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Original Article

Educational Strategy for Speech Delay Therapy During The Covid-19 Pandemic

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ABSTRACT

Background: Speech delay on Children are one of developmental disorder nowadays. On the other hand, speech delay occurs when a child's speech abilities do not develop in accordance with their age. Children with this condition require ongoing diagnosis and treatment. Due to limited access and limits on community activities, Covid-19, which affects the rhythm of human existence, also impacts the type, application, and approach of therapy. The objective of this research is to determine the pattern of treatment/therapy for children with speech delays, the reasons of speech delays, and to investigate techniques as an alternative therapy during the recent Covid-19 pandemic.

M**ethods**: This research is a descriptive-analityc study with a non-experimental design (cross-sectional). Following the objectives of the study, research subjects used secondary data from the Global Research on Developmental Disabilities Collaborators, whom recognized developmental disabilities in 195 nations during the last 26 years, to meet the study's aims (1990-2016)

Results: The number of developmental disorders in children under the age of five years in Indonesia declined between 1990 and 2016, with 1,710,437 cases in 1990 and 1,707. 335 cases in 2016. Indonesia has consistently been in the top ten countries in the world for developmental disability causes. In Indonesia, efforts were made to put limits on communal activities, which are frequently abbreviated as implementation of restrictions on community (PPKM). There are several ways that parents can do to overcome their child's speech delay during the PPKM activities during the pandemic, including: Parents searching for material on the internet on their own (Search Engine, youtube, etc); Expert consultations (doctors, psychiatrists, physiotherapists, and nutritionists) are available online (Telemedicine); and Utilise health professionals providing basic health services (Posyandu) on a drive-through basis.

Conclusions: The application of limits on community activities should not prevent children with developmental abnormalities (particularly speech delays) from getting motor development therapy. So that continuous treatment efforts are not inhibited, strategies and innovations must be introduced.

Keywords : Covid-19, Speech Delay, Strategy

INTRODUCTION

The original function of language is the arrangement of internal things on the part of the creative and historical individual subject who speaks a particular language. Meaning constitutes the series of contents making up the linguistic world human subjects can manage real things with [(1).] Language is the coding system that permits conceptualisation, reasoning and understanding[(2)]. Language or speech delay refers to cases where the development of the ability to understand and speak is correct but slower than what is accepted as normal, whereas language or speech disorders refer to cases where the speech or language ability deviate from what is expected as normal development[(3)]. Language disorders can involve the form (phonology, morphology, syntax), the content (semantics), and the

function of language in communication (pragmatics), or in any combination [4].

A survey conducted by the NHIS (National Health Interview Survey) in the United States in 2012 reported that 5% of children aged 3-17 years had speech disorders and 3.3% of children had language disorders [5]. Based on research conducted by Nurmasari (2016), it is known that 28.22% of toddlers aged 24-60 months experience delays in speech and language development [6]. Speech and language are important aspects of life. Humans can live advanced because of language and seen from their communication skills (6). Speech and language delays in children are associated with increased reading, writing, attention, and socialization difficulties [7]

Evidence implies that untreated speech and language delay can persist in 40%–60% of the children and these children are at a higher risk of social, emotional, behavioral, and cognitive problems in adulthood [8]. Prevalence of speech delay has been difficult to estimate because traditionally there is a belief that speech delay may run in families and it is not a cause of alarm. Often a "wait-and-watch" policy leads to late diagnosis and intervention for speech delay. Primary care clinicians and family physicians are the first point of contact for children with speech and language delay. It thus becomes their responsibility to identify obvious speech and language delay and address parental concerns [9]. According to Nelson (in Safitri, 2017), research in the United States found that between 5% and 8% of children aged 4.5 years have speech and language impairments, with delays occurring between 2.3 percent and 19 percent of the time. The prevalence of speech delay in preschool children in Indonesia ranges from 5% to 10%. Speech difficulties in youngsters are becoming more common. According to some reports, the prevalence of speech and language difficulties ranges from 2.3 percent to 24 percent [10].

Children with speech delay at age 4 years seem more likely to resolve, and this might justify a "watch and wait" approach. In contrast, those with speech disorder at age 4 years appear to be at greater risk for persistent difficulties, and could be prioritized for therapy to offset long-term impacts [11]. Appropriate interventions can then enable the young person to engage with verbally mediated interventions [12]. The novel coronavirus (COVID-19) has enforced dramatic changes to daily living including economic and health impacts. Evidence for the impact of these changes on our physical and mental health and health behaviors is limited [13]. This condition has an impact on treatment habits and therapy schedules, in this case consultation and physiotherapy schedules for pediatric patients in health institutions who are experiencing delays (such as hospitals, clinics, and so on).

The objective of this research is to determine the pattern of treatment/therapy for children with speech delays, the reasons of speech delays, and to investigate techniques as an alternative therapy during the recent Covid-19 pandemic. The findings are expected to be one of the factors that stakeholders take into account when making decisions about providing health services to children with speech delays or other psychomotor problems.

METHODS

According to the study objectives, research subjects used secondary data from data Global Research on Developmental Disabilities Collaborators, who recognized developmental disabilities in 195 nations during the last 26 years, to meet the study's aims (1990-2016). In this research, secondary data for percentage of speech delay on children will be displayed. This analysis of this study is non-experimental and is a descriptive analytic study (cross sectional). In terms of case numbers and those with speech delay, the study's population includes all children under the age of five worldwide, with the selected sample consisting of children under the age of five who have developmental problems (speech delay).

RESULTS

In general, roughly 10% of children suffer from developmental delays over the world [14]. Data on motor delays, language, behavior, autism, and hyperactivity in children, which varied from 12-16 percent in the United States, 24 percent in Thailand, 22 percent in Argentina, and 13-18 percent in Indonesia [15]. According to the Indonesian Pediatrician Association (IDAI), approximately 5-10% of children have developmental delays, while approximately 1-3 percent of toddlers have general developmental delays. (global developmental delay) [16]. Seventy percent of children with developmental delays are not recognized without screening, whereas 70-80 percent of children with developmental delays are identified with good developmental screening [17]. Number and prevalence per 100.000 population of cases of developmental disability and of YLDs in children younger than 5 years and by SDI group, GBD at Southeast Asia in 1990 and 2016, will be shown at Table 1.

Table 1 shows that the number of developmental disorders in children under the age of five years in Indonesia declined between 1990 and 2016, with 1,710,437 cases in 1990 and 1,707. 335 cases in 2016. Table 2 shows some of the reasons of developmental disorders as well as Indonesia's position in this case.

Table 2 demonstrates that Indonesia has consistently been in the top ten countries in the world for developmental disability causes. Indonesia ranks fifth in the world in terms of congenital epilepsy, vision loss, and autism, ninth in terms of intellectual disability and ADHD, and seventh in terms of hearing loss. When compared to other countries in the globe, this demonstrates how high the number of cases of developmental impairment in Indonesia is. One of the developmental issues in children is speech delay [19]. Figure 1 shows some of the possible causes of speech delay based on the diagnosis.

Figure 1 reveals that other factors are the most common cause of speech delay in women, with 0 occurrences of expressive language disorder and separation anxiety disorder. The most common causes in men were the same as in women, namely others, and the least common was separation anxiety disorder, which had less than five cases. Figure 2 depicts some of the efforts and stimuli that can be used in child speech delay therapy:

The global spread of the Covid-19 epidemic has altered the course of human life, particularly in Indonesia. In Indonesia, efforts were made to put limits on communal activities, which are frequently abbreviated as PPKM. The number of incidents that occur in each location, which is classified using the risk zoning map, has an impact on the PPKM level. Figure 3 depicts the depiction of the Covid-19 risk zoning map in Indonesia as of August 2021:

Figure 3 illustrates that zoning area affect the ease with which parents can access health facilities for their children for medical theraphy. As we know the pandemic has limited daily activities through various strict regulations from the government, this has affected the concerns of parents to take their children to health facilities that are the leading agencies for treating COVID-19 patients for fear of contracting Covid-19. Every major island in Indonesia is classified as a red zone, indicating that it has the most cases compared to other regions. This will undoubtedly have an impact on the amount of PPKM in each location. It will have an indirect impact on the treatment pattern of patients who require therapy, such as those with speech delays.

Table 1. The number and frequency of developmental disabilities and YLDs in children under the age of five years from 1990 to 2016.

	Number of cases		Cases per 100 000 population		Number of YLDs		YLDs per 100 000 population	
	1990	2016	1990	2016	1990	2016	1990	2016
(Continued from previous page)								
Southeast Asia, east Asia, and Oceania	13 126 413 (12 207 927 to 14 051 448)	8 601 788 (7 928 118 to 9 288 537)	7820·4 (7273·2 to 8371·5)	6989·2 (6441·9 to 7547·3)	873 879 (648 712 to 1 140 335)	586 929 (436 091 to 772 852)	520·6 (386·5 to 679·4)	476·9 (354·3 to 628·0)
East Asia	8 343 699 (7 771 751 to 8 909 781)	4 337 471 (3 990 626 to 4 681 742)	7421·5 (6912·8 to 7925·0)	6711·1 (6174·5 to 7243·8)	533 524 (396 708 to 704 333)	270 007 (199 649 to 355 126)	474·6 (352·9 to 626·5)	417·8 (308·9 to 549·5)
China	8 023 886 (7 466 111 to 8 569 138)	4 036 176 (3 706 050 to 4 356 704)	7439·3 (6922·1 to 7944·8)	6654·0 (6109·8 to 7182·4)	513 291 (382 292 to 677 473)	251 325 (186 080 to 331 226)	475·9 (354·4 to 628·1)	414·3 (306·8 to 546·0)
North Korea	217 143 (200 110 to 234 426)	241 183 (223 774 to 258 478)	7288·4 (6716·7 to 7868·5)	8150·9 (7562·5 to 8735·3)	13 483 (9643 to 18 162)	14 798 (10 429 to 19 852)	452·6 (323·7 to 609·6)	500·1 (352·4 to 670·9)
Taiwan	102 670 (94 323 to 110 674)	60 111 (54 879 to 65 016)	6464·9 (5939·3 to 6968·9)	5927·7 (5411·8 to 6411·4)	6750 (4621 to 9214)	3885 (2721 to 5375)	425·0 (291·0 to 580·2)	383·1 (268·3 to 530·0)
Southeast Asia	4 689 433 (4 325 383 to 5 089 350)	4 145 551 (3 814 810 to 4 492 125)	8621·4 (7952·1 to 9356·6)	7269·4 (6689·4 to 7877·1)	334 448 (247 161 to 433 354)	309 202 (229 321 to 408 292)	614·9 (454·4 to 796·7)	542·2 (402·1 to 716·0)
Cambodia	126 502 (110 132 to 145 378)	148 013 (128 331 to 169 316)	10 279·6 (8949·4 to 11 813·5)	7857·2 (6812·3 to 8988·0)	8847 (6112 to 12 120)	11 443 (7809 to 15 681)	718·9 (496·7 to 984·8)	607·5 (414·5 to 832·4)
Indonesia	1 710 437 (1 579 352 to 1 853 498)	1 707 335 (1 574 318 to 1 843 556)	8325·0 (7687·0 to 9021·3)	7512·6 (6927·3 to 8111·9)	117 832 (86 814 to 154 745)	124 155 (92 159 to 163 904)	573·5 (422·5 to 753·2)	546·3 (405·5 to 721·2)

Source: GBD 2016 input data see (http://ghdx.healthdata.org/gbd-2016/data-input-sources) [18]

Table 2. The world's ranking by number of developmental disabilities caused by each type of cause.

	Epilepsy		Intellectual disability		Hearing loss		Vision loss		Autism spectrum disorder		ADHD	
	Cases	YLDs	Cases	YLDs	Cases	YLDs	Cases	YLDs	Cases	YLDs	Cases	YLDs
Ranking by number in 2016												
1	India	India	India	India	India	India	India	India	India	India	China	China
2	China	Nigeria	China	Nigeria	China	China	China	Nigeria	China	China	India	India
3	Nigeria	China	Nigeria	China	Nigeria	Nigeria	DR Congo	China	Nigeria	Nigeria	Nigeria	Nigeria
4	Pakistan	Pakistan	Pakistan	Pakistan	Pakistan	Bangladesh	Nigeria	Pakistan	Pakistan	Pakistan	USA	USA
5	Indonesia	Ethiopia	DR Congo	Ethiopia	Bangladesh	Pakistan	Indonesia	Ethiopia	Indonesia	Indonesia	Ethiopia	Ethiopia
6	Ethiopia	Indonesia	Ethiopia	DR Congo	DR Congo	DR Congo	Brazil	DR Congo	USA	USA	DR Congo	DR Congo
7	Egypt	Egypt	Egypt	Egypt	Indonesia	Ethiopia	Pakistan	Egypt	Ethiopia	Brazil	Egypt	Egypt
8	DR Congo	DR Congo	USA	Indonesia	Ethiopia	Indonesia	Philippines	Iraq	Brazil	Ethiopia	Brazil	Brazil
9	Bangladesh	Iraq	Indonesia	USA	Brazil	Brazil	Egypt	Indonesia	Bangladesh	Bangladesh	Indonesia	Indonesia
10	Tanzania	Tanzania	Bangladesh	Iraq	USA	Philippines	Ethiopia	Bangladesh	DR Congo	DR Congo	Iran	Iran
Top 10 total (proportion of global)*	1 979 233 (52·0%)	761 996 (51·9%)	6 830 618 (54·5%)	881 855 (52·4%)	8 872 948 (57·4%)	610 796 (55·6%)	13 427 729 (53·2%)	572 788 (52·3%)	2 366 873 (51·8%)	329 781 (51·2%)	429 470 (48·2%)	5218 (48·2%)

Source: GBD 2016 input data see (http://ghdx.healthdata.org/gbd-2016/data-input-sources) [18]

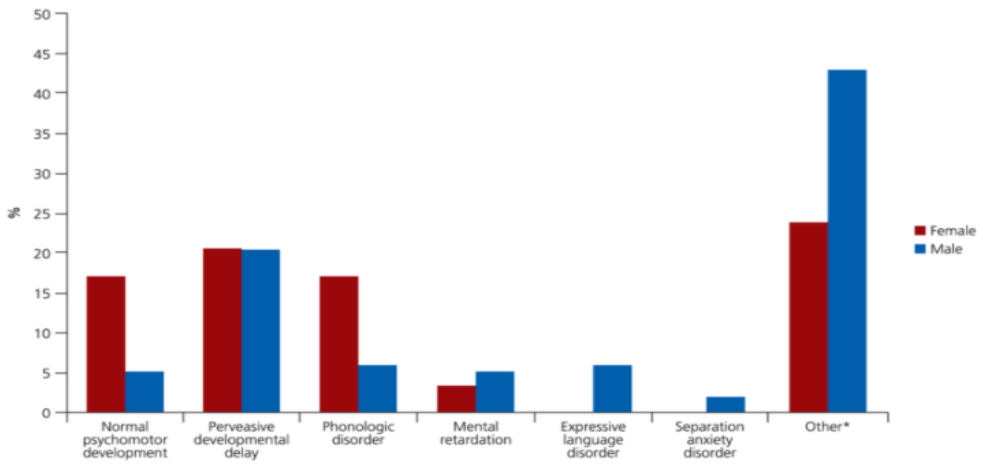

Figure 1. Distortion of cases according to their diagnoses (Source: Speech and language delay in childhood: a retrospective chart review [20]

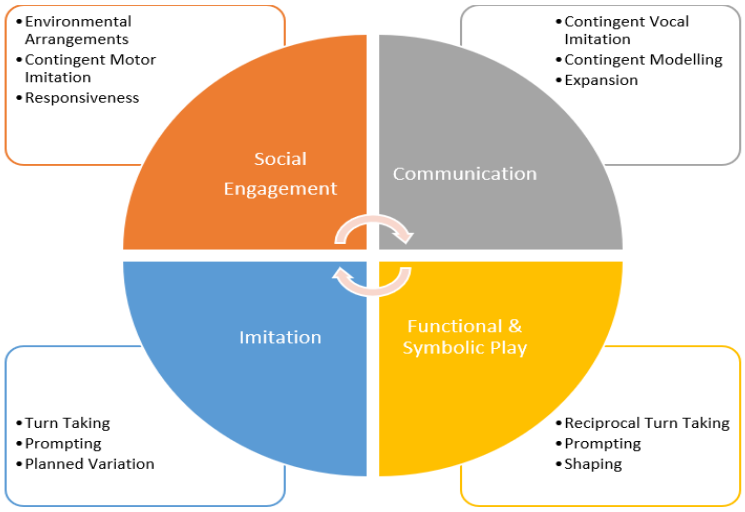

Figure 2. In children with speech delays, many types of stimuli and therapy are used (Source; The Children Centre [18])

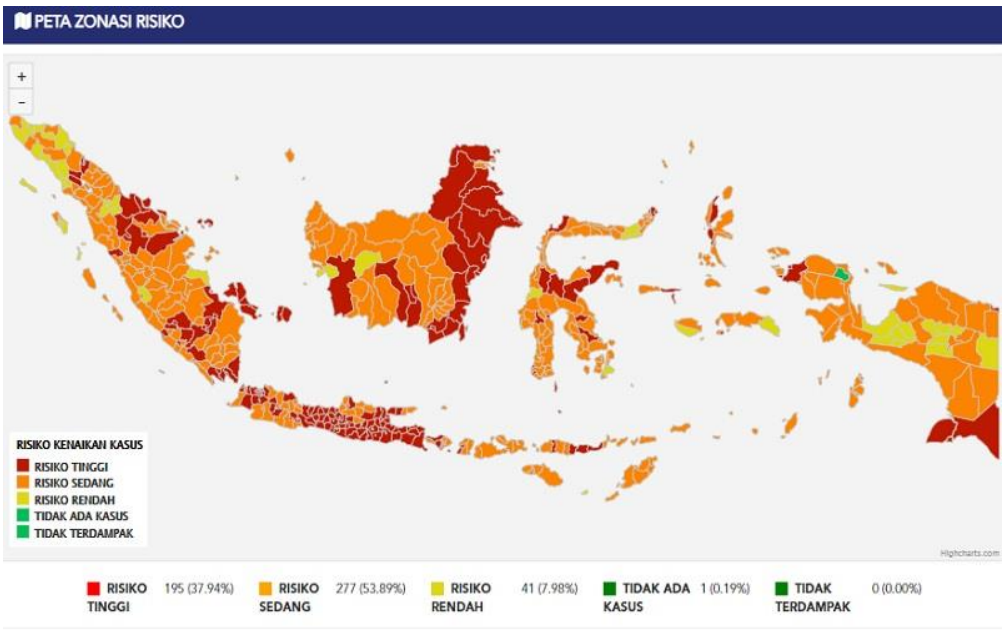

Figure 3. Covid-19 Case Zoning Map in Indonesia (Source: Covid-19.go.id)

DISCUSSION

The findings revealed that the frequency of developmental abnormalities in children under the age of five years is considerable, consistently ranking in the top ten worldwide each year. According to researchers, the following are some of the reasons of developmental disabilities: 1. Growth is regulated by two basic variables: internal (genetic) and external (environmental) influences (environment). Gender, obstetrics, and race or ethnicity are all internal influences. If these components can interact in a good and ideal environment, then growth will be optimal [(22);] 2. Each child's fine motor skills are varied. Some are slow, while others are in line with development, depending on the child's maturity [(23).] Fine motor deficits in preschoolers or toddlers might make it challenging for them to play and write with their peers [(24).] 3. Parental compliance in the process of monitoring their child's growth and development is linked to child development. If parents have a higher level of education, are older, have a higher level of knowledge, have a higher socioeconomic level, have better skills, and engage with health providers more frequently, parental compliance in monitoring their children's growth and development will increase [(25)] [(26).] 4. Access to health services such as therapeutic clinics, hospitals, and early diagnostic facilities is limited, in addition to lengthy distances, as evidenced by villagers who must travel several hours to reach health services, wasting time, energy, and money. 5. Different financial capacities, such as the need to pay a set amount for examination and therapy fees if the child's parents/family do not have health insurance.

Temperamental and hereditary (Heredity and temperament are two elements that contribute to a child's inability to talk on time. If there are hereditary reasons or a history of a previous family member having a speech delay, it is possible if it can be passed down to their children). Premature birth (Premature delivery is another key factor that contributes to speech problems in children. Early-born babies take longer to develop than other children. When the child reaches the age of two, however, the problem will improve). Multiple (According to speech therapists, at least half of all multiples have a predisposition to talk late. Prematurity, low birth weight, and medical intervention at birth are all frequent with multiples, resulting in linguistic difficulties in the offspring). Have a

persistent ear infection (A chronic ear infection is another cause of speech delay in youngsters. If the fluid in the ear lingers through the first year, the child's hearing will deteriorate when he or she begins to process language. This is the reason why the child is late in speaking. [27]) 1. Children's Signs of Speech Delay (rarely attempts to talk or copy what others say; does not respond when called; avoids eye contact when spoken to; has trouble naming objects at home; can not string two or three words together, cannot follow simple direction; when asking for anything, use motions rather than words. [28]

Home theraphy (Invites children to converse frequently, including youngsters with speech delays in every conversation is the easiest approach to keep them stimulated; Tell children story , Children's speech skills can be improved by reading tale books to them from an early age; Pay attention to what he says and try to improve, don't be too quick to correct your youngster if he or she says something they don't mean. Mother should answer with appropriate phrases or sentences to her words; Assist the kid in learning the names of various items, when a child with speech delay wants something, they may simply point to the object rather than saying the request language. Mother can assist him in understanding the names of these objects in this situation; Ask youngsters to choose from a list of questions, asking a child with a speech delay to choose something is a good way to stimulate his skills; Keep the usage of electronic devices to a minimum, a study of 18-month-old children who spent a lot of time on their devices found that this behavior was linked to speech delay. (28)). Clinic Theraphy (Use of a growth clinic/hospital as a diagnostic tool; Selection of the appropriate therapy; Observer of the evolution of the sort of therapy administered).

The COVID-19 pandemic may raise the risk of growth and developmental problems in children. Nutritional diseases, mental health illnesses, a lack of basic vaccine coverage, and delays in identifying child development are all variables that might put children at risk for growth and development abnormalities [29]. The practical role of parents and families is a major determinant in the success of therapy for children with speech delays during the pandemic. During the Covid-19 epidemic, the following measures can be made as an alternate therapy for children with speech delays: 1. Parents searching for material on the internet on their own (Search Engine, youtube, etc). 2. Expert consultations (doctors, psychiatrists, physiotherapists, and nutritionists) are available online (Telemedicine). 3. Health professionals providing basic health services (Posyandu) on a drive-through basis.

This study will include an initial summary that handling of children with speech delay begins with internal family actions first. Some light efforts such as language training, the ability to recognize objects actively without the influence of electronic media are very important to prevent speech delay in children. Medical assistance can be used as a support for the first care in addition to routine therapy for children who are assisted by their families, especially their parents.

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