

WORLD HEALTH ORGANIZATION

SEMINAR ON THE ROLE OF HEALTH SERVICES
AND TRAINING INSTITUTES IN CONTROL OF
VECTORS AND RESERVOIRS OF DISEASES

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THE ROLE OF INSTITUTE OF INFECTIOUS AND
PARASITIC DISEASES IN VECTOR CONTROL IN
GENERAL AND RODENT CONTROL IN PARTICULAR

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The Institute of Infectious and Parasitic Diseases is one of the major health institutes in the system of public health services in the People's Republic of Bulgaria. It was established more than a century ago and represents a large-scale institution with the following basic activities: scientific-research, training, treatment and diagnostics, organizational-methodic and productional.

The section on Disinfection, Disinsection and Deratization functionally depends on the Chair of Epidemiology. It is organized in two laboratories: laboratory on disinsection and deratization and laboratory on disinfection and chemistry of DDD. The personnel of the section is a complex one. It is composed of physicians, biologists and chemists. The good qualification of the specialists is a prerequisite for the implementation of scientific studies on an up-to-date level (for example out of the 7 university graduates in the laboratory on disinsection and deratization 5 have defended a dissertation). The section on DDD represents a specialized unit of the Institute which displays a large scientific-investigation activity. The scientific subject has chiefly a practical character and is directly in touch with the needs of the practice. The basic scientific elaborations are included in the five-year plan-program of the Ministry of Public Health for the reduction and liquidation of infectious and parasitic diseases.

The distinctive peculiarity of the investigation work on the problems of disinsection and deratization is that it embraces three consecutive stages: laboratory investigations, the check-up of the results obtained under field conditions and implementation in the practice. For carrying out this investigation work many other specialists from other state institutions are drawn in to participate and co-operate

On the basis of the world's achievements and its own experience the Institute of Infectious and Parasitic Diseases, respectively the DDD section, annually works out the tactics for the struggle against the carriers and the reservoirs of contagious and parasitic diseases throughout the entire country.

A perspective direction in the investigation activity represents the joint subject of the section with other countries (USSR, Hungary, Czechoslovakia, DDR) regarding the choice and verification of methods for assessment of effectiveness of the applied products in the struggle with the carriers and the methods for fixing the effectiveness of the carried out disinsectional and deratizational undertakings.

We would like to get you acquainted more in detail with the organizational-methodical problems which the section on DDD has to solve. This activity is included in the common plan of the Institute and is drawn up annually. Due to it a close and direct relation is established with the Hygienic-Epidemic Institute, the de-sections and separate specialists from the health net of the country. There are implemented the scientific achievements of the Institute of Infectious and Parasitic Diseases in the practice. The organizational-methodical activity (OMA) is realized under different organizational forms:

- training specialists for a definite period of time in the section DDD;

- giving methodic assistance on the spot. This is the so-called individual help. In this case a specialist from the section visits the Hygienic-Epidemic Institute for a special problem concerning the disinsection and deratization undertakings;

- advisory help. Such help is given by the senior scientists from the DDD section, usually in case of epidemic situation. The aim is to give a speedy and competent advice on the spot;

- implantation of innovations. In this case collaboration with the section train specialists from HEI in the mastering of new methods, products or apparatuses;

- organizing of scientific-practical and subject conferences. The IIFD, together with the Ministry of Public Health, organize annually national conferences where the results of carried out in the country disinsectional, disinsectional and deratization measures are assessed and give recommendations for the improvement of the disinsectional work under the leadership of the Institute. Thematic conferences are also organized. For example in 1984 in Sofia with international participation there will be organized a scientific conference on the problems of disinfection, disinsection and deratization.

- preparing methodic, instructive, normative and other materials. On the basis of international and its own experience the section of DDD prepares such materials and presents them to the Ministry of Public Health for confirmation. Specially useful in this case is the precious help we receive from the WHO and the international collaboration;

- senior scientific collaborators from the section of DDD

(three persons) pass their personal experience in conducting the dissertation works of specialists from the health net. For example, under our guidance during the last years 7 dissertations were carried out on the problems of disinsection and 1 on deratization subject.

We would like to draw your attention on some aspects regarding the struggle with rodents

In juxtaposing the relative shares of rodents according to species in the country, the data show that the predominating part belongs to the domestic mouse (*Mus musculus*), followed by the grey rat (*R. norvegicus*). On the third place comes the black rat (*R. rattus*). The smallest is the relative part of the collective group of other species of rodents. The investigations of collaborators from the laboratory on disinsection and deratization show a process of relative stability in the number of rodents in the country during the last few years and the tendency is to maintain greater areas free from rodents.

The struggle with rodents, like the one with arthropods, is conducted by the Hygiene-Epidemiology Institute, respectively the D-sections, on the principle of contractual system. The greatest share of contracts belong to food objects. The housing objects are comprised totally, the treatment being free of charge. In the villages mass deratization is carried out and the sewerage is processed twice - in spring and in autumn. Systematic deratization undertakings are carried out also in natural foci of haemorrhagic fever with kidney syndrome (Pila river-bed, Blagoevgrad and Pazardjik districts and others) and leptospirosis (Plovdiv, Plovdiv, Burgas and other districts). They are carried out together with the

veterinary services. There are co-ordinating councils between the Hygiene-Epidemiology Institute and the district veterinary-medical centres.

It must be mentioned that the towns are less populated with rodents than the villages. This tendency is the result first of the permanent deratization of the towns and second - of the different ecological conditions of life.

Since many years the struggle with rodents in our country is carried out as per an integrated method which includes sanitary-hygienic, building-technical, agrarian-technical undertakings. The basic method for deratization is the chemical one. There are applied rodenticides with acute and accumulative activity. When dealing with the products measures are foreseen for safeguarding the environment. In connection with this ready baits are used on anticoagulant basis and acute poison which are produced by EPL in Pernik (Production experimental laboratory). At the same time there used also mechanical (traps) methods of struggle.

At the moment in the country the following products are used: Pl honore (food bait with active substance anticoagulant Warfarin), Rodanex (rodenticide paste on the basis of veronal), Rodanex (poisoned grains with active substance castrix), Muritox (dry pill-like bait on the basis of zinc phosphid), paraffin briquets for the sewerage.

In the struggle against rodents a special importance is attached to the systematic monthly biological control of deratizations. Once annually (in autumn) a complex ecological control is carried out with many methods simultaneously. The control is specially increased in the risk sites: children's, medical, communal, food, etc.

The section DDD, respectively the laboratory on disinfection and deratization, carries out scientific investigation work in the field of deratization in the following directions. Methods and new methods of control on the effectiveness, deratization of populated areas, deratization of sewerage, study of the role the rodents play in the natural foci of disease, investigation on the sensibility level of rodents as regards anticoagulants.

The scientific studies ascertain normal sensibility of rodents in comparison with the standard anticoagulants of the WHO in the limits of individual diversions.

At the end we would like to point out that the general complex of the struggle with transmissible diseases, the endeavour which the Institute and the health services make for the maintenance of low numbers of carriers of diseases, arthropods and rodents by means of prophylactic and destructive undertakings contribute to their sharp limitation in our country.