

Kertas Asli/Original Articles

Language Intervention for Late Talkers: The Experiences of Speech-Language Pathologists in Malaysia

(Intervensi Bahasa untuk Kanak-kanak Lambat Bercakap: Pengalaman Terapis Pertuturan-Bahasa di Malaysia)

ABSTRACT

A few studies have investigated the practise patterns of Malaysian speech-language pathologists (SLPs) when working with children with speech and language problems whose language intervention is necessary. However, these studies did not provide in-depth information about the SLPs' experiences as the studies were conducted quantitatively. Moreover, none of the studies focus on late-talkers (LTs), in which intervention for them can vary along a continuum from a wait/watch-and-see approach to direct intervention. Thus, this study aimed to explore SLPs' experiences in managing LTs in Malaysia. Twelve SLPs participated in individual, semi-structured phone interviews. They were asked about their experiences in managing LTs. The interviews were recorded, transcribed, and a content analysis was performed. Two themes were identified; a) practises of SLPs and b) challenges faced by SLPs in managing LT cases. The practises of SLPs included conducting assessments, developing intervention plans, providing intervention, sharing information, giving homework, providing support, and managing appointments. The challenges faced were related to parents, other individuals close to LTs, LTs themselves, and resources. Although the SLPs' practises aligned with the international standard of speech-language pathology service delivery, there is room for improvement, especially in collaborating with parents, as one-to-one direct interventions for LTs might not be suitable due to the challenges related to resources. In addition, a few suggestions related to centred-based care and trusted social media pages can be provided to parents to assist them outside therapy sessions besides initiating the development of awareness programs and information resources for parents and other caregivers.

Keywords: Late talkers, language intervention, Malaysian speech-language pathologist, practise, challenges.

ABSTRAK

Beberapa kajian berkaitan praktis terapis pertuturan-bahasa (SLP) di Malaysia ketika menjalankan intervensi untuk kanak-kanak yang mempunyai masalah bahasa dan pertuturan telah dijalankan. Namun, kajian-kajian yang dijalankan tidak memberi maklumat yang mendalam tentang praktis SLP kerana berbentuk kuantitatif. Tambahan pula tiada kajian yang menumpu kepada pengurusan kes kanak-kanak lambat bercakap (LTs) yang mana cara pengurusan kes sebegini adalah pelbagai. Oleh yang demikian, kajian ini dijalankan untuk meneroka pengalaman SLP menguruskan kes LTs di Malaysia. Dua belas SLP menyertai temubual semi-struktur yang dibuat secara individu melalui telefon. Kesemua temubual direkod, ditranskripsikan dan analisis kandungan dibuat. Dua tema utama dikenal pasti; a) praktis SLP dan b) cabaran yang dihadapi oleh SLP ketika menguruskan kes LT. Praktis SLP termasuklah menjalankan penilaian, membuat rancangan intervensi, menjalankan intervensi, berkongsi maklumat, memberi tugas, memberi sokongan dan menguruskan temujanji. Cabaran-cabaran yang dihadapi pula berkaitan dengan LT, ibu bapa, individu yang rapat dengan LT, dan juga sumber. Walaupun praktis SLP di Malaysia adalah selari dengan standard antarabangsa, terdapat beberapa penambahbaikan yang boleh dilakukan terutamanya ketika berkolaborasi dengan ibu bapa kerana intervensi yang memfokuskan kepada kanak-kanak tidak lagi sesuai disebabkan cabaran sumber yang dihadapi. Selain daripada itu, beberapa cadangan boleh dikemukakan kepada ibu bapa LTs untuk membantu mereka di luar sesi terapi di samping memulakan program-program kesedaran dan pembangunan sumber rujukan kepada ibu bapa dan penjaga.

Kata kunci: kanak-kanak lambat bercakap, intervensi bahasa, terapis pertuturan-bahasa Malaysia, praktis, cabaran

INTRODUCTION

Late talkers (LTs) are defined as children aged between 18 to 35 months old who are slow to talk despite the absence of cognition, sensory, motor, and neurological problems (Rescorla 2011). The language criteria for identifying LTs include having fewer than 50 words of expressive vocabulary and difficulties in combining words by 24 months of age (Rescorla 2011). Interestingly, despite the established criteria mentioned above, there are two different perspectives on identifying LT. The first perspective excludes children with receptive language delays, whereas the second perspective includes children with both receptive and expressive language delays (Morgan et al. 2020).

The prevalence of LTs across countries differs depending on the inclusion criteria and population sampled. However, a few studies suggested that approximately 13% to 17% of young children are commonly identified as LTs (Horwitz et al. 2003). Up to and including 50% to 70% of LTs are commonly referred to as 'late bloomers' as they manage to catch up with their peers at 24 months old (Dale et al. 2003; Fisher 2017). Furthermore, a recent study revealed that although LTs still lag behind their typically developing peers on expressive vocabulary at four and a half and six years of age their language performances are within age expectations (Caglar-Ryeng et al. 2021).

Nevertheless, previous studies also estimated that between 6% and 46% of LTs have persistent language problems after three years old and are at risk for developmental language disorder (Chilosi et al. 2019; Rescorla 2002). Hammer et al. (2017) discovered that LTs have three times the risk of having low vocabulary at 48 months and scored low in reading and mathematics performance at 60 months old. In addition, a longitudinal study by Armstrong et al. (2016) revealed that at the age of 21 years old, individuals with a history of deteriorated or persistent language problems were less likely to participate in education, employment, or training, including apprenticeships. The same study also reported that the individuals were more likely to abuse/misuse alcohol and other substances and had emotional problems.

There is widespread agreement that intervention is necessary, particularly for children with secondary language delays/ disorders. However, there are arguments for providing intervention for LTs. In anticipation of the fact that LTs have a good prognosis for 'self-correcting,' the 'wait-and-see' or 'watch-and-see' approach is widely recommended (Miniscalco et al. 2005; Paul 1996). Moreover, the origin of this approach includes fear of harm in diagnosing the children. The harms include increased effort, extra time, and anxiety among parents (Siu 2015).

One major drawback of this approach is that it does not consider LTs who may have a persistent language problems. Another problem with this approach is that it fails to consider other long-term difficulties that LTs may have. These drawbacks led to the argument that early intervention programs are needed for LTs (Singleton 2018).

Parents and SLPs are usually part of the early intervention team. According to the Individuals with Disabilities Education Act (IDEA 2004), early intervention should focus on family-centred care where parents are empowered to be the main interventionist for their children. Thus, in early intervention, parental training becomes the expected practice. In response to that, the American Speech-Language-Hearing Association (ASHA 2016) included early intervention service as one of the SLPs' scopes of practice. However, in managing LTs, the approaches applied by SLPs can be either family-centred or child-centred.

Based on the SLP service delivery model (Ebbels et al. 2018), intervention for children with language problems can be divided into three tiers. Tier 1 aims to provide high-quality teaching and interaction for all children. Tier 2 provides education-led language programs for teachers or parents to help high-risk children, whereas Tier 3 focuses on individualized intervention for children either indirectly (Tier 3A) or directly (Tier 3B). Group parental training for parents of late-talking children, such as the Hanen Program (Girolametto et al. 1996), lies within Tier 2 (Law et al. 2013). Individual parental training, such as the Parent-implemented Enhanced Milieu Teaching (Roberts & Kaiser 2012), lies within Tier 3A. Moreover, the Vocabulary Acquisition and Usage for Late Talkers protocol (Alt et al. 2020), which is designed to be used by SLPs during direct intervention for LTs, lies within Tier 3B.

In Malaysia, speech and language services started in the 1980s with less than 10 SLPs serving an 18 million population (Ahmad et al. 2013). All of the SLPs completed their training abroad and practiced in private sectors in the urban areas (Ahmad et al. 2013). Currently, there are 140 SLPs in government hospitals (W.M. Abdul Wahab, personal communication, January 20, 2021), 52 in university and teaching hospitals, eight in the Special Education Service Centre (3PK) (Malaysia Ministry of Education 2020), and 137 in private sectors and non-government organizations (Malaysian Association of Speech-Language & Hearing; MASH 2020). However, the actual number of SLPs is expected to be higher as registration with MASH is not compulsory. Moreover, this number is likely to increase as three local universities offer undergraduate programs in speech-language pathology. Nevertheless, the number of SLPs in Malaysia is still low in comparison with other countries. The current ratio of SLP is one to every 100,000 people (1; 100,000) (Chu et

al. 2019) as compared to the US, which has 54.7 SLPs for every 100,000 population (54.7: 100,000) (ASHA 2020).

The caseload for Malaysian SLPs consists mainly of paediatric cases and a minimal number of adult cases (Mustaffa Kamal et al. 2012). Hence, Malaysian SLPs are highly likely to manage speech and language problems among children. A survey conducted between Malaysian and Australian SLPs' practices when working with children with developmental disabilities found similarities and differences in all intervention components: assessment, treatment, and family involvement (Joginder Singh et al. 2011). Moreover, Joginder Singh et al. (2011) highlighted that Malaysian SLPs still relied on a traditional model where the child was always the main target of intervention. A more recent study by Joginder Singh et al. (2016) revealed that 89.2% of Malaysian SLPs always conducted one-to-one therapy, and only a small proportion of SLPs always conducted group therapy (8.1%) or used a consultative intervention model (5.6%). Furthermore, the study found that most Malaysian SLPs would usually involve family during the assessment and develop treatment planning based on the assessment findings and their clinical experience.

Although a few studies have been conducted to determine the practice patterns of Malaysian SLPs when working with children with speech and language problems (see Joginder Singh et al. 2011, 2016), these studies were conducted quantitatively. Thus, the experiences of SLPs were not elaborated. Moreover, the studies either focused on children with developmental disabilities in the pre-symbolic stage (i.e., Joginder Singh et al. 2011) or speech and language delay/problems in the developing language stage (3-5 years) (i.e., Joginder Singh et al. 2016) in which intervention for them is necessary. The experiences of Malaysian SLPs, specifically in managing LTs in which the intervention can vary along a continuum from a wait/watch-and-see approach to direct intervention, were never investigated. Due to these gaps of knowledge, it is difficult to identify the professional needs of SLPs and the additional resources required to smoothen the processes of early interventions. Therefore, this study aimed to explore SLPs' experiences in managing LTs cases to fill the gaps. This study is part of a broader study aimed at developing a parent-implemented language intervention module for parents of LTs that can be used in the Malaysian setting.

METHOD

A qualitative research design was used to conduct this exploratory study where in-depth semi-structured interviews were conducted with SLPs to gain a detailed understanding of the practices of Malaysian SLPs in

managing LTs. Ethical approval was obtained from the Research Ethics Committee of the International Islamic University Malaysia (IIUM). The data collection and analysis occurred over 12 months.

PARTICIPANTS

The inclusion criteria for SLPs were that they had a minimum of three years of working experience and were involved in managing late talking children. The recruitment process targeted SLPs from different settings, namely university clinics, university hospitals, government hospitals, private centres, and schools. The study was advertised on social media platforms, including the Malaysian SLPs' WhatsApp and Facebook groups. Fourteen interested SLPs contacted the research team to participate in the study. However, only 12 SLPs managed to be interviewed, and the remaining two SLPs failed to be contacted. Before the actual interview session, each participant was contacted via phone to be briefed about the study. Following the phone call, a consent form was given. Once the completed form was returned, the interviews were scheduled based on the participants' preferred dates and times. Table 1 presents further information on the SLPs.

MATERIALS

An interview protocol in *Bahasa Malaysia* was drafted by the research team. The wordings in the protocol were carefully considered. Moreover, the "late talker" definition was mentioned again in the protocol, although it was explained during the recruitment process. Thus, refreshen the participants on the definition to ensure that all participants share the same definition of LT and avoid confusion during the interview. This English phrase "late talker" was also used in the interview protocol instead of the native Malay term of "*kanak-kanak lambat bercakap*" (children with language delay) as it is commonly used among SLPs and had a specific definition. Furthermore, this step was undertaken to ensure consistency of the term used throughout the study.

The included open-ended questions in the protocol were related to 1) general practices of management for LTs cases, 2) parents' involvement during language intervention, and 3) challenges faced in managing LTs cases. Once the research team was satisfied with the interview protocols, a pilot interview was conducted with four SLPs who met the study's inclusion criteria. Following the interview, feedback was provided for each question in terms of suitability and difficulties faced. Based on the pilot interview findings, amendments to the protocol were made, including rephrasing a few interview questions and highlighting the age range of LTs.

TABLE 1. Demographic information of SLP participants

Participant ID	Working experience (year)	Current workplace	Gender
SLP 1	8	Government hospital	Female
SLP 2	9	University hospital	Female
SLP 3	3	University clinic	Female
SLP 4	9	Private centre	Female
SLP 5	10	University hospital	Female
SLP 6	4	University hospital	Female
SLP 7	8	University	Female
SLP 8	19	Private centre	Female
SLP 9	18	University hospital	Female
SLP 10	10	School	Female
SLP 11	17	Private centre	Male
SLP 12	4	University hospital	Female

PROCEDURES

Phone interviews were conducted as the study involved geographically dispersed participants. There are some who question the ability of phone interviews to build and maintain rapport with interviewees and provide body language information to increase the researchers' understanding (Novick 2008). However, the critics have been strongly contested in recent years. Vogl (2013) found no difference in the level of rapport achieved between phone and face-to-face interviews. Moreover, interviewees reported that as the researchers' faces were not seen, they felt that they were not being judged about what they said and were, therefore, more relaxed and honest during the phone interviews (Ward et al. 2015). Each interview in the primary data collection lasted between 30 and 80 minutes

and was audio recorded using a voice recorder app by Microsoft Corporation.

DATA ANALYSIS

All interviews were transcribed verbatim. The interview transcripts were then analysed using the qualitative content analysis method outlined by Graneheim and Lundman (2004). During the initial phase of data analysis, the transcripts were read and re-read to gain a general understanding of the SLPs' experiences in managing the language intervention for late-talking children. As the interview also covered several research questions not related to this study, each research question's content areas were identified and color-coded to clearly distinguish each area (Phase 2). The content areas were then divided into

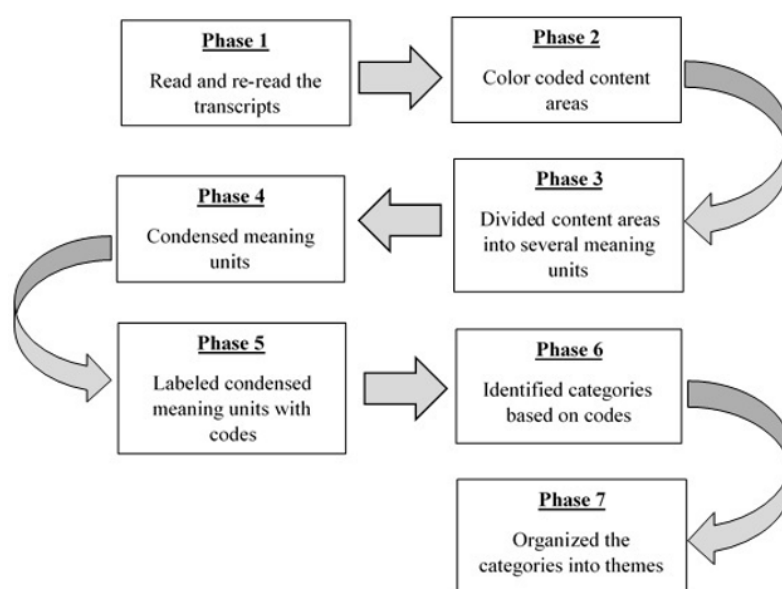


FIGURE 1 Content analysis phases based on Graneheim and Lundman (2004)

several meaning units (Phase 3). These meaning units were condensed into condensed meaning units (Phase 4). At this stage, the core meaning of the unit is still maintained. Next, each condensed meaning unit was labelled with a code (Phase 5). To ensure the credibility of the study, the research team convened to discuss and review the data analysis. Several revisions were made in phases two to five of the analysis until a consensus was reached. Following that, the research team met again to identify the categories (Phase 6) and organized the categories into themes (Phase 7). Figure 1 illustrates the content analysis phases.

RESULTS

One hundred forty-one codes were identified, and two themes emerged. The themes were (1) practises of SLPs in managing LT cases and (2) challenges faced by SLPs during language intervention (Table 2). Each theme consisted of several categories and sub-categories that were composed of several codes. Table 2 summarizes the findings of this study. The following part of this paper provides more details on the results of the study.

THEME 1: PRACTISES OF SLPs IN MANAGING LT CASES

Seven main categories were identified under this theme: (1) SLPs conducted thorough assessments using multiple strategies, (2) SLPs developed a comprehensive intervention plan, (3) SLPs provided support to parents, (4) SLPs shared information with parents, (5) SLPs implemented different intervention approaches, (6) SLPs gave homework to parents, and (7) SLPs managed patients' appointment using multiple methods. The categories are not a portrayal of the sequence of the practises as the practises could happen throughout or at any point of the intervention process.

With regards to the first category, most participants mentioned that SLPs conducted informal speech and language assessments either when children played alone or when they played together. Furthermore, observation of parent-child interaction was conducted during the session. Information about children's language skills was also gathered directly from parents during the interviews and via a self-filled checklist such as the translated MacArthur-Bates Communicative Development Inventories (CDI). Only one SLP claimed that she conducted language assessments formally using non-standardized tests.

TABLE 2. Summary of themes and categories emerged

Themes	Themes
Practises of SLPs in managing LT cases	<ol style="list-style-type: none"> 1. SLPs conducted thorough assessment using multiple strategies 2. SLPs developed a comprehensive intervention plan 3. SLPs provided support to parents 4. SLPs shared information with parents 5. SLPs implemented different intervention approaches 6. SLPs gave homework to parents 7. SLPs managed LTs' appointment using multiple methods
Challenges faced by SLPs during language intervention	<ol style="list-style-type: none"> 1. Challenges related to parents 2. Challenges related to other individuals closed to LTs 3. Challenges related to LTs themselves 4. Challenges related to resources

Note: SLP = speech-language pathologist; LT = late talker

The SLPs reported that comprehensive intervention plans were developed after the assessments. The intervention plans included both children and parents. Most participants revealed that the intervention plans by SLPs covered improving the LTs' language skills and training parents. Parents training would cover effective communication techniques with their children, therapy techniques, and oral-motor exercise (OME). Different intervention approaches were implemented across SLPs in line with the intervention plans. Most of the participants conducted both direct and indirect intervention:

"... I will conduct direct therapy with the child. At the same time, parents need to be in the session [to observe]. After that, I will teach parents how to conduct the therapy and ask them to practise with the child" (SLP 3).

Only four out of 12 SLPs claimed that they only performed indirect intervention through parent-child interaction training:

"...I conducted [traditional] therapy a long time ago. As now I am Hanen certified, I use the Hanen approach a lot" (SLP 9).

For SLPs who applied indirect intervention, they would actively involve parents during language intervention. However, for SLPs who conducted one-to-one therapy, parental involvement during the intervention varied. Some SLPs revealed that they would involve parents during the intervention by asking them to provide a prompt or be a model:

“If parents were in the session, I asked them to join the activities. If their children were having difficulties in doing something, I asked parents to help by giving prompt...”
(SLP 12).

“I involved parents in my session. Usually, they will model [how to do something] to their children” (SLP 10).

In contrast, for certain cases where LTs refused to cooperate when their parents were around, the SLPs would ask parents to wait outside the therapy rooms:

“For certain cases, I did not include parents [during the session] Some children did not want to co-operate and were easily distracted when parents were in the session...I will explain to parents what I did and what they need to do at home after that” (SLP 6).

Regardless of the intervention approach used, SLPs described that besides reporting about LT’s language abilities, SLPs shared information about language development, the importance of quality parent-child interaction, and screen time for children. Moreover, to ensure that the intervention ran smoothly, four SLPs described that they explained to parents about SLP roles and what they expected parents to do during an intervention.

“Usually, during the first session, I will inform parents that I am not the ‘main person’ who ‘teach’ [their children], but I will teach parents how to ‘teach’ their children. I explained that so that parents can commit”. (SLP 5)

In terms of giving support, SLPs motivated parents by sharing success stories or invited other parents with a similar situation to provide support to each other. Moreover, SLPs discussed with parents about problems that could interfere with language intervention and tried to help them, where possible:

“We need to ask them [parents] what is their real issues. If it is related to financial, then we can refer them to the *Jabatan Kebajikan Sosial Perubatan* (Department of Medical Social Welfare) ...or we can contact the nearest NGO [to help] ... We need to talk about their concern...”. (SLP 9)

To ensure that the session’s activities were continued at home, most SLPs gave homework to the parents. They explained and showed parents how to do the homework, and the homework would be reviewed in the next session. Moreover, they reported that they needed to manage LT appointments. The frequency of therapy sessions was flexible as it depended on the intervention setting (e.g., government hospital, private centre), LTs’ language abilities, parents’ communication skills with their child, and parents’ financial status. For example, one SLP said:

“If the session is once a month, how can we transfer all the [effective communication] skills to parents? So, they need frequent therapy so that they can learn the skills. Once their skills are established, the frequency of therapy will be reduced”. (SLP 5)

Furthermore, SLPs claimed that they needed to be proactive in encouraging parents to attend therapy sessions. For example, SLPs needed to issue agreement letters to parents to attend every appointment, letters to parents’ employers stating that the parents needed to attend their children’s therapy sessions on specific dates, and asked parents to make payment for several sessions before the therapy could begin.

THEME 2: CHALLENGES FACED BY SLPs IN MANAGING LATE TALKER CASES

Four categories were identified under this theme. The categories were challenges related to 1) parents, 2) other individuals close to LTs, 3) LTs themselves, and 4) resources. Regarding the first category, the main challenges associated with parents were attitude during language intervention, lack of skills and knowledge, having other responsibilities that required their attention, and lack of support from spouses. Half of the SLPs who discussed parents’ attitudes during language intervention highlighted that some parents who obediently attended every therapy session believed that SLPs were the key person responsible for improving their child’s language abilities. Therefore, they did not continue applying what they learned during the therapy sessions at home.

“They [parents] come to therapy sessions, but they did not do their homework. We can see that they expect SLP to do the therapy [while they do not have to]” (SLP 3).

“I asked them to do this and this and this [homework] at home. During the next appointment, I asked about the homework, but they forgot about it. The same things happened with the techniques that have been taught. They would forget.... They expected us to do everything” (SLP 1).

Moreover, more than half of the SLPs expressed the parents' lack of knowledge and skills related to language intervention. Parents did not know that their child was having problems with the language and its effect on their child if no or late interventions were given. Furthermore, SLPs mentioned that parents lacked knowledge about effective communication techniques and screen time. They did not provide enough language stimulation and gave excessive screen time to their child. Regarding parents' skills, few SLPs expressed that parents had difficulty adapting what they learned during therapy sessions at home.

"Parents can do all the techniques during sessions, but they cannot adapt the techniques at home" (SLP 4).

Interestingly, two SLPs also mentioned parents' lack of time to focus on LTs. Parents wanted to commit and continue the activities at home, but they needed to prioritize other commitments. For instance, one SLP said:

"I asked the mother to focus and spent more time with the child... but the mother has other children that need her attention. She also needs to do all the house chores" (SLP 8).

The situation worsened when parents did not get enough support from their spouses where everything needed to be done themselves.

"The mother has no support from her husband. She needs to do everything [house chores and continuation of therapy at home] by herself. She also needs to go to work.... Overall, the therapy is difficult to be successful" (SLP 8).

In addition, there were challenges related to other individuals close to LTs, such as caretakers and grandparents. These individuals did not know what to do to improve LTs' language skills.

"Let's say only the mother attends the therapy session. Other individuals who did not attend the session did not know what to do [to help the child]" (SLP 4)

"Extended family, for example, their grandparents did not know how to use the techniques" (SLP 7).

For LTs who were taken care of by their grandparents, the grandparents had limited energy and time to continue the therapy at home. Some grandparents overly pampered them, thus had difficulty applying learned techniques at home.

Challenges related to LTs included behavioural problems. Some LTs who had limited communication abilities exhibited some behavioural problems that may interfere with the therapy session. Rapport was difficult to establish with them, and they sometimes refused to cooperate (e.g., did not want to enter therapy rooms, crying during therapy sessions). Therefore, SLPs needed to spend more time handling them.

In terms of challenges associated with resources, a few SLPs mentioned a lack of references in the Malay language that could be shared with parents. For instance, one SLP said:

"When I want to explain something to parents, I need to prepare materials related to that. But there is a lack of references in the Malay language for further reference for parents. The same goes for references that are suitable for the Malaysia setting" (SLP 2).

Besides the lack of suitable references, the low number of SLPs in Malaysia is a huge challenge. The high caseload for each SLP prevents them from arranging frequent therapy sessions for LTs.

"We cannot focus [on specific cases] when we have a high caseload.... It is good to have frequent therapy sessions, but we unable to do that" (SLP5).

DISCUSSION

This study aims to explore SLPs' experiences in managing LTs cases. Our results indicate that Malaysian SLPs provide a comprehensive intervention when working with LTs. The intervention covers; conducting assessments, developing intervention plans, providing direct and/or indirect intervention, sharing information, and motivating parents. Moreover, our results showed that several factors were taken into consideration when scheduling LT's appointment. This study also found that challenges faced by SLPs during language intervention for LTs were associated with parents, individuals other than parents, LTs, and resources. The findings of this study are discussed in the section that follows.

PRACTISES OF SLPs IN MANAGING LT CASES

Based on our findings, most SLPs usually conduct informal speech and language assessments. A possible explanation for the results may be due to the lack of standardized assessment tools that are culturally and linguistically appropriate. Chu et al. (2019) highlighted that there are only two available standardized tests with normative data

from the Malaysian population. The tests are the Malay Preschool Language Assessment Tool (MPLAT; Razak et al. 2018) and the Multilingual English–Mandarin–Malay Phonological Test (Lim 2018). However, the MPLAT cannot be used to assess LT as it was designed for older children aged between 4;0 and 6;11 years old. On the other hand, the phonological test can only be used to assess Mandarin-speaking children who can speak English and Malay language. Moreover, as Malaysia consists of three main ethnicities: Malay, Indian, and Chinese, that use different languages and dialects, it is challenging to adapt imported tests. This issue highlights the need to develop assessment tools that can be used to evaluate younger children of different ethnicities in the Malaysian setting.

Most SLPs stated that their intervention plans focused on LT's problematic language skills and/or empowering parents with knowledge and skills. These results reflect those of Joginder Singh et al. (2016), who reported that most of the SLPs in their study always developed intervention plans based on assessment findings and their clinical experiences. Moreover, developing intervention plans that converge with parents is most likely attributable to the fact that intervention that actively involves parents may positively affect children's language development (Roberts & Kaiser 2011). These intervention plans may directly affect the choice of intervention approaches used.

The findings of this study showed that Malaysian SLPs used various intervention approaches when managing LT cases, where they provided either direct or indirect or both direct and indirect interventions. This finding is in agreement with that of Deveney et al. (2017), who revealed that treatment for LT is not restricted to indirect intervention, but late talking children can also receive direct speech-language services. The practise of using various approaches during language intervention may be explained by the fact that during their undergraduate training, the traditional model of one-to-one therapy was emphasized; thus, they continued with the practise that they were familiar and confident with (Joginder Singh et al. 2016). Moreover, training for an indirect approach such as the Hanen Program is generally received once they are working as the training is expensive.

ASHA (2016) described several service delivery domains of SLP, including sharing information and providing support for parents during counselling. Our findings indicate that Malaysian SLPs not only share information related to speech and language development with parents, but they also provide information about their roles and expected roles of parents during interventions. It is crucial to clarify the roles of those involved in language intervention, especially when collaborating with parents, as parents may underestimate the importance of their roles, thus affecting the collaboration (Davies et al., 2016).

Moreover, the unmet expectations for intervention services were related to parents' dissatisfaction (Phoenix et al., 2019). With regard to providing support, Malaysian SLPs considered various ways to help parents. Lieberman (2018) highlighted that when SLPs supported parents in an empathic and non-judgmental way, this helped them deal with difficult emotions and allowed for a greater likelihood of mutual, honest, and consistent engagement thus, allowing for the intervention to progress.

Several factors influenced the scheduling of treatment for LT. These results were in agreement with Dwight (2015), who explained that determinants of the frequency of therapy might depend on several factors, including the severity of the patient's language problems, SLP's work setting, and the family's financial resources. In Malaysia, a therapy session costs between RM100 and RM150 in a private setting and RM10 to RM50 in a government and university setting. For children with special needs cards, they obtain free services in the government setting. However, due to the high demand for therapy sessions, it was challenging to conduct frequent therapy for children with language problems in the government setting. Parents who have strong financial resources or medical insurance covering SLP services can opt to receive private treatment or obtain frequent therapy. In contrast, parents who struggled with their finances had limited options.

CHALLENGES FACED BY SLPs IN MANAGING LATE TALKER CASES

The challenges faced by SLPs in managing LT cases were mainly associated with parents. Although a few SLPs reported that they shared information about SLPs and parents' roles during language intervention, the parents' expectation of SLPs taking full responsibility to help their child is still a challenge. This may be because not all SLPs discussed the roles. Thus, some parents may think that their roles were limited to just attending their child's therapy sessions. Davies et al. (2016) pointed out that the conception of 'attender' among parents could be based on their lack of knowledge in helping their child's speech and language development. This also accords with our findings as another challenge associated with parents was the lack of knowledge of children's speech and language development and skills to communicate with their children effectively. These results were consistent with the data obtained by Chu et al. (2018), who reported that one of the challenges faced by parents of children with language problems in Malaysia is a lack of knowledge about speech and language development milestones and no prior knowledge of their children's developmental problems. Looking at the significant impact of discussing roles with

parents on the intervention process, Malaysian SLPs could include this practise as a standard procedure for managing children with speech and language problems. Moreover, Chu et al. (2018) suggested that Malaysian SLPs should educate parents about typical speech and language development through awareness programs so that they can seek professional assistance as early as possible.

Besides that, SLPs voiced that some parents lacked time to focus on LTs at home, thus affecting the intervention processes. This finding reflected those of Joginder Singh et al. (2017). They also found that one of the challenges faced by parents of children with developmental disorders during language intervention was the limited time due to other commitments and long working hours. One way to overcome this challenge is by getting parents to implement the treatment during daily living activities as no extra time is needed in their hectic schedules. However, SLPs need to discuss and train parents on how certain strategies can be adapted to their daily lives. Moreover, parents can consider sending their LTs to centre-based care instead of home-based care (i.e., nannies, grandparents) during working hours as a population-based study found that children who attended centre-based care were associated with better language abilities (Cunningham et al. 2018; Luijk et al. 2015). Furthermore, Stolarova et al. (2016) discovered that duration of centre-based care experience is positively correlated with children's expressive vocabulary size. This may be due to the regular interaction with peers and trained caregivers (Stolarova et al. 2016). Moreover, home-based care might focus less on educational activities than centre-based care that usually needs to follow the standard curriculum by the authority (Luijk et al. 2015).

Another challenge faced by SLPs in this study was associated with other individuals close to LTs, such as grandparents, who did not know how to help the LTs. In Malaysia, day care grandparents are common where they provide regular day care for their grandchildren while the parents are working (Abdul Aziz 2007). However, most of the time, parents are still responsible for bringing their children to therapy sessions and are the primary receiver of information shared by SLPs. Guest et al. (2019) revealed that some grandparents did not receive enough information from their children about their grandchildren's condition, thus leaving them clueless on how to assist. Moreover, problems arise when grandparents who attend their grandchildren's therapy sessions have difficulty continuing therapy at home and rarely apply techniques when communicating with the LTs. A possible explanation for this might be that grandparents have age-related health challenges and physical limitations that hinder them from consistently continuing what was taught during therapy sessions at home. Besides, Abdul Aziz (2007) highlighted

that grandparents who are the primary caretaker of their grandchildren may suffer from fatigue as they needed to cope with the demand of childcare and behavioural problems of their grandchildren. SLPs in this study also stated that some grandparents overly pampered their grandchildren where they had difficulties controlling their grandchildren's behavioural issues. This finding was in agreement with Abdul Aziz's (2007) study, which showed a large percentage of grandparents in Malaysia perceived caregiving as an opportunity to indulge their grandchildren without worrying about future implications. The challenges mentioned above highlight the need to support individuals closely related to LTs, especially grandparents, as grandparents' needs might differ from the parents of LTs.

The SLPs in this study mentioned that some LTs had behavioural problems and refused to co-operate during the therapy sessions. This problem was expected as there is a persistent link between language skills and behavioural problems. Manning et al. (2019) revealed that LTs had severe tantrums and that the tantrums were 1.96 times greater than other children of the same age. Moreover, a population cohort study conducted by St Clair et al. (2019) found that children with developmental language disorders were more likely to have lower levels of emotional self-regulation and increased peer problems than the general population group. Interestingly, in their longitudinal study, Curtis et al. (2019) found that after 12 months of language intervention, the behavioural problems of children with language delay significantly reduced. However, a precautionary step needs to be taken to ensure early identification of children's mental health issues by assessing both their language abilities and mental health status (Manning et al. 2019).

Regarding resources, SLPs voiced out that there was a lack of references suitable for Malaysian settings to be shared with parents. This finding was also reported by Kunagaratnam and Loh (2010). Their study found that one of the concerns of parents of Down Syndrome children in Malaysia was lack of information. Therefore, it is essential for professionals in the field to work together to develop suitable information resources and make them available to parents through hard copy and digitally (Kunagaratnam & Loh 2010). In addition, as digital learning has radically gained popularity amidst the COVID-19 pandemic (Korkmaz & Toraman 2020), SLPs can recommend to parents trusted websites or social media pages administered by local SLPs in which beneficial and relevant information that caters to Malaysian parents' needs are shared through writing and video postings. Parents can access the information anytime, whenever necessary.

Another challenge related to resources is the low number of SLPs available in Malaysia and is made worse by Malaysian SLPs' preference for direct one-to-one

therapy (Joginder Singh et al. 2016). Therefore, it is crucial for Malaysian SLPs to explore cost-effective intervention approaches that can support a larger group of children (Joginder Singh et al. 2016). Moreover, based on the current scenario, the use of an indirect approach, either coaching parents or professionals such as teachers, is more effective than the traditional approach. Furthermore, indirect intervention should be given to children with milder or less pervasive language difficulties such as LTs (Ebbels et al. 2019).

CONCLUSION

This study aimed to explore Malaysian SLPs' experiences in managing LTs cases. This study found that the practises of Malaysian SLPs were complex and diverse. This study also revealed various challenges faced by SLPs in managing LTs cases associated with parents, other individuals close to LTs, the LTs themselves, and resources. The findings of this study indicate some useful practises of Malaysian SLPs that can be maintained or included as standard practises for all SLPs such as discussing roles of each other during the early stage of intervention. However, there is room for improvement, especially in collaborating with parents considering that one-to-one direct intervention for LTs may not be suitable due to the low number of SLPs in Malaysia. Training of SLPs that aims to educate and promote family-centred care should be the main agenda to overcome the problem. Moreover, in order to assist parents outside the therapy sessions, a few suggestions can be made. The suggestions include sending their late-talking children to centre-based care instead of home-based care to encourage interaction and sharing trusted websites or social media pages administered by local SLPs for further reference and support. At the same time, discussion on the development of awareness programs and information resources for parents and other caretakers should be initiated as soon as possible.

LIMITATION

The study has several limitations. The findings of this exploratory study only represent the experiences of a small group of Malaysian SLPs who mostly work in university settings and may not be generalisable to all SLPs. Nevertheless, they are from three different universities in different regions of Malaysia that offer Speech-Language Pathology programs and have various years of working experience. Moreover, some of the participants recruited for this study were known by the researchers prior to the data collection, which may have caused social desirability

bias (Alary Gauvreau et al. 2019). However, the researchers strongly believe that this was resolved as the participants openly reported their practises and concerns, as well as asked questions. Furthermore, leading questions that could have prompted socially acceptable answers were avoided during the interview by constructing a standard interview protocol and conducting a pilot interview.

ACKNOWLEDGMENT

No financial support was received to conduct this study. Part of the study has been published as an abstract proceeding for the IIUM Kuantan Research Day (KRD) 2019 in the International Journal of Allied Health Sciences.

REFERENCES

- Abdul Aziz, R. 2007. Grandparenting : Issues and Challenges. *Akademika* 70: 103–115.
- Ahmad, K., Ibrahim, H., Othman, B. F. & Vong, E. 2013. Addressing education of speech-language pathologists in the World Report on Disability: Development of a speech-language pathology program in Malaysia. *International Journal of Speech-Language Pathology* 15(1): 37–41. doi:10.3109/17549507.2012.757709
- Alary Gauvreau, C., Le Dorze, G., Croteau, C. & Hallé, M. C. 2019. Understanding practices of speech-language pathologists in aphasia rehabilitation: a grounded theory study. *Aphasiology* 33(7): 846–864. doi:10.1080/02687038.2019.1602814
- Alt, M., Mettler, H. M., Erikson, J. A., Figueroa, C. R., Etters-Thomas, S. E., Arizmendi, G. D. & Oglivie, T. 2020. Exploring input parameters in an expressive vocabulary treatment with late talkers. *Journal of Speech, Language, and Hearing Research* 63(1): 216–233. doi:10.1044/2019_JSLHR-19-00219
- American Speech-Language-Hearing Association (ASHA). 2016. *Scope of Practice in Speech-Language Pathology*. doi:10.1177/152574010202300203
- Armstrong, R., Arnott, W., Copland, D. A., McMahon, K., Khan, A., Najman, J. M. & Scott, J. G. 2016. Change in receptive vocabulary from childhood to adulthood : associated mental health , education and employment outcomes. *International Journal of Language and Communication Disorders* 1–12. doi:10.1111/1460-6984.12301
- ASHA. 2020. *Annual Workforce Data: 2019 ASHA-Certified Audiologist and Speech-language Pathologist to Population Ratios*. Retrieved from www.asha.org
- Aglar-Ryeng, Ø., Eklund, K. & Nergård-Nilssen, T. 2021. School-entry language outcomes in late talkers

- with and without a family risk of dyslexia. *Dyslexia* 27: 29–49. doi:10.1002/dys.1656
- Chilosi, A. M., Pfanner, L., Pecini, C., Salvadorini, R., Casalini, C., Brizzolara, D. & Cipriani, P. 2019. Which linguistic measures distinguish transient from persistent language problems in Late Talkers from 2 to 4 years? A study on Italian speaking children. *Research in Developmental Disabilities* 89: 59–68. doi:10.1016/j.ridd.2019.03.005
- Chu, S. Y., Khoong, E. S. Q., Ismail, F. N. M., Altaher, A. M. & Razak, R. A. 2019. Speech-Language Pathology in Malaysia: Perspectives and Challenges. *Perspectives of the ASHA Special Interest Groups* 4(5): 1162–1166. doi:10.1044/2019_pers-sig17-2019-0005
- Chu, S. Y., Mohd Normal, S. N. S. A. binti, McConnell, G. E., Tan, J. S. & Joginder Singh, S. K. D. 2018. Challenges faced by parents of children with autism spectrum disorder in Malaysia. *Speech, Language and Hearing*. doi:10.1080/2050571X.2018.1548678
- Cunningham, B. J., Hanna, S. E., Rosenbaum, P., Thomas-Stonell, N. & Oddson, B. 2018. Factors Contributing to Preschoolers' Communicative Participation Outcomes: Findings From a Population-Based Longitudinal Cohort Study in Ontario, Canada. *American Journal of Speech-Language Pathology* 27: 737–750.
- Curtis, P. R., Kaiser, A. P., Estabrook, R. & Roberts, M. Y. 2019. The Longitudinal Effects of Early Language Intervention on Children's Problem Behaviors. *Child Development* 90(2): 576–592. doi:10.1111/cdev.12942
- Dale, P. S., Price, T. S., Bishop, D. V. M. & Plomin, R. 2003. Outcomes of early language delay: I. Predicting persistent and transient language difficulties at 3 and 4 years. *Journal of Speech, Language, and Hearing Research* 46(3): 544–560. doi:10.1044/1092-4388(2003/044)
- Davies, K. E., Marshall, J., Brown, L. J. E. & Goldbart, J. 2016. Co-working : Parents ' conception of roles in supporting their children ' s speech and language development. *Child Language Teaching and Therapy* 1–15. doi:10.1177/0265659016671169
- Deveney, S. L., Hagaman, J. L. & Bjornsen, A. L. 2017. Parent-Implemented Versus Clinician-Directed Interventions for Late-Talking Toddlers :A Systematic Review of the Literature. *Communication Disorders Quarterly* 1–10. doi:10.1177/1525740117705116
- Dwight, D. . 2015. Here's How to do Therapy: Hands-on Core Skills in Speech-Language Pathology, hlm. Second. Plural Publishing.
- Ebbels, S. H., McCartney, E., Slonims, V., Dockrell, J. E. & Norbury, C. F. 2019. Evidence-based pathways to intervention for children with language disorders. *International Journal of Language and Communication Disorders* 54(1): 3–19. doi:10.1111/1460-6984.12387
- Fisher, E. L. 2017. A Systematic Review and Meta-Analysis of Predictors of Expressive-Language Outcomes Among Late Talkers. *Journal of Speech, Language, and Hearing Research* 60: 2935–2948.
- Girolametto, L., Pearce, P. S. & Weitzman, E. 1996. The Effects of Focused Stimulation for Promoting Vocabulary in Young Children with Delays: A Pilot Study. *Journal of Children's Communication Development* 17(2): 39–49.
- Graneheim, U. H. & Lundman, B. 2004. Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today* 24(2): 105–112. doi:10.1016/j.nedt.2003.10.001
- Guest, E., Costa, B., McCarthy, G., Cunniffe, C. & Stock, N. M. 2019. The Experiences and Support Needs of Grandparents of Children Born With Cleft Lip and/or Palate. *Cleft Palate-Craniofacial Journal* 56(9): 1181–1186. doi:10.1177/1055665619850709
- Hammer, C. S., Morgan, P., Farkas, G., Hillemeier, M., Bitetti, D. & Maczuga, S. 2017. Late Talkers: A Population-Based Study of Risk Factors and School Readiness Consequences. *Journal of Speech, Language, and Hearing Research* 60: 607–626.
- Horwitz, S. M. C., Irwin, J. R., Briggs-Gowan, M. J., Bosson Heenan, J. M., Mendoza, J. & Carter, A. S. 2003. Language delay in a community cohort of young children. *Journal of the American Academy of Child and Adolescent Psychiatry* 42(8): 932–940. doi:10.1097/01.CHI.0000046889.27264.5E
- Joginder Singh, S., Chan, M. Y. & Rusli, Y. A. 2016. Practise patterns of Malaysian speech-language pathologists in managing children with speech and language delay / disorder. *International Journal of Speech-Language Pathology* 1–11. doi:10.3109/17549507.2016.1139624
- Joginder Singh, S., Hussein, N. H., Mustaffa Kamal, R. & Hassan, F. H. 2017. Reflections of Malaysian parents of children with developmental disabilities on their experiences with AAC. *Augmentative and Alternative Communication*. doi:10.1080/07434618.2017.1309457
- Joginder Singh, S., Iacono, T. & Gray, K. M. 2011. A comparison of Malaysian and Australian speech-language pathologists ' practices with children with developmental disabilities who are pre-symbolic. *International Journal of Speech-Language Pathology* 13(5): 389–398. doi:10.3109/17549507.2011.603429
- King, G., Cathers, T., King, S. & Rosenbaum, P. 2001. Major elements of parents' satisfaction and dissatisfaction with pediatric rehabilitation services. *Children's Health Care* 30(2): 111–134. doi:10.1207/S15326888CHC3002_3
- Klatte, I. S., Lyons, R., Davies, K., Harding, S., Marshall, J., McKean, C. & Roulstone, S. 2020. Collaboration between parents and SLTs produces optimal outcomes for children attending speech and language therapy:

- Gathering the evidence. *International Journal of Language and Communication Disorders* 55(4): 618–628. doi:10.1111/1460-6984.12538
- Korkmaz, G. & Toraman, Ç. 2020. Are We Ready for the Post-COVID-19 Educational Practice? An Investigation into What Educators Think as to Online Learning. *International Journal of Technology in Education and Science* 4(4): 293–309. doi:10.46328/ijtes.v4i4.110
- Kunagaratnam, N. & Loh, S. C. 2010. Parental concerns regarding a centre-based early intervention programme for Down syndrome in Malaysia: A case study. *Asia Pacific Education Review* 11(4): 489–496. doi:10.1007/s12564-010-9102-4
- Law, J., Reilly, S. & Snow, P. C. 2013. Child speech, language and communication need re-examined in a public health context: A new direction for the speech and language therapy profession. *International Journal of Language and Communication Disorders* 48(5): 486–496. doi:10.1111/1460-6984.12027
- Lieberman, A. 2018. Counseling issues: Addressing behavioral and emotional considerations in the treatment of communication disorders. *American Journal of Speech-Language Pathology* 27(1): 13–23. doi:10.1044/2017_AJSLP-16-0149
- Lim, H. W. 2018. Multilingual English-Mandarin-Malay phonological error patterns: An initial cross-sectional study of 2 to 4 years old Malaysian Chinese children. *Clinical Linguistics and Phonetics* 32(10): 889–912. doi:10.1080/02699206.2018.1459852
- Luijk, M. P. C. M., Linting, M., Henrichs, J., Herba, C. M., Verhage, M. L., Schenk, J. J., Arends, L. R., et al. 2015. Hours in non-parental child care are related to language development in a longitudinal cohort study. *Child: Care, Health and Development* 41(6): 1188–1198. doi:10.1111/cch.12238
- Malaysia Ministry of Education. 2020. Data Pendidikan Khas. <https://www.moe.gov.my/en/muat-turun/pendidikankhas/buku-data-pendidikan-khas/3156-buku-data-pendidikan-khas-tahun-2019/file> [28 January 2021].
- Manning, B. L., Roberts, M. Y., Estabrook, R., Petitclerc, A., Burns, J. L., Briggs-Gowan, M., Wakschlag, L. S., et al. 2019. Relations between toddler expressive language and temper tantrums in a community sample. *Journal of Applied Developmental Psychology* 65(September): 101070. doi:10.1016/j.appdev.2019.101070
- Malaysian Association of Speech-Language & Hearing (MASH). 2020. MASH Members Directory. <http://mash.org.my/about/directory/> [28 January 2021].
- Miniscalco, C., Westerlund, M. & Lohmander, A. 2005. Language skills at age 6 years in Swedish children screened for language delay at 2 1/2 years of age. *Acta Paediatrica, International Journal of Paediatrics* 94(12): 1798–1806. doi:10.1080/08035250500244242
- Morgan, L., Delehanty, A., Cleary Dillon, J., Schatschneider, C. & Wetherby, A. M. 2020. Measures of early social communication and vocabulary production to predict language outcomes at two and three years in late-talking toddlers. *Early Childhood Research Quarterly* 51: 366–378. doi:10.1016/j.ecresq.2019.12.005
- Mustaffa Kamal, R., Ward, E. & Cornwell, P. 2012. Dysphagia Management Practices Among Speech-Language Pathologists in Malaysia. *Asia Pacific Journal of Speech, Language, and Hearing* 15(2): 111–128.
- Novick, G. 2008. Is there a bias against telephone interviews in qualitative research? *Research in Nursing and Health* 31(4): 391–398. doi:10.1002/nur.20259
- Paul, R. 1996. Clinical Implications of the Natural History of Slow Expressive Language Development. *American Journal of Speech-Language Pathology* 5: 5–21.
- Phoenix, M., Smart, E. & King, G. 2019. ‘I Didn’t Know What to Expect’: Describing Parents’ Expectations in Children’s Rehabilitation Services. *Physical and Occupational Therapy in Pediatrics* 0(0): 1–19. doi:10.1080/01942638.2019.1665155
- Razak, R. A., Neelagandan, A. I. & Madison, C. 2018. The Validation of the Malay Preschool Language Assessment Tool (MPLAT): The Screening and Diagnostic Versions. *Malaysian Journal of Public Health Medicine (Special Volume)*: 191–115.
- Reilly, S., Wake, M., Bavin, E. L., Prior, M., Williams, J., Bretherton, L., Eadie, P., et al. 2007. Predicting language at 2 years of age: A prospective community study. *Pediatrics* 120(6). doi:10.1542/peds.2007-0045
- Rescorla, L. 2002. Language and Reading Outcomes to Age 9 in Late-Talking Toddlers. *Journal of Speech, Language, and Hearing Research* 45: 360–371.
- Rescorla, L. 2011. Late Talkers: Do Good Predictors of Outcome Exist? *Developmental Disabilities Research Reviews* 17: 141–150. doi:10.1002/ddr.1108
- Roberts, M. Y. & Kaiser, A. P. 2011. The Effectiveness of Parent-Implemented Language Interventions: A Meta-Analysis. *American Journal of Speech-Language Pathology* 20(3): 180–199. doi:10.1044/1058-0360(2011/10-0055)amounts
- Roberts, M. Y. & Kaiser, A. P. 2012. Assessing the Effects of a Parent-Implemented Language Intervention for Children With Language Impairments Using Empirical Benchmarks: A Pilot Study. *Journal of Speech Language and Hearing Research* 55(6): 1655–1670. doi:10.1044/1092-4388(2012/11-0236)
- Singleton, N. C. 2018. Late Talkers: Why the Wait-and-See Approach Is Outdated. *Pediatric Clinics of North America* 65(1): 13–29. doi:10.1016/j.pcl.2017.08.018
- 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): e474–e481. doi:10.1542/peds.2015-1711
- St Clair, M. C., Forrest, C. L., Kok Yew, S. G. & Gibson, J. L. 2019. Early Risk Factors and Emotional Difficulties in Children at Risk of Developmental Language Disorder: A Population Cohort Study. *Journal of Speech, Language, and Hearing Research* 1–22.
- Stolarova, M., Brielmann, A. A., Wolf, C., Rinker, T., Burke, T. & Baayen, H. 2016. Early Vocabulary in Relation to Gender, Bilingualism, Type, and Duration of Childcare. *Advances in Cognitive Psychology* 12(3): 130–144.
- Vogl, S. 2013. Telephone Versus Face-to-Face Interviews: Mode Effect on Semistructured Interviews with Children. *Sociological Methodology* 43(1): 133–177. doi:10.1177/0081175012465967
- Ward, K., Gott, M. & Hoare, K. 2015. Participants' views of telephone interviews within a grounded theory study. *Journal of Advanced Nursing* 71(12): 2775–2785. doi:10.1111/jan.12748
- Zubrick, S. R., Taylor, C. L., Rice, M. L. & Slegers, D. W. 2007. Late Language Emergence at 24 Months: An Epidemiological Study of Prevalence, Predictors, and Covariates. *Journal of Speech, Language, and Hearing Research* 50(December): 1562–1592.

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