



REVIEW ARTICLE

Overview of newborn hearing screening programs in Brazilian maternity hospitals[☆]



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Abstract

Introduction: Newborn hearing screening has as its main objective the early identification of hearing loss in newborns and infants. In order to guarantee good results, quality indicators for newborn hearing screening programs are used as benchmarks.

Objective: To observe and describe the reality of national newborn hearing screening programs in Brazil, and to evaluate if they can be referred to as having quality indicators.

Methods: Integrative literature review in databases such as MEDLINE, LILACS, SciELO, and Google.

Results: 22 articles were analyzed in relation to newborn hearing screening coverage, the place and period newborn hearing screening was performed, initial results, referral to diagnostic procedures, loss to follow-up, and occurrence of hearing loss.

Conclusion: Transient otoacoustic emissions were the most often used screening methodology. Coverage varied widely, and only a few maternity wards achieved 95% of the cases screened. Referral to diagnostic procedures was under 4%, but lack of adherence can be considered a barrier to successful follow-up. The occurrence of hearing loss ranged from 0% to 1.09%. The involvement of government, physicians, and society is necessary, so that the goals of newborn hearing screening can be achieved.

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PALAVRAS-CHAVE

Triagem neonatal;
Perda auditiva;
Audição

Panorama dos programas de triagem auditiva neonatal em maternidades brasileiras**Resumo**

Introdução: a triagem auditiva neonatal (TAN) tem por finalidade a identificação, o mais precoce possível, da deficiência auditiva em neonatos e lactentes. Para garantir a eficácia e eficiência destes programas os índices de qualidade em relação à triagem, diagnóstico e intervenção servem como orientação e guia.

Objetivo: Conhecer e descrever a realidade nacional dos serviços de TAN no Brasil, e avaliar se os mesmos podem ser considerados como detentores de indicação de qualidade.

Método: Revisão integrativa da literatura em bases como Medline, Lilacs, Scielo e Google.

Resultados: No total, 22 artigos foram analisados para esta revisão, referente à cobertura da triagem auditiva neonatal, o local e período onde a TAN foi realizada, resultados iniciais, encaminhamentos para diagnóstico, taxa de abandono do programa e ocorrência de perda auditiva.

Conclusão: Emissões otoacústicas transientes foi o método de triagem mais utilizado. A cobertura da TAN variou muito e poucas maternidades atingiram a marca dos 95%. O encaminhamento para diagnóstico ficou abaixo dos 4%, porém a não adesão ao programa pode ser considerada uma barreira para o sucesso. A ocorrência de perda auditiva variou entre 0%–1.09%. É necessário um maior envolvimento dos políticos, equipes hospitalares e da sociedade para atingir os objetivos da TAN.

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Introduction

Hearing loss impacts on the capacity to communicate, as well as on the social, emotional, and economic condition (lower education) of the individual; therefore, prevention is one of the strategies proposed to reduce this impact.

In this context, the newborn hearing screening (NHS) aims to identify, as early as possible, hearing loss in newborns and infants. It assesses auditory function through physiological and electrophysiological measures of hearing. The goal is the referral of infants at risk for developing hearing loss to audiological diagnosis, so that intervention can be initiated as early as possible. Therefore, this process should be part of the actions that comprise comprehensive hearing healthcare during childhood.¹

In some countries, NHS is an important tool for early detection of hearing loss and, therefore, the effectiveness and efficiency of these programs should be analyzed and guaranteed.

Guidelines that outline recommendations and define quality measures as a method to evaluate the results of these programs have been created. They are the so-called quality indicators, which recommend that the scope of hearing screening should be considered universal, that it must assess at least 95% of newborns, and that NHS should be performed within the first month of life. They also recommend referral of a maximum of 4% of babies screened for diagnosis; diagnosis attendance of at least 90% of referred babies and follow-up at a maximum of three months later; diagnosis of permanent congenital hearing loss in 1%–3% of newborns; and use of hearing aid one month after attaining diagnosis, with rehabilitation starting at 6 months of life. The screening should preferably be performed in the maternity

ward, before hospital discharge, and should be organized in two steps (test and retest).^{2,3}

In Brazil, there are 267 hearing screening services in 30 cities and 13 Brazilian states,⁴ figures considered low for a country that currently occupies the fifth position in the world in terms of size and population; these services represent approximately 10% of neonates screened in the country.⁵ It seems that, unlike many developed countries, universal NHS remains a challenge for Brazil, as the socioeconomic situation and resource availability vary considerably from one region to another.

Studies indicate a prevalence of severe/profound congenital sensorineural hearing loss of 0.5–5/1000 newborns, which is higher in developing countries^{5,6} and thus, early diagnosis is of utmost importance for the appropriate communication development. Considering the few epidemiological studies that describe the NHS programs and the diagnosis of hearing loss in Brazil, it is necessary to perform a review of publications on the occurrence of hearing loss in infants in Brazil. The purpose of this review, therefore, was to analyze and describe the national reality of NHS services in Brazil, and assess whether they can be considered as having quality indication. The occurrence of hearing loss, diagnosed by the NHS, was investigated.

Methods

The present review is characterized as an integrative review of studies describing the results of hearing screening programs in Brazil. An integrative review is a methodological approach that allows for the inclusion of several types of studies and enables conclusions in a particular area of study.⁷ To identify the studies, the following databases were

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