

Analiza czułości i swoistości ogólnopolskiego „Programu przesiewowych badań słuchu u noworodków”

Analysis of specificity and sensitivity of Polish "Universal Newborn Hearing Screening Program"

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Summary

Introduction. Polish National Universal Hearing Screening Program (PNUHSP) has got three-level structure. Audiology Outpatient Clinic in The Childrens' Memorial Health Institute in Warsaw is a center of the second and the third level. Newborns are referred to us from neonatal units, the first level in the program. We found that referred children, both with unilateral as well as bilateral referral rating in TEOAE, show a high proportion of false positive results. **Aim.** To analyze a diagnostic process of healthy neonates referred to our Audiology Outpatient Clinic with referral rating in one and both ears measured by TEOAE in 2005 and 2006. Assessed parameters include: attendance of patients to further diagnostics tests, with respect to their results, specificity and sensitivity of methods: TEOAE, DPOAE, analysis of final diagnoses of hearing loss. Patients: 1764 infants without risk factors of hearing loss, aged from one to six months referred with referral rating in one or both ears in TEOAE. **Methods.** Diagnostics methods include: otoscopy, DPOAE, AI, BOA. Incorrect results are indication for ABR examination, if not conclusive ASSR. Collected data were statistically analyzed by chi-squared test and Czupurów and V-Cramer coefficient. **Results.** 998 (56,5%) of 1764 examined children passed DPOAE. Only 512 (66,8%) of remaining 766 neonates carried on further investigations. Diagnosis of hearing loss was made in 449 patients (25%), including 320 (71%) with bilateral and 129 (29%) with unilateral involvement. Sensorineural hearing loss was detected in 274 children (61%), conductive in 161 (35,8%), and mixed in 14 patients (3,1%). Global PNUHSP specificity are 95,45% and sensitivity results are 95,08% respectively. Although in our Audiology Outpatient Clinic, sensitivity rate of TEOAE and DPOAE is 94,5%, and 94,4% respectively, the specificity rate of TEOAE appeared to be 36,9% and of DPOAE 79,7%. **Conclusions.** Universal newborn hearing screening program permit early diagnosis and intervention in neonates and infants before 6th month of age. High rate of specificity and sensitivity characterizes the Polish Program. Low rate of specificity detected in our outpatient clinic indicates the necessity to effect and cost analysis in neonatal units. Comparison of two groups with bilateral and unilateral referral rating in screening shows that higher number of patients follow diagnostic process from the group with bilateral incorrect results, more diagnoses of hearing loss was established in this group as well.