Prevalence and Risk Factors of Varicose Veins in Women in Childbearing Period Attending Primary Health Care Units in Cario

Thesis

Submitted For Partial Fulfillment of Master Degree in Family Medicine

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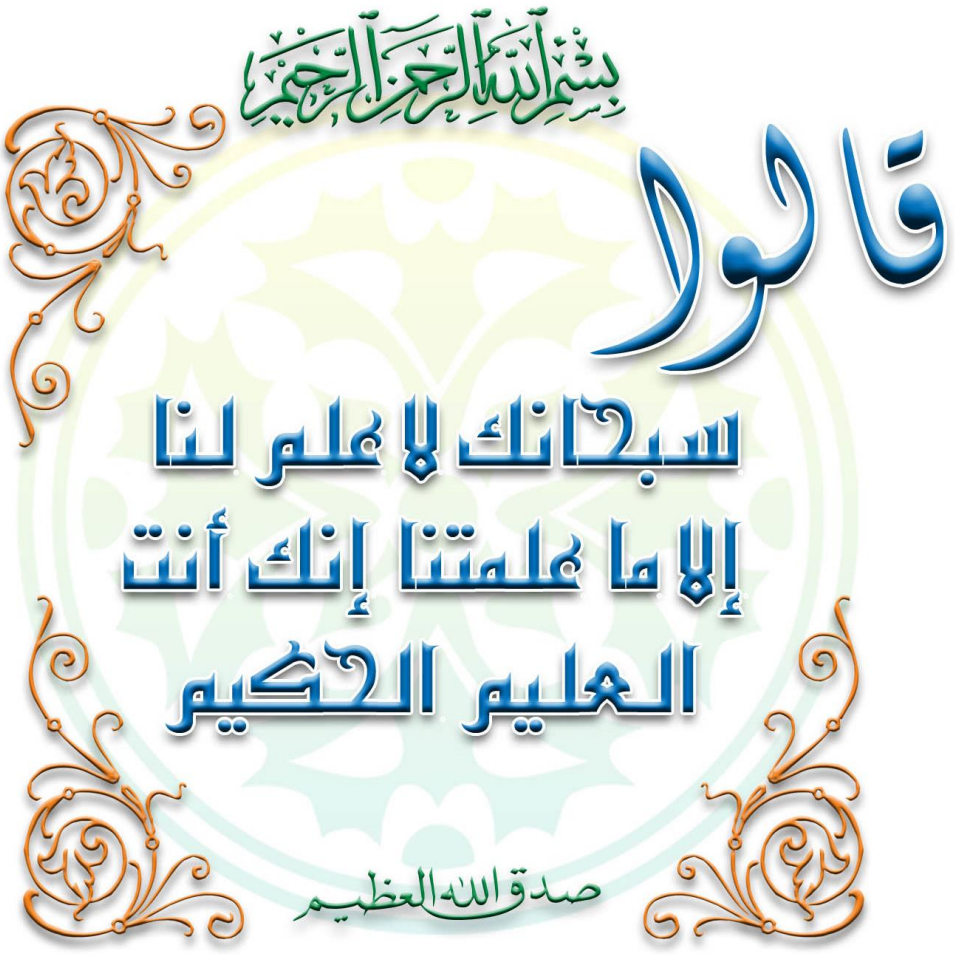

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ABSTRACT

Background: the complete etiology of VV is still partially understood despite the fact that it is a very common disease affecting all ages from teenagers to elderly people. There is a scarcity of national literature investigating prevalence and risk factors of VV especially among women in their childbearing age in the general population through PHC units.

Objectives: To measure the prevalence and identify risk factors of VV among women in the child bearing age (15-55 years old) attending FHC units in Cairo.

Methodology: A cross sectional study was conducted through systematic random sample among women in the child bearing period (15-55years old) visiting family health care center of **El-Nahda at El Salam2 medical area in Cairo for any reasons. Data was collected from participants through interview questionnaire and clinical examination.**

Results: Among 231 participants, the prevalence of VV was 51.1% and the most significant risk factors were age, occupation, educational level, weight, physical activity, duration of standing in working day and exercise duration each day**,** hypertension, history of major contusion with prolonged healing LL, having fracture in lower extremities, family history of having varicosities and previous piles operation.

Conclusion: there was high prevalence of VV in legs among females aged (15 – 55 years old) and it was associated with duration of exercise and family history.

Recommendations: health education programs for preventing VV including increase exercise duration, weight control, decrease standing duration, and screening for those having family history.

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List of Abbreviations

Abb.	Full term
ACCP	American College of Chest Physicians
AVF	American Venous Forum
B	*Regression coefficient*
BMI	Body Mass Index
BP	Blood Pressure
CEAP	*C: Clinical manifestations, E: Etiological factors, A: Anatomic distribution of disease and P: underlying Pathophysiological findings*
CI	Confidence Interval
CT	Computed Tomography
CVD	Chronic Vascular Disease
CVI	Chronic Venous Insufficiency
DP	Dynamic Pressures
DVT	Deep Vein Thrombosis
EVLA	EndoVenous Laser Ablation
FDA	U.S Food and Drug Administration
FE	Fischer Exact
FHC	Family Heath Center
GSV	Great Saphenous Vein
HP	Hydrostatic Pressures
HR	Hazard Ratio
HRT	Hormone replacement therapy
Ht	Heights
ICP	Intermittent Compression Pump
IVUS	IntraVascular UltraSonography
KCD	Korean standard Classification of Diseases
LL	Lower limb
LT leg	Left leg
MIP	Maximum Intensity Projection

List of Abbreviations Cont...

Abb.	Full term
MPFF	Micronized Purified Flavonoid Fraction
MR	Magnetic Resonance
MTS	May Thurner Syndrome
OCP	Oral Contraceptive Pills
OR	Odd Ratio
P	P value
PE	Pulmonary Embolism
PET	Positron Emission Tomography
PHC	Primary Heath Care
QOL	Quality Of Life
RA	Right Atrium
REC	Research Ethics Committee
REVAS	Recurrent Varicose Veins After Surgery
RFA	Radio Frequency Ablation
RR	Respiratory Rate
RT leg	Right leg
SD	Standard deviation
SEPS	Subfacial Endoscopic Perforator Surgery
SFJ	Sapheno Femoral Junction
SPJ	Sapheno Popliteal Junction
SPSS	Statistical Package for Social Sciences
SSV	Short Saphenous Vein
STS	Sodium Tetradecyl Sulfate
SVS	Society for Vascular Surgery
TIPP	Trans Iiiuminated Powered Phlebectomy
VCSS	*Venous Clinical Severity Score*
VEGF	*Vascular Endothelial Growth Factor*
VV	*Varicose vein*

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Protocol

Prevalence and Risk Factors of Varicose Veins in Women in Childbearing Period Attending Primary Health Care Units in Cairo

Protocol of thesis for Partial Fulfillment of
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Introduction

Varicose veins are abnormally swollen (dilated) and tortuous (twisted) veins and usually situated quite near the surface and visible beneath the skin. For many years, veins have been thought to function only as passageways for blood to flow back into the heart but in recent years it has been understood that the venous system perform many functions that are vital to the whole circulatory network; such as their capability of constricting and dilating, storing large volumes of blood for use in other areas of the circulation, and even to regulate cardiac output ***(Vanhoutte et al.;1997)***.

Varicosity can involve the main axial superficial veins—the great saphenous vein (GSV) or the small saphenous vein (SSV)—or any other superficial vein tributaries of the lower limbs. Most varicose veins are due to primary venous disease. The most frequent etiology is likely an intrinsic morphologic or biochemical abnormality in the vein wall, although the etiology can also be multifactorial. ***(Labropoulos N. et al.; 1997)*** have proposed that the origin of venous reflux in patients with primary varicose veins can be local or multifocal structural weakness of the vein wall and that this can occur together or independently of proximal saphenous vein valvular incompetence.

The prevalence of varicose veins in women older than 18 years in Saudi Arabia has reached 49.6% in 2005according to ***(Bawakid et al.; 2005)***. In Iran the Prevalence of varicose veins among female hairdressers in Shahroud was 47.7% ***(Amanpou et al.; 2012)***.

The estimated prevalence in the UK adult general population ranges from 20% to 40% ***(Michaels et al.; 2006)***. The age stratified prevalence of truncal varicose veins measured in the Edinburgh Vein study was 11.5% among the 18-24 age group, increasing to 55.7% among the 55-64 age group ***(Robertso et al.; 2008)***.

A national study on 120 women complaining of chronic pelvic pain for more than 6 months revealed that 28.3% of them had pelvic varices by transvaginal ultrasound. Among those diagnosed with pelvic varices 76.47% had other types including perineal, vulvar and lower limb varices. This study also demonstrated an association between age, parity, obesity, and prolonged standing with the condition ***(Gouda W. A.; 2012).***

The complete etiology of varicose veins is still partially understood despite the fact that it is a very common disease affecting all ages from teenagers to elderly people. The occurrence of varicose veins varies in different parts of the world geographically, being highest in the western world ***(Robertson et al.; 2008),*** its occurrence also increases with advancing age ***(Kroeger et al.; 2004).***

Other reported risk factors include female gender as the prevalence among them ranges from 25% to 55% in women in population-based studies ***(Robertson et al.; 2008).*** Positive family history of varicose veins, obesity especially in women, alcohol consumption, smoking and prolonged standing posture at work ***(Lee et al.; 2003).***

Patients with varicose veins may present with no symptoms at all -the varices are then of cosmetic concern only, or with an underlying psychologic impact. Psychologic concerns related to the cosmetic appearance of varicose veins will, however, reduce a patient's quality of life(QOL) in many cases. Symptoms related to varicose veins include tingling, aching, burning, pain, swelling, sensations of heaviness, itching skin, restless legs, leg tiredness, and fatigue ***(Langer et al.; 2005).***

Varicosities can also develop as a result of secondary causes, such as previous deep vein thrombosis (DVT), deep venous obstruction, superficial thrombophlebitis, or arteriovenous fistula. Varicose veins may also be congenital and present as a venous malformation.***(Caggiati et al.; 2002).***

The American Venous Forum developed a detailed descriptive classification system, CEAP, for chronic venous disorders in 1994 which was published in 25 journals and books. It was based on clinical manifestations (C), etiological factors (E), anatomic distribution of disease (A), and underlying pathophysiological findings (P). In 2004 a revised version of the basic CEAP classification -advanced CEAP classification- was published *(Eklöf et al.; 2004).*

In the Framingham study in USA, the incidence of new cases of varicose veins per year was 2.6% in women and 1.9% in men *(Brand et al.; 1988).*

There is a scarcity of national literature investigating prevalence and risk factors of varicose veins especially among women in their childbearing age in the general population through PHC units.

Research question

What are the prevalence and risk factors of varicose veins among women in the age group of 15 to 55 years old attending PHC units in Cairo?

Objectives of the study

1) To measure the prevalence of varicose veins among women in the child bearing age (15-55 years old) attending PHC units in Cairo.

2) To identify risk factors of varicose veins among women in the child bearing age attending PHC units in Cairo.

Subjects and Methods

Study design:

A Cross sectional study will be implemented

Sample type:

Systematic random sample will be collected; sample will be collected from a primary health care unit twice weekly.

Study setting:

A primary health care unit at El-Nahda medical area in Cairo- Egypt.

Participants and duration:

All women in the desired age group (15-55years old) visiting the selected PHC unit for any reason are eligible, they will be invited to participate in the study after their voluntary approval and verbal consent obtained . The sample collection will occur in 4 to 5 months duration.

Sample size:

Based on the lowest prevalence of varicose veins in females 29%, the highest recorded prevalence 55%, power of study 80%, alpha error 5%, the required sample size is **200 subjects**. The program used for calculating sample size was STATA10.