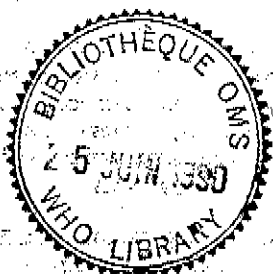




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SUMMARY REPORT

WORKING GROUP ON THE HEALTH IMPACT OF
HUMAN EXPOSURE TO RECREATIONAL (MARINE) WATERS

Rimini, Italy
27 February - 2 March 1990

1990

EUR/HFA target 24

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TARGET 24

Healthy homes

By the year 2000, all people of the Region should have a better opportunity of living in houses and settlements which provide a healthy and safe environment.

Index:

ENVIRONMENTAL POLLUTION - prevent/control
ENVIRONMENTAL POLLUTION - adverse effects
TOURISM
SEAWATER
WATER QUALITY
EUTROPHICATION

Introduction

At the invitation of the WHO collaborating centre for tourist health and tourist medicine, a Working Group of 14 experts from five countries in Europe and one in the Western Pacific met to review present knowledge on health hazards linked to exposure to recreational waters, in connection with the present situation in the Adriatic.

The Working Group dealt with the human health impact of fresh and saline recreational waters, but excluded problems related to the consumption of seafood.

The purpose of the meeting was to review present scientific knowledge on the health impact of exposure to polluted recreational waters; to discuss in greater depth the impact of the eutrophication process and subsequent algal blooms; to review available studies of the ecology of the Adriatic Sea and the genesis of the mucilaginous substance identified as the more visible pollutant; to design additional scientific studies on the genesis of the content and on the health impact of this mucilaginous substance; and to make recommendations on control measures to prevent the appearance of this substance in future summers.

The Working Group also reviewed and advised on the follow-up given to the recommendations of the Adriatic Emergency Working Group of 7-8 August 1989.

Topics

The members of the Working Group reviewed six papers covering bathing-water quality standards, health surveillance, epidemiological data on the health impact of recreational (marine) waters, health criteria for beach sand quality, survival of microbial pathogens in marine environments, identification of algae and related bio-toxins, and survival of microbial pathogens in seawater. Eight background documents were also used for reference.

The Group concluded that thanks to the work performed under the Mediterranean Action Plan, the quantity and quality of microbiological data on recreational water quality were acceptable. However, there was an acute lack of proper data on the impact of algae and other marine organisms, and on substances resulting from their life cycle, such as the mucilaginous substance found in the Northern Adriatic which has become a major cause of concern in connection with the health of tourists.

Conclusions and recommendations

The Working Group produced the following conclusions and recommendations for the attention of Adriatic riparian governments.

The Group noted that there have been no surveys of the possible health effects of exposure of bathers to mucilage or algal blooms. Nevertheless, various health hazards due to algae and mucilage are possible. For example, toxic shellfish poisoning is well recognized, although other problems are more conjectural. The following health problems may arise among recreational users of the sea and beaches:

- skin irritation and sensitization
- skin and ear infections
- eye, nose and throat irritation
- respiratory allergies.

Certain algal species may also cause irritation of the eyes, nose and respiratory tract due to toxic aerosols. Gastroenteritis and toxic liver damage have also occurred after the ingestion of freshwater algae. It is therefore possible, at least in theory, that these problems could also be associated with algae in seawater.

The Working Group was not aware of any reports of adverse health effects to bathers along the Adriatic coast related to algae or mucilage. A few species of algae are known, however, to cause shellfish poisoning. In fact an outbreak of diarrhoeic shellfish poisoning occurred on the Italian Adriatic coast in June 1989. Nevertheless, the role of eutrophication, if any, in increasing the background risk of shellfish poisoning in the area is unknown. Routine monitoring of algal species and regular testing of shellfish is therefore essential to safeguard the public's health.

In the event of algae and mucilage appearing in the Adriatic this year, a health-hazard evaluation of the risks to recreational users and the general public should be performed. Because these biological phenomena vary over time, the evaluation should be updated at regular intervals throughout the bathing season. Although abundant mucilage is visible on the surface of the sea, a health hazard may nevertheless be present when mucilage is not visible or is floating at depth.

A health-hazard evaluation is not possible on the basis of laboratory examination alone. In fact, the first warning that a health problem exists may come from people whose occupation obliges them to be in regular contact with the sea, for example fishermen. There are also particularly vulnerable groups in the population, such as children and people with pre-existing illness. It is therefore essential to monitor the health of both fishermen and recreational water and beach users.

The Working Group strongly recommended that the Italian Government should coordinate and accelerate the work of the various Adriatic marine biology research institutes, in order to clarify the genesis of the mucilage and the main factors affecting its concentration along the Adriatic coast, so that control measures can be identified. The Group also suggested that the Government should ask for international contributions to this research from the European Economic Community and the Mediterranean Action Plan.

The Working Group particularly recommended that for the purpose of health assessments the following surveillance activities should be set in train as a matter of urgency:

- monitoring of the biological characteristics, the concentration and the distribution of algae and mucilage and of other potentially toxic species;
- monitoring of the mortality of marine organisms, particularly fish and birds;
- health surveillance of a representative group of professional fishermen;

- health surveillance of tourists, using data collected at tourist clinics;
- more active reporting of algae-related illnesses in the general population by hospitals and general medical practitioners.

The experts considered it of paramount importance for these systems to be in place before the beginning of the 1990 tourist season if they are to be effective.

Finally, in order to safeguard public and tourist health, the Working Group recommended that the regional governments should undertake a public information programme including:

- fortnightly reporting on bathing-water quality;
- production and distribution of an information brochure for the general public about the eutrophication phenomenon, its possible health effects, reporting procedures for any health problems thought to be associated with seawater bathing or beach exposure, and recommended protective measures;
- production and distribution of a booklet for hospitals and general medical practitioners about health problems associated with seawater or beaches, the diagnosis of diarrhoeic and paralytic shellfish poisoning, the surveillance of population groups who might be at risk, and the procedures for reporting illness to the public health authorities.

WHO offered to help the Italian Government and the Adriatic regional governments, through the WHO collaborating centre for tourist health and tourist medicine in Rimini, with the monitoring and control of the public health aspects of the ecological disturbances along the Adriatic coastline.