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Exploring Health-Seeking Behavior among Parents of Newborns with Hearing Impairment: A Study Protocol

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Abstract:
Hearing impairment has frequently been identified as a serious health issue among newborns. If it is not identified and addressed, it can have an adverse effect on language development, emotional health, quality of life, academic performance, and financial independence at various stages of life. To diagnose hearing impairment in newborns, universal newborn hearing screening (UNHS) is now accepted as a standard medical procedure. However, the low follow-up rates have been reported in countries like Saudi Arabia. Hence, this study seeks to explain parental health-seeking behavior and factors related to non-compliance with follow-up using the health belief model (HBM).

Keywords: hearing impairment, newborns, health-seeking behavior, health belief model.

探索听力障碍新生儿父母寻求健康的行为：一项研究方案

摘要:
听力障碍经常被认为是新生儿的严重健康问题。 如果不加以识别和解决，它可能会对生命各个阶段的语言发展、情绪健康、生活质量、学业成绩和经济独立产生不利影响。为了诊断新生儿听力障碍，普遍新生儿听力筛查（联合国卫生服务署）现已被接受为标准医疗程序。然而，沙特阿拉伯等国家的随访率较低。因此，本研究试图使用健康信念模型（HBM）来解释父母寻求健康的行为以及与不遵守随访相关的因素。

关键词：听力障碍、新生儿、求健康行为、健康信念模式。

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1. Introduction

Hearing impairment (HI) is one of the major health challenges. Currently, over 1.5 billion people live with some degree of hearing loss, which could rise to 2.5 billion by 2050 (World Health Organization, 2021). HI is one of the most common congenital abnormalities affecting at least 1 neonate per 1000 in the general population (Niu et al., 2020). However, the prevalence is substantially higher among babies born in low- or middle-income nations and those admitted to neonatal critical care units (Yoshinaga-Itano et al., 2021). Newborn HI not only impedes the speech and cognitive development of the child but also has a greater impact on national healthcare costs if it is not diagnosed and treated early (Jeong et al., 2021; Habib & Abdelgaffar, 2005).

Early detection and timely intervention to treat HI in neonates are essential as they enhance hearing, language, communication, cognitive function, and social-emotional skills (Zhu et al., 2022). Screening is an efficient and cost-effective approach to prevent HI. In many nations, universal newborn hearing screening (UNHS) is now seen as a standard medical procedure. It is advised to screen newborns during the first month of birth, and in most hospitals, this is done before the infant is sent home (Alqudah et al., 2021).

Despite the fact that UNHS has made early detection of HI possible, such a program is less effective in developing nations. To reach its goal of 90% by the end of 2019, the Saudi government initiated a national newborn hearing screening program in 2014. However, only 60% of infants participated in the screening program by the end of 2018 (Alqudah et al., 2021). HI is common among Saudi children, ranging from 1.75 to 4.4% of live births. Compliance with UNHS at the time of birth and follow-up visits for referral cases are the best ways to deal with it (Alaql, 2021).

One of the primary challenges of UNHS is the low follow-up rate for infants who fail the initial round of screening and are referred for additional testing. Kolethekkat et al. (2020) found that 90% of the Arabs completed the first stage of screening, whereas 88.04% adhered to the second stage and only 22.8% received the final confirmation of diagnosis. Studies conducted in other regions have demonstrated that socio-economic status, negative attitude toward screening, multiple hearing screenings, delay in obtaining appointments, and unavailability of treatment or rehabilitation services all play a crucial role in arranging follow-up appointments to complete the advised diagnostic or intervention process (Kolethekkat et al., 2020; Shulman et al., 2010; Spivak & Sokol, 2005). Since screening and diagnosis services are either free or supported by health insurance in Saudi Arabia, Alanazi (2020) discovered that cost is not a significant factor in missing follow-up consultations. The primary reason for delayed health help-seeking among Saudis, however, appears to be parents' moderate to poor knowledge about HI and its treatment (Alsudays et al., 2020; Elrefaie et al., 2022).

Recent literature on neonatal hearing screening in Saudi Arabia has mostly overlooked the health-seeking behavior of parents whose newborns have failed the first phase of UNHS and been referred for the next phase. Hence, this study seeks to explain parental health-seeking behavior and factors related to non-compliance with follow-up using the health belief model (HBM). The model was originally developed in the 1950s to understand America's widespread failure of free pre-illness screening tests and preventive practices (Rosenstock, 1974). Since then, the model has been widely used to understand intrapersonal decision-making processes on several health behaviors, including vaccination and screening (Lau et al., 2020). HBM argues that people are more likely to use preventive care if they believe they are at risk of developing a specific disease, believe they have a serious health issue that is affecting them, believe using preventive behavior will reduce the threat of the disease, and believe there are few barriers in their way (Malik et al., 2020).

Since recent studies on neonatal hearing screening in Saudi Arabia largely ignore the health-seeking behavior of parents whose newborns have failed the UNHS, this study intends to fill in the literature gap by understanding the factors that influence Saudi Arabian parents' health-seeking behavior in relation to their newborn's hearing impairment. This study is anticipated to contribute new knowledge on parental health-seeking behavior, which would further be helpful in designing policies to improve screening outcomes and timely treatment in Saudi Arabia. Additionally, it can potentially help reduce the social stigma associated with hearing impairments and promote early detection and intervention.

The research objective is to explore the health-seeking behavior of parents whose newborns failed the first phase of hearing screening and were referred for the next phase.

2. Methods

This study intends to employ an interpretivist qualitative approach to explore the parental health-seeking behavior of newborns recommended for rescreening. We have considered qualitative research approach appropriate for this study as it would allow us to understand the meanings people attach to their actions and gain a thick description of the topic (Wagner et al., 2012). Using purposive sampling, a sample of 15 Saudi parents was chosen from the public hospitals in Riyadh. Parents who meet the following inclusion criteria were involved in this study: a) Saudi citizens; b) Parents of a newborn who failed the initial hearing screening and was referred for rescreening; c) Having free universal healthcare coverage; d) Willing to share their experiences. The purposive sampling technique would help to create a small, homogeneous, and purposeful group of parents who would have experienced the phenomenon of failed newborn hearing screening (Malik et al., 2020).

Open-ended, face-to-face semi-structured, in-depth interviews will be used to collect data (Malik et al., 2020). A semi-structured interview guide based on the constructs of HBM would provide us with the flexibility to probe and obtain deeper insights. All the interviews were digitally recorded with the consent of the participants. The recording would then be transcribed and analyzed thematically. Braun and Clarke's (2006) six steps of thematic analysis would provide guidelines for it. The analysis would begin with a familiarization phase when we would gain a general understanding of the transcriptions, and then we would generate initial codes by highlighting interesting and reparative information. In the next phase, we would collate codes into potential themes, followed by defining and naming the derived themes. A report will be written as the final stage to wrap up the entire analysis.

2.1. Ethics Approval and Consent to Participate

The study was reviewed and approved by the School of Social Sciences and Humanities, University of Management and Technology University's ethical review board (Reference No RE-78-2023). Written informed consent was obtained from all the subjects involved in the study. Moreover, pseudonyms were used to protect the privacy and anonymity of the participants.

3. Conclusion

Hearing impairment in neonates must be diagnosed and treated as soon as possible for them to develop normally. The parents' misinformation, however, can cause the treatment to be delayed. Little is known about how these parents behave when seeking health for their children. The findings of this study will provide crucial new insights into how Saudi parents who have newborns with hearing impairment seek medical treatment. The study could be used to strengthen the capacity of healthcare providers, including nurses, community health workers, and doctors, to implement targeted initiatives aimed at improving the care of newborns with hearing impairment. The study findings could also be used to enhance collaboration between different stakeholders involved in newborn care, including healthcare providers, parents, and community leaders.

4. Limitations and Further Study

Although this study can significantly improve our understanding of healthcare and child development, it is essential to be aware of its potential limitations. The difficulty reaching participants is one of the major limitations of this study. Locating and interacting with parents of newborns with hearing impairment would be difficult. The study's small sample size will prevent generalizing its results to the full Saudi population. Additionally, there is a possibility of selection bias when recruiting participants for the study. Participants who consent to engage may be more conscious, educated, or care-seeking than other participants. Future studies can recruit larger groups and compare the health-seeking behavior of parents from different geographical regions of Saudi Arabia.

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Authors' Contributions

Basharat Hussain conceptualized the idea; Beenish Malik wrote the main manuscript text; Novel Lyndon and Muhammad Usman Chishti did the literature review. All the authors have read and agreed to the manuscript submitted.

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