
INFLUENCE SCHROTH EXERCISE ON DECREASING THE DEGREE OF SCOLIOSIS IN TEENAGERS :NARRATIVE REVIEW

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ABSTRACT

Background: Scoliosis is a curvature of the spine caused by incorrect posture habits such as sitting and upright. For example. In the wrong sitting position or using a bag that is not correct with a posture will cause pain and can also cause the formation of a type C or S curve in the spine. The findings require many high-quality studies. Therefore, it was necessary to study the effect of Schroth exercise on reducing the degree of scoliosis in teenagers. Objective: To understand the effect of Schroth exercise on reducing the scoliosis curve in teenagers. Methods: a narrative review of population, interventions, comparisons, outcomes using the PICO framework. Articles were identified using 2 databases, PubMed with 791.275 article results, and Google Scholar with 22.900 article results matching keywords. Select items according to the flowchart. Results: A total of 814.175 articles from 2 databases, after screening abstract for title and relevance, 10 articles were identified based on inclusion and exclusion criteria, and 10 articles demonstrated the effect of Schroth exercise on curvature reduction in teenagers who exercises over 2 weeks 3 times/week and 5 times 60 minutes exercise. Conclusion: Training Schroth exercise can reduce the scoliosis curve in teenagers.

Keywords: *Schroth Exercise; Scoliosis; Teenagers*

INTRODUCTION

Scoliosis is approximately 2 times more common in girls than boys ¹. In Indonesia, precisely in Surabaya, 2.93% of children aged 9-16 years suffer from scoliosis with a male to female ratio of 1:4.7 ². Teenagers are divided into 3 categories that is, early teens (10-14 years) middle teens (15-17 years), and third late teens (18-19 years). If this scoliosis continues always, the spinal musculoskeletal system will experience various complaints, including muscle pain, limited range of motion (ROM) of the spine or back pain, muscle contractures, and problems that continue to happen will interfere with daily activities for the patient, such as disorders of the respiratory system, digestive system, nervous system, and cardiovascular system ³.

Research results affecting exercise therapy specifically Schroth in scoliosis patients, the overall effect size was seen to be high, proving that exercise Schroth has a significant effect on patients with idiopathic scoliosis, and exercise schroth it is the recommended treatment method for scoliosis patients⁴.

The purpose of the study was to determine the effect of Schroth exercise against degrading scoliosis in teenagers. The specific objectives of this study were 1) to determine the dose and number of repetitions of the Schroth exercise, and 2) to characterize a teenagers with scoliosis.

METHODS

Narrative reviews are a method used to design research or develop practice guidelines and analyze previously published articles and avoid duplication of research and discover new areas of research that have not been studied. The narrative review aims to reduce the selection of articles by using an effective bibliographic research strategy. The dynamics of review writing narrative based on patterns and textual analysis⁵.

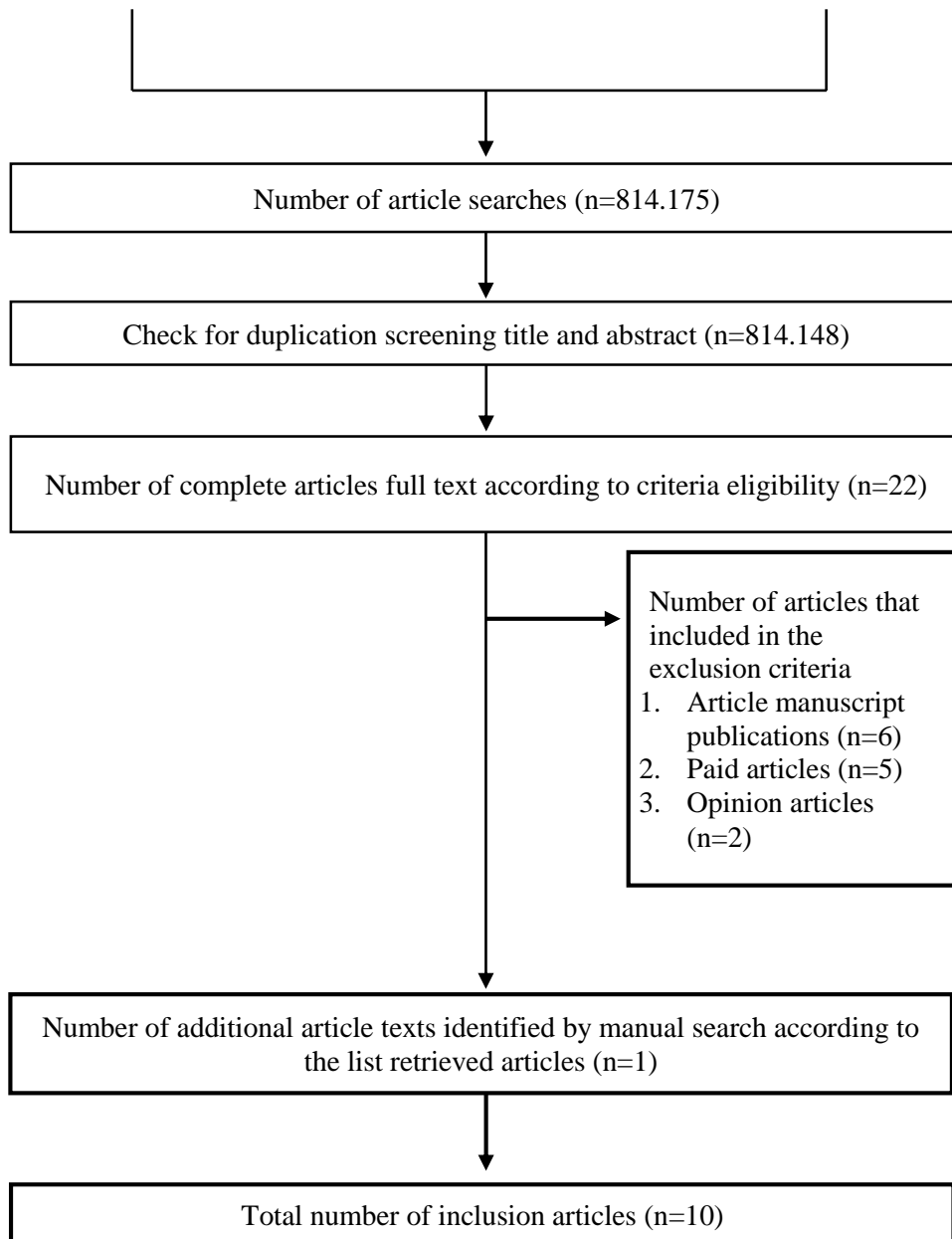
Two databases used in the literature search included Google Scholar and PubMed. The keywords used in the search for articles use the PICO framework format which can help identify aspects that are still separate regarding the application of certain interventions in a population The components contained in the PICO framework are, PICO namely P: Population (teenagers), I: Intervention (Schroth Exercise), C: Comparison (-), O: Outcome (Decreased degree of scoliosis)⁶.

The inclusion criteria used are: 1) Articles submitted publish full text, 2) Articles related to humans, 3) Articles in Indonesian or English, 4) Articles discussing the influence of Schroth exercise against scoliosis in teenagers 5) Articles discussed published in the last 10 years, 6) Research article. The specified exclusion criteria are: 1) Articles in the form of published manuscripts, 2) Articles published in prepaid articles, 3) Articles in publishing in the form of opinions, 4) Articles that are not specific to the topic and teenagers who have comorbidities.

The next stage of the article that has been done screening through abstract is then stored in the machine Mendeley's bibliography and the data that has been searched is stored in a special folder. The next stage is data filtering including abstract screening, article duplication, full text, and flow chart. The author is oriented to the inclusion criteria and exclusion criteria that have been set by the author. Several articles searched 814,175 articles, there were 814,148 duplicate articles, and left 10 articles to do review end of this research.

Google Scholar
(n=22.900)

PubMed
(n=791.275)

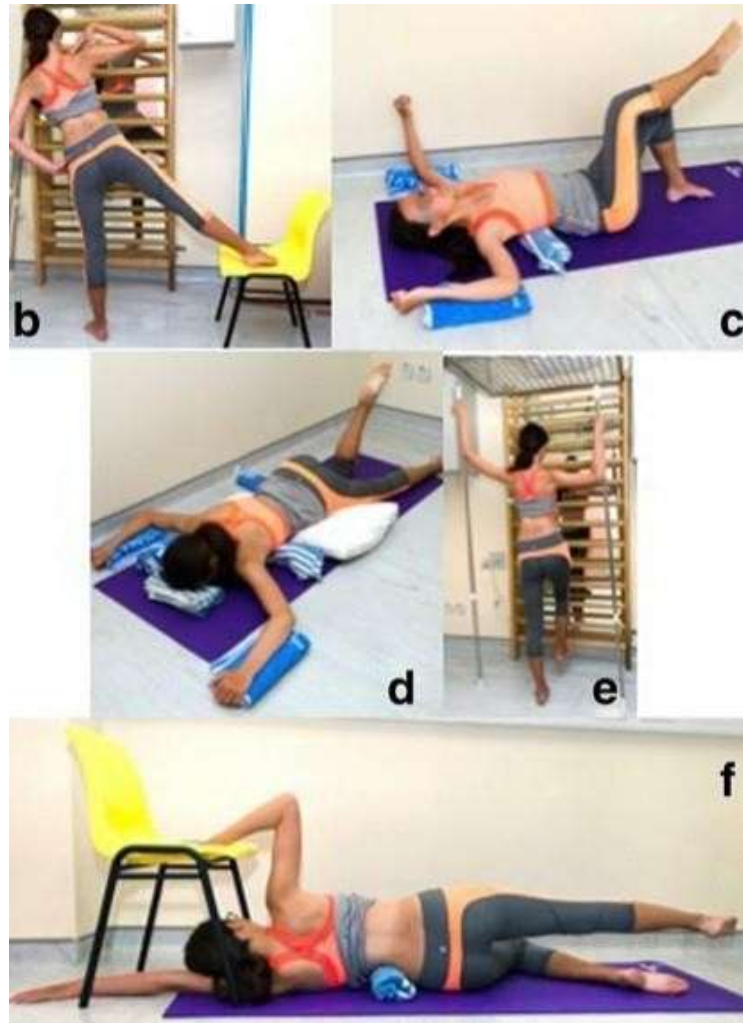


(Diagram Flowchart)

RESULT

No.	Review results	P value	Mark C1	Mark RR	Design study	Researcher	Coding Article
I.	Influence schroth exercise to demotion scoliosis on teenager a.schroth exercise	P=0.001 (p<0.05)	-	-	Pretest posttest design	7	A1
		P<0.001 (p<0.05)	-	-	Pretest posttest design	8	A2
		P=0.046 (P<0.05)	95% 1.1-5.9	-	RCT	9	A3
		P=0.02 (p<0.05)	-	-	A pilot study	10	A4
		P=0.003 (p<0.05)	-	-	RCT	11	A5
		P=0.04 (p<0.05)	-	-	Pretest posttest design	12	A6
		P<0.05	-	-	Pretest posttest design	13	A7
		P<0.05	95% 12.7-14.2	-	RCT	14	A8
		P<0.05	95% 1.9-14.2	70%	RCT	15	A9
		P=0.04 (p<0.05)	95% 1.1-53.8	-	RCT	16	A10
	Dose schroth exercise						
	4 weekss,3x reps/week	P=0.001 (p<0.05)	-	-	Pretest posttest design	7	A1
	12 weeks,2x reps/week	P<0.001 (p<0.05)	-	-	Pretest posttest design	8	A2
	2 weeks,5 sessions,1 hour durations	P=0.046 (p<0.05)	-	-	Pretest posttest design	15	A3
	1 month,30 minutes/session	P=0.02 (p<0.05)	-	-	Pilot study	10	A4
No.	Review results	P value	Mark C1	Mark RR	Design study	Researcher	Coding Article

6 weeks,3x reps	P=0.003 (p<0.05)	-	-	Pretest posttest design	11	A5
8 weeks,4 sessions	P=0.04 (p<0.05)	-	-	Pretest posttest design	12	A6
12 weeks,60 minutes/session	P<0.05	-	-	Pretest posttest design	13	A7
2 weeks,1 hours/week	P<0.05	-	-	RCT	14	A8
1 week,1 hour/session	P<0.05 CI 1.9	-	-	RCT	15	A9
2 weeks,1 hours/session,3 times	P=0.04 (p<0.05)	-	-	RCT	16	A10
Characteristics teenager						
Age 10-15 years	-	-	-	Pretest posttest design	12	A6
Age 10-18 years	-	12.7-14.2	-	RCT	9	A3
Gender						
Woman	58.3%	-	-	Pretest posttest design	7	A1
Man	41.7%	-	-	Pretest posttest design	7	A1



(Picture schroth exercise of scoliosis)

DISCUSSION

The results of all 10 articles confirm that Schroth exercise is effective in lowering the curve in teenagers with scoliosis. Schroth exercise is a form of Physiotherapy intervention for scoliosis. The form of exercise Schroth consists of correction of breathing pattern, correction of postural perception, and postural correction. The purpose of this exercise is to improve the spinal curve of people with scoliosis and strengthen the muscles around the spine⁷.

According to have good results after exercise therapy Schroth for 4 weeks and 1 week every 3 times by hanging on 2 poles, this exercise can stretch the short muscles in the spine and correct the curvature of the curve. This exercise also trains how to form and position the body correctly to create good posture in teenagers who suffer from scoliosis can reduce the degree of the scoliosis curve.

Implementation of exercise therapy Schroth according to for 2 weeks 5 sessions and a duration of 1 hour showed a decrease in the scoliosis curve. According to states that the implementation of the exercise Schroth gave for 4 weeks, 3 times in 1 week there is a maximum decrease in the curve in teenagers with scoliosis.

Characteristics of scoliosis according to which says that scoliosis conditions are many and often occur in the female sex (58.3%). In addition to gender according mentions age is also a characteristic of scoliosis, the age that often occurs scoliosis at the age of 10-18 years. This is because at that age it occurs. During the growth spurt phase, teenagers who do not maintain good posture are more likely to have a scoliosis curve that forms on the spine¹⁴.

Schroth exercise is a therapeutic manual exercise that has the effect of correcting posture, improving the angle of curvature (Cobb's angle), and reducing or eliminating pain (if any). This exercise can be used by health workers, especially physiotherapists as a reference in providing interventions to patients, or can be used as an education home program so that patients can apply the exercises at home. This can increase knowledge so that physiotherapists, and teenagers, can treat these conditions appropriately.

The limitation in this study is the population or sample that the respondents are conscientious about, namely teenagers. However, there is some article that does not mention the education of certain youths. Types of articles Randomized Controlled Trial about influence Schroth exercise in reducing the scoliosis curve in teenagers is still difficult to find and difficult to find and difficult to access in general due to various things such as paid articles.

CONCLUSION

Schroth exercise can be done with a frequency of 3 times in 1 week and a duration of 1 hour with a span of 2 weeks proven to be effective in reducing the curvature of scoliosis, reducing pain in the spine and increasing functional muscle strength of the spine

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