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Screening Tests in General Medical Practice

General practitioners/family doctors have a role in promoting health and preventing diseases. General medical practice aims at reducing morbidity and mortality on the scientific basis that intervening at an early stage improves outcomes for patients.

In this way, screening strategies may be of use provided that they are well defined and scientifically acceptable, whether they are based on a population approach or on opportunistic interventions in the consulting-room. These strategies can identify the existence of markers that indicate the possibility that an individual will contract a disease in the future, and thus are applied in a pre-morbid period.

Such screening strategies differ from early or immediate diagnosis, in which, given the presentation of symptoms and signs, the general practitioner/family doctor arrives at a diagnostic judgement, sometimes confirmed by the results of supplementary diagnostic tests.

Population screening is defined as the application of one or more associated tests to asymptomatic individuals, in order to detect an occult marker of pathology, thus identifying those who are likely to contract the disease, in the absence of an express demand for its application. The costs implied in performing the screening tests should be analysed against the number of cases that will thus be revealed, and against the consequences resulting of not applying them. It should be recognised that all screening tests have the potential to cause harm to patients as well as producing benefits.

In order to justify the performance of screening tests, a number of conditions must be met:

1 – *Concerning the disease*.
It ought to have a long period of pre-clinical evolution and be recognized, both by the medical and the lay community, as important, due to the morbidity it unleashes and the mortality it is associated with. Its natural history must be well known. The time of life at which it is most useful to perform the screening test must also be precisely known, in order to profit more from the investment society has to make. Examples like phenylketonuria, congenital hypothyroidism, colon cancer, uterine cancer and breast cancer, illustrate this statement.

2 – *Concerning the diagnostic test*.
The screening procedure must be acceptable to the population, inexpensive, safe and reliable. It must be sensitive, properly measuring the "true" patients among the screened population, which are identified as such by a specific test. It must also measure the proportion of truly healthy individuals, as have been identified by its specificity. The test application chronology must be known, for purposes of a population screening follow-up.

3 – *Concerning diagnosis and treatment*.
No screening procedure can be put in practice without available capacity to treat the cases that are found, whether treatment facilities or effective treatment that is acceptable and safe.

Many tests can be performed to indicate a future disease. They can be applied singly or in sequence.

Both national health authorities (www.guidelines.gov) and organizational entities (www.globalfamilydoctor.com) have drawn up regulations on the advantages and disadvantages of disease testing, its scientific reasonability, and its practical application. Some of these tests are subject to controversy over the reduction of mortality versus the increase of diagnosis.

Tumour pathology, in particular, has been the subject of innumerable studies (www.cancer.gov). Interventions in breast cancer (mammography), cervical cancer (cytology) and colon and rectal cancer (endoscopy) are well documented. Early prostate cancer diagnosis through PSA (prostate specific antigen) remains controversial.

Metabolic pathologies, due to their frequency, must be the object of serious studies, particularly those associated with cardiovascular risk, such as obesity, diabetes, hypercholesterolaemia and arterial hypertension.

Given the context of general medical practice, some tests should be used at different times of the individual's lifespan - from conception to adult stages.

Advances in genetics mean that it may soon be possible to undertake studies that will allow us to define the risk of developing several pathologies.

UEMO would like to stress the importance of applying prevention strategies in general medical practice, which must be carried out according the structural and procedural criteria referred to above, following the scientific norms that have been presented. It is relevant to debate this type of activity with individuals who wish to participate in organized campaigns, as well as to those patients who, once inside the consulting-room, wish to undergo tests which may indicate increased risk of contracting a disease.