

***EFFECT OF MUSIC AND NOISE ON SOME  
HORMONES IN ADULT MALE ALBINO RAT***

**THESIS**

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**2013**

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا إِنَّكَ

أَنْتَ الْعَلِيمُ الْحَكِيمُ

صَدَقَ اللَّهُ الْعَظِيمُ

البقرة (٣٢)

## ***ACKNOWLEDGEMENT***

First and foremost, thanks to "**ALLAH**" who is the most beneficial and the most merciful. Peace and greeting unto the prophet "**MOHAMED**".

I would like to express my deepest gratitude to Prof. Dr. **MOHAMED ZAKARYA EL-ETREBY**, Professor of Physiology, Faculty of Medicine, Al-Azhar University, for his keen supervision, generous cooperation, great help, continuous support and encouragement to finish this work.

I wish to express my profound gratitude to Prof. Dr. **ALI MOHAMED EL-HADY**, Professor of Physiology, Faculty of Medicine, Al-Azhar University, for the continuous and generous help he offered to carry out this work and valuable instructions throughout this work.

I am honored to express my thanks to Prof. Dr. **ABD-ELRAZEK ABD-ELHAFEZ YOUSEF**, Professor of physiology, Faculty of Medicine, Al-Azhar University, for his supervision, continuous guidance and spending much effort accomplishing the statistical work of this study.

I am honored to express my thanks to M.r **MOHAMMED SAIED** teacher of music ,for his preparing music used in the experiment.

I am honored to express my thanks to Dr. **MOHAMMED ABO-ELWABA**, for his preparing noise used in the experiment.

I wish to express my profound gratitude to Dr. **EZ-ELDIN KHALIFA**, lecture of histology, Faculty of Medicine, Al-Azhar University, for his aiding in histological study and his continuous and generous help, he offered to carry out this work and valuable instructions throughout this work.

I would like to express my gratitude to all members of physiology department, faculty of medicine, Al-Azhar University, for their great help, cooperation and support.

I am particularly and deeply thankful to my family, who suffered a lot with me during the preparation and finishing of this work.

## List of contents

| Title                               | Page |
|-------------------------------------|------|
| List of tables .....                | 1    |
| List of figures .....               | 3    |
| List of abbreviations .....         | 5    |
| INTRODUCTION.....                   | 6    |
| AIM OF THE WORK.....                | 8    |
| REVIEW OF LITERATURE.....           | 9    |
| ▪ Music.....                        | 9    |
| ▪ Stress .....                      | 16   |
| ▪ Noise .....                       | 20   |
| MATERIALS AND METHODS.....          | 25   |
| RESULTS.....                        | 45   |
| DISCUSSION.....                     | 84   |
| SUMMARY.....                        | 103  |
| CONCLUSION AND RECOMMENDATIONS..... | 105  |
| REFERENCES.....                     | 109  |
| ARABIC SUMMARY.....                 | 135  |

## List of tables

| Table No. | Title | Page |
|-----------|-------|------|
|-----------|-------|------|

### Figures of results:

|                                                                                                     |    |
|-----------------------------------------------------------------------------------------------------|----|
| 1. Differences in plasma ACTH between all studied groups<br>.....                                   | 45 |
| 2. Differences in plasma ACTH between Music and other groups<br>.....                               | 45 |
| 3. Differences in plasma ACTH between Noise and other groups<br>.....                               | 46 |
| 4. Differences in plasma ACTH between music then noise group and<br>noise then music group.....     | 46 |
| 5. Differences in serum Cortisol between all studied groups<br>.....                                | 49 |
| 6. Differences in serum Cortisol between Music and other<br>groups.....                             | 49 |
| 7. Differences in serum Cortisol between Noise and other groups<br>.....                            | 50 |
| 8. Differences in serum Cortisol between music then noise group<br>and noise then music group ..... | 50 |
| 9. Differences in serum Testosteron between all studied groups                                      | 53 |

## List of tables

| Table No. | Title | Page |
|-----------|-------|------|
|-----------|-------|------|

### Figures of results:

|                                                                                                        |    |
|--------------------------------------------------------------------------------------------------------|----|
| 10. Differences in serum Testosteron between music and other groups<br>.....                           | 53 |
| 11. Differences in serum Testosteron between noise and other groups<br>.....                           | 54 |
| 12. Differences in serum Testosteron between music then noise and<br>noise then music groups.....      | 54 |
| 13. Differences in plasma Epinephrin between all studied groups<br>.....                               | 57 |
| 14. Differences in plasma Epinephrin between music and other<br>.....groups.....                       | 57 |
| 15. Differences in plasma Epinephrin between noise and other groups<br>.....                           | 58 |
| 16. Differences in plasma Epinephrin between music then noise.....<br>group and noise then music group | 58 |

# LIST OF FIGURES

| <b><i>Fig. No.</i></b> | <b><i>Title</i></b>                                               | <b><i>Page</i></b> |
|------------------------|-------------------------------------------------------------------|--------------------|
| <b>1</b>               | differences in plasma ACTH between all studied groups .           | <b>61</b>          |
| <b>2</b>               | differences in serum Cortisol between all studied groups.         | <b>61</b>          |
| <b>3</b>               | differences in serum Testosterone between all studied groups.     | <b>62</b>          |
| <b>4</b>               | differences in serum Epinephrine between all studied groups.      | <b>62</b>          |
| <b>5</b>               | differences in plasma ACTH between Music and other groups         | <b>63</b>          |
| <b>6</b>               | differences in serum Cortisol between Music and other groups.     | <b>63</b>          |
| <b>7</b>               | differences in serum Testosterone between Music and other groups. | <b>64</b>          |
| <b>8</b>               | differences in plasma Epinephrine between Music and other groups. | <b>64</b>          |
| <b>9</b>               | differences in plasma ACTH between Noise and other groups.        | <b>65</b>          |
| <b>10</b>              | differences in serum Cortisol between Noise and other groups      | <b>65</b>          |



|           |                                                                                              |           |
|-----------|----------------------------------------------------------------------------------------------|-----------|
| <b>11</b> | differences in serum Testosteron between Noise and other groups.                             | <b>66</b> |
| <b>12</b> | differences in plasma Epinephrine between Noise and other groups.                            | <b>66</b> |
| <b>13</b> | differences in plasma ACTH between music then noise group and noise then music group.        | <b>67</b> |
| <b>14</b> | differences in serum Cortisol between music then noise group and noise then music group      | <b>67</b> |
| <b>15</b> | differences in serum Testosteron between music then noise group and noise then music group.  | <b>68</b> |
| <b>16</b> | differences in plasma Epinephrine between music then noise group and noise then music group. | <b>68</b> |

# LIST OF ABBREVIATIONS

|             |                                  |
|-------------|----------------------------------|
| <b>ACTH</b> | adrenocorticotrophic hormone     |
| <b>SAM</b>  | Sympatho-adrenomedullary system  |
| <b>CRF</b>  | Corticotrophin releasing factor. |
| <b>HPA</b>  | Hypothalamic-pituitary-adrenal.  |
| <b>NGF</b>  | Nerve growth factor              |
| <b>BDNF</b> | Brain derived neurotropic factor |



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# **INTRODUCTION AND AIM OF THE WORK**

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## INTRODUCTION

Music has been a part of human society at least for the past 40,000 years and most likely much longer where, people typically interact with music and value it for its capacity to evoke and regulate emotions, provide enjoyment, comfort, relieve stress, alter mood and elicit relaxation responses (*Magill-Levreault, 1993; Juslin and Laukka, 2005*).

Such music-induced emotions are often accompanied by physiological reactions, such as changes in heart rate, respiration, skin temperature, conductance and hormone secretion e.g cortisol, oxytocin and B-endorphin (*Lundqvist et al., 2009*).

People generally use music in different ways depending on the time, mood and environment. For instance, some people use music as a stimulant, others as a tranquilliser, some for intensity and feeling, others as an alternative therapy, some for gaining understanding of their world, while others enjoy its pure abstraction qualities (*Jourdain, 1997*).

Music stimuli have biological effects on human behavior by engaging specific brain functions involved in memory, learning and multiple motivational and emotional states **(Thaut, 1990)**.

On contrast, Stress can be defined as the psychophysiologic reaction of the organism to a variety of emotional or physical stimuli that threaten homeostasis **(Forsythe, 2004)**.

Noise stress is implicated in various illness of human and it is responsible for increased morbidity associated with modern life style **(Mahmood et al., 2007)**.

Noise is an environmental pollutant capable of causing hearing impairment and widespread disturbances at several levels in human organs and apparatus due to chemical and physiological modifications of endocrine, cardiovascular and nervous systems **(Gloag, 1980 ; Alario et al.,1987)**.

There are several non-auditory physiological effects of noise exposure including; hypertension, ischemic heart disease, annoyance, disturbed serum lipids, platelet count, plasma viscosity, glucose and reduced motor efficiency **(Babisch, 1998; Babisch, 2000; Elise et al., 2002; Theebe, 2004)**.

## **Aim of the work**

It was hypothesised that listening to light music from preselected designer music collections may be alleviate the disturbance of homeostasis produced by noise . So the aim of this study is to explore the effect of music and noise on some hormones of suprarenal gland and its histological structural changes.



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# **REVIEW OF LITERATURE**

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