UNIVERSITI TEKNOLOGI MARA

THE DEVELOPMENT OF SINGING THERAPY PROTOCOL AND ITS EVALUATION ON LUNG FUNCTION AND CHEST EXPANSION: COMPARISON BETWEEN SINGING AND NO SINGING.

NORHUDA BINTI SULAIMAN

MSc

July 2020

AUTHOR'S DECLARATION

I declare that the work in this thesis is carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

Name of Student	:	Norhuda Binti Sulaiman
Student I.D. No.	:	2012853942
Programme	:	Master of Health Sciences – HS781
Faculty	:	Health Sciences
Thesis Title	:	The Development of Singing Therapy Protocol and Its Evaluation on Lung Function and Chest Expansion: Comparison Between Singing and No Singing.

Signature of Student	:	……..
Date	:	July 2020

ABSTRACT

Currently, singing famed as an adjunct therapy has excited numerous research interests since it is said to contribute to various health benefits. Previous qualitative data studies reported that singing had improved patients' psychological, social, stress and physical levels. In terms of corporeal progress, patients enlightened that singing improved their breathing as well as their physical well-being. However, studies on the effects of singing therapy on respiratory measure are inconclusive. Dosage and singing protocol are cited as the contributing factors related to the insignificant results. Hence, the objective of this study is to develop a Singing Therapy Protocol (STP) and to evaluate its effect on lung function and chest expansion. Gaps of the literature substantiated by reviews of experts engaged by this study were carried out to formulate the STP. Thirty physiotherapy students from the Universiti Teknologi MARA form the participants of this study. They were divided equally into the STP group and the No Singing (NS) group. The STP group practiced the STP for two sessions per day, five days per week and consecutively for 4 weeks. The NS group continued their daily routines without additional physical activity. The outcome measures used are lung Function (FEV_1 and FVC parameters) and chest expansion measurements (Upper and lower thoracic). Measurements were taken pre and post the 4 weeks. Data were analysed using the IBM SPSS version 23 software to determine the Within Group and the Between Group changes for all the outcomes of lung function and chest expansion. Results show significant differences between time and group where FEV_1 F (1, 28) =0.069, p=0.005, and FVC F (1, 28) =15.603, p=0.000, but with both effect size being small. No significant difference was found for both the upper and the lower thoracic expansion. For the Between Group analysis, Kruskall-Wallis test was used and it showed a significant difference between the STP group (mean rank=20.80) and the NS group (mean rank=10.20) where H=10.993, p=0.001, Cohen's f=0.781 for FEV_1 mean differences and for FVC mean differences for the STP group (mean rank=22.47) and the NS group (mean rank=8.53) group, H=18.943, p=0.000, Cohen's f = 1.372 respectively. However, there was no significant difference between both groups for chest expansion outcome. This study concludes that practicing the Adopted STP for twice daily, five days per week and continuous routines for 4 weeks improves the lung volumes among the participants. Therefore, the STP has demonstrated itself as a comprehensive exercise for respiratory purposes which comprises of a combination of diaphragmatic breathing and pursed-lip breathing routines. In fact, these facilitated the preparedness of the respiratory muscles before the practice. Hence, this protocol enhanced the thoracic cage movements and improved lung volumes. Indeed, the STP developed by this study could be exploited as an adjunct therapy in clinical practice for patients with respiratory disorders especially those suffering from COPD and the like.

ACKNOWLEDGEMENT

Firstly, I wish to thank Allah, The Benevolent, The Most Merciful, for giving me the opportunity to embark on my Master degree pursuit. My utmost gratitude and thanks goes to my supervisor Puan Kamaria Kamaruddin who really helped me from strength to strength in this arduous undertaking. Indeed, she has been very motivational to me throughout the journey.

My sincere appreciation goes to the Music experts particularly Pn. Hamimi, Ms Mei Foong and Ms Jenifer who reviewed and assisted passionately during all the singing therapy programs. Special thanks to my colleagues and friends for helping me with this study.

Last but not least, my heartfelt appreciation goes to my parents. In their quiet ways they were always there for moral support and inspiration. To my beloved husband and kids I wish to give them this special gift in the way of finally completing this thesis. They were my pillar of determination and strength. Thank you for your patience and sacrifices. To my friend, Nur Aainaa, thanks for your encouragement and walk through together to finish this long journey.

I hope that this thesis will be one of the knowledge to generate more benefits through singing especially in the medical world.

TABLE OF CONTENTS