

بسم الله الرحمن الرحيم



HOSSAM MAGHRABY



شبكة المعلومات الجامعية التوثيق الالكتروني والميكرو فيلم



HOSSAM MAGHRABY

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
على هذه الأقراص المدمجة قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



HOSSAM MAGHRABY



Triggers of Migraine in Patients Attending Headache and Neurology Outpatient Clinics at Ain Shams University Hospitals

Thesis

Submitted for Partial Fulfillment of Master Degree in Family Medicine

By

Nourhan Nader Mohamed Elguindy
(M.B.B.Ch.)

Under supervision of

Prof. Daa Marzouk Abd El-Hamid

Professor of Community, Environmental and Occupational Medicine
Faculty of Medicine- Ain Shams University

Assist. Prof. Tamer Hussein Emara

Assistant Professor of Neurology Medicine
Faculty of Medicine - Ain Shams University

Assist. Prof. Mohamed Mahmoud Fouad

Assistant Professor of Neurology Medicine
Faculty of Medicine - Ain Shams University

Assist. Prof. Lamyaa Said Elbagoury

Assistant Professor of Community, Environmental and Occupational Medicine
Faculty of Medicine - Ain Shams University

Faculty of Medicine
Ain Shams University
2021

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قَالَ

سَبِّحْ اِنَّكَ لَا تَعْلَمُ لَنَا
اِلَّا مَا عَلَّمْتَنَا اِنَّكَ اَنْتَ
الْعَلِيمُ الْعَظِيمُ

صدق الله العظيم

سورة البقرة الآية: ٣٢

Dedication

I would like to thank my Mother, and everything: **Nirvana AbdulAziz Elsabrout** for her limitless support. Thank You for Your Unconditional Love and Friendship, and Showing Me Grace when I didn't deserve it. Perhaps it is easier for me to take my frustrations out on you than anyone else in this world because no one will love me limitlessly and unconditionally like you have already done and still do. There were times when I was a total burden to you; however, you loved me anyway, and for that, I am forever grateful. Thank you for comforting me, and supporting me emotionally through my awkward days. Thank you for giving me literally everything, sacrificing your personal career, time, and even health. You have sacrificed so much in order to give me a better life than you had when you were young. Life has been difficult and there have been times when I've felt like giving up, when things were not going my way. Each time, you were there to remind me of my worth as a human being. You encouraged me to keep reaching for the unreachable and never settle for anything less than I deserved. No matter how bizarre my dreams were, you always told me to go after what would make me happy. As I get older, I realize more and more how much you have done for me and continue to do every day. So, Thank You, Mother

I also would like to thank my Backbone, and Supporter, My Father: **Nader Mohamed Elguindy** for pushing me towards success. I recently realized the true depth and breadth of your presence. I've realized that your spirit, your influence, your character, your quiet, and strong presence are invaluable to me. You've taught me to be fair, humble, kind, independent; to be a rebel, a hippie, and to be open. In you I see the gift of inherit impeccable intelligence and the richness born from a devotion to order. I strive to replicate your seemingly effortless dedication to self-love and personal care. You've not been perfect, however, I've watched you grow and become a better version of yourself, which not only makes me proud, but has given me deep knowing about the gifts life brings with time and maturity. You will always be my best friend, my greatest mentor, my motivation and my deepest roots. Your perpetual belief in my limitless potential empowers me every single day. My love for you is endless. I'm eternally grateful for the knowledge you shared with me and the irreplaceable life lessons that I live by. I give you my word that I will fearlessly chase my wildest dreams as "**Your Black horse**" like you used to call me. I will let my light always shine bright. I will never give up and I will never back down from what I believe in. I will do the right things for the right reasons and I will treasure my time on this earth.

Acknowledgment

*First and foremost, I feel always indebted to **ALLAH**,
the Most Kind and Most Merciful.*

*I'd like to express my respectful thanks and profound gratitude to **Prof. Daa Marzouk Abd El-Hamid**, Professor of Community, Environmental and Occupational Medicine Faculty of Medicine- Ain Shams University for her keen guidance, kind supervision, valuable advice and continuous encouragement, which made possible the completion of this work.*

*I am also delighted to express my deepest gratitude and thanks to **Dr. Tamer Hussein Emara, and Dr. Mohamed Mahmoud Fouad** Assistant Professors of Neurology Faculty of Medicine - Ain Shams University, for their kind care, continuous supervision, valuable instructions, constant help and great assistance throughout this work.*

*I am deeply thankful to **Dr. Lamyaa Said Elbagoury**, Assistant Professor of Community, Environmental and Occupational Medicine Faculty of Medicine - Ain Shams University, for her great help, active participation and guidance.*

*I am also thankful to **Subjects** of this study for their cooperation.*

Nourhan Nader

Abstract

Background: Migraine is the second most common cause of headache, affecting approximately 15% of women and 6% of men. Also, it is one of the most ten disabling diseases in the world. **Objectives:** To study the triggers of migraine headache in a group of Migraine patients attending Headache clinic at Ain Shams University Hospitals. **Methods:** A descriptive study was carried out among 292 migraine cases from different parts of Cairo governorate from December 2019 to March 2020. The types and criteria of migraine headache were registered and tabulated to be compared with others. Case definition of migraine was based on the International Headache Society (IHS) criteria. **Results:** 85.6% were females. 41.8% of the patients were aged between 30-39 years. Stress or anxiety or family problems was the commonest trigger (89%), followed by fatigue (86.3%), too little sleep (staying up late) (82.2%), loud noises (77.7%), Hunger, fasting and missing meals (75.3%), Bright lights or and sun exposure (75%), and in relation to females menstruation (61.9%), hot weather (61.3%), too much sleep (46.9%), odors (46.2%), while the least triggers were physical exercise, caffeinated drinks, smoking, chocolate and dairy products, and ice-cream to be 28.8%, 26%, 24.7%, 23.3%, 16.1% respectively. 40.1% of the study population had positive family history of migraine, 30.1% of them reported major stresses (transportation, marriage, or death of a close relative) in the last year. **Conclusion:** Stress, anxiety, family problems, fatigue, too little sleep (staying up late), and loud noises were the commonest triggers of migraine headache. Family history was present in 41.1% of migraine patients.

Keywords: Triggers, Migraine, Stress, Sleep, Noises, Hunger.

List of Contents

Title	Page No.
List of Tables	i
List of Figures	ii
List of Abbreviations.....	iii
Introduction	1
Aim of the Work.....	14
Review of Literature	
Definition & Types	15
Prevalence of Migraine.....	19
Burden of Migraine Relative to Economy, Years of Disability, and Quality of Life	24
Pathophysiology of Migraine	27
Common Triggers of Migraine.....	32
Management of Migraine: (Prevention, Prophylaxis, and Treatment)	53
Role of Family Physician	56
Subjects and Methods:.....	64
Results	70
Discussion	83
Summary	93
Conclusion	95
Recommendations	96
References	97
Appendix.....	121
Arabic Summary	—

List of Tables

Table No.	Title	Page No.
Table (1):	Demographic data (N=294).....	71
Table (2):	Criteria of migraine attacks.	72
Table (3):	Warning signs before migraine.....	73
Table (4):	Family and medical history.	74
Table (5):	Description of migraine attack and associated symptoms.....	75
Table (6):	Relation between gender and symptoms.....	76
Table (7):	Relation between age and symptoms.	77
Table (8):	Relation between gender and severity.....	78
Table (9):	Relation between age and severity.	78
Table (10):	Relation between sex and migraine triggers.	80
Table (11):	Relation between severity and migraine triggers.	81
Table (12):	Relation between age and migraine triggers.	82

List of Figures

Fig. No.	Title	Page No.
Figure (1):	Column chart showing Age distribution	71
Figure (2):	Frequency of Migraine triggers showing Anxiety, and Psychological problems were the most common triggers followed by Fatigue, and Too little sleep, while dietary triggers were the least ones.	79

List of Abbreviations

Abb.	Full term
AH.....	Airplane Headache
CBT.....	Cognitive behavioral therapy
CDAI.....	Crohn's disease activity index
CGRP	Calcitonin gene-related peptide
CM	Chronic Migraine
CSD.....	Cortical spreading depression
ED.....	Emergency department
EDS.....	Excessive day sleepiness
FP	Family Physicians
GBD	Global Burden of Disease
HIT-6	Headache Impact Test
IBD	Inflammatory bowel disease
ICHD-III.....	International Classification of Headache Disorders, 3rd edition
IHS	International Headache Society
MA	Migraine with aura
MO	Migraine without aura
MSG.....	Monosodium glutamate
MSQ	Migraine-specific QOL questionnaire
NHIS.....	National health insurance service
NSAIDs	Non-steroidal Anti-Inflammatory Drugs
OTC	Over the counter analgesics
QOL	Quality of life
sTMS	Single pulse transcranial magnetic stimulation
TCC.....	Trigeminocervical complex

List of Abbreviations Cont...

Abb.	Full term
TTH	Tension-type headache
WHOQOL-BREF	World Health Organization QOL Brief
YLDs.....	Years lived with disability

**PROTOCOL OF A THESIS FOR PARTIAL FULFILMENT
OF MASTER DEGREE IN FAMILY MEDICINE**

**Title of the Protocol: Triggers of Migraine in patients attending
Headache and Neurology outpatient clinics at AinShams University
hospitals.**

**Postgraduate Student: R/ Nourhan Nader Elguindy
Degree: M.B.BCh degree**

**DIRECTOR: Prof. Diao Marzouk AbdelHamid
Academic Position: Professor of Community, Environmental, and
Occupational Medicine.
Department: Family Medicine.**

**Co-DIRECTOR: Dr. Tamer Hussein Emara.
Academic Position: Assistant Professor.
Department: Neurology Medicine.**

**Co-DIRECTOR: Dr. Mohamed Mahmoud Fouad.
Academic Position: Assistant Professor.
Department: Neurology Medicine.**

**Co-DIRECTOR: Dr. Lamyaa Said Elbagoury.
Academic Position: Lecturer.
Department: Community, Environmental, and Occupational
Medicine.**

**What is already known on this subject? AND
What does this study add?**

Already known: Migraine is one of the most ten disabling diseases in the world (*Leonardi, 2015*).

The most common trigger factors all over the world experienced by the patients were stress, lack of sleep, weather, menstruation, and diet (*Wöber et al., 2006*)

What will be added: investigating trigger factors might help in understanding migraine.

The type of triggers and availability of preventive medication will influence headache characteristics.

1. INTRODUCTION/ REVIEW

Migraine is a neurovascular disease characterized by unilateral throbbing headache associated with vomiting, phonophobia, or photophobia (*Vincent and Wang, 2018*). It is considered the seventh disabling disease in the whole world (*Steiner, Stovner and Birbeck, 2013*) that leads to many disabilities such as: deterioration in concentration, social life, and activity, which results to poor work environment and economic burden (*Ibrahim et al., 2017*), (*Schramm et al., 2016*).

There are several triggers to migraine such as: depression, stress, epilepsy, lack of sleep, and caffeinated drinks (*Dodick, 2009*). It has been found that migraine is more common in stressed than nonstressed individuals and among females than males (*Lucchesi et al., 2016*), (*Rutberg and Öhrling, 2012*).

Nowadays, stress is the commonest trigger factor in approximately 80% of migraine patients followed by lack of sleep, and chronic fatigue (*Park et al., 2016*). It contributes in new-onset of attacks and chronic migraine as well (*Mäki et al., 2008*), (*Manack, Buse and Lipton, 2011*)

A meta-analysis of 25 publications was conducted to assess the 10 most common triggers to migraine. According to its results, stress was the commonest (58%), auditory causes (56%), Fasting, and hormonal (44%),