World Applied Sciences Journal 35 (4): 574-579, 2017
ISSN 1818-4952
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DOI: 10.5829/idosi.wasj.2017.574.579

Clinical Work: Correlations of Disability Children Between Private Classes, Parenting Advice and Food Supplements for Rehabilitation

[1]*Puspa Liza Ghazali,* [2]*Lazim Omar,* [3]*Mohd Saifulbahri Abdullah,*
[4]*Hamidah Che Abdul Hamid,* [5]*Sharifah Arni Syed Jaaffar,* [6]*Sofyuddin Yusof,* [7]*Nurul Izza Alias,*
[8]*Dede AnsyariGuci,* [9]*Nik Hazimi Mohammed Foziah and* [10]*Ahmad Zubaidi A. Latif*

[1,5,8]Faculty of Economic and Management Sciences,
Universiti Sultan ZainalAbidin, 21300 Kuala Nerus. Malaysia
[2,3,4,6,7]Faculty of Islamic Contemporary,
Universiti Sultan ZainalAbidin, 21300 Kuala Nerus, Terengganu, Malaysia
[9]Faculty of Informatics and Computing,
Universiti Sultan ZainalAbidin, 22200 Besut, Terengganu. Malaysia
[10]Faculty of Medicine, Universiti Sultan ZainalAbidin,
20400 Kuala Terengganu, Terengganu, Malaysia

Abstract: A clinical work was done among six students from Malaysian primary schools. Three of them were normal students and the other three were learning disabled students. The purpose of the clinical work was to see whether private class, parenting advice and food supplements, which were provided for the chosen students, can give a significant different in learning disabled students before and after the clinical work. Assessing by the test scores of Malay language and Mathematics, the clinical work was a success due to the learning disabled students able to show significant improvement before and after the clinical work. Hence, private class, parenting advices and food supplement can be used as the rehabilitation tools for learning disabled students in helping them to learn well as their normal peer.

Key words: Clinical work · Private class · Parenting advices · Food supplements · Learning disabled students

INTRODUCTION

The number of learning disabled children is recorded with increasing trend. From 2011, there are 134, 659 numbers of them and 165, 281 number on 2012 [1]. Factors that contribute to the number are traumatic brain injury [2] and polluted environment [3]. All factors affect the children brain and create defect at certain part of brain and unluckily, the defected brain part is important for cognitive activities such as reading, writing and focusing during learning process [4]. The defected brain not only disturbs the learning process but also the body system of learning disabled children such as digestion system and immune system [5].

According to the learning disability definition according to National Joint Committee on Learning Disability [6]:

"It is a general term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematical abilities. These disorders are intrinsic to the individual, are presumed to be due to central nervous system dysfunction and may occur across the life span."

The characteristics associated with learning disabilities vary from person to person. Early recognition will help the learning disabled children cope with their condition and receive different and suitable way of treatment if compared with normal peers. Commonly, children with learning disabilities have difficulty [7]:

- Reading
- Writing

Corresponding Author: Puspa Liza Ghazali, Faculty of Economic and Management Sciences,
Universiti Sultan ZainalAbidin. 21300 Kuala Nerus, Malaysia.

- Mathematical skills
- Memorizing
- Giving full attention
- Following any given directions
- Staying organized
- Giving responses in school or social situations
- Using the right words or ways to say something
- Performing consistently
- Mature way of speaking
- Listening well
- Dealing with new things in life

Children with learning disabilities also can be characterized according to the year of schooling. During preschool, those children which demonstrate specific developmental deficits or delays which have the possibility to be the learning disabled. Preschool years represent a critical period of growth and any signs of deficits must be intervened and prevented by parents, teachers and professionals [8]. The preschooler (4 to 6 years old) with a history of birth complications and genetic or environmental conditions, have the probability to be among the learning disabled children. Preschoolers with the following features need to be taken seriously, especially by parents, teachers and professional [8]:

- Lack of symbolic play behavior
- Limited receptive vocabulary
- Difficulty understanding simple directions
- Reduced intelligibility
- Slow speed for naming objects and colors
- Limited phonological awareness
- Difficulty coloring, copying and drawing
- Distractibility
- Hyperactivity
- Constant repetition of an idea

Learning disabled children differ from non-learning disabled in term of way of learning, communicating and socializing, due to the different treatment they get because of different structure of their brain. The brains' structures among learning disabled children also differ, together with the learning disabilities they had been diagnosed with [9]. With the great and advances researches on learning disabilities, there are now lots of treatment for learning disabled children. The existed treatment is not only focus on children themselves, but also their parents. Like what has practiced in Finland in helping the learning disabled people, special education, speech therapy, occupational therapy, neuropsychological rehabilitation, vocational rehabilitation, psychosocial interventions and courses and peer support organized by special interest groups, are used. All these supports show positive feedback as the learning disabled people can cope well with their condition [10].

MATERIALS AND METHODS

A clinical work was conducted. 2 groups of students from Malaysian primary school were created. 1 group consists of normal students and the other group consists of learning disabled children whom are enrolled in daily primary school, not from special needs class or special school. They were accessed with teaching skills, parenting skills and food supplement and the results obtained were compared before the clinical work started and after the clinical work completed.6 hypotheses tested and they are listed as follows:-

H_1: Scores of Malay language tests and Mathematics test do not have significant different between group who were chosen for private class and not chosen for.

H_2: Scores of Malay language tests and Mathematics test have significant different between group who were chosen for private class and not chosen for.

H_3: Scores of Malay language tests and Mathematics test do not have significant different between group who were chosen for parenting advice and not chosen for and Scores of Malay language tests.

H_4: Scores of Malay language tests and Mathematics test have significant different between group who were chosen for parenting advice and not chosen for and Scores of Malay language tests.

H_5: Scores of Malay language tests and Mathematics test do not have significant different between group who were chosen for food supplement and not chosen for.

H_6: Scores of Malay language tests and Mathematics test do not have significant different between group who were chosen for food supplement and not chosen for.

RESULTS AND DISCUSSIONS

The main purpose of the clinical work is to observe any change from 6 children, which 3 of them are learning disabled children and another 3 are normal children, when after they were provided with private class, parenting

Table 1: Clinical work groups

		Are they given/chosen for:		
No. of children	Condition	Private class?	Parenting advice?	Food supplement
1	Learning disabled	Yes	Yes	Yes
2		Yes	Yes	Yes
3		Yes	Yes	No
4	Normal	Yes	No	No
5		No	No	No
6		No	No	No

advice and food supplement. 4 out of 6 children were chosen for private class, 3 out of 6 children were given parenting advice and 2 out of 6 children were given food supplement, while 2 out of 6 children did not given anything yet, they were given 3 tests for Malay language and Mathematics, together with other children, as they are in control group. This clinical work was conducted for 6 months and here are the findings of this clinical work.

First Assessment: Private Class: Under private class, the children were given class for Malay language and Mathematics. To measure the level of competency of each child, Malay language tests and Mathematics test were given for each 3 phases of clinical work. Other than to measure the competency, the tests also want to observe the effectiveness of private class for learning disabled children. Children who were not chosen for the private class have normal IQ and normal brain state. Only 2 subjects were chosen instead of other subjects available in Malaysian primary school syllabus due to the basic of 3M (Reading, Writing and Calculating). After given 3 tests for Malay language and Mathematics, the statistical analysis was done. For Malay language, the mean before the clinical work for children who were chosen for private class is 76.7241 with standard deviation of 23.8149 and the mean before the clinical work for children who were not chosen for private class is 62.9310 with standard deviation of 12.6017. As the private class was started and continue for 6 months, the mean for Malay language test score increase for both group. The mean for children who were chosen for private class is 85.8621 with standard deviation of 15.4505 and the mean for children who were not chosen for private class is 87.069 with standard deviation of 12.6017. After the private class was completed, the mean for both group also increase. The mean for children who were chosen for private class is 94.6207 with standard deviation of 5.2743 and the mean for children who were not chosen for private class is 100 with standard deviation of 0.

For Mathematics, the mean before the clinical work for children who were chosen for private class is 41.3793 with standard deviation of 19.0519 and the mean before the clinical work for children who were not chosen for private class is 62.8276 with standard deviation of 5.0407. As the private class was started and continue for 6 months, the mean for Mathematics test score increase for both group. The mean for children who were chosen for private class is 55.1724 with standard deviation of 16.1399 and the mean for children who were not chosen for private class is 70 with standard deviation of 0. After the private class was completed, the mean for both group also increase. The mean for children who were chosen for private class is 76.2069 with standard deviation of 16.0949 and the mean for children who were not chosen for private class is 80 with standard deviation of 0. The statistical analysis for this part is summarized as Table 2 and 3 below:

Second Assessment: Parenting Advices: For this second assessment, the parenting advices were given for parents with learning disabled children who were chosen for the private class. The advices were in term of nutrition for learning disabled children, psychology and other basic needs of learning disabled children. For this assessment, there were 2 groups, which one group was given the parenting advice while other group did not. The researchers expected that the parenting advices have effect on the children study performance, which were presented by the Malay language tests score and Mathematics tests score.Before the parenting advices were given, the mean for Malay language and Mathematics test score for children who were chosen are 56.5934 with standard deviation of 11.0775 and 25.2747 with standard deviation of 8.862. While for children who were not chosen, the mean for Malay language and Mathematics test score are 76.3736 with standard deviation of 20.5354 and 63.0769 with standard deviation of 4.641.

Table 2: Mean of Malay language for private class

	Mean (Standard deviation)			
Malay language	Chosen	Not chosen	T statistics	P value
Before private class	76.7241 (23.8149)	62.931 (12.6017)	3.899	0.000
During private class	85.8621 (15.4505)	87.069 (12.6017)	0.461	0.209
After private class	94.6207 (5.2743)	100 (0)	7.767	0.000

Table 3: Mean of Mathematics for private class

	Mean (Standard deviation)			
Mathematics	Chosen	Not chosen	T statistics	P value
Before private class	41.3793 (19.0519)	64.8276 (5.0407)	9.061	0.000
During private class	55.1724 (16.1399)	70 (0)	6.997	0.000
After private class	76.2069 (16.0949)	80 (0)	1.795	0.000

Table 4: Mean of Malay language for parenting advices

	Mean (Standard deviation)			
Malay language	Chosen	Not chosen	T statistics	P value
Before parenting advices	56.5934 (11.0775)	76.3736 (20.5354)	8.087	0.000
During parenting advices	71.8681 (9.8784)	91.7582 (11.8175)	12.319	0.003
After parenting advices	89.8242 (2.0795)	100 (0)	46.680	0.000

Table 5: Mean of Mathematics for parenting advices

	Mean (Standard deviation)			
Mathematics	Chosen	Not chosen	T statistics	P value
Before parenting advices	25.2747 (8.862)	63.0769 (4.6421)	36.048	0.000
During parenting advices	43.4066 (9.454)	70 (0)	26.834	0.000
After parenting advices	66.0440 (12.0073)	83.6264 (4.8343)	12.958	0.000

During the clinical work, the mean for both subjects increase for both group. For children who were given parenting advice, the mean for Malay language and Mathematics test scores are 71.8681 with standard deviation of 9.8784 and 43.4066 with standard deviation of 9.454. While for children who were not given parenting advice, the mean for Malay language and Mathematics test scores are 91.7582 with standard deviation of 11.8175 and 70 with standard deviation of 0.After the clinical work was completed, the mean for both groups increase from the previous stage. The means for Malay language and Mathematics test scores for first group are 89.8242 with standard deviation of 2.0795 and 66.044 with standard deviation of 12.0073. The means for Malay language and Mathematics test scores for second group are 100 with standard deviation of 0 and 83.6264 with standard deviation of 4.8343. The statistical analysis for parenting advices is summarized as in Table 4 and 5 below:

Third Assessment: Food Supplement: For this third assessment, the food supplement were given learning disabled children with IQ level lower than 80. The food supplements given were vitamin C, vitamin D3 and fatty acid omega 3. For this assessment, there were also 2 groups, which one group was given the food supplement while other group did not. The researchers expected that the food supplements will have effect on the children study performance, which were presented by the Malay language tests score and Mathematics tests score.Before the food supplements were given, the mean for Malay language and Mathematics test score for children who were chosen are 60.0806 with standard deviation of 12.3638 and 28.0645 with standard deviation of 9.891. While for children who were not chosen, the mean for Malay language and Mathematics test score are 69.3548 with standard deviation of 20.9505 and 51.129 with standard deviation of 19.6781.

During the clinical work, the mean for both subjects increase for both group. For children who were given food supplement, the mean for Malay language and Mathematics test scores are 68.0645 with standard deviation of 9.891 and 50 with standard deviation of 0. While for children who were not chosen, the mean for Malay language and Mathematics test score are 88.0645

Table 6: Mean for Malay language for food supplements

	Mean (Standard deviation)			
Malay language	Chosen	Not chosen	T statistics	P value
Before food supplements were given	60.0806 (12.3638)	69.3548 (20.9505)	3.002	0.000
During food supplements were given	68.0645 (9.891)	88.0645 (11.4289)	10.419	0.000
After food supplements were given	89.5484 (2.1553)	97.2581 (4.4975)	12.172	0.000

Table 7: Mean for Mathematics for food supplements

	Mean (Standard deviation)			
Mathematics	Chosen	Not chosen	T statistics	P value
Before food supplements were given	28.0645 (9.891)	51.129 (19.6781)	8.246	0.000
During food supplements were given	50 (0)	59.0323 (17.9899)	3.953	0.000
After food supplements were given	74.0323 (4.9455)	74.3548 (15.6416)	0.155	0.000

with standard deviation of 11.4289 and 59.0323 with standard deviation of 17.9899.After the clinical work was completed, the mean for both groups increase from the previous stage. The means for Malay language and Mathematics test scores for first group are 89.5484 with standard deviation of 2.1553 and 74.0323 with standard deviation of 4.9455. The means for Malay language and Mathematics test scores for second group are 97.2581 with standard deviation of 4.4975 and 74.3548 with standard deviation of 15.6416.The statistical analysis for parenting advices is summarized as in Table 6 and 7 below.

CONCLUSION

Hypothesis	Result	Method
H_2: Scores of Malay language tests and Mathematics test have significant different between group who were chosen for private class and not chosen for	Accepted	ANOVA
H_4: Scores of Malay language tests and Mathematics test have significant different between group who were chosen for parenting advice and not chosen for	Accepted	ANOVA
H_6: Scores of Malay language tests and Mathematics test have significant different between group who were chosen for food supplement and not chosen for	Accepted	ANOVA

From the results, all p-value have value less than 0.05 which indicate that H_1, H_3 and H_4 were rejected and H_2, H_4 and H_6 were accepted. This showed that what had been done in the clinical work can help learning disabled children to learn well as their normal peers. Even though their score in both of tests of Malay language and Mathematics might not excel as normal students, they still able to understand the questions and answer the questions given. In conclusion; private class, parenting advice and food supplement can help learning disabled students.

ACKNOWLEDGEMENTS

I would like to thanks to Ministry of Higher Education for awarded RACE grant to complete the research.

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