INTRODUCTION

Babies that fail the initial newborn hearing screen should be rescreened by one month of age. Audiological and medical evaluations to confirm the presence of hearing loss should be conducted by three months of age, so that intervention can be implemented by six months of age.

Missouri Statutes require all newborns delivered on or after 1/1/2002 to have a hearing screen. Missouri Code of State Regulations states that those that require follow up should receive a diagnostic audiological assessment by three months of age. Statistics reported by the Missouri Department of Health and Senior Services state that for the year 2008, 5.6% of Missouri babies were lost to follow up.

Studies of other newborn hearing screening programs have identified factors such as socio-economic status, access to medical care, and the way in which information is communicated as having an impact on follow-up rates. Results are mixed regarding the prevalence of maternal anxiety experienced after a referral during the newborn hearing screen.

The aim of this study was to identify factors that influenced timely follow-up after the initial hearing screening was failed. It was hypothesized that families that did not seek follow-up in a timely manner (1) did not fully understand the results, (2) experienced less anxiety than counterparts that sought follow-up in a timely manner, and (3) were different demographically than those that followed up in a timely manner.

ABSTRACT

A survey was developed by the authors to gather demographic data, to obtain information about parental understanding of the screening process and the results, and to obtain information regarding parental anxiety about the hearing screen. The survey included questions modified from other studies as well as questions related specifically to this study. All eligible families were mailed a copy of the survey and an informed consent, along with a letter explaining the purpose of the study. Families received the surveys shortly after hospital discharge.

Participants were families of infants born in Missouri who failed their initial newborn hearing screening between November 2008 and May 2009. Babies selected for inclusion did not have any risk factors for hearing loss. Approximately 1600 babies fell into this category. Surveys were mailed to families within about 2 months of the baby’s birth. After responses were received, participants were divided into two groups. Group 1 comprised of infants who received follow-up services within three months of age. Group 2 consisted of infants that did not receive necessary follow-up services by 3 months of age. Group assignment was determined by consulting Missouri’s web-based tracking module “Missouri Health Strategic Architectures and Information Cooperative (MOHSAIC)”. Three months after the child’s initial hearing screening was administered.

RESULTS

1600 families were invited to participate. 161 surveys meeting inclusion criteria were returned. Of those, 121 were classified as Group 1 (followed up within 3 months) and 40 were classified as Group 2 (did not follow up by 3 months). Table 1 displays the demographic composition of the respondents. Table 2 displays responses of participants to questions about understanding of the results of their baby’s hearing screening. Most did not believe that their baby had a hearing loss.

Participants were asked to describe the level of anxiety they felt when they found out their baby needed a hearing screen, after learning the results of the test, and then the rating of the anxiety responses. To those responses these collapsed to create a ‘general anxiety’ score (See Figure 1). Specifically, participants felt that the anxiety about their baby’s hearing had existed or increased or existed and decreased prior to being discharged from the hospital.

To further investigate the impact of feelings of anxiety on timely follow up, participant responses were recoded into “anxious” or “not anxious” and a chi square analysis was conducted. Results indicated that those respondents that reported more anxiety were more likely to follow up in a timely manner than those that lacked anxiety (p < 0.05). The effect of maternal age on timely follow up was also investigated. Mothers between the ages of 18 – 25 years of age were the least likely to follow up in a timely manner. See Figure 3.

CONCLUSIONS

• Respondents were pleased with the newborn hearing screening process, and felt that their questions were answered and that they were given the necessary information to assist them in taking the next step.

• Many families did not believe it likely that a hearing loss was present (Table 2). Further investigation is needed to determine if this influences follow up time. It seems evident that the counseling that the family receives before leaving the hospital has the most impact on their decision to seek services in a timely manner.

• Respondents reported a high level of anxiety when being informed of the results of the initial hearing screening and counseling on the need for follow up. Those that reported higher anxiety were very likely to follow up in a timely manner. Others have shown that “mild concern” during the hearing screening may be beneficial to improving follow-up rates.

• Trends were observed in regards to maternal education and maternal age; however, generalization of these findings is limited. The data suggests that younger mothers were less likely to follow up in a timely manner. However, an effect of education level cannot be ruled out as some young mothers have not had the opportunity to further their education due to age.

• These findings suggest that younger mothers need more information and counseling when the results of the hearing screening are being given, but further analysis needs to be done in this area.

• Take home message: Families must understand the importance of timely follow up and should not be given the impression that their baby does not have a hearing loss, even though they failed the newborn screen. Further, a certain amount of anxiety appears to motivate families to follow up in a timely manner.

BIBLIOGRAPHY


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