

COMPARISON OF PREVELANCE OF HEARING LOSS IN HIGH RISK NEWBORN AND WELL BABIES AT A TERTIARY CARE HOSPITAL IN NORTH KARNATAKA

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Article History:	Received: 12.01.2023	Revised: 15.01.2023	Accepted: 03.02.2023
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Abstract

Objective: To determine the prevalence of hearing loss among high risk newborns and well babies

Study design : A observational study

Materials and methods: High risk newborns and well babies were screened for hearing loss with TEOAE at a tertiary care hospital, in North Karnataka.

Results: One thousand and ninety two babies were screened in total, the overall prevalence of hearing loss was 7.9% . 19.7% of high risk newborns and 3.9% of well babies were identified to have hearing loss.

Discussion: Hearing screening for newborns is mandatory for early identification of hearing loss, as with appropriate intervention by first six months of life babies can have normal hearing and development.

Key Words: Hearing loss, Hearing screening, High risk newborn

Introduction

Hearing loss is a common preventable disability at birth. 1-3 infants per 1000 are being identified with permanent hearing loss¹. There is 3.5 to 9% occurrence of congenital, permanent hearing impairment both unilateral and bilateral. Surveys conducted in many countries state that 0.5 to 5 in every 1000 neonates and infants have congenital or early childhood onset sensorineural deafness or severe to profound hearing impairment.

In India, 5.82 persons have congenital hearing loss per lakh of population at one point of time, two deaf babies are born per hour, 18000 deaf babies are added to our population every year. About 5% of our population has congenital sensori-neural hearing loss².

If hearing impairment is ignored, usually the impairment is detected around 2 years of age by which irreparable damage to the language development potential is already done. Hence the developed countries have made newborn hearing screening mandatory. In a resource limited setting like ours it is important to adapt a cost effective way of hearing screening.

Need for hearing screening programs in newborns and its effectiveness is well proven^{3,4}.

Both OAE (oto acoustic emission) and BERA (brainstem evoked auditory response) are used for screening newborns for hearing loss. OAE is cost effective, quick and reliable test with sensitivity of 100% and specificity of 99%⁵.

The aim of newborn hearing screening is to determine bilateral congenital hearing loss in the frequency region important for speech recognition.

The study was undertaken to assess the prevalence of hearing loss among high risk newborns and well babies and to create awareness to detect childhood deafness among parents and general population.

Aim:

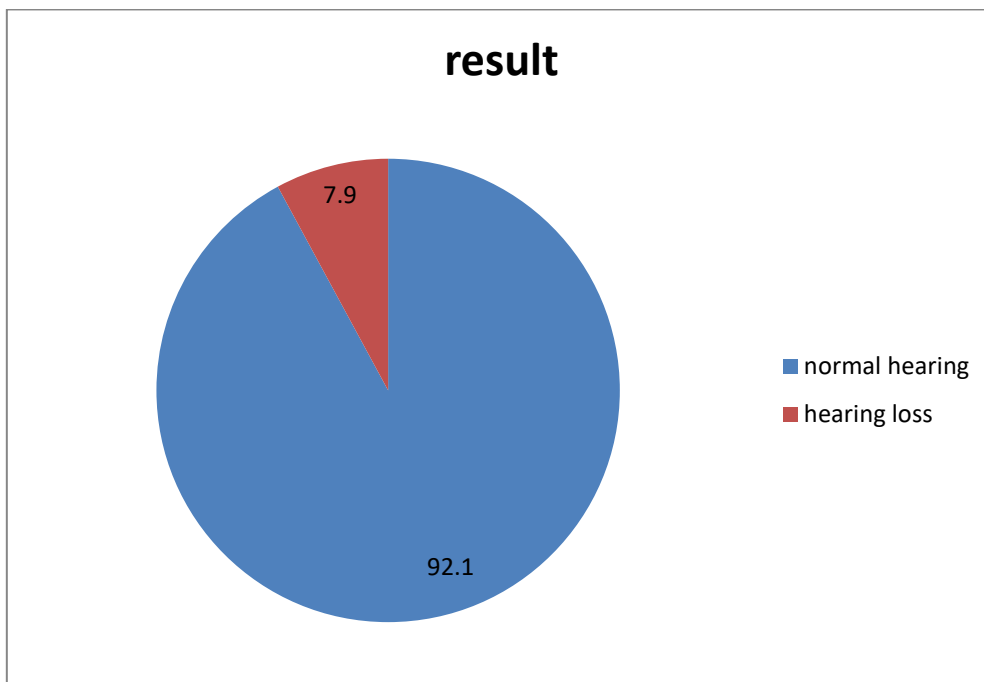
To compare the prevalence of hearing loss among high risk newborns and well babies
To see for prevalence of hearing loss among male and female babies
To create awareness to detect the childhood hearing loss amongst parents and general population.

Materials and methods:

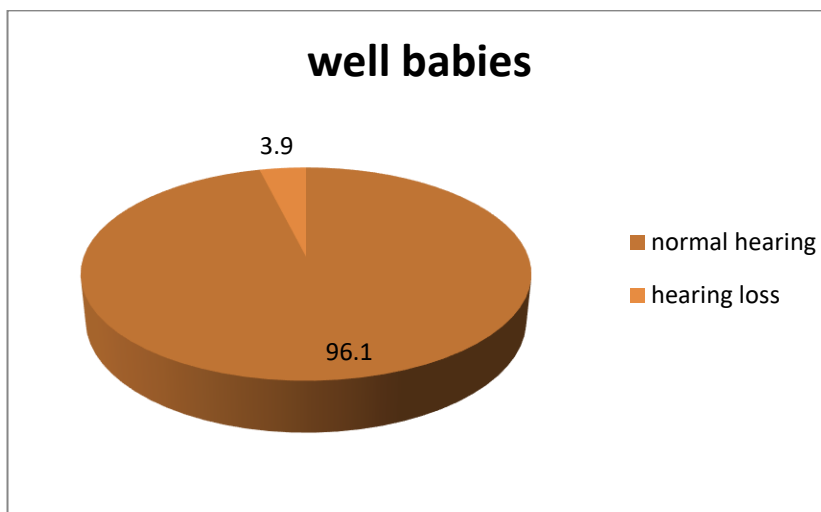
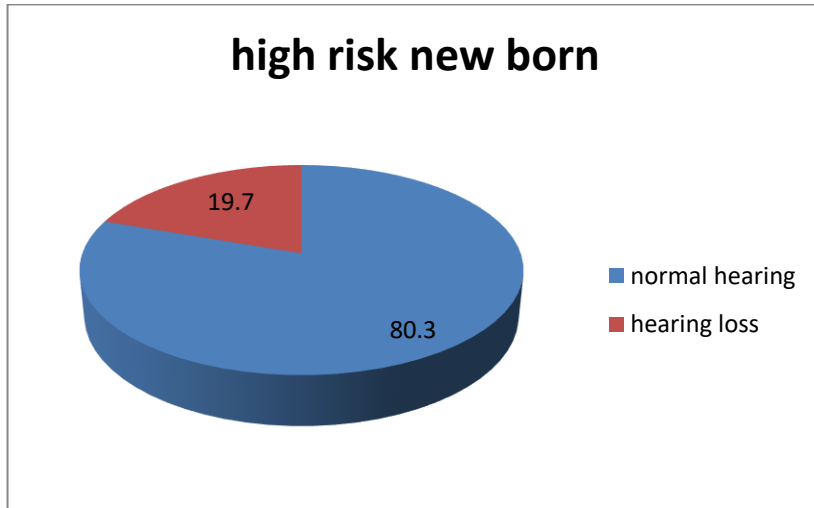
The study was conducted from January 2022 till June 2023 at Dept of paediatrics, Basaweshwara teaching and general hospital and Sangameshwara teaching and general hospital, attached to Mahadevappa Rampure Medical College, Kalaburagi, Karnataka. The parents and guardians were informed and motivated to get their newborns screened for hearing loss. All the high risk babies in NICU and well babies with mothers were screened.

Results:

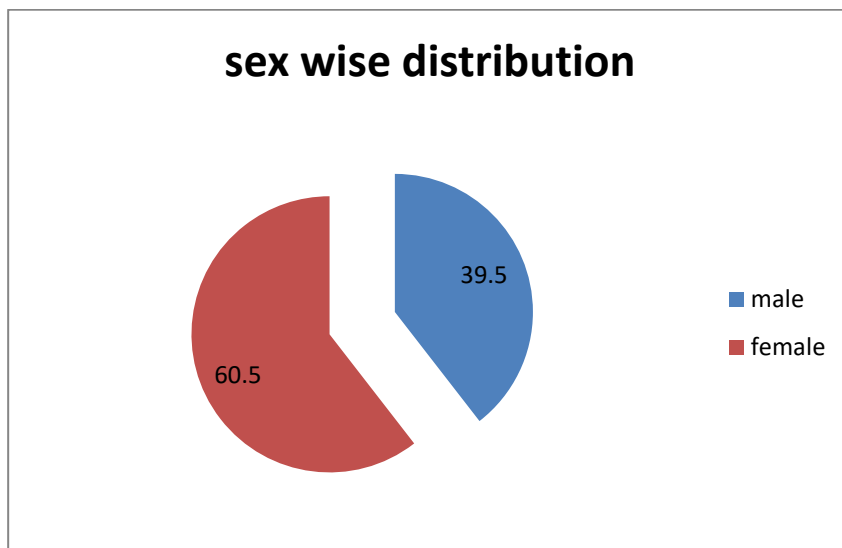
Out of 1092 babies screened, prevalence of hearing loss according to TEOAE is 7.9%



The referred result was observed in 19.7% of high risk newborns and 3.9% well babies.



Male babies with hearing loss were 39.5% and females were 60.48% respectively.



Discussion:

It is widely agreeable that the screening of congenital hearing loss is critical and the implementation of a comprehensive screening program for all neonates is more beneficial than

screening just the babies who are admitted to NICU unit⁶. One of the crucial points is that early detection and treatment of neonates with congenital hearing loss has a great value^{7,8} as hearing plays a substantial role in developing speech and language, cognitive development and socialization⁹. Delayed identification of congenital hearing loss can gravely influence the future life of the child with subsequent significant disability and related huge social expenditures.^{10,11}

Conclusion:

Otoacoustic emission testing is easily available and less expensive ,hence the tool was used for screening in a resource limited setting. Our study shows that there is a high prevalence of sensorineural hearing loss among the high risk newborns compared to well babies, but the prevalence of hearing loss in well babies is also significant. Hence it is recommended to make all newborn undergo hearing screening at the hospital, to identify the affected babies and provide early intervention for the better neurological and social development of the babies.

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