EVALUATION OF UNIVERSAL NEWBORN HEARING SCREENING IN JAPAN: AN ANALYSIS OF THE LITERATURE

Suguru OKUBO*, Miyako TAKAHASHI, Tami SAITO, and Ichiro KAI

Introduction   To address delayed language development associated with severe-to-profound congenital hearing loss (CHL), universal newborn hearing screening (UNHS) has been implemented in many countries. In Japan, approximately 27,000 neonates (2.5% of newborn) are screened annually through public-funded programs. While foreign literature highlights the need for assessment, in Japan this has hitherto not been evaluated in detail.

Objective   To investigate the efficacy of UNHS in Japan.

Methods   We used two criteria to evaluate UNHS; accuracy of screening and the effectiveness of early detection, and searched the major medical and social research journal data bases for related research papers. Eleven articles were identified providing information on accuracy of screening tests and two on effectiveness of early detection.

Results   1) In two prefecture-based studies, 900 and 1,272 newborns were screened to find one case of bilateral CHL. In nine hospital-based programs, the number tested ranged from 313 to 1,910. None of the studies measured the sensitivity and specificity against a best practice standard. 2) The two studies suggested that early intervention might be beneficial, but neither provided conclusive evidence.

Conclusion   The effectiveness of UNHS in Japan is still equivocal because of the difficulties associated with differential diagnosis of hearing loss and normal hearing at the early stage of life and the lack of evidence on effectiveness of early intervention. Before nationwide implementation of UNHS, these issues should be fully investigated and evaluated.

Key words：Newborn hearing screening, Congenital hearing loss, Deafness, Evidence based healthcare

* School of Health Sciences and Nursing, Graduate
School of Medicine, the University of Tokyo
7–3–1 Hongo Bunkyo-ku Tokyo 113–0033, Japan
E-mail: sgr-tky@umin.ac.jp