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Perception of 'mothers of beneficiaries' regarding a rural community based hearing screening service

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ABSTRACT

A rural community-based hearing screening project was established in villages in a rural district of Tamil Nadu in South India. The goal of this project was to address early detection of hearing loss among infants and young children. Village health workers (VHW) were trained to conduct hearing screenings using an Oto Acoustic Emissions (OAE) equipment. They were also trained to provide information about ear and hearing health, and to facilitate follow up visits for diagnostic testing when required.

Objectives: The purpose of this study was to review the project by examining the caregiver perception from the mothers of children who have undergone hearing screening regarding the service provided.

Methods: Focus group discussions (FGDs), were conducted in nine villages of the district to obtain information and perceptions from mothers. In all, 70 mothers with children less than 2 years of age, and 13 mothers with children greater than 2 years of age, participated in the FGDs.

Results: Responses obtained from mothers indicated that door to door health services are rare and are primarily related to sensitizing the community regarding health camps and preventive measures for widespread diseases (like dengue fever). Door to door screening for hearing among children is unique in these villages. Mothers were familiar with the NGO which coordinated the hearing screening program. Local pre-school (Balwadi) teachers were informed about the hearing screening program and its significance. From the responses of the participants it was clear that the sensitization carried out through them in all villages was successful. It was noteworthy that mothers mentioned the result of screening as "pass/refer" as instead of "pass/fail". This outcome suggests that health workers have used appropriate terminology to convey screening results. Mothers reported test conditions to be present and therefore confirmed that valid testing was conducted by VHWs.

Conclusions: Mothers in the community accepted hearing screening services delivered by health workers. The health workers were effective in delivering the services. Pre-school teachers seemed to have played a pivotal role in communicating about the hearing screening program to the mothers. Ultimately, collaborating with local NGO facilitated acceptance and compliance due to the NGOs strong presence in the community.

1. Introduction

Identification of congenital hearing loss is commonly conducted through an early hearing detection and identification (EHDI) program or Universal New Born Hearing Screening (UNHS) services guided by governing bodies such as Joint Committee on Infant Hearing (JCIH) and World Health Organization (WHO). UNHS has been adapted in several countries around the world. International Association of Logopedics and Phoniatrics (IALP) Audiology Committee [1] reported on worldwide status of UNHS. According to the report, UNHS is mandatory in Germany and Philippines, while in countries such as Russia, China, India, Brazil and Oman it has been incorporated in the National Plan and is due for nationwide implementation [1].

UNHS has been implemented in a hospital based model, in several countries including the U.S.A, U.K., Canada, Germany, Russia, Korea, China, Philippines, India, Brazil, Oman and Indonesia. In order to improve coverage, few countries such as U.K, Russia, China, India, Bangladesh and Nigeria, have attempted community based models of UNHS [1].

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In India, 63 million people (6.3%) are reported to have significant hearing loss. Hearing loss in 2% of this group is congenital in nature or acquired in childhood. Healthcare systems in India have not been effective in all parts of the country and this inequity could also affect the effectiveness of UNHS program. The Government of India now emphasizes district management of health programs, community participation and ownership through the National Rural Health Mission [2]. Additionally, India has developed its own protocol for secondary prevention of hearing loss and launched the National Programme for Prevention and Control of Deafness (NPPCD), in approximately 65 districts which represents 10% of India's districts.

Consistent with NPPCD, a rural community based hearing screening project was initiated at Sri Ramachandra University in November 2011. The goal of this project was to address early detection of hearing loss in local underserved villages. In order to implement this program, village health workers were trained to conduct hearing screenings using Oto Acoustic Emissions (OAE) equipment. They were also trained to provide information about ear and hearing health, and to facilitate follow up visits for diagnostic testing when required. When children failed in OAE, telehealth technology with Auditory Brainstem Response (ABR) was used to conduct diagnostic testing in the village. This project was administered in 94 villages in Kancheepuram district of Tamilnadu, located in South India. The program was supported locally by a Non Government Organization (NGO) with more than 25 years of experience in community health and social empowerment. Local pre-school (Balwadi) teachers and Self Help Group Members (village based financial intermediary) were also involved in information dissemination about the project. Information regarding new births in the village was obtained from the Balwadi teachers. Fig. 1 shows the project model.

Training of village health workers (VHW) was for the program and was conducted over a period of two weeks. Training modules consisted of (a) an introduction to ear and hearing, (b) the need for hearing screening and (c) methods for screening hearing. All trainings were conducted by the audiologist involved in the project, in local language (Tamil). VHWs were trained to assess the appropriateness of the screening location (including acceptable noise levels) infant test preparation and step by step procedures for OAE administration and results. Additionally, VHW's were trained to collect demographic data, identify high-risk factors for hearing loss, and provide appropriate counselling to the caregiver.

The success of a community based program is influenced by the community structure, norms and constraints. In primary health care and development, community participation, perception and opinion is important which results in enhanced program success [3]. Before the commencement of the project, FGDs were conducted in six villages to study the knowledge and beliefs on the ear and hearing health among mothers of young children in these villages [4]. Findings suggested that mothers in these villages were knowledgeable about ways to identify hearing ability and consequences of hearing loss. However, superstitious beliefs and misconceptions also existed in the community which suggested gaps in knowledge. The lessons learned from the community focus groups were used in planning the rural community based hearing screening program which was implemented in November 2011.

By March 2013, 1988 infants and young children had been screened. Care givers (mothers) had received information from village health workers (VHW) regarding ear and hearing health and misconceptions were addressed. However, little is known about how perceptions of caregivers may change over time. Consequently, the purpose of this study was to review the project by examining the caregiver perception from the mothers of infants and young children who have undergone hearing screening since November 2011.

2. Method

The Institutional Ethics Committee approved this study. Informed consent was obtained from all participants of this study.

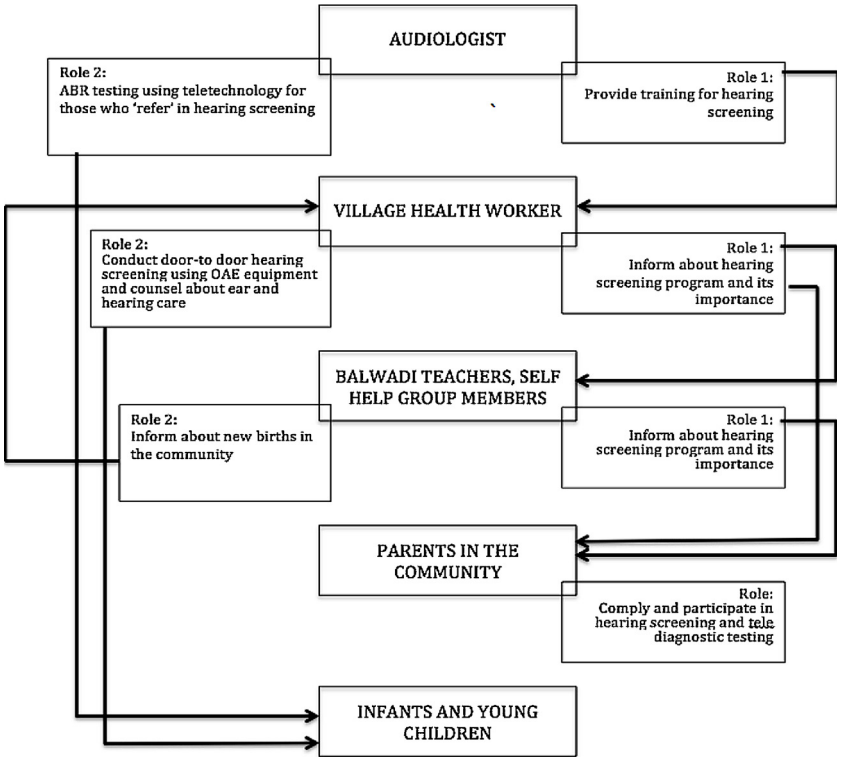

Fig. 1. Model of community based newborn hearing screening in the villages.