THE ORGANIZATION OF CHILDREN'S OPHTHALMOLOGIC CARE IN AUSTRIA

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Since 1974 we have a so called "mother-child-passport" in Austria, which is a kind of manual, which enables a basic support for pregnant women and for children up to the fifth year of life. Children's eyes are first seen by the pediatrician after birth or within the first week of life. Between the 4th and the 7th week of life and between the third to fifth month of life attention is paid to the optic system. At the first birthday and at the second birthday an extended check up of the eyes is provided. At the age of two we recommend the referral of the children to an ophthalmologist because a retinoscopy, the examination of the fundus and an orthoptic examination is demanded. Actually 86% of children's eyes are seen by a pediatrician or practitioner at the age of one. Only 23% of Austria's children are seen by an ophthalmologist at the age of two. It is again the pediatrician or the practitioner taking care of children's eyes at the age of three, four and five, before attending school and annually between the age of six and eighteen.

Descriptors: OPHTHALMOLOGIC CARE, MOTHER-CHILD-PASSPORT, AUSTRIA

INTRODUCTION

Health care systems of different countries are based on different ideas. The guiding idea of national health systems is the belief that the whole population has a right to health care in case of sickness whereas the dominant idea in countries with insurance systems is that those who are included in the compulsory health system have a right to health care on the basis of the contributions (1). The World Health Organization emphasis the importance of a developed primary health care system indicating that special attention must be paid to the health risks of women and children, antenatal, postnatal, preschool and school health service (2). Special programs have been provided to achieve these goals (3). No screening program however can be 100% effective, there will always be a number of false positives and false negatives.

Therefore screening programs need to fulfill some criteria: the condition screened must be a significant health problem. Its natural course must be known and there must be a latent or preclinical phase. Effective treatment is demanded as early intervention has to influence the outcome favorably. Screening tests must be valid, non invasive, simple, inexpensive and acceptable to the population. The screening program itself should be cost-effective and continuous and, of course, diagnostic and therapeutic services must be available.

AUSTRIA'S HEALTH SYSTEM

Austria's health system dates back to 1888, when a compulsory health insurance system was introduced. Today 99% of the population is covered by this system, which is mainly financed by contributions of employers and employees ( 3.7% + 3.7% of gross income). Families with children generally benefit financially from the fact that children and unemployed spouses are included without paying own insurance contributions. In total about 8% of GDP goes to health services in Austria. About 13.7% of Austria's population purchase a complementary private insurance for higher quality hospital care and reimbursement for the cost of choosing a doctor without a contract with the health insurance to avoid waiting time.

Health services for children and juveniles are mainly provided by self employed general practitioners and pediatricians. In contrast to other countries, eg Denmark, we don't have general practitioners acting as a gatekeeper or family doctor. Austria's children have the access to health care only via their parents as they have the right to choose their own doctor and to have direct access to specialists. Some health care services however, for example the mother child health care examinations and fifty percent of the youth health examinations are reimbursed by the family burdens equalization, that is partly financed from taxes.

In Austria, health examinations for babies and children have been the responsibility of the health insurance since 1974. At the beginning of their...
pregnancy women receive the so called "mother-child-passport", which is a kind of manual, that enables a basic health care support for mother and child. This "mother-child-passport" includes five examinations during pregnancy covering blood tests, medical check ups and ultrasounds. Five additional examinations are performed within the first 14 months of life of the newborn considering the child's development, feeding problems and include an orthopedic examination as well as an examination of the eyes and ear, nose and throat.

Up to the fifth year of life another five examinations are planned concerning the psychological development, the social behavior, the capability of concentration, the mobility, the play behavior and the level of speech. Between the 22nd and the 26th month of life an ophthalmologic examination is recommended. Since 2002 another check up on hearing and examination is recommended. Since the "mother-child-passport" as well as the voluntary vaccination program for children are free of charge for parents. The payment will be taken over partly by the government and partly by the compulsory health insurance.

**OPHTHALMOLOGIC CARE OF CHILDREN'S EYES IN AUSTRIA**

Children's eyes are first seen by the pediatrician after birth or within the first week of life. Between the 4th and the 7th week of life and between the third to fifth month of life attention is paid to the optic system, to see whether there is any cloudiness in the cornea, the lens or vitreous. At the first and at the second birthday an extended check up of the eyes is intended covering again the exclusion of disturbances of the visual development, strabismus and problems in the eye motility and eye anomalies.

At the age of two a retinoscopy, the examination of the fundus and an orthoptic examination is demanded. Therefore we recommend the referral of the children to an ophthalmologist whereas all other examinations on ophthalmologic care of Austria's children are carried out by the general practitioner or the pediatrician. Actually 86% of children's eyes are seen by a pediatrician or general doctor at the age of one. Only 23% of our children are seen by an ophthalmologist at the age of two. It is again the pediatrician or the general doctor taking care of children's eyes at the age of three, four and five, before attending school and finally at the annual examination from sixth to eighteen years at school.

This presentation underlines the importance of the ophthalmologic knowledge and education of pediatricians and general doctors in terms of the ophthalmologic care of children's eyes in Austria.

What do ophthalmologists in Austria expect form their colleagues (general doctors or pediatricians) in terms of ophthalmologic care?

- General practitioners and pediatricians are expected to find out high risk groups, who have to be referred to an ophthalmologist-children with a positive family history of congenital or juvenile cataract or glaucoma, with anomalies of the eyes, retinoblastoma, strabismus and amblyopic, high refractive anomalies or genetic diseases and preterm babies.

- Concerning the ophthalmologic examinations the following target should be achieved:
  - observation of the visual development;
  - examination of the external eye and the surroundings of the eye;
  - examination of the optics (cornea, lens);
  - examination of the motility of the eye;
  - screening for amblyopic (monocular testing);
  - examination of the red fundus reflex (including Brueckner test, dilation of the pupil);
  - testing of visual acuity and test on stereo acuity (optional).

In case of any pathology the referral to an ophthalmologist is recommended.

**DISCUSSION**

The ophthalmologic care of children's eyes in Austria is mainly covered by a statutory health insurance system, which is financed by contributions of employers and employees. This means that families have no additional costs, but with the problem of redistribution-the direction of redistribution from single households to families. Since there is no homogeneous organizational structure it is difficult to ensure coordination between different health services. To get all necessary information is even compounded by the fact that Austria's access to the health care system is not regulated by a general practitioner acting as a gatekeeper (old family doctor). In our country there is free access to general practitioners and self employed specialists. Thus, children's health care is dependent on their parents.

Since 1974. the preventive child health examinations are regulated by the "mother-child-passport" including examinations for pregnant women and children carried out in the first and fifth week after birth and at the age of 4, 8, 12, 24, 48 and 58 months. In addition until 1996. mothers were paid 1053 Euro per child if the prenatal examinations and the examinations within the first 4 years of life had been carried out completely. The economizing program in Austria in 1996. was followed by a reduction of this payment from 1053 Euro to 150 Euro/child.

The consequence was a decrease in the utilization of the examinations of about 9%, which were recommended in the manual, affecting especially children at the age of three to five months. This was the time when Styrian colleagues decided to establish the "scientific academy of health care", a private, non profit organization working in cooperation with the government and other health services to improve the
children's health care program and the children's vaccination program. One of the priority programs is the better information of parents, even via internet where appointments can be controlled.

Nowadays, since 2002, unemployed mothers receive a so called "children's welfare money", an amount of 12-18 Euro/day/child from birth until the 18th month of life. In case that the examinations recommended in the mother child passport have been performed this payment is prolonged to the 32nd month of life or even to the 36th month of life if the father wants to take care of the child for another 6 months.

When focusing on the organization of the health care of children's eyes we have to emphasize the importance of pediatricians and general doctors. Besides the screening of children's optic system at the age of 5 weeks and 5 months and the annual check up from three to five years two extended eye examinations are demanded since 1987. at the first and second birthday. The first one is carried out by a general practitioner or a pediatrician. In 2003. 86% of Austria's children were included. According to a paper by Todter 19% of positive family history, 0.5% anomalies of the eyes, 23% pathology of the external eye (mainly conjunctivitis and disturbances of the lachrymal system), 1.5% anomalies of the cornea and lens and up to 7% strabismus (and perhaps pseudostrabism) were documented (4).

For the second eye examination a retinoscopy, the examination of the fundus and an orthoptic examination are demanded. Therefore the referral of the children to an ophthalmologist is recommended. But because this examination is no absolute condition for the prolonged payment of the mother child welfare money, which is paid by the government to unemployed mothers, only 23% of Austria's children are finally seen by a specialist at the age of two years. The analysis of the collected data revealed 60% hyperopic, which is physiological at this age, 3.5% myopia and 2.6% anisometropia as well as 3% of strabismus. Anisometropia and strabismus are the main causes of amblyopic, with successful treatment options only within the first years of life. In reaction some federal states (Bundesländer) of Austria introduced comprehensive kinder garden programs, in which additional eye exams are carried out be orthoptists.

Finally Austria provides school health examinations for all children from their sixth to their 18th birthday, a standard annual health examination carried out by school-doctors, again general practitioners at the local schools. The focus is on the examination of hearing, eye sight, children's physical condition and the control of the voluntary vaccination program. For the future Austria is planning to strengthen the family doctor principle. The introduction of fees for health insurance certificates is intended to promote a closer doctor-patient relationship by avoiding "doctor shipping".

In Austria the ophthalmologic care of children's eyes is organized by a manual, the so called "mother-child-passport". All services, examinations and the vaccination program are free of charge for the parents. On the other hand the prolonged payment from the government given to unemployed mothers is dependent on the proof of several examinations, which have to be performed within the first two years of life.

In this manual children's eyes are seen at birth or within the first week of life and with 4, 8, 12, 24, 48 and 58 months by a pediatrician or a practitioner. Extended eye exams are planned at the first and at the second year of life. While 86% of our children are seen by the pediatrician or a general doctor within the first year of life for ophthalmologic check ups only 23% make use of the examination at the second birthday, when an appointment at the office of an ophthalmologist is recommended. From the second to the fifth year of life the pediatrician or the general doctor is asked to screen the eyes again, so our children should have a final check up before attending school. Finally an annual examination on children's eye sight is provided by the local school-doctor, a general practitioner, from the sixth to the 18th year of life. In case of any pathology children are referred to an ophthalmologist for further diagnostic work up and therapy.

LITERATURE
Sažetak

ORGANIZACIJA DJEČJE OFTALMOLOŠKE SKRBI U AUSTRIJI

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Deskriptori: OFTALMOLOŠKA SKRB, MAJKA-DIJETE PUTOVNICA, AUSTRIJA