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Original Research

Model Of Managing Developmental Language Disorder In Central Java

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ABSTRACT

Background: *Language disorder is a neurodevelopmental disorder needing sustainable action. A speech therapist, as a member of the management team, has an obligation to solve a problem. In order to develop an intervention model for developmental language disorder, clinician perception is required.*

Methods: *The research was conducted using a survey approach. The survey was conducted online through Google Forms, and the analysis was done using the statistical descriptive method. To see the inter-variable correlation, Spearman's rank correlational test was used.*

Results: *Descriptive statistics show varying data between one variable and another. Some points that become part of the majority's perception are the frequency of intervention (3 times per week), the duration of the intervention (31–45 minutes), the informal assessment, and the multidisciplinary model. Assessment, ethnocultural, collaboration, and intervention variables all have an inter-variable relationship. The value of the assessment-to-intervention variable relation is p = 0.001, with r = 0.544. The value of the ethnocultural–to–intervention variable relation is p = 0.002, with r = 0.515. The value of the collaboration-to-intervention variable relation is p = 0.021, with r = 0.401.*

Conclusion: *Further investigation using other research designs is required to reveal the need for language disorder intervention in Central Java. Descriptive data show that the management of language disorder in Central Java needs some requirements to be met.*

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INTRODUCTION

Developmental language disorder is a speech therapy work area with the highest problem intensity among other communication problems (American Speech-Language-Hearing Association (ASHA), 2013). Language disorder has a high prevalence. 17.1% of children aged 3-5 years old have speech-language disorders (Oyono et al., 2018). This is a high-demand occupation for clinicians in Central Java (Pratomo & Siswanto, 2020).

Conceptually, a language disorder is a problem characterized by the limitation of language problems (Bishop et al., 2017). Furthermore, the American Psychiatry Association (APA), (2013) explains that language disorder is characterized by limited vocabulary, grammar and sentence problems, and difficulty in discourse aspects. Speech therapy has a long history of being used to treat developmental language disorders. About 200 changes have been recorded to the name of the disorder (Leonard, 2020).

The term currently used is developmental language disorders (McGregor *et al*., 2020). The diagnosis-establishing process is tightly conducted by considering an appropriate multicultural review. The use of more than one language becomes the main focus of attention in managing language disorders. The appropriate selection of a language approach in language disorder intervention is the key to the successful achievement of intervention outcomes (Paul & Norbury, 2012).

Central Java, one of the densest provinces in Indonesia with 34,940,078 populations Badan Pusat Statistik (Central Bureau of Statistics), 2020 faces some challenges in managing developmental language disorders. This fact appears to be supported by several assumptions. For starters, there is an imbalance between the population and the number of speech therapists. Central Java has around 200 active speech therapists. This gap leads to some untreated cases of language disorders.

Secondly, the fact that most children in Central Java are bilingual speakers is undeniable. BPS's data shows that 79.5% of people use the local language (Badan Pusat Statistik (the Central Bureau of Statistics), 2011). This has an impact on the selection of interventions prioritizing the culture of Central Java populations. This challenge results from the limited multicultural-based assessment and intervention materials Thirdly, there is no recent data about the model of developmental language disorder management intervention in Central Java. The purpose of this study is to identify the developmental language disorder management model in Central Java.

MATERIALS AND METHOD

This study belongs to quantitative research. Instantaneous measurement was used in this descriptive quantitative research design. The population studied for the research consisted of speech therapists in Central Java. The sample for the research was taken using the purposive sampling method. In the first stage, the author determined the sample size. The research sample size was expected to be 100 respondents.

The statistics we used were of the descriptive type because the data was descriptive. The data collection process was conducted online through a Google Form. A questionnaire was used to measure the perception and demographic variables of a speech therapist in Central Java.

RESULTS

A descriptive statistic is made to find out the spread of respondents to demographic data. SPSS for Windows 24.0 was used for statistical analysis. The descriptive data of the research respondent is presented in the table below.

Table 1. Description of Demography

Variable	N	%
Respondents' education		
Speech Therapy Undergraduate program (Diploma III)	26	78.8

Variable	N	%
Bachelor of Applied Speech Therapy	7	21.2
Mother tongue		
Indonesian	12	36.4
Local language	21	63.6
Language use		
Monolingual	5	15.2
Bilingual	27	81.8
Multilingual	1	3
Residence location		
Rural	6	19.6
Urban and rural borders	16	45.1
Urban	11	35.3
Workplace institution		
Healthcare Service Office	1	3
Education Service office	2	6.1
Home visit only	2	6.1
Private Clinic	5	15.2
Independent Practice	1	3
Government Hospital	13	39.4
Private Hospital	8	24.2
Others	1	3
Location of workplace institution		
Rural	2	6.1
Rural and urban borders	8	24.2
Urban	23	69.7
Working Experience		
Less than 5 years	14	42.4
6 – 10 years	16	48.5
11 – 15 years	3	9.1
No. of seminar		
3 – 4 times	20	60.6
6 – 7 times	5	15.2
8 – 9 times	3	9.1
10 times	3	9.1
More than 10 times	2	6.1
Type of assessment		
Informal assessment	19	57.6
Standardized assessment	14	42.4
Frequency of intervention considered ideal		
2 times per week	12	36.4
3 times per week	17	51.5
4 times per week	2	6.1
More than times per week	2	6.1
Duration of intervention considered ideal		
21 - 30 minutes	2	6.1
31 – 45 minutes	18	54.5
46 – 60 minutes	12	36.4

Variable	N	%
61 – 90 minutes	1	3
Collaborator profession		
Pediatrician	7	21.2
Medical rehabilitation specialist	11	33.3
Teacher	3	9.1
Teacher for students with special needs	1	3
Psychologist	7	21.2
Others	4	12.1
Team cooperating model		
Multidisciplinary	11	33.3
Interdisciplinary	20	60.6
Transdisciplinary	2	6.1

The table shows the presence of variation in each of the variables. The majority of respondents (78.8 %) have an undergraduate education in speech therapy. Most of the respondents (63.6%) admit that they have the local language as their mother tongue. The language mostly used is a bilingual combination of Javanese and Indonesian. The majority of respondents (48.5%) live in rural-urban areas near the border and work in urban areas, with a maximum working experience of 6–10 years.

In the last two years, the majority of respondents attended 3–4 seminar activities. Informant assessment is used most widely. Most of the respondents perceived that the ideal frequency of an intervention is three times per week with a duration of 31–45 minutes. To find out the distribution of the speech therapy practitioners' area, the table below explains the regions where the practitioners work.

Table 2. Speech Therapy Practitioner Region

Regency	n	%
Banyumas	1	3.0
Boyolali	1	3.0
Demak	1	3.0
Semarang Regency	1	3.0
Karanganyar	2	6.1
Klaten	3	9.1
Semarang Municipal	11	33.3
Surakarta Municipal	4	12.1
Kudus	1	3.0
Kulonprogo	1	3.0
Pati	1	3.0
Purwokerto	1	3.0
Purworejo	1	3.0
Sukoharjo	4	12.1
Total	**33**	**100**

Table 2 shows that Semarang City is a workplace for most of the speech therapy practitioners involved in this research. A correlational test is conducted to find out the relationship between research variables, using Spearman’s Ranks correlational test. The

result of a test on the correlation of intervention variables is presented in the table below.

Table 3. Result of Correlational Test with Intervention Perception

Variable	Median	SD	95% for Confident Interval	r	p
Respondents' age	27	3.74	26.37–29.03	-0.243	0.173
Assessment	39	4.41	38.41-41.53	0.544	0.001
Ethnocultural	41	5.99	40.42-44.67	0.515	0.002
Collaboration	37	6.82	35.12-39.97	0.401	0.021

The data shows that all variables except age have a correlation with respondents' perceptions of the intervention. To see the correlation between variables, a Spearman's Ranks test is conducted. The result of the analysis of the correlational test is presented in the table below to find out the correlation between intervention, assessment, and collaborative work conducted by speech therapy practitioners in Central Java.

Table 4. Result of Correlation Test

		1	2	3	4
Intervention	p value				
	r value				
Assessment	p value	0.001			
	r value	0.544			
Ethnocultural	p value	0.002	≤ 0.001		
	r value	0.515	0.610		
Collaboration	p value	0.021	0.004	0.012	
	r value	0.401	0.490	0.431	

The table above explains that four variables have a correlation with each other. The result shows that the management of developmental language disorder in Central Java has broad dimensions.

DISCUSSION

This research was conducted to see the component of developmental language disorder intervention in Central Java. Firstly, viewed from the data of assessment, informal assessment is used largely to examine children with a putative developmental language disorder. An informal assessment is an authentic or criteria-based assessment (Shipley & McAfee, 2021).

The informal assessment is used most widely due to the putatively limited use of normative-based assessment in Indonesia. The result of the systematic review shows that standardized assessment in Indonesian is not found (McLeod & Verdon, 2014). It becomes a distinctive challenge in managing language disorders in Central Java.

The research also reveals perceptions about frequency and duration. The ideal frequency of language disorder intervention, whether recommended or perceived, is three times per week with a duration of 31–45 minutes for each meeting. To decide duration and frequency, strong evidentiary data is, of course, required as the foundation

of decision-making. Deciding the need for frequency and duration requires original data from the client's problem.

The process of planning an intervention should actually be based on the results of an examination or test (Shipley & McAfee, 2021). Thus, although the perception of majority of respondents states that an ideal intervention should be done three times per week with a duration of 31–45 minutes, strong reasoning based on client data and literature availability is required (Parker-McGowan et al., 2014). This need is also confirmed in another article (Eisenberg, 2014).

Assessment is an integral part of speech therapy treatment (American Speech-Language-Hearing Association, 2016). This process provides a prediction about the quality of treatment to be done. The interpretation of test (examination) results should be considered in professional decision-making (Strong, 2001).

A complete data assessment supported by a strong conceptual understanding is the best combination to be used by speech therapy practitioners in making the decision. In line with other studies, assessment has a positive correlation with intervention, meaning that the need for adequate assessment will lead to a better intervention (Thomas et al., 2019). Indonesia faces difficulties in dealing with language disorders. The demand for assessment tools is the most important thing.

Most Indonesian practitioners use non-standardized methods to examine children's abilities. However, ninety-eight speech assessments in languages other than English were identified by McLeod & Verdon, (2014) but in Indonesian, there are still issues. The complicated language disorder needed advanced resources in the assessment process. A combination of all methods of assessment is a gold standard. An effort to achieve it is important for the future.

Language management and ethnocultural management are inextricably linked. Language itself is a part of ethnoculture. From the descriptive data, it can be seen that the majority of respondents use two languages in both daily activities and when dealing with children with language problems. The choice of an appropriate language provides a stronger generalization opportunity for the result of language intervention.

Language adaptation becomes important, although the removal of one language to teach a new language is not recommended (Cycyk et al., 2021). A study showed that the use of appropriate language based on the client's needs provided sustainable and functional learning opportunities (Larson et al., 2020). The management of language disorders cannot be done by professionals alone. The management of language problems should involve a team that works comprehensively.

The availability of a team consisting of members with multidisciplinary, interdisciplinary, and transdisciplinary backgrounds is an option that can be taken. The need for comprehensive intervention is absolute for children with language problems (Bishop et al., 2016) (Bishop et al., 2017). Other studies revealed that managing language problems by involving a team is the best choice for the intervention (Armstrong et al., 2018) (Green, 2020) (McGregor et al., 2020).

CONCLUSION

In addition to assessment, ethnocultural variation becomes a crucial issue in managing or treating children with a language disorder. Language disorder is strongly linked to ethnocultural factors in the family and parents. Different cultural variations require a clinician to be sensitive to cultural issues.

The use of language is consistently a component of ethnocultural variation, and this study confirms that language use strongly affects the intervention process in children with a developmental language disorder. Although this study discovered novelties in the intervention of developmental language disorder, more research is needed to determine the need for intervention. The expansion of the research area and sample size with more varying characteristics can provide a broader perspective in data generalization.

REFERENCES

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders, fifth edition – DSM-5*. Arlington, VA: American Psychiatric Association Publishing.

American Speech-Language-Hearing Association. (2013). *Definitions of communication disorders and variations* [Relevant Paper]. Available from www.asha.org/policy.

American Speech-Language-Hearing Association. (2016). *Scope of Practice in Speech-Language Pathology [Scope of Practice]*.

Armstrong, R., Symons, M., Scott, J. G., Arnott, W. L., Copland, D. A., McMahon, K. L., & Whitehouse, A. J. O. (2018). Predicting language difficulties in middle childhood from early developmental milestones: A comparison of traditional regression and machine learning techniques. *Journal of Speech, Language, and Hearing Research, 61*(8), 1926–1944. https://doi.org/10.1044/2018_JSLHR-L-17-0210

Badan Pusat Statistik. (2011). *Kewarganegaraan, Suku Bangsa, Agama, dan Bahasa Sehari-hari Penduduk Indonesia: Hasil Sensus Penduduk 2010*.

Badan Pusat Statistik Jawa Tengah. (2020). Jumlah Penduduk Pertengahan Tahun Hasil Proyeksi Penduduk, 2010-2020. Diakses secara online pada 11 Mei 2020. https://jateng.bps.go.id/dynamictable/2015/08/27/16/jumlah-penduduk-pertengahan-tahun-hasil-proyeksi-penduduk-2010-2020.html

Bishop, D.V.M., Snowling, M. J., Thompson, P. A., Greenhalgh, T., Adams, C., Archibald, L., Baird, G., Bauer, A., Bellair, J., Boyle, C., Brownlie, E., Carter, G., Clark, B., Clegg, J., Cohen, N., Conti-Ramsden, G., Dockrell, J., Dunn, J., Ebbels, S., … Whitehouse, A. (2016). CATALISE: A multinational and multidisciplinary Delphi consensus study. Identifying language impairments in children. *PLoS ONE, 11*(7), 1–26. https://doi.org/ 10.1371/journal.pone.0158753

Bishop, D.V.M., Snowling, M. J., Thompson, P. A., Greenhalgh, T., Adams, C., Archibald, L., Baird, G., Bauer, A., Bellair, J., Boyle, C., Brownlie, E., Carter, G., Clark, B., Clegg, J., Cohen, N., Conti-Ramsden, G., Dockrell, J., Dunn, J., Ebbels, S., … Whitehouse, A. (2017). Phase 2 of CATALISE: a multinational and multidisciplinary Delphi consensus study of problems with language development: Terminology. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 58*(10), 1068–1080. https://doi.org/ 10.1111/jcpp.12721

Cycyk, L. M., De Anda, S., Moore, H., & Huerta, L. (2021). Cultural and linguistic adaptations of early language interventions: Recommendations for advancing research and practice. *American Journal of Speech-Language Pathology*, *30*(3), 1224–1246. https://doi.org/10.1044/2020_AJSLP-20-00101

Eisenberg, S. (2014). What works in therapy: Further thoughts on improving clinical practice for children with language disorders. *Language, Speech, and Hearing Services in Schools*, *45*(2), 117–126. https://doi.org/ 10.1044/2014_LSHSS-14-0021

Green, L. (2020). *The Specific Language Impairment/ Developmental Language Disorders Forum: Fostering a Discussion of Terminology*. *5*(February), 12–14.

Larson, A. L., An, Z. G., Wood, C., Uchikoshi, Y., Cycyk, L. M., Scheffner Hammer, C., Escobar, K., & Roberts, K. (2020). Social Validity in Early Language Interventions for Dual Language Learners: A Systematic Review of the Literature. *Topics in Early Childhood Special Education*, *40*(1), 39–51. https://doi.org/10.1177/0271121419901289

Leonard, L. B. (2020). Research Article A 200-Year History of the Study of Chilhood Language Disorders of Unknown Origin: Changes in Termidnology. *Perspectives of the ASHA Special Interest Groups*, *5*(February), 6–11. https://doi.org/https://doi.org/10.1044/2019_PERS-SIG1-2019-0007

McGregor, K. K., Goffman, L., Van Horne, A. O., Hogan, T. P., & Finestack, L. H. (2020). Developmental Language Disorder: Applications for Advocacy, Research, and Clinical Service. *Perspectives of the ASHA Special Interest Groups*, *5*(1), 38–46. https://doi.org/10.1044/2019_persp-19-00083

McLeod, S., & Verdon, S. (2014). A Review of 30 Speech Assessments in 19 Languages Other Than English. *American Journal of Speech-Language Pathology*, *23*(4), 708–723. https://doi.org/https://doi.org/10.1044/2014_ AJSLP-13-0066

Oyono, L. T., Pascoe, M., & Singh, S. (2018). The prevalence of speech and language disorders in french-speaking preschool children from yaoundé (Cameroon). *Journal of Speech, Language, and Hearing Research*, *61*(5), 1238–1250. https://doi.org/10.1044/2018_JSLHR-L-16-0400

Parker-McGowan, Q., Chen, M., Reichle, J., Pandit, S., Johnson, L. A., & Kreibich, S. (2014). Describing treatment intensity in milieu teaching interventions for children with developmental disabilities: A review. *Language, Speech, and Hearing Services in Schools*, *45*(4), 351–364. https://doi.org/10.1044/2014_LSHSS-13-0087

Paul, R., & Norbury, C. F. (2012). Language disorders. In *Pediatria Integral* (Fourth Edi, Vol. 21, Issue 1). Mosby Elsevier Inc. https://doi.org/10.4324/9781315095578-6

Pratomo, H.T.A., & Siswanto, A. (2020). Penggunaan *Non Speech Oral Motor Treatment* (NSOMT) Sebagai Pendekatan Intervensi Gangguan Bunyi Bicara Di Jawa Tengah. *Jurnal Keterapian Fisik*. 5 (2), 109-121.

Simons, H. (2004). Utilizing Evaluation Evidence to Enhance Professional Practice. *Evaluation*, *10*(4), 410–429. https://doi.org/10.1177/ 1356389004050284

Shipley, K. G., & McAfee, J. G. (2021). *Assessment in speech-language pathology: a resource manual* (Sixth edit). Plural Publishing, Inc.

Strong, C. J. (2001). Literature-Based Language Intervention. *Perspectives on Language Learning and Education*, *8*(2), 21–25. https://doi.org/10.1044/ lle8.2.21

Thomas, S., Schulz, J., & Ryder, N. (2019). Assessment and diagnosis of Developmental Language Disorder: The experiences of speech and language therapists. *Autism & Developmental Language Impairments*, *4*, 239694151984281. https://doi.org/10.1177/2396941519842812