, with possible irradiation to the elbow, shoulder and even to the neck; in addition to sensory, motor and trophic manifestations, it affects the patient from the psychosocial point of view. Diagnosis is usually clinical and electromyographic.

Epicondylitis: a chronic tendinosis caused, in most cases, by repetitive injury to the extensor muscles of the forearm, related to work or sport. It is one of the conditions that most frequently generates painful symptoms in the elbow. Redness may appear on the skin and, although at the beginning it does not cause immobilization, as time goes by the intensity of the discomfort decreases the strength of the muscle.⁽²⁸⁾

In a study conducted in the city of Loja, Ecuador, with the objective of identifying manifestations of carpal tunnel syndrome in commercial workers and risk factors as a way to reduce its prevalence, it was found that symptoms were observed more frequently in women and in the age range over 40 years. The main risk factors recognized were the adoption of inadequate postures for gripping objects, the execution of repetitive movements, excessive physical effort when handling loads or products, and little time for rest or breaks during the workday.⁽²⁹⁾

Epicondylitis is one of the most common diseases affecting the elbow. Its prevalence is estimated between one and three percent of the general population and increases up to seven percent in manual workers with repetitive extension and pronosupination movements of the forearm and wrist, such as professionals who use pneumatic hammers. There are no differences in terms of sex, the peak incidence is between 45 and 60 years of age, which has a high impact on the reduction of productivity due to absences from work.⁽³⁰⁾

In the authors' opinion, it is necessary to promote professional improvement actions in occupational health in the province with the objective that physicians

reflect on these diseases which, although they do not occupy a primary place in the health picture of the territory, are present in the economically active population, can go unnoticed because they are not related to the occupational history of the worker and, therefore, are underreported because they are not diagnosed and reported. It should always be borne in mind that work occupies one third of the life of people in full capacity and that the risks affect health and have an impact on morbidity and mortality, on the family economy and on the workplace.

Medical Family and prevention of professional diseases

The WHO maintains that the health of workers is an essential prerequisite for family income, productivity and economic development; therefore, the maintenance and restoration of working capacity is an important function of health services.⁽²⁾

In Cuba, the Ministry of Labor and Social Security, the Ministry of the Interior and MINSAP are established as the governing bodies for occupational health and safety; the latter is responsible for the subsystem of worker health care through the National Workers' Health Program, which unifies the methodological aspects and health actions aimed at the individual, the labor group and the environment.

The medical services provided to workers at the primary health level begin to be governed by the provisions of the Family Doctor and Nurse Program (PMEF, Programa del Médico y la Enfermera de la Familia), which establishes, as modalities of care:

- a) Medical and nursing service at the work center: full or part time.
- b) Nursing service only at the work center: full or part time.
- c) Medical service in the community.⁽³¹⁾

Due to the diversity of occupational risks, the most important preventive measures to reduce the effects on the worker are aimed at health education, preventive medical examinations and means of personal protection; with respect to the work environment, the state health inspection and the performance of environmental determinations in workplaces.⁽³²⁾

Regarding preventive medical examinations, Law No. 116 of the Labor Code establishes that workers have the right and duty to undergo medical examinations on the dates indicated to them; it also provides that MINSAP defines the list of positions or activities which, due to their characteristics, require the performance of these examinations, their specificities and their periodicity. There are three types of medical check-ups for workers:

- Pre-employment: indicated before starting work or within the first 30 working days.
- Periodic: depending on the exposure, the dates of the periodicity are indicated.
- Return to work: after a temporary medical certificate or expertise.⁽³³⁾

In Villa Clara Province, during the five-year period from 2018 to 2022, the following numbers of preventive medical examinations (pre-employment and periodic) were carried out in PHC by family physicians -Table 2-:⁽⁹⁾

Table 2. Preventive medical exams

Preventive medical exams	Years				
	2018	2019	2020	2021	2022
Pre-employment	13 284	15 275	13 783	8 869	3 522
Periodical	18 357	20 490	24 325	23 138	7 207
Total	31 641	35 765	38 108	32 007	10 729

Source: Statistics Department. Provincial Directorate of Health

There was a decrease in the performance of preventive medical examinations of workers during the last three years by the Basic Health Team (EBS, Equipo Básico de Salud). In the years 2020 and 2021, due to the COVID-19 pandemic, most of the work centers in the country and in the Province of Villa Clara ceased their activities, and the doctors and nurses working in primary care were mobilized to different health care scenarios, which influenced the fulfillment of some programs implemented in the medical office, as is the case of the National Workers' Health Program.

In the year 2022, after the restoration of the damage caused by the pandemic and the return to normality, the low number of workers with medical examinations performed in the province and, specifically, the periodic one, which is oriented to be performed at least once a year, depending on the occupational risks to which the individual is exposed in his job, is striking.

Villa Clara, at the end of 2022, had 339,717 workers and, of them, 172,687 worked for the state sector; only 6.2% were given preventive medical examinations.⁽⁹⁾ This influenced compliance with Resolution No. 284/14 of the present Labor Code, in which Article 138 establishes the employer's obligation to require workers to undergo medical examinations to determine whether they are physically and mentally fit for the work they perform.⁽⁷⁾

The authors of this article warn, as essential for the execution of a preventive medical examination with quality, that those responsible for health and safety in the companies comply with what is established and inform the EBS of the characteristics of the job, the demands and the risks that the worker will assume in his work performance, otherwise this process becomes a virtual evaluation.

If the family physician at the worker's place of residence, who knows the worker's state of health best, is unaware of the risk factors in a given activity, he cannot relate them to their effects on present health problems, issue an adequate diagnosis and dictate preventive measures to avoid similar events in the future.

A study carried out in the Municipality of Santa Clara, Villa Clara Province, related to the preparation of the Specialist in General Comprehensive Medicine for the integral health care of the worker found, among other problematic situations, difficulties with the identification of occupational risks, which affects the process of dispensing and planning of controls to workers, as well as preventive examinations, without a risk approach and with limited health promotion and prevention actions. Deficiencies that may influence the presumptive diagnosis of a work-related condition or an occupational disease.⁽³⁴⁾

In the Municipality of Jovellanos, Matanzas Province, an occupational disease prevention strategy was designed in the agricultural cooperative context with

the objective of assessing the relevance of the interdisciplinary performance of the Comprehensive General Practitioner. The different stages of the strategy allowed the execution of health promotion and education actions aimed at workers, training for the identification, elimination and control of risk, assistance in the performance of preventive medical examinations and coordination of interdisciplinary, inter-institutional and assistance work.⁽³⁵⁾

The integral medical care to be developed by the family physician and nurse considers the unity of the curative and preventive aspects, the biological and social aspects and the conditions of the physical environment that interact with the individual and the community and that condition the health-disease process. In order to fulfill it, the EBS must carry out different actions established by the PMEF and the authors consider it appropriate to relate those corresponding to occupational health:

Promotion activities:

- They are carried out for the entire population assigned to the clinic, including work and study centers, to use health education, communication, and community and social participation as basic tools.
- To carry out educational activities aimed at identifying potential risks of accidents at home, in schools, in children's circles and in workplaces.
- Carry out educational activities aimed at recognizing the importance of pre-employment, periodic and reemployment check-ups.

Activities for the prevention of risks, diseases and other damages to health:

- To carry out comprehensive health actions in special environments, with emphasis on the school and occupational environment.
- Dispensing to the economically active population.
- Identify people with risk factors harmful to health: smoking, dyslipidemia, obesity, high blood pressure, diabetes mellitus, sedentary lifestyle, alcoholism and other addictions, poor eating habits and polypharmacy in order to carry out individual and family actions in specific groups of work and study centers.
- Conduct pre-employment, periodic and re-employment medical examinations for workers residing in the community.
- Detect and carry out actions to modify the risks of accidents at home, in schools, in children's circles, in workplaces and in public and traffic places by providing guidance on the appropriate measures to prevent them.
- Detect and carry out actions to modify work, school and family situations that generate psychosocial stress capable of affecting health.

Health care activities:

- Guarantee medical care in workplaces within its radius of action, as long as these do not have this professional available.
- Guarantee quality early diagnosis and comprehensive medical care.⁽³⁶⁾

Workers sometimes fear that if they are diagnosed with an occupational disease they may be incapacitated for their job or disabled for any other function, but this criterion is erroneous, because if it is prescribed early, they can return to their job functions, as long as the conditions that caused the disease change. The procedure for ruling is as follows:

1. When a worker's assisting physician considers that the illness he/she is suffering from is of occupational origin, he/she refers him/her to the Occupational Diseases Consultation.

2. To diagnose this type of disease it is necessary that the occupational, hygienic, epidemiological, clinical, laboratory and legal criteria are met.
3. The only physician to definitively diagnose this type of disease is the specialist in charge of occupational health.
4. The Directors of the Provincial and Municipal Centers of Hygiene, Epidemiology and Microbiology are in the obligation to demand from the medical specialists in charge of occupational health in the territory that the hygienic-epidemiological study corresponding to their level be carried out once the occupational disease is diagnosed and to indicate that the pertinent sanitary measures for the prevention and elimination of the risk factors that lead to its appearance be complied with.
5. Once the diagnosis of the patient is concluded, the specialist physician in charge of the Occupational Health Consultation notifies the case to the employer or the natural person as appropriate and to the Statistics Departments.
6. Once the occupational disease has been diagnosed, the treatment established in the Manuals of Protocols for Occupational Diseases in Cuba is followed.⁽³⁷⁾

Every occupational disease implies a series of expenses for medical care and services in general, without minimizing the individual, family and social suffering they entail, in addition to other damages that have repercussions on the decrease of productivity and work performance. It is necessary to implement specific actions to protect the health of workers and the country in the conditions of updating the economic-social model, the basis of socialist development.

CONCLUSIONS

The identification by the family physician of occupational diseases and their referral for early diagnosis is important not only for those who suffer from them, but also for the working community, because the prevention of these ailments through systematic screening helps to detect people in their early stages and to take preventive measures to minimize or eliminate the causes.

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CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

AUTHORS' CONTRIBUTION

GJLE: Conception and design of the study, collection of results, analysis and interpretation of data, drafting of the manuscript, critical revision and approval of the final version.

RÁS, IIML: Collection of results, analysis and interpretation of data, drafting of the manuscript and approval of its final version.