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شبكة المعلومات الجامعية  
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# شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



شبكة المعلومات الجامعية

# جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

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**EFFECT OF POSTOPERATIVE CHEST PHYSIOTHERAPY  
PROGRAM FOR CONGENITAL HEART DISEASE  
IN PEDIATRIC CARE UNIT**

C-19A LP 615.82

Thesis

Submitted in Partial Fulfillment for the Requirement of  
Master Degree in Physical Therapy

By

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Effect of postoperative chest physiotherapy program for congenital heart disease in pediatric care unit. \*Samah Mohamed Abd El-Azem El-Sadany. Supervisors: \*\*Prof. Dr. Faten Hassan Abd El-Azem. Professor in the Department of Growth and Development Disorders in Children and its Surgery. \*\*\*Prof. Dr. Zeinab Salah Seliem. Head of Surgical Cardiac Intensive Care Unit. Professor of Pediatrics. \*Dr. Mohamed Hafad El-Hamadany. Consultant of Pediatric Physical Therapy. Master thesis, 2010.  
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## Abstract

The purpose of the current study was to investigate the effect of postoperative selected chest physiotherapy program for various types of congenital heart diseases in pediatric care unit. **Subject:** Thirty infants of both sexes (22 males and 8 females) in the immediate postoperative period following cardiac surgery in Cardio-Pulmonary intensive care unit (ICU) with age ranged from 3 months to 17 months were included in the study. They were classified into two groups of equal number (control group A and study group B) which were matched in age, sex, severity and complexity. **Methods:** Both groups were assessed in their first day postoperative for arterial blood gases (PH, PaCO<sub>2</sub>, PaO<sub>2</sub>, and SaO<sub>2</sub>), peripheral oxygen saturation by pulse oximetry (SPO<sub>2</sub>) and chest X-ray; these examinations were repeated by the end of 1<sup>st</sup> week (critical stage), 2<sup>nd</sup> week (weaning stage) and 3<sup>rd</sup> week (last stage), except the chest X-ray that was repeated by the end of 3<sup>rd</sup> week. Control group (A) received medical treatment in addition to traditional postoperative respiratory care in form of (humidification, vibration and suctioning). Study group (B) also received the same as in control group in addition to selected chest physical therapy program which included modified posture drainage, percussion, specialized breathing techniques, and assisted cough techniques. The treatment program was conducted for 6 days per / week for 3 successive weeks. Each session was applied for 30 minutes, three times daily thus offering total physiotherapy program of one hour and half daily for 3 weeks. **Results:** The post treatment findings of the current study at the end of last stage revealed that there were signs of moderate hypoxemia and respiratory acidosis in the control group when compared to the results of the study group that showed very mild hypoxemia and normal acid-base balance. By comparing pre to post treatment, the control group deteriorated from critical to last stage, while in the study group the deterioration degree was lower than the control group till the weaning stage then study group showed improvement in last stage. The study group had less pulmonary complications in form of pneumonia and atelectasis than in the control group. **Conclusion:** Selected chest physiotherapy program was very effective in preventing or at least minimizing the incidence of pulmonary complications. Consequently chest physiotherapy program was considered as an integral part of the postoperative management for infants with congenital heart diseases in pediatric care unit.

**Key word:** Postoperative chest physiotherapy program, congenital heart disease, pediatric care unit.



# List of Contents

Contents	Page
<b>Chapter (I): Introduction.....</b>	<b>1</b>
Statement of the problem.....	3
Purpose of the study.....	3
Delimitations.....	4
Limitations.....	4
Significance of the study.....	4
Basic assumptions.....	6
Hypothesis.....	6
<b>Chapter (II): Review of Literature.....</b>	<b>7</b>
<b>Congenital Heart Diseases.....</b>	<b>7</b>
I-Definition.....	7
II- Epidemiology.....	7
III- Etiology.....	8
IV- Classification of Congenital Cardiac Defects.....	9
1-Stenotic lesions.....	10
2-Right to left shunt (cyanotic lesions).....	12
3-Left to Right Shunt Lesions (acyanotic).....	14
4-Mixing lesions.....	16
<b>Management.....</b>	<b>19</b>
I-Assessment.....	19
1- Physical examination.....	19
2- Laboratory and imaging tests.....	20
II-Treatment.....	21
1- Conservative treatment.....	21
2- Surgical treatment.....	22
<b>Post Cardiac Surgical Complications.....</b>	<b>28</b>
I-The post-operative complications for different system of the body.....	28
II-Pulmonary complications.....	30

1-Post-operative pathophysiological changes.....	30
2-Common post-operative pulmonary complications .....	31
3-Factors that affect post-operative complications .....	42
<b>Chest Physical Therapy Interventions Following Cardiac Surgery in Pediatric Intensive Care Unit .....</b>	<b>44</b>
I- Positioning.....	47
II- Postural drainage (bronchial drainage).....	48
III- Percussion and vibration.....	52
IV- Breathing exercise in PICU .....	55
V- Coughing .....	57
VI- Suctioning (airway suctioning) .....	58
<b>Chapter (III): Subjects, Materials and Methods.....</b>	<b>60</b>
I-Subjects .....	60
II-Design of the Study.....	61
III- Instruments and tools.....	62
IV-Procedures.....	68
Statistical Design.....	80
<b>Chapter (IV): Results.....</b>	<b>82</b>
<b>Chapter (V): Discussion.....</b>	<b>165</b>
<b>Chapter (VI): Summary, Conclusion and Recommendations.....</b>	<b>180</b>
Summary.....	180
Conclusion.....	182
Recommendations.....	183
<b>References.....</b>	<b>184</b>
<b>Appendices .....</b>	
<b>Arabic Summary.....</b>	

## List of Tables

Table No.		Page
Table (1):	Classification of congenital cardiac defects.....	9
Table (2):	System approach to postoperative care following surgery for congenital heart diseases.....	29
Table (3):	Age distribution in months for infants in both control (A) and study (B) groups.....	82
Table (4):	Different percentage of patient's diagnosis in both control (A) and study (B) groups.....	85
Table (5):	Glossary of notations .....	87
Table (6):	Pre treatment chest X-ray for both control (A) and study (B) groups.....	88
Table (7):	Comparison of pre treatment mean values of laboratory findings for arterial blood gases (ABG) parameters of both control (A) and study (B) groups.....	89
Table (8):	Comparison of pre treatment mean values of peripheral oxygen saturation percent (SPO <sub>2</sub> ) using pulse oximeter for both control (A) and study (B) groups.....	91
Table (9):	Comparison of pre treatment mean values of average respiratory rate breath/minute for both control (A) and study (B) groups.....	92
Table (10):	Comparison of mean values of laboratory findings for arterial blood gases (ABG) parameters of both control (A) and study (B) groups at end of first week.....	94
Table (11):	Comparison of mean values of peripheral oxygen saturation percent (SPO <sub>2</sub> ) using pulse oximeter for both control (A) and study (B) groups at end of first week.....	96
Table (12):	Comparison of mean values of average respiratory rate breath/minute for both control (A) and study (B) groups at end of first week.....	97
Table (13):	Comparison of mean values of arterial blood gases (ABG) parameters between 1 <sup>st</sup> day and at end of 1 <sup>st</sup> week for each of the control (A) and the study (B) groups.....	99
Table (14):	Comparison of mean values of peripheral oxygen saturation percent (SPO <sub>2</sub> ) between 1 <sup>st</sup> day and at end of 1 <sup>st</sup> week for each of the control (A) and the study (B) groups.....	104

<b>Table No.</b>		<b>Page</b>
Table (15):	Comparison of mean values of average respiratory rate breath/minute between 1 <sup>st</sup> day and at end of 1 <sup>st</sup> week for each of the control (A) and the study (B) groups.....	106
Table (16):	Comparison of mean values of laboratory findings for arterial blood gases (ABG) parameters of both control (A) and study (B) groups at end of second week.....	108
Table (17):	Comparison of mean values of peripheral oxygen saturation percent (SPO <sub>2</sub> ) using pulse oximeter for both control (A) and study (B) groups at end of second week.....	110
Table (18):	Comparison of mean values of average respiratory rate breath/min for both control (A) and study (B) groups at end of second week.....	111
Table (19):	Comparison of mean values of arterial blood gases (ABG) parameters between 1 <sup>st</sup> day and at end of 2 <sup>nd</sup> week for each of the control (A) and the study (B) groups.....	112
Table (20):	Comparison of mean values of peripheral oxygen saturation percent (SPO <sub>2</sub> ) between 1 <sup>st</sup> day and at end of 2 <sup>nd</sup> week for each of the control (A) and the study (B) groups.....	117
Table (21):	Comparison of mean values of average respiratory rate breath/minute between 1 <sup>st</sup> day and at end of 2 <sup>nd</sup> week for each of the control (A) and the study (B) groups.....	119
Table (22):	Comparison of mean values of arterial blood gases (ABG) parameters between 1 <sup>st</sup> week and at end of 2 <sup>nd</sup> week for each of the control (A) and the study (B) groups.....	121
Table (23):	Comparison of mean values of peripheral oxygen saturation (SPO <sub>2</sub> ) between 1 <sup>st</sup> week end and at end of 2 <sup>nd</sup> week for each of the control (A) and the study (B) groups.....	126
Table (24):	Comparison of mean values of average respiratory rate breath/minute between 1 <sup>st</sup> week end and at end of 2 <sup>nd</sup> week for each of the control (A) and the study (B) groups.....	128
Table (25):	Comparison of mean values of laboratory findings for arterial blood gases (ABG) parameters of both control (A) and study (B) groups at end of 3 <sup>rd</sup> week.....	130
Table (26):	Comparison of mean values of peripheral oxygen saturation percent (SPO <sub>2</sub> ) using pulse oximeter for both control (A) and study (B) groups at end of 3 <sup>rd</sup> week.....	132