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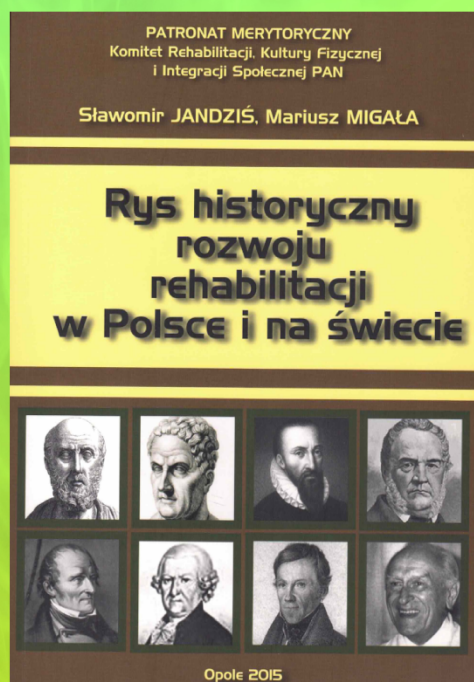
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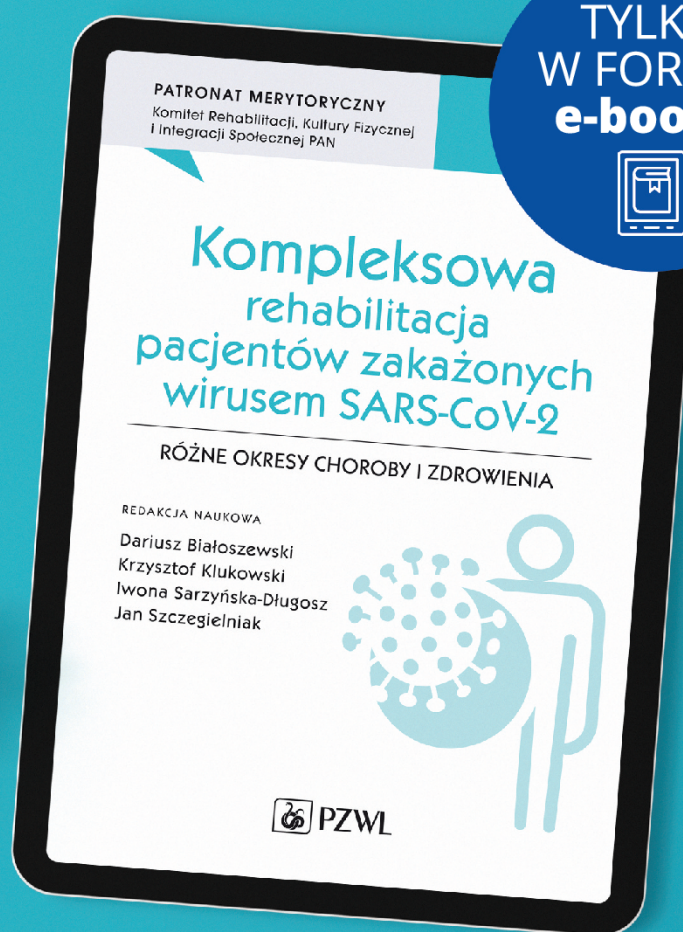
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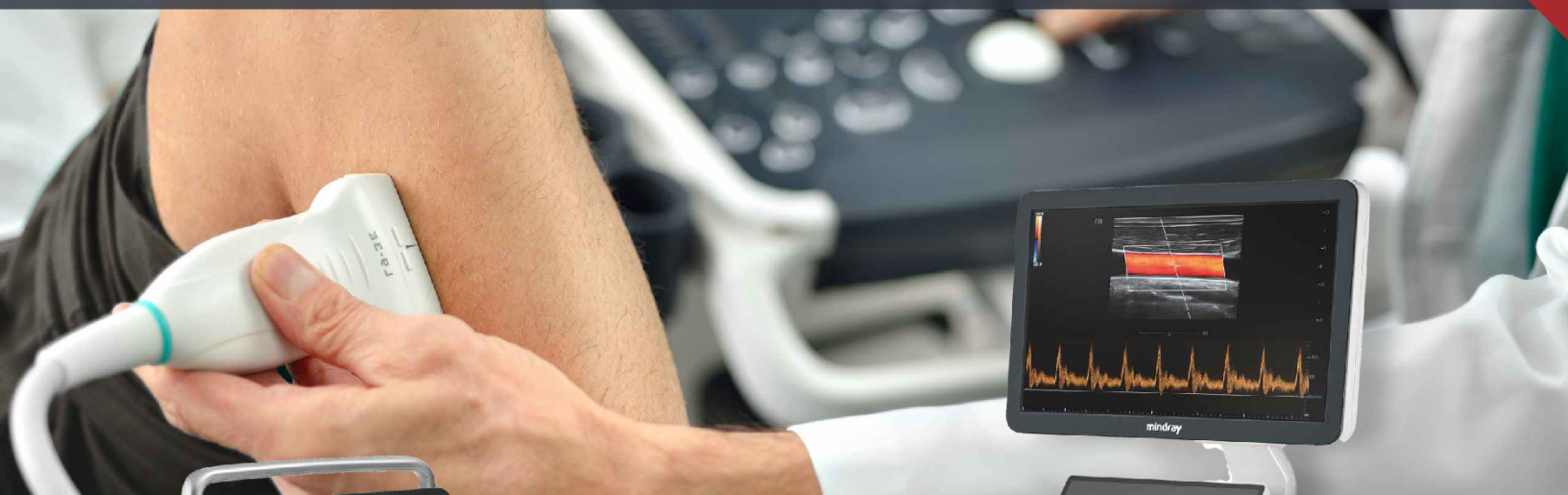


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26. Sympozjum Sekcji Rehabilitacji Kardiologicznej i Fizjologii Wysiłku Polskiego Towarzystwa Kardiologicznego

11-13 maja 2023, Wisła, Hotel STOK

www.rehabilitacja2023ptk.pl



Rehabilitacja kardiologiczna i fizjologia wysiłku – zapraszamy do rejestracji na wyjątkową konferencję w Wiśle

W dniach 11–13 maja w Hotelu Stok Wiśle odbędzie się wyjątkowe i interdyscyplinarne spotkanie specjalistów z całej Polski – 26. Sympozjum Sekcji Rehabilitacji Kardiologicznej i Fizjologii Wysiłku Polskiego Towarzystwa Kardiologicznego. Serdecznie zapraszamy do rejestracji.

26. Sympozjum Sekcji Rehabilitacji Kardiologicznej i Fizjologii Wysiłku Polskiego Towarzystwa Kardiologicznego to coroczne spotkanie specjalistów, zajmujących się rehabilitacją kardiologiczną, prewencją chorób układu krążenia i innymi formami aktywności fizycznej, która ma prowadzić do poprawy stanu naszego zdrowia.

Ta trzydniowa konferencja przeznaczona jest dla lekarzy kardiologów, specjalistów rehabilitacji medycznej oraz innych specjalności, którzy w swojej codziennej praktyce zajmują się rehabilitacją i fizjologią wysiłku, ale także dla fizjoterapeutów, pielęgniarek, techników i przedstawicieli innych zawodów medycznych, zainteresowanych tematyką spotkania, oraz studentów.

Jakie tematy zostaną poruszone podczas konferencji?

26. Sympozjum Sekcji Rehabilitacji Kardiologicznej i Fizjologii Wysiłku to konferencja, na którą zaproszeni zostali wybitni specjaliści z dziedziny kardiologii i nie tylko. Podczas wydarzenia wygłoszonych zostanie prawie 100 wykładów merytorycznych w ciągu aż 20 sesji. Uczestnicy będą mieli również szansę na udział w sesjach przypadków klinicznych, intensywnych warsztatach, a także panelach dyskusyjnych. To wydarzenie cechujące się dużą interdyscyplinarnością, dlatego z pewnością każdy znajdzie coś dla siebie.

Podczas wydarzenia kompleksowo pochylimy się nad dziedziną rehabilitacji kardiologicznej i fizjologii wysiłku. Wśród tematów wiodących znajdują się:

- rehabilitacja w dobie pandemii i po pandemii COVID-19;
- telerehabilitacja i rehabilitacja hybrydowa;
- rehabilitacja kardiologiczna w specyficznych grupach pacjentów;
- programy KOS-zawał i KONS;
- nowe standardy ESC, PTK i SRKiFW;
- Testy wysiłkowe i testy spiroergometryczne
- monitorowanie wysiłku fizycznego;
- prewencja pierwotna i wtórna chorób sercowo-naczyniowych;
- farmakoterapia pacjentów rehabilitowanych kardiologicznie i nie tylko;
- sport i aktywność sportowa w kardiologii;
- czynniki ryzyka chorób układu krążenia.

Program merytoryczny wydarzenia jest niezwykle bogaty i angażujący. Warto podkreślić także, iż na konferencji pojawią się specjalne sesje wykładów prowadzone przez zaproszone sekcje i ассоjacje Polskiego Towarzystwa Kardiologicznego, m.in. Sekcję Kardiologii Sportowej, Asocjacje Niewydolności Serca, Asocjacje Elektrokardiologii Nieinwazyjnej i Telemedycyny, Sekcję Pielęgniarstwa Kardiologicznego i Pokrewnych Zawodów Medycznych, „Klub 30”, Sekcję Farmakoterapii Sercowo-Naczyniowej, Sekcję Prewencji i Epidemiologii, a także Polskie Towarzystwo Medycyny Sportowej.

„Pandemia wymusiła na nas zmianę paradygmatu rehabilitacji kardiologicznej”

Organizatorami wydarzenia są wydawnictwo naukowe Evereth Publishing oraz Sekcja Rehabilitacji Kardiologicznej i Fizjologii Wysiłku Polskiego Towarzystwa Kardiologicznego (SRKiFW). Przewodniczącą Komitetu Naukowego jest prof. dr hab. n. med. Małgorzata Kurpesa, Wiceprzewodniczącymi – prof. dr hab. n. med. Anna Jagier, dr hab. n. med. Dominika Szalewska, a Komitetu Organizacyjnego – dr n. med. Bartosz Szafran.

Dr n. med. Agnieszka Mawlichanów, Przewodnicząca SRKiFW, podkreśla, iż ostatnie Sympozjum miało miejsce w 2019 r. w Wiśle. W tym czasie udało się zorganizować wydarzenie w formule online, jednak zdaniem Przewodniczącej obecnie „wszyscy spragnieni jesteśmy spotkania osobistego, wymiany doświadczeń i bezpośrednich rozmów, nie tylko na sali wykładowej, ale i w kulisach”.

– Cztery lata w sporcie to pełna olimpiada, a w naszej dziedzinie kardiologii można powiedzieć – cała wieczność. Pandemia wymusiła na nas zmianę paradygmatu rehabilitacji kardiologicznej, między innymi stworzyła pole dla rozwoju modelu hybrydowego i monitorowanego telemedycznie. W tym czasie ukazało się wiele ważnych dokumentów, stworzonych przez polskie i europejskie towarzystwa kardiologiczne, dotyczące rehabilitacji, prewencji i aktywności fizycznej. Dynamicznie w naszym kraju rozwija się też program KOS-zawał, przynoszący liczne korzyści, ale też budzący kontrowersje. O tym wszystkim i jeszcze wielu innych sprawach pragniemy podyskutować w czasie naszego majowego spotkania – zapowiedziała dr Mawlichanów.

Rejestracja na 26. Sympozjum Sekcji Rehabilitacji Kardiologicznej i Fizjologii Wysiłku możliwa jest na stronie internetowej konferencji rehabilitacja2023ptk.pl/rejestracja/. Informacje na temat opłatyjazdowej i wydarzeń towarzyszących znajdują się tutaj: rehabilitacja2023ptk.pl/oplata-konferencyjna/.

Informujemy jednocześnie, iż liczba miejsc na konferencji jest ograniczona, dlatego warto zarejestrować się już dzisiaj.

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The effectiveness of swimming therapy methods on gross motor ability in autistic children

Skuteczność terapii pływania na motorykę dużą u dzieci autystycznych

Ridwan Sudirman^{1(A,B,C,D,E,F,G)}, Ira Arini^{1(A,B,C,E)}, Mikkey Anggara Suganda^{2(A,B,D)}

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Abstract

This study aims to apply the swimming therapy method in improving gross motor skills of autistic children. Therapy basically needs to be given to build a better condition. Therapy must also be carried out routinely so that what is lacking in children can be fulfilled gradually. Data collection was carried out by observation and performance tests. In the swimming pool, therapy activities are held twice a week. Barriers experienced by children are the child's gross motor skills that are lacking, so that the ability to balance and activities that require gross motor skills is not optimal. The reason for conducting this research is because children experience obstacles when carrying out activities that require gross motor skills, so a swimming therapy method is needed that suits the needs of autistic children. The research method used was an experiment with Single Subject Research (SSR) using an ABA design. The research findings showed that the application of the swimming therapy method had an effect on increasing gross motor skills in one of the autistic children. This increase was evident from the increase in the mean level from the baseline-1 phase (A1), which was 33%, to the intervention phase (B), which was 52.5% to the baseline-2 phase (A2) which is 81%. It is recommended to develop a swimming therapy program for improve gross motor skills can use the swimming therapy method.

Keywords

swimming therapy methods, gross motor skills, autistic children

Streszczenie

Niniejsze badanie ma na celu zastosowanie terapii pływania w doskonaleniu motoryki dużej u dzieci autystycznych. Terapia ma na celu budowanie lepszej kondycji. Terapia musi być również prowadzona rutynowo, aby stopniowo uzupełniać braki. Zbieranie danych przeprowadzono poprzez obserwację i testy wydajności. Na basenie zajęcia terapeutyczne odbywały się dwa razy w tygodniu. Bariery doświadczane przez dzieci to brak zdolności motorycznych w takim stopniu, że zdolność do utrzymywania równowagi i czynności wymagające dużej motoryki nie są optymalne. Powodem przeprowadzenia badań jest to, że dzieci doświadczają przeszkód podczas wykonywania czynności wymagających dużej motoryki, dlatego potrzebna jest terapia pływania, która odpowiada potrzebom dzieci autystycznych. Zastosowaną metodą badawczą był eksperyment jednopodmiotowy (Single Subject Research - SSR) z wykorzystaniem projektu ABA. Wyniki badań wykazały, że zastosowanie terapii pływania wpłynęło na zwiększenie motoryki dużej u jednego z dzieci autystycznych. Wzrost ten był widoczny na podstawie wzrostu średniego poziomu od fazy podstawowej 1 (A1), która wynosiła 33%, do fazy interwencji (B), która wynosiła 52,5%, do fazy podstawowej 2 (A2), która wynosi 81 %. Zaleca się opracowanie programu terapii pływania w celu poprawy motoryki dużej z wykorzystaniem terapii pływania.

Słowa kluczowe

metody terapii pływania, motoryka duża, dzieci autystyczne

Introduction

Number of people with autism increasing from year to year. In 1987, the number of people with autism was estimated at 1 in 5,000 births. Whereas in 1997, that number changed to 1:500 births. In 2000, it rose again to 1:250 births. In 2006, the number of children with autism was estimated at 1:100 births. In 2007 it was estimated that more than 400,000 children in Indonesia had autism (Larasati, 2017). Autism in childhood is the most commonly seen developmental disorder clear before the child reaches the age of 3 years. It is obvious that autistic children have difficulty learning to communicate verbally and non-verbally [2]. In general, autistic children experience barriers to interaction, communication, and behavior [3]. The complex problems experienced by autistic children not only result in obstacles in learning but also in wider social life [4]. Even so, it does not mean that autistic children do not have potential that can be developed. About 20% of the autistic population has average to above average intelligence levels, so therapeutic assistance is needed to optimize their abilities [5].

One of the recommended activities to optimize abilities and support other therapeutic activities is swimming and hiking therapy activities [6]. The purpose of this swimming therapy activity is a specific activity in the water that aims to develop the child's overall movement abilities by utilizing conventional swimming movements and other variations of movements to achieve the expected goals [7].

Motoric is all the movements that can be obtained by the whole body, while motor development can be referred to as the development of elements of maturity and control of body movements (Tanti Tri Aristianti, Esty Faatinisa, 2022). The wider the child's movement, the wider the movement perception ability possessed by the child, one of the activities that supports the movement perception ability is swimming activity. Because in this activity all the motion devices in the body are moved [9].

A person's physical condition is related to motor problems, in motor autistic children one of the causes of the ability to concentrate and not being strong in self-control is the main factor [10]. learning barriers related to gross motoric problems can be identified by the development of the ability to maintain a body position at one point with two feet, one leg, walking on a boardwalk while stretching both hands, development of ability to perform various movements; if jump and jump, development in dynamic movement (walking, squatting, running, jumping in one activity), development in catching and throwing the ball 3 in various directions and positions; throwing without moving both feet, catching the ball, development in the skills of understanding body position in relation to direction and space, understanding left-right, up-down, fore-back and understanding start-mid-end position [11].

Based on the results of observations and observations, problems were found that in the gross motor aspect in autistic children they were still unbalanced, they were still stiff in squatting, they could not move their legs when freestyle leg movements only moved one leg, children lacked concentration, their attention span was still lacking [12]. Based on the problems above, the focus of the problem of swimming therapy in autistic children is on the development of gross motor skills, especially in gross movements that children are not yet able to do [13].

Autism is a neurobiological development disorder that is very complex/severe in a long life span, which includes disturbances in aspects of social interaction, communication and language, behavior as well as emotional disturbances and sensory perception even in the motoric aspects [14]. Autism is a complex developmental disorder related to communication, social interaction and imagination activity [15]. Children who have autism have several characters, such as problems in communication, problems in social interaction, sensory problems, problems in playing patterns, problems in behavior, and problems in emotions. Swimming is a healthy sport, because almost all the muscles of the body move so that all muscles develop rapidly and the strength of the swimmer increases (Syahputra & Arwandi, 2019).

Motoric is all the movements that can be obtained by the whole body, while motoric development can be referred to as the development of elements of maturity and control of body movements [17]. Motor learning can be interpreted as a process of learning movement skills and fine-tuning motor skills, as well as variables that support or inhibit motor skills and skills. (Jannah & Lestari-nigrum, 2018).

Skills control body movements which include gross muscle control skills [19]. The development of gross motor movements also requires the coordination of certain groups of children's muscles that enable them to jump, climb, run, ride a tricycle, and stand on one leg. In fact, there are also children who can do things that are more difficult, such as somersaults and rollerblading [20].

Fine motor movement is when the movement only involves certain body parts and is carried out by small muscles, such as the skill of using the fingers and precise wrist movements. Therefore, this movement does not require too much effort, but this movement requires careful eye and hand coordination [21]. The better the child's fine motor movements allow the child to be creative, such as cutting paper with straight cutouts, drawing simple pictures and coloring, using clips to hold two sheets of paper together, sewing, weaving paper and sharpening pencils with a pencil sharpener [22]. Locomotor movement is used to move the body from one place to another or to lift the body up like jumping (Andriadi & Saputra, 2021). Other movement abilities are walking, running, skipping, jumping, sliding and running like a running horse [24].

Autistic children think that everything directed at them is a bad thing that they need to avoid. So they tend to be reluctant to do various normal playing activities that require good motor skills and coordination [25].

Research Methods

This study uses a quantitative approach. The method used is an experiment with Single Subject Research (SSR). This method is carried out by giving treatment to research subjects and then measuring the effect of giving the treatment. The design used in this study is the ABA design which is divided into three phases, namely A1 (baseline-1), B (intervention), and A2 (baseline-2).

The steps that need to be carried out in the ABA design include 3 stages, namely:

1. Baseline-1 (A1) is the initial or basic ability. At baseline-1 (A1) where researchers will measure children's gross motor skills. Measurements are administered in a natural setting with 4 sessions or up to 4 sessions shows stable data.

2. Intervention (B) is a condition of giving treatment repeatedly until it reaches a clear trend and level, treatment will be given after the data stabilizes at baseline-1 (A1), the intervention given is by doing swimming therapy activities. Then the child is observed for 8 sessions or until it shows stable data.

3. Baseline-2 (A2) is a condition of increasing gross motor skills in autistic children after being given interventions in swimming therapy activities, so that it can draw conclusions that there is a functional relationship between swimming therapy methods and improving children's gross motor skills. Then observed again for 4 sessions.

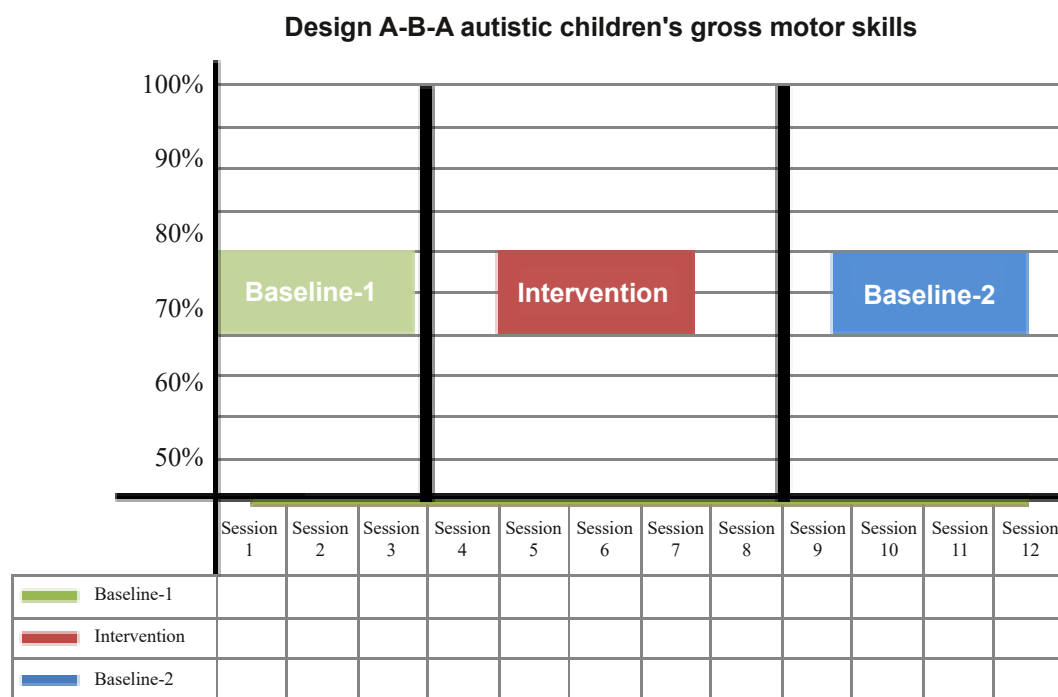


Figure 1. Design ABA of autistic children's gross motor skills

The subject of this research is moderate autistic children running therapy. Data collection techniques are carried out to obtain information or data needed in research. Technique which used in study this is test measure motor ability rude child. Scoring done on every test, in accordance ability which has done by child and noted on format study, after data collected then summed up [26]. The instruments used in this research are form of action test. The use of instruments in the form the test in this study aims to obtain data gorss motor skills (ability motor rough) child on every session increase or decrease [27].

Data analysis

Analysis data made with calculation which can insured answer in a manner scientific on analysis data this own two step in among them are:

- Score the results of the assessment at baseline-1 (A-1) from every subject on each sexy.
- Score results evaluation on condition intervention (B) from the subject on each session.

c. Score the results of the assessment at baseline-2 (A-2) from every subject on every session.

d. Make a research table for scores that have been obtained at baseline-1 (A-1), condition intervention (B), and baseline-2 (A-2).

e. Comparing the results of scores on baseline condition-1 (A-1), score intervention (B) and baseline- 2 (A-2).

f. Make analysis data form chart line, so you can see the changes immediately which happen from all three phases.

g. Make analysis in condition and between condition.

Results

Research result

Collection data which done with measure ability motor rough child. Ability which will be measured consists from 14 ability. Method which used is Experiment Single Subject Research (SSR) with design ABA. Analysis data and discussion study as following:

Results Baseline -1 (A-1)

As for step first which done for conduct

Table 1. Baseline data-1 (A-1) MHB subject (Autistic Children Research sample) ability motor rough

No	Session	Score maximum	Score acquisition	Percentage
1	1	14	4	29%
2	2	14	5	35%
3	3	14	5	35%

It depicted through chart as following:

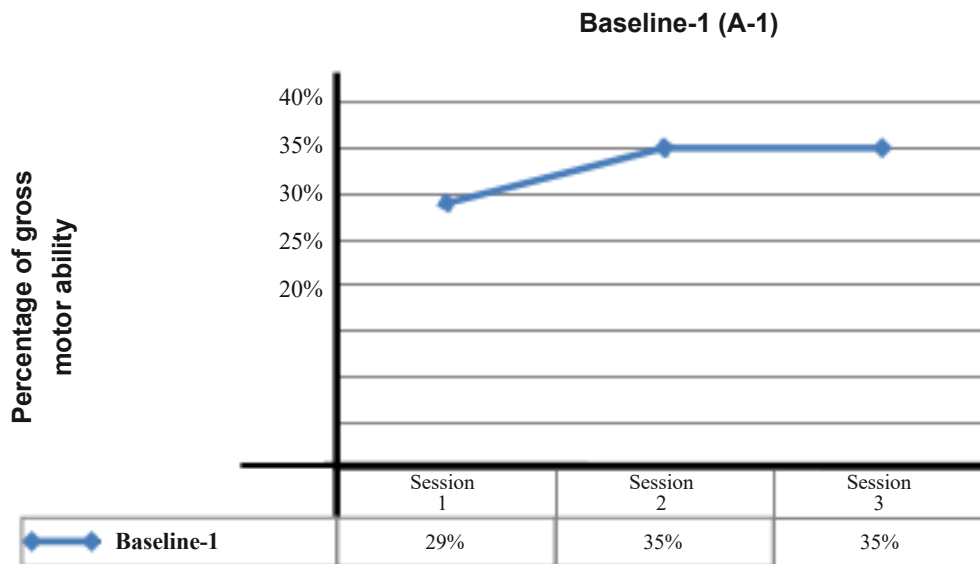


Figure 2. Baseline data-1 (A-1) for MHB subjects ability motor rough

In figure 2 can be seen that the three sessions obtained the mean level by 33%. These results are the final result of the baseline-1 that has been given. The result is a condition beginning child before given intervention.

thermore is do intervention. Intervention Which done in study This using the swimming therapy method to increase ability motor rough. Study This held as much six session meeting. As for results which obtained on intervention (B) as following:

Results Intervention (B)

After taking measurement and obtain data baseline-1, stage fur-

Table 2. Intervention Data (B) MHB Subjects ability motor rough

No	Session	Score maximum	Score acquisition	Percentage
1.	4	14	6	43%
2.	5	14	6	43%
3.	6	14	7	50%
4.	7	14	8	57%
5.	8	14	9	64%
6.	9	14	9	64%

It depicted through chart as following:

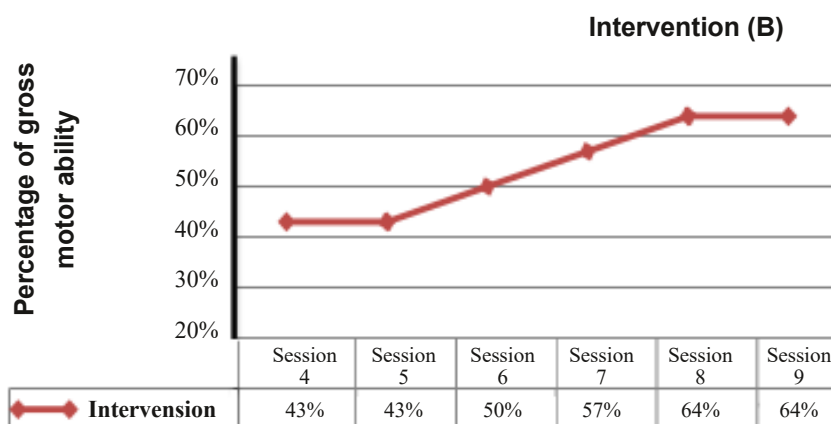


Figure 3. MHB Subject intervention data ability motor rough

After looking at Figure 3 above it can be seen that six session meeting the obtain mean levels by 53.5%. This result is the final result of amount interventions has given. Results the can seen an increase from the previous results. Phase this was shown by MHB subjects in carrying out activities motor rough Which use method therapy swimming.

Results Baseline-2 (A-2)

Stage final from study This ie stage taking data after he did inte-

vention on subject by measuring ability motor rough child, stage This called baseline-2 (A-2). This measurement is carried out as a measure of success from intervention Which has done, so that on Finally can pulled A conclusion exists the relationship between the independent variable and the dependent variable. As for the results Which obtained on baseline-2 (A-2) as following:

Table 3. Data Baseline -2 (A-2) MHB subjects ability motor rough

No	Session	Score maximum	Score acquisition	Percentage
1	10	14	10	71%
2	11	14	12	86%
3	12	14	12	86%

It depicted through chart as following:

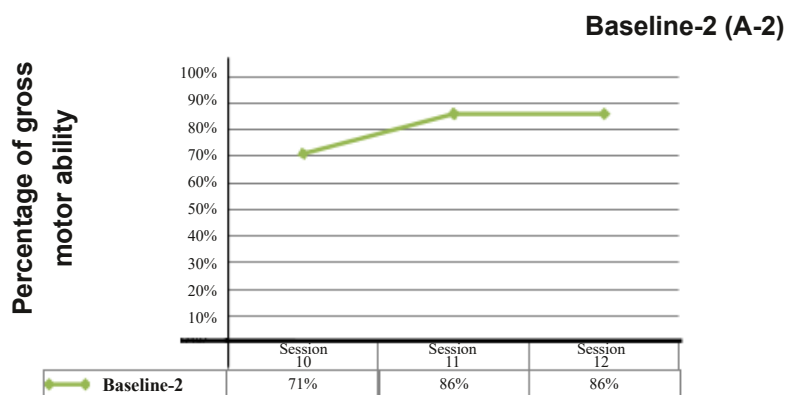


Figure 4. Basline Data-2 (A-2) for MHB subjects ability motor rough

After looking at Figure 4 above, it can be seen that three session meeting the obtain mean levels as big 81%. Based on results the ability motor rough subject MHB experience enhancement com-

pare with baseline-1 (A-1). After exposed three phase the, development And enhancement the abilities possessed by the subject of MHB can be described on explanation next.

Table 4. Recapitulation of development and improvement of MHB subjects ability motor rough

No	Phase	Session	Score aquisition
1	Baseline-1(A-1)	1	29%
2		2	35%
3		3	35%
4	Intervention (B)	4	43%
5		5	43%
6		6	50%
7		7	57%
8		8	64%
9		9	64%
10	Baseline-2 (A-2)	10	71%
11		11	86%
12		12	86%

It depicted through chart as following:

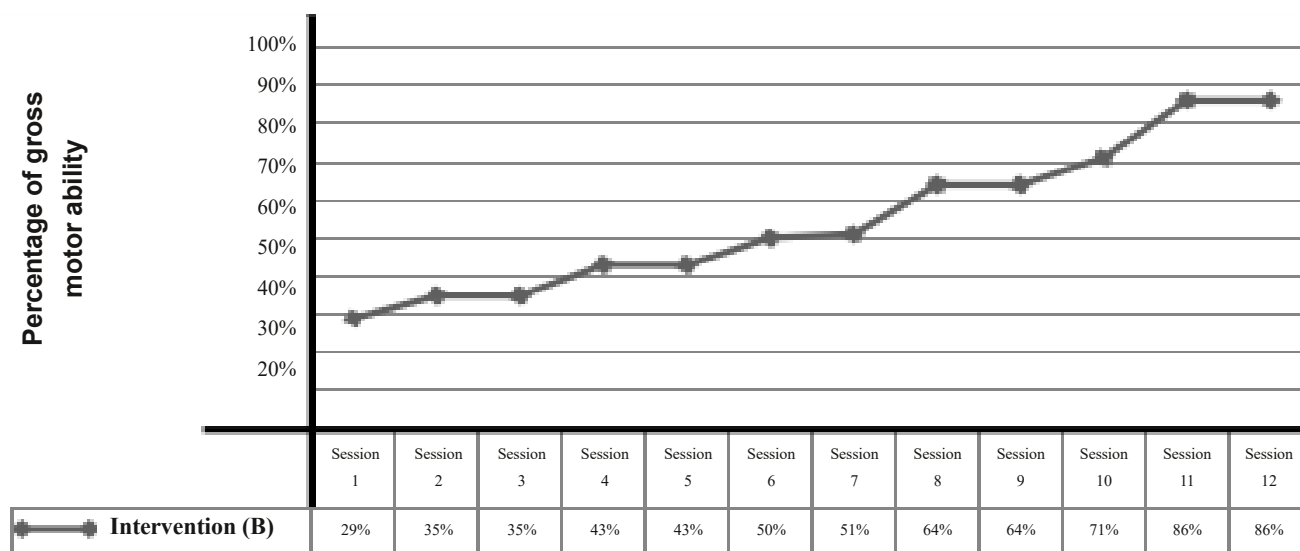


Figure 5. Recapitulation of development and improvement of MHB subjects ability motor rough

Based on the description of Figure 5 shown in the graph shows the gross motor skills of MHB subjects experience enhancement. Matter the can seen from three phases that have been carried out, namely baseline-1 (A-1) to intervention (B) and from baseline-1 (A-1) to baseline-2 (A-2).

Discussion

The review illustrates the importance of physical activity, but requires specific doses of appropriate physical activity at an early age [28]. A multi-faceted intervention can improve body composition and physical fitness of preschoolers [29]. The mHealth program is also recommended to reduce obesity in children aged 4 years [30]. Low cardiorespiratory fitness is a risk factor for childhood obesity [31]. Collection data Which done with measure ability motor rough child. Ability Which will be measured consists from 14 ability. Method Which used is Experiment Single Subject Research (SSR) with design ABA.

As for step First Which done For conduct this research namely measurement on the condition beginning before given intervention [32]. On stage This Measurements were carried out in three sessions. every session carried out according to the Individual Program Plan (RPI) and for its measurement according to the instrument sheet. The results obtained at baseline-1 (A-1) as following:

Based on results acquisition And analysis data in a manner whole, application method therapy swimming For improve gross motor skills in MHB subjects in Kampoeng Learning Swimming Club Bandung. This result can seen from the percentage of the mean level in each phase experienced enhancement.

In the baseline phase-1 (A1) obtained 33% of measurements Which done as much three session. Ability the is ability subject before given treatment or intervention, This showing that ability motor rough subject MHB Still not enough [33].

In the intervention phase (B) there were six session exercise, exercise customized with Plan Program Individual (RPI) arranged according to achievement targets Which expected. Results Which obtained mean levels as big This 52.5% shows an

increase in ability motor rough subject MHB after done intervention [34].

In the baseline phase-2 (A2) is a phase to see condition of the subject after being given treatment or intervention, on phase This done as much three session exercise. Results Which obtained mean levels as big 81% This showing exists enhancement in ability motor rough on subject MHB.

Conclusion

Based on the results of data analysis and discussion, an overview and data were obtained about children's gross motor skills. An overview of the abilities of children who initially experience obstacles in several activities that require gross motor skills, children are already able to do. The motor skills that are capable of being carried out by children are being able to jump with one foot forward five times, being able to walk backwards as far as one meter 3, and being able to stand on one leg.

The application of swimming therapy methods is more effective for improving the gross motor skills of autistic children. This is evident from the graphic analysis and careful calculation of the data obtained in the field. By looking at the graph, you can see an increase in the child's gross motor skills when doing the freestyle swimming technique performed by the child besides that the child's behavior is better. In addition to more effective methods, looking at the psychology and playing activities of children, in general, children really enjoy or enjoy activities carried out in water, making it easier for the training process or improvement to be achieved, easy to motivate children to be enthusiastic and easier to divert children's concentration so that they focus. So it can be concluded that the application of the swimming therapy method can affect gross motor skills in autistic children.

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