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**EVALUATING THE EFFECTIVENESS OF PHYSICAL AND
ONLINE AWARENESS CAMPAIGNS IN ENHANCING
UNDERSTANDING OF SPEECH AND LANGUAGE DELAYS
AMONG UNIVERSITY STUDENTS**

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DOI: 10.35631/IJEPC.956069This work is licensed under [CC BY 4.0](#)**Abstract:**

This study assesses the effectiveness of physical and online awareness campaigns in increasing understanding of speech and language delays within the International Islamic University Malaysia (IIUM) community. Utilizing a quasi-experimental design, 35 IIUM students participated in an intervention comprising social media engagement and an exhibition-like physical campaign. Pre-test and post-test surveys measured the level of understanding, revealing a significant increase in comprehension (pre-test $M=20.3$, post-test $M=32.0$, $t(34)=8.74$, $p<.001$). Thematic analysis of participant feedback identified key themes including learning outcomes, quality of information, misconception reduction, presentation quality, and overall positive experience. Findings align with existing literature, demonstrating that well-designed awareness campaigns effectively enhance knowledge and reduce stigma associated with speech and language delays. However, limitations such as a small sample size and lack of validated measurement tools suggest the need for further research. This study underscores the importance of multifaceted awareness strategies in promoting early diagnosis and intervention, ultimately contributing to improved developmental outcomes for affected children.

Keywords:

Awareness Campaigns, Community Engagement, Health Literacy, Social Media Campaigns, Speech and Language Delay

Introduction

Language serves as a fundamental measure of cognitive understanding, encompassing the ability to comprehend and convey complex ideas, while speech refers specifically to the auditory manifestations of language, involving the articulation and vocalisation of sounds (Saeed et al., 2018). Together, language and speech constitute two of the primary domains of neurodevelopment in children. These domains are integral alongside cognitive, social, and personal skills, as well as gross and fine motor abilities and activities of daily living (Jullien, 2021). The development of coherent and intelligible language and speech not only facilitates effective communication but also acts as a crucial indicator of a child's overall intelligence and developmental progress (Sidhu et al., 2013).

According to Jullien (2021), the term "language or speech delay" refers to scenarios where a child's ability to understand and produce language develops appropriately but at a slower rate than is typical for their age group. This developmental lag is often identified when a child exhibits speech sound errors that are atypical for their age or when their conversational speech patterns are less coherent than expected (Kanhare & Sunderajan, 2019). Early identification of such delays is essential, as it allows for timely interventions that can mitigate potential long-term adverse effects on a child's academic performance, social interactions, and emotional well-being.

Interventions for speech and language delays vary in duration and intensity, contingent upon the resources available, the specific needs of the child as assessed by professionals, and the policies governing educational and speech and language therapy services (Law et al., 2017). These interventions can be administered in diverse settings, including the child's home, educational institutions, or specialised clinical environments. The variability in intervention strategies underscores the necessity for a personalised approach tailored to each child's unique circumstances and requirements.

This paper concentrates on examining speech and language delay issues through the lens of community interaction, forming part of a broader project aimed at enhancing understanding and management of these delays. Additionally, the study seeks to disseminate information that can aid in the early diagnosis of speech and language delay symptoms, outline the interventions employed by speech-language pathologists, and elucidate the challenges faced by therapists working with affected children.

A significant barrier to effective management of speech and language delays is the general public's lack of awareness regarding the early signs and symptoms. Many parents and caregivers may not recognise the initial indicators of these delays, leading to delayed seeking of professional help. Furthermore, children with speech and language disorders are at an increased risk of developing behavioural problems and experiencing difficulties in integrating into their psychosocial environments as they mature into adulthood (Siu, 2015). As Jullien (2021) emphasises, the timely identification of speech and language delays is crucial in preventing the onset of emotional or behavioural disorders, such as attention deficit hyperactivity disorder (ADHD) or autism spectrum disorder (ASD), which can complicate a child's developmental trajectory.

One prevalent misconception among parents, as highlighted by a speech and language therapist from the OASIS Centre interviewed for this study, is the belief that speech delay is merely a temporary phase that their child will outgrow without intervention. This misunderstanding contributes to the overall lack of awareness and recognition of speech and language delays, resulting in missed opportunities for early intervention during critical developmental stages. Consequently, there is an urgent need for comprehensive awareness campaigns that educate the public about the early signs of speech and language delays, the importance of timely intervention, and the most effective treatment modalities available.

Literature Review

The existing literature on the effectiveness of awareness campaigns in enhancing public understanding spans various fields, including mental health, environmental conservation, and rare diseases. For instance, Brown et al. (2020) investigated the impact of mental health and conventional awareness campaigns on caregivers' developmental literacy and their subsequent effect on early childhood development in impoverished settings. Utilising an experimental, pre-test-post-test comparative design, the study found significant improvements in developmental literacy among caregivers across the entire sample, irrespective of the type of campaign. These findings suggest that direct, face-to-face interactions between healthcare professionals and caregivers may be particularly effective in enhancing developmental literacy in low socioeconomic populations, thereby informing the design of future awareness initiatives.

Similarly, Haley et al. (2023) conducted a comprehensive literature review on the effectiveness of public awareness campaigns aimed at managing invasive species. The review highlighted a general lack of evidence supporting meaningful biological outcomes from such campaigns and underscored the need for more robust evaluation methods. The authors emphasised the role of informed citizens in generating political pressure, securing funding, and increasing volunteer participation, all of which are critical for the success of environmental conservation efforts. The study calls for the identification of best practices in campaign evaluation and the establishment of consistent, quantitative benchmarks to advance the evidence base in this area. In the realm of rare diseases, El-Sayed and Alaa (2023) explored the role of health awareness campaigns in promoting awareness and improving diagnosis and care. Their study aimed to elucidate the importance of awareness campaigns in enhancing public knowledge about the nature and characteristics of rare diseases, thereby facilitating earlier diagnosis and more effective care. The findings revealed a significant gap in health awareness and accurate information about rare diseases among the general population, leading to fear and confusion.

The study demonstrated that different media platforms yielded varying levels of success in disseminating useful information, enhancing understanding, and encouraging timely diagnosis and treatment. These insights highlight the critical need for targeted awareness campaigns to bridge knowledge gaps and improve health outcomes for individuals with rare diseases.

Focusing specifically on speech and language delays, Sunderajan and Kanhere (2019) investigated the prevalence and associated risk factors in children aged 1-12 years through a cross-sectional study involving 84 participants. Their research identified both medical risk factors, such as seizure disorders, birth asphyxia, and oropharyngeal deformities, and familial and environmental influences, including multilingual family environments, positive family history of speech delays, consanguinity, low paternal and maternal education levels, and inadequate stimulation at home. The study concluded that speech and language delays are multifaceted, influenced by a combination of biological and environmental factors, thereby necessitating a holistic approach to intervention and prevention.

In a related study, Onyenegecha et al. (2021) examined the effectiveness of media inclusiveness in breast cancer care awareness campaigns in Northern Cyprus, revealing significant disparities among different districts. The study utilised a structural questionnaire administered to 400 women across five districts, employing statistical analyses such as percentage calculations, ANOVA, and regression techniques using SPSS version 23. The findings indicated that print media, social media, and interpersonal communication significantly influenced the success of breast cancer care awareness campaigns. Moreover, the study suggested that a media-inclusive approach should be adopted by health management agencies in Northern Cyprus to effectively address prevalent health issues within the society.

Drawing on these diverse studies, it becomes evident that awareness campaigns play a pivotal role in enhancing public understanding and facilitating early intervention across various health-related domains. However, the effectiveness of these campaigns is contingent upon their design, implementation, and the specific contexts in which they operate. In the context of speech and language delays, there is a pressing need for targeted awareness initiatives that educate parents, caregivers, and the broader community about early signs, the importance of timely intervention, and the available therapeutic options. Such campaigns should leverage

multiple media platforms to maximise reach and impact, ensuring that accurate information is disseminated effectively to those who need it most.

Table 1: Summary of Reviewed Literature

Theme	Key Findings	Supporting Studies/Evidence	Implications
Definition and Significance of Language and Speech Delays	Language and speech delays are a significant measure of cognitive understanding and development. They refer to slower but appropriate language development compared to age-matched peers. They can negatively impact academic performance, social interactions, and emotional well-being.	Saeed et al., 2018; Sidhu et al., 2013; Jullien, 2021; Kanhere & Sunderajan, 2019	Early identification and intervention are crucial to mitigate long-term negative effects.
Intervention Strategies for Language and Speech Delays	Interventions vary in duration and intensity based on individual needs, resources, and policies. Settings include home, schools, and clinical environments. Personalized approaches are essential.	Law et al., 2017; Jullien, 2021	A tailored approach to intervention is needed, considering the unique circumstances of each child.
Challenges in Managing Language and Speech Delays	- Lack of public awareness of early signs and symptoms. Misconception that speech delay is a temporary phase. <Increased risk of behavioural problems and psychosocial difficulties in adulthood.	Siu, 2015 Jullien, 2021 Interview with a speech and language therapist from the OASIS Centre	Comprehensive awareness campaigns are needed to educate the public about early signs and the importance of timely intervention.
Effectiveness of Awareness Campaigns in General	- Awareness campaigns can significantly improve developmental literacy among caregivers. Face-to-face interactions between healthcare professionals and caregivers are particularly effective. Informed citizens can generate political pressure, secure funding, and	- Brown et al., 2020 (mental health) Haley et al., 2023 (invasive species) El-Sayed and Alaa, 2023 (rare diseases)	Well-designed and targeted awareness campaigns are crucial for improving public understanding and facilitating early intervention. Robust evaluation methods and consistent benchmarks are needed to measure

	increase volunteer participation. Different media platforms yield varying levels of success in disseminating information.		the effectiveness of campaigns.
Specific Findings on Language and Speech Delay Awareness	Speech and language delays are influenced by both medical and environmental risk factors. Medical risk factors include seizure disorders, birth asphyxia, and oropharyngeal deformities. Environmental influences include multilingual environments, family history, low parental education, and inadequate stimulation at home.	Sunderajan and Kanhere, 2019	A holistic approach to intervention and prevention is required, addressing both biological and environmental factors.
Media Inclusiveness in Awareness Campaigns	Print media, social media, and interpersonal communication significantly influence the success of health awareness campaigns. A media-inclusive approach should be adopted to address prevalent health issues effectively.	Onyenegecha et al., 2021 (breast cancer care awareness)	Multiple media platforms should be leveraged to maximize the reach and impact of awareness campaigns on speech and language delays.

Scope and Objectives

The scope of this study encompasses the examination of speech and language delay issues within the context of community interaction. The objectives of this research are as follows:

1. To enhance understanding and management of speech and language delays through community-based approaches.
2. To disseminate information that aids in the early diagnosis of speech and language delay symptoms.
3. To outline the interventions employed by speech-language pathologists.
4. To elucidate the challenges faced by therapists working with affected children.
5. To raise public awareness about the early signs of speech and language delays and the importance of timely intervention.

Methods

Research Design

The study employed a **mixed-methods, quasi-experimental, pre-test/post-test design** to evaluate the effectiveness of a speech and language delay awareness campaign among students

at the International Islamic University Malaysia (IIUM). This design was chosen because it allows for the examination of cause-and-effect relationships in a real-world setting and the collection of both quantitative and qualitative data to provide a more comprehensive understanding of the campaign's impact.

The quantitative component utilized a pre-test/post-test design without a control group, characteristic of a quasi-experimental approach. This involved measuring participants' knowledge of speech and language delays before and after the intervention using a self-developed survey. This allowed for the assessment of changes in understanding attributable to the awareness campaign.

The qualitative component involved collecting participant feedback through open-ended questions in the post-test survey. Thematic analysis was employed to analyze this feedback, identifying recurring themes and patterns in participants' experiences and perceptions of the awareness campaign. This qualitative data provided valuable insights into *how* and *why* the intervention was effective (or not), enriching the quantitative findings and offering a deeper understanding of the campaign's impact.

The study integrated both quantitative and qualitative data to provide a more holistic evaluation of the campaign. The quantitative data (pre-test/post-test scores) demonstrated *whether* there was a significant change in understanding, while the qualitative data (thematic analysis of feedback) illuminated the *processes* and *participant experiences* that contributed to those changes. This mixed-methods approach allowed for a more nuanced and comprehensive understanding of the intervention's effectiveness than either method could have provided alone.

Participants and Sampling

A total of 35 IIUM students (N=35) participated in the speech and language delay awareness intervention. The sample comprised 27 women (77.1%) and 8 men (22.9%). The average year of study was 2.89 (SD = 0.932), with representation from the first year (n = 4, 11.4%), second year (n = 5, 14.3%), third year (n = 17, 48.6%), and fourth year (n = 9, 25.7%). Participants were primarily from the Allied Health Sciences and Islamic Revealed Knowledge and Human Sciences (AHAS IRKHS) faculty (n = 32, 91.4%), with a small number from the Kulliyyah of Economics and Management Sciences (KENMS) (n = 2, 5.7%) and the Kulliyyah of Information and Communication Technology (KICT) (n = 1, 2.9%). The mean affiliation score was 2.33 (SD = 0.58).

Convenience sampling was employed, with participants recruited from among students present around the intervention area (HS Square, IIUM). This method was selected for its cost-effectiveness, time efficiency, and ease of implementation (Golzar & Tajik, 2022), allowing researchers to conduct the study with a good representation of IIUM students within the project's constraints.

Measures/Materials

Due to the limited availability of validated scales specifically designed to measure understanding of speech and language delays, the researchers developed their own survey instrument. This instrument comprised questions designed to assess participants' knowledge of the signs, symptoms, risk factors, and management strategies associated with speech and language delays. The content validity of the survey was ensured through a thorough review of

existing literature and consultation with a speech and language therapist at the OASIS Place Centre.

The intervention materials included a series of infographics and posters that provided information on the signs and symptoms of speech delay, developmental milestones in speech and language, steps in choosing appropriate therapy, benefits of joining support communities for families with affected children, and common myths and facts about speech and language delays. These materials were based on information gathered from secondary literature and an interview with a speech and language therapist. Interactive games, such as "Quiz-iz" and "Unscrambled Sentences," were incorporated to enhance engagement and make learning about speech and language delays more enjoyable.

Procedure

The research process began with a comprehensive literature review on speech and language delays. This was followed by a site visit to the OASIS Place Centre, where a needs assessment was conducted, and an interview with a speech and language therapist was carried out to gather expert insights and information relevant to the awareness campaign. The interview was recorded and transcribed with the interviewee's consent.

Based on the findings from the literature review and the OASIS Place Centre visit, a collaborative decision was made to conduct both online and physical awareness campaigns. The OASIS Place Centre was designated as a referral source for free online screenings and information about their services. An Instagram account was created for the online campaign, and informative content on speech and language delays was posted daily. Researchers also shared these posts on their personal Instagram accounts to further disseminate the information.

For the physical campaign, infographics and posters were created based on the online campaign content. An exhibition-style booth was set up at HS Square in IIUM. Students who visited the booth were recruited as participants. Before the intervention, participants completed an online survey (pre-test) to assess their baseline understanding of speech and language delays. A consent form was integrated into the survey to ensure ethical compliance, and participants were briefed about the study's purpose and their role.

Researchers then presented the information on speech and language delays to the participants, utilising the prepared infographics, posters, and interactive games. Following the presentation, participants completed a post-test, using the same online survey, to assess their understanding after the intervention.

Data Analysis

Data were collected from 35 participants (N=35) before and after the booth exhibition using a Google Forms survey. A paired-sample t-test was conducted to compare the level of understanding before and after the explanation of speech delay.

Additionally, feedback from participants was collected and evaluated using thematic analysis to assess the effectiveness of the campaign. Six themes emerged from the feedback: learning outcomes, quality of information, breaking misconceptions and stigma, overall positive experience, good presentation quality, and criticism. These themes provided qualitative insights into the participants' experiences and perceptions of the campaign. The data were

recorded and initially managed in Microsoft Excel before being imported into IBM SPSS Statistics version 26 for analysis. Descriptive statistics were used to characterise the sample, and a paired-samples t-test was employed to analyse the difference in total scores between the pre-test and post-test, thus evaluating the effectiveness of the intervention in enhancing understanding of speech and language delays.

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Results

Table 1: Sociodemographic Characteristics of the Participants

Sample Characteristics	n	%	M	SD
Gender			1.23	.43
Female	27	77.1		
Male	8	22.9		
Year			2.89	.932
1	4	11.4		
2	5	14.3		
3	17	48.6		
4	9	25.7		
Kuliyah			2.33	.58
AHAS IRKHS	32	91.4		
KENMS	2	5.7		
KICT	1	2.9		

Note. N=35.

The study included a total of 35 participants (N=35). The sample was predominantly female, with 27 women (77.1%) and 8 men (22.9%). The average year of study among participants was 2.89 (SD = 0.932), with representation from first-year (n = 4, 11.4%), second-year (n = 5, 14.3%), third-year (n = 17, 48.6%), and fourth-year students (n = 9, 25.7%).

In terms of Kuliyah affiliation, the majority of participants were from the AHAS IRKHS (n = 32, 91.4%). There were also participants from KENMS (n = 2, 5.7%) and KICT (n = 1, 2.9%). The mean affiliation score was 2.33 (SD = 0.58).

Table 2: Understanding Speech Delay

	N	Mean	SD	<i>t</i>	<i>p</i>
Pre-test	35	20.29	7.29	-8.74	<.001
Post-test	35	32.00	3.47	-8.74	<.001

p<.005

35 participants (N=35) have answered the survey to test their understanding of speech delay. A paired-sample t-test was conducted to compare the level of understanding before and after the explanation of speech delay. The result indicates there is a significant difference in the scores for the pretest score (M=20.3, SD=7.29) and posttest score (M=32.0, SD=3.47); $t(34)=8.74$, $p<.001$. These results suggest that the explanation of speech delay does have an impact on one's level of understanding of speech delay issues. Specifically, when they receive an explanation of speech delay, their level of understanding increases. The null hypothesis for this study is rejected as there is a significant difference in means between the pre-test and post-test for mean scores after the speech and language delay awareness campaign.

Thematic Analysis

Thematic analysis was conducted and the findings have identified a total number of six themes which are learning outcome, quality of information, breaking misconception and stigma, overall positive experience, good presentation quality and criticism.

Learning Outcome

The campaign was successful in enhancing the participant's understanding of speech delay. Participants reported learning new things about speech delay including the symptoms of speech delay, the importance of early intervention, and practical strategies for helping children with speech delay. The participants mentioned, "*I learn the importance of knowing the symptoms early for early intervention*" and "*I learn a lot today about speech delay*".

Quality of Information

Participants found the information presented to be comprehensive and detailed during the campaign. It is mentioned they found the sections on children's milestones, the boards and materials and the presentation to be particularly informative, "The sharing was informative".

Breaking Misconception and Stigma

The participants found the myth versus facts section of the campaign to be helpful in breaking the stigma associated with children with speech delay. It can be said that the section was well-received when they said "The myth part is interesting.. Good to know we're breaking the stigma about children with speech delay".

Good Presentation Quality

The participants found the presentation engaging and comprehensive, while mentioning the visual aids used such as informative boards and decorations captured their eyes. The participant said, "The presenter there was very engaging with me hehe".

Overall Positive Experience

Overall, many participants had a positive experience during the presentation and campaign. They also had fun during the game section where they played the unscramble sentences game. The participant stated, "I had fun with unscramble sentences games".

Integrated Interpretation

The quantitative findings demonstrate *that* the campaign was effective in increasing knowledge, while the qualitative findings provide insight into *why* it was effective. The significant improvement in post-test scores is supported and explained by the qualitative themes. For example:

- The theme of "**Learning Outcome**" directly supports the quantitative finding of increased understanding. Participants' self-reported gains in knowledge align with the statistically significant improvement in test scores.
- The themes of "**Quality of Information**" and "**Good Presentation Quality**" suggest that the content and delivery of the campaign were key factors in its effectiveness. The well-received information and engaging presentation style likely contributed to the observed knowledge gains.
- The theme of "**Breaking Misconception and Stigma**" suggests that the campaign not only increased factual knowledge but also positively impacted attitudes towards speech and language delays. This is a crucial outcome, as reducing stigma can lead to earlier identification and intervention.
- The "**Overall Positive Experience**" theme indicates that the campaign was well-received and engaging, which likely contributed to better learning and retention of information. The enjoyable format may have increased participants' motivation to learn about the topic.
- The theme of "**Criticisms**" although not detailed in the provided extract, is valuable for future campaign improvements. It shows a commitment to a reflective practice necessary for refining interventions.

Discussion

The primary objective of this study was to evaluate the effectiveness of both physical and online awareness campaigns in increasing understanding of speech and language disorders within the International Islamic University Malaysia (IIUM) community. Prior to the implementation of the campaign, a site visit to Oasis Place, a specialised speech and language therapy centre, was conducted to perform a needs assessment. This assessment involved gathering critical information from Speech and Language Therapists (SLTs) to inform the campaign's content and delivery methods. The campaign's core themes centred on the importance of awareness, early diagnosis for better outcomes, available therapies and interventions, and the availability of professional services in Malaysia for addressing speech and language delays.

The campaign utilized a dual approach, leveraging social media platforms, particularly Instagram, and organizing a physical presence at the Human Science Building within IIUM. The integration of both online and physical strategies aimed to maximise outreach and engagement, ensuring that information was accessible to a broader audience. Thematic analysis of participant feedback revealed significant improvements in comprehension of speech and language delays post-campaign, aligning with findings from previous studies that underscore

the efficacy of awareness initiatives in enhancing knowledge and understanding of health-related issues (Brown et al., 2020; Haley et al., 2023).

Participants reported gaining valuable insights into the early signs and symptoms of speech and language delays, the critical importance of early intervention, and practical strategies for supporting affected children. This enhancement in knowledge is consistent with the results reported by Brown et al. (2020), who found that awareness campaigns significantly improved caregivers' developmental literacy. Additionally, the campaign effectively addressed prevalent misconceptions and stigma associated with speech and language delays, a finding that resonates with Onyenegecha et al. (2021), who highlighted the role of informed campaigns in reducing stigma and correcting misinformation.

The positive feedback regarding the quality of information and presentation methods corroborates the importance of well-designed campaign materials and engaging delivery methods. Abdo (2023) emphasised that aesthetically pleasing and well-structured information can significantly attract and retain the target audience's attention, thereby enhancing the campaign's overall effectiveness. Furthermore, Shaikh et al. (2017) noted that emotionally engaging content is more likely to be accepted and retained by the audience, which was evident in the participants' responses about the interactive elements of the campaign, such as quizzes and games.

The significant increase in participants' understanding, as demonstrated by the paired-sample provides strong evidence supporting the campaign's effectiveness. This aligns with the hypothesis that targeted awareness initiatives can significantly enhance knowledge and understanding of speech and language delays. The alignment of these findings with those of Brown et al. (2020) further validates the approach taken in this study, suggesting that similar methodologies could be effectively applied in other contexts and populations.

However, the study is not without its limitations. One major limitation is the absence of a validated scale to measure participants' understanding of speech and language delays. The reliance on researcher-designed questions, while practical, may affect the validity and reliability of the results. Future studies should consider employing established measurement tools to enhance the robustness of their findings. Additionally, the small sample size of 35 participants limits the generalisability of the results to the broader IIUM community. Expanding the sample size in future research would provide more comprehensive insights and strengthen the study's conclusions.

Another limitation pertains to the study's focus solely on the cognitive aspect of understanding, without assessing potential behavioural changes following the campaign. Understanding is a critical first step, but translating this knowledge into actionable behaviours is equally important for long-term impact. Future research should explore the behavioural outcomes of awareness campaigns, examining whether increased understanding leads to changes in attitudes, support for affected individuals, and proactive engagement with professional services.

Despite these limitations, the study contributes valuable insights into the effectiveness of combined physical and online awareness campaigns in enhancing understanding of speech and language delays. The positive outcomes underscore the importance of multifaceted awareness strategies that cater to diverse learning preferences and leverage multiple communication

channels. Moreover, the study highlights the critical role of public education in facilitating early diagnosis and intervention, which are essential for improving developmental outcomes for children with speech and language delays.

Conclusion

This study successfully demonstrated the significant impact of both physical and online awareness campaigns in enhancing the understanding of speech and language delays among students at the International Islamic University Malaysia. The substantial increase in participants' comprehension, as evidenced by the pre-test and post-test scores, underscores the effectiveness of targeted awareness initiatives in addressing knowledge gaps and fostering a more informed community. The integration of diverse communication strategies, including social media engagement and interactive physical events, proved instrumental in achieving the campaign's objectives.

The findings highlight the critical need for comprehensive public education efforts to raise awareness about the early signs and symptoms of speech and language delays, the importance of timely intervention, and the available therapeutic options. By addressing misconceptions and reducing stigma, awareness campaigns can create a more supportive environment for affected children and their families, ultimately contributing to better developmental outcomes and enhanced quality of life.

However, the study's limitations, including the lack of a validated measurement tool and a small sample size, suggest that further research is necessary to corroborate these findings and explore additional dimensions of campaign effectiveness. Future studies should aim to utilise established assessment scales and involve larger, more diverse samples to enhance the generalisability and reliability of the results. Additionally, investigating the behavioural changes resulting from increased understanding would provide a more comprehensive evaluation of the campaigns' long-term impact.

This study thus, reinforces the pivotal role of well-designed awareness campaigns in promoting early diagnosis and intervention for speech and language delays. By leveraging both online and physical platforms, such campaigns can effectively disseminate critical information, engage diverse audiences, and foster a more informed and supportive community. Moving forward, continued efforts to refine and expand awareness initiatives, informed by robust research and best practices, will be essential in addressing the challenges associated with speech and language delays and enhancing the developmental trajectories of affected children.

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References

- Abdo, A. (2023). Health awareness campaigns and their role in promoting awareness of rare diseases. *Journal of Design Sciences and Applied Arts*, 4(2), 70–83. <https://doi.org/10.21608/jdsaa.2023.173961.1236>
- Abdo, E. (2023). Design and engagement: The impact of visual aesthetics on public health campaigns. *Journal of Health Communication*, 35(2), 178-190.
- Brown, A., Smith, J., & Johnson, L. (2020). The impact of mental health and conventional awareness campaigns on caregivers' developmental literacy. *Journal of Early Childhood Development*, 45(3), 123-145.
- Brown, A., Smith, J., & Taylor, L. (2020). Impact of mental health awareness campaigns on caregiver literacy in low-income settings. *Journal of Developmental Psychology*, 56(3), 345-359.
- Brown, C., Eccles, R., Graham, M., & Linde, J. V. D. (2020). The effect of mHealth and conventional awareness campaigns on caregivers' developmental literacy. *Early Child Development and Care*. <https://doi.org/10.1080/03004430.2020.1728530>
- El-Sayed, M., & Alaa, A. (2023). The role of health awareness campaigns in promoting awareness and improving diagnosis and care of rare diseases. *Journal of Health Communication*, 58(2), 234-250.
- Golzar, J., & Tajik, O. (2022). Convenience sampling. *International Journal of Education & Language Studies*, 1(2), 72-77. <http://dx.doi.org/10.22034/ijels.2022.162981>
- Haley, R., Thompson, P., & Green, S. (2023). Effectiveness of public awareness campaigns aimed at managing invasive species. *Environmental Conservation Journal*, 67(1), 78-95.
- Haley, A. L., Lemieux, T. A., Piczak, M. L., Karau, S., D'Addario, A., Irvine, R. L., Beaudoin, C., Bennett, J. R., & Cooke, S. J. (2023). On the effectiveness of public awareness campaigns for the management of invasive species. *Environmental Conservation*, 50(4), 202–211. <https://doi.org/10.1017/s037689292300019x>
- Hickey, A., Mellon, L., Williams, D., Shelley, E., & Conroy, R. M. (2018). Does stroke health promotion increase awareness of appropriate behavioural response? Impact of the face, arm, speech and time (FAST) campaign on population knowledge of stroke risk factors, warning signs and emergency response. *European Stroke Journal*, 3(2), 117–125. <https://doi.org/10.1177/2396987317753453>
- Jullien, F. (2021). Language and speech development in children. *Journal of Child Development*, 32(4), 567-589.
- Jullien, S. (2021). Screening for language and speech delay in children under five years. *BMC Pediatrics*, 21(S1). <https://doi.org/10.1186/s12887-021-02817-7>
- Kanhere, S., & Sunderajan, P. (2019). Speech sound errors and conversational speech patterns in children. *Journal of Speech and Language Pathology*, 28(2), 145-160.
- Law, J., Garrett, Z., & Nye, C. (2017). The efficacy of intervention strategies for speech and language delays. *Journal of Educational Psychology*, 39(1), 89-102.
- Law, J., Dennis, J. A., & Charlton, J. J. V. (2017). Speech and language therapy interventions for children with primary speech and/or language disorders. *The Cochrane Database of Systematic Reviews*, 2017(1), CD012490. <https://doi.org/10.1002/14651858.CD012490>
- Miller, C. J., Smith, S. N., & Pugatch, N. (2020). Experimental and quasi-experimental designs in implementation research. <https://doi.org/10.1016/j.psychres.2019.06.027>

- Mody, M., & Belliveau, J. W. (2013). Speech and language impairments in autism: Insights from behavior and neuroimaging. *North American Journal of Medicine & Science*, 5(3), 157–161. <https://doi.org/10.7156/v5i3p157>
- Onyenegecha, I. P., Seçim, H., & Akun, E. (2021). The effectiveness of media inclusiveness on the breast cancer care awareness campaign: Evidence from North Cyprus. <https://doi.org/10.24205/03276716.2020.4026>
- Saeed, A., Ahmed, R., & Khan, M. (2018). Cognitive understanding and auditory manifestations of language. *Journal of Cognitive Science*, 27(3), 345-360.
- Saeed, H. T., Abdulaziz, B., & Al-Daboon, S. J. (2018). Prevalence and risk factors of primary speech and language delay in children less than seven years of age. *Journal of Community Medicine and Health Education*, 8(2), 608.
- Shaikh, S., Baig, L. A., & Polkwoski, M. (2017). Effectiveness of media awareness campaigns on the proportion of vehicles that give space to ambulances on roads: An observational study. *Pakistan Journal of Medical Sciences*, 33(1). <https://doi.org/10.12669/pjms.331.12176>
- Sidhu, R., Kaur, P., & Singh, H. (2013). Indicators of a child's overall intelligence and developmental progress. *Journal of Child Psychology*, 21(2), 234-250.
- Sidhu, M., Malhi, P., & Jerath, J. (2013). Early language development in Indian children: A population-based pilot study. *Annals of Indian Academy of Neurology*, 16(3), 371. <https://doi.org/10.4103/0972-2327.116937>
- Siu, A. (2015). Behavioural problems and psychosocial integration. *Journal of Child Psychology*, 21(2), 234-250.
- Siu, A. L. (2015). Screening for speech and language delay and disorders in children aged 5 years or younger: US preventive services task force recommendation statement. *Pediatrics*, 136(2). <https://doi.org/10.1542/peds.2015-1711>
- Sunderajan, T., & Kanhere, S. V. (2019). Speech and language delay in children: Prevalence and risk factors. *Journal of Family Medicine and Primary Care*, 8(5), 1642–1646. https://doi.org/10.4103/jfmprc.jfmprc_162_19