



YAYASAN JANTUNG MALAYSIA
(The Heart Foundation of Malaysia)

BERITA *yayasan* **Jantung** *Malaysia*

Volume 52, 2019

KDN No. PP9491/08/2013 (032776)

The Hidden Dangers of E-Cigarettes and Vaping



DATUK DR J.S. SAMBHI
P.J.N., M.B.B.S., F.R.C.O.G.,
(London), F.A.M.M.,
F.M.S.A. (Hon)
Chairman

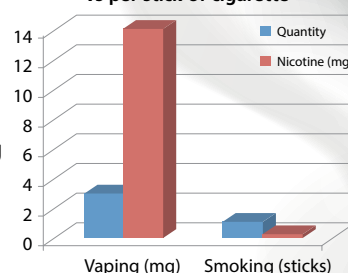


There are many factors that influence the risk of heart disease, and smoking is one of them. In recent years, many smokers have switched to vaping or e-cigarettes as a 'safer' alternative. However, emerging new evidence shows that vaping may actually be a more dangerous alternative!

- Another study found that vaping 3 milligrams of the fluid could produce as much as 14 milligrams of formaldehyde (vs 0.15 milligrams from a cigarette). This chemical is associated with cancer risks when inhaled.³

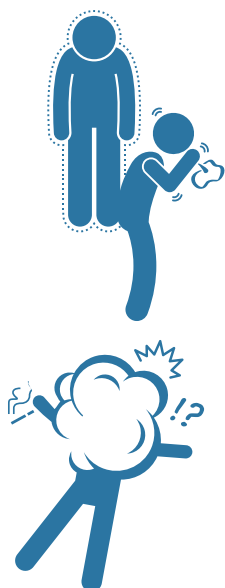
There are claims that vaping is less addictive but the truth is that its actual nicotine content is rarely monitored. In 2015, it was estimated that 99% of commercially available vaping fluid contained nicotine.⁴

**Quantity of nicotine per puff (3mg)
vs per stick of cigarette**



On top of this, there is also the potential risk for adolescents to become addicted to vaping. Despite the ban on the sales of e-cigarettes and vape fluids, there is currently little to no regulation. It is easily available for purchase by anyone online, even by adolescents. Adding to the problem, e-cigarettes come in many forms and are easily hidden or disguised, e.g. common forms include pens, lipsticks, lighters, and even watches!

Educate your teens (and yourself) about the dangers of vaping and most important of all, do your heart and lungs a favour by not smoking or vaping!



- Researchers found that vaping led to a larger decrease of the body's immune function than smoking.¹
- There is also evidence that a majority of vape flavours contain chemicals that cause bronchiolitis obliterans, or 'popcorn lung' – inflammation in the smallest airways of the lungs leads to scarring that eventually blocks it. Symptoms include dry cough, shortness of breath, wheezing, and lethargy.²
- Numerous incidences of e-cigarettes causing explosions that damage property and in some rare cases, injuries to users.

¹ E-cigarette use results in suppression of immune and inflammatory-response genes in nasal epithelial cells similar to cigarette smoke, Elizabeth M, Phillip C, et al. American Journal of Physiology 2016. <https://doi.org/10.1152/ajplung.00170.2016>

² Flavoring Chemicals in E-Cigarettes: Diacetyl, 2,3-Pentanedione, and Acetoin in a Sample of 51 Products, Including Fruit-, Candy-, and Cocktail-Flavored E-Cigarettes, Joseph A, Skye F, et al. Environmental Health Perspectives Vol. 124, No. 6. <https://doi.org/10.1289/ehp.1510185>

³ Hidden Formaldehyde in E-Cigarette Aerosols, The New England Journal of Medicine 2015.

⁴ Electronic Cigarettes, US State of Indiana Government website, accessed 5 September 2019



YAYASAN JANTUNG MALAYSIA

The Heart Foundation of Malaysia
Member of World Heart Federation

Patron

**ALMARHUM KEBAWAH DULI YANG MAHA MULIA
PADUKA AYAHANDA SULTAN HAJI AHMAD SHAH
AL-MUSTA'IN BILLAH IBNI AL-MARHUM SULTAN ABU
BAKAR RI'AYATUDDIN AL-MU'ADZAM SHAH**

President

Tun Ahmad Sarji bin Abdul Hamid

Vice Presidents

**Tan Sri Dato' Kamaruzzaman Bin Shariff
Dato' Professor Sulaiman Osman**

Chairman

Datuk Dr J. S. Sambhi

Vice Chairman

Dato' Gurbakhash Singh

Hon. Secretary

Dr Robinder Sambhi

Hon. Treasurer

Dato' Dr Aljafri bin Abdul Majid

Directors

**Dato' Beh Lye Huat
Datin Dr Liew Yin Mei
Datin Margaret Sambhi
Pn Hajjah Ainon Haji Kuntom
Lt. Col. (RTD) Mohan Singh Rendhawa**

Medical Director

Datin Dr Liew Yin Mei

Go Red For Women Director

Pn Hajjah Ainon Haji Kuntom

Executive Manager

Datin Margaret Sambhi

EDITORIAL BOARD

Editor-in-chief

Datin Dr Liew Yin Mei

Editorial Member

Datin Margaret Sambhi

CONTENTS

Chairman's Message	1
Editor's Note	2
YJM Activities	3
Feature Article	4 – 5, 7 – 10
Event Diary	11

Secretariat

6, Lorong Lai Tet Loke 2, Off Lorong Gurney,
54100 Kuala Lumpur.

Tel: 03-2693 4709 Fax: 03-2693 3267

Email: jantung1.yjm@gmail.com

Website: www.yjm.org.my

Facebook: Yayasan Jantung Malaysia

Produced by

VersaComm Sdn Bhd

12-A, Jln PJS 8/4, Mentari Plaza, Bandar Sunway,
46150 Petaling Jaya, Selangor, Malaysia.

Tel: 03-5637 8588 Fax: 03-5638 9909

Printed by

Universe Colour Printing Sdn Bhd

No. 23 & 25, Jalan PBS 14/7,
Taman Perindustrian Bukit Serdang,
43300 Seri Kembangan, Selangor.

Tel / Fax : 03 9545 2953

Editor's Note



Keep Your Heart Healthy

As we draw closer to the end of 2019, it will be good to sit back to reflect on the past year. Spend a little time thinking about the future of our health, especially with regards to heart health. Heart health should be taken seriously as the heart is the most hard working organ in your body.

Reports from the Malaysian Ministry of Health show that ever since the 1970s, heart diseases have been the number one killer of Malaysians. Cardiovascular disease has also been consistently the primary cause of admissions in MOH hospitals.

The good news is that heart disease is preventable – the majority of its risk factors are avoidable. The key risk factors are largely lifestyle related, such as high cholesterol, high blood pressure, diabetes, overweight and obesity, sedentary lifestyles, high fat, sugar and salt intake and smoking.

Smoking is an important risk factor for heart disease that can be modified. Vaping is often portrayed to be a 'safe' alternative to smoking, but recent evidence shows that vaping is potentially more dangerous than smoking.

While heart disease is a cause for concern, we should also pay attention to other conditions that affect our circulatory system. We feature an article on peripheral arterial disease, which typically can happen when blood supply to the limbs is cut off as a result of atherosclerosis or embolic clots. Other articles in this issue include vegetarian diets and how it benefits heart health, dental health and its link to heart disease, and also the impact of heart disease on pregnant women.

It is my fervent hope that we start placing heart health at the top of our priority list. We must all be more aware of the dangers of heart disease and more importantly, take proactive measures to prevent it. Don't wait till conditions have become serious before taking action to protect your heart.

An ounce of prevention is better than a pound of cure.

Datin Dr Liew Yin Mei

List of Activities / Programmes:

Community Programmes



Kuala Gandah, Lanchang, Temerloh Pahang
100 orang Asli and children were given free t-shirt
& goodie bags • 29 June 2019



Salam Hospital • 3 May 2019



Komuniti Program Subang Jaya,
Persatuan Warga Emas • 27 September 2019

School/College Programmes



SMK Seremban 2 • 16 – 17 April 2019



Program Kolej Queens Jalan Tunku Abdul Rahman
• 27 August 2019

Workplace Programmes



Takaful • 18 – 19 March 2019



MNRB • 25 – 27 March 2019



Tokio Marine Karak • 30 March 2019

Go Red For Women Programmes



Go Red For Women (GRFW) at YJM • 9 March 2019



Go Red For Women (GRFW) at Labis • 27 April 2019



By **Datin Dr Liew Yin Mei**

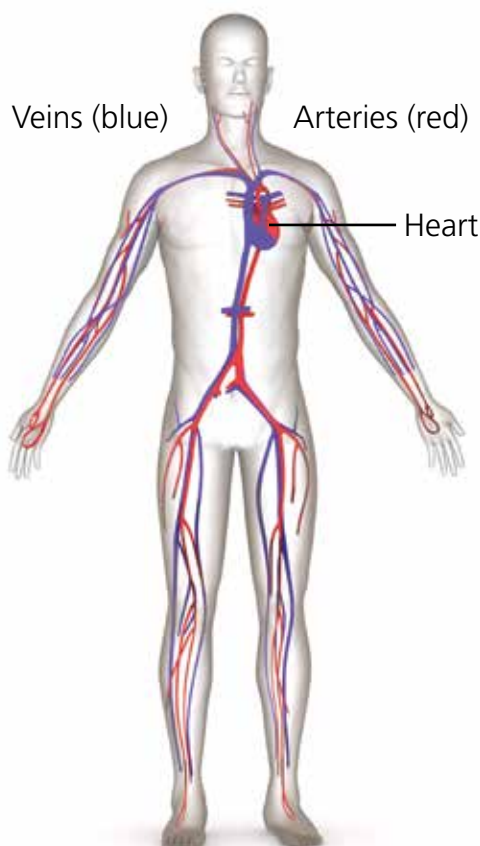
Peripheral Artery Disease

Pain in the calves or legs on walking is often dismissed as a normal phenomenon attributed to overexertion, but in fact, it may be more sinister as it may be a sign of peripheral arterial disease (PAD).

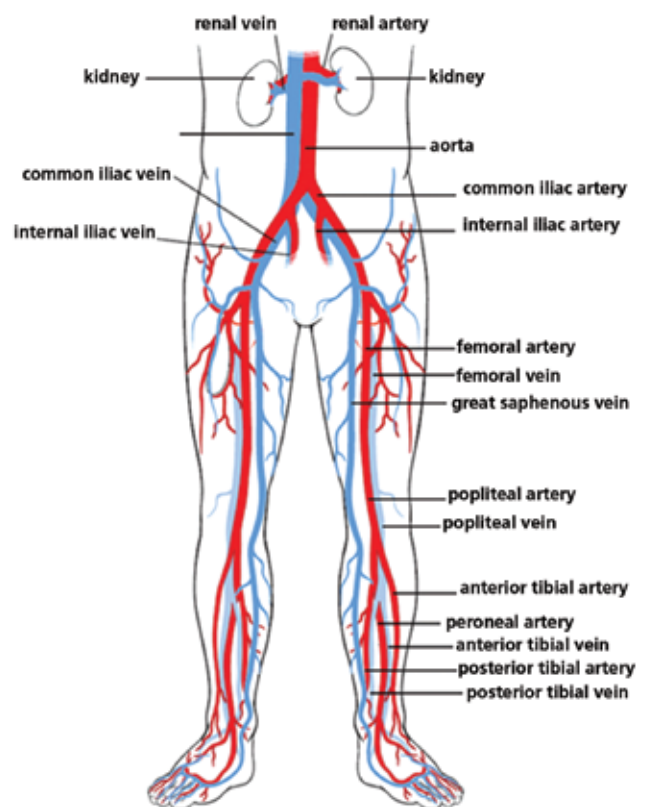
What is PAD?

The circulatory system comprises of the heart and blood vessels going to and from the heart, carrying oxygen and nutrients to all the organs and tissues of the body.

The peripheral blood vessels refer to the vessels outside the heart, and disease of the peripheral arteries involving the aorta and its branches are largely a result of atherosclerosis, very much like coronary artery disease (CAD).



Circulatory System



Lower limb blood vessels

In this article, we shall focus on PAD of the lower limbs.

Atherosclerosis of arteries in the lower abdomen and pelvic region – the aorto iliac and inguinal arteries leads to poor blood flow or ischaemia in the lower limbs. It is slightly more common in males, and is associated with risk factors like increasing age, elevated cholesterol levels, hypertension, diabetes, overweight or obesity, and smoking, similar to CAD. Therefore, presence of PAD is a significant indicator of associated coronary heart disease.

Symptoms may be of acute/sudden onset in acute limb ischaemia, or gradually progressive in chronic ischaemia.

In **acute limb ischaemia**, there is a sudden occlusion of the lower limb vessels, usually due to

lodgement of a blood clot from elsewhere (*embolic disease*). This comes mainly from the heart or other diseased blood vessels.

Sometimes, sudden clot formation can also occur in atherosclerotic limb vessels itself in the lower limbs (*thrombotic disease*) similar to CAD.

Symptoms are sudden with pain, pallor, numbness, weakness, or coldness in the lower limbs.

In **chronic ischaemia**, individuals often complain of severe cramps or pain in the calves on walking, and this resolves when they stop, known as intermittent claudication.

This can occur in both legs but is usually worse in one leg. Symptoms are usually worse on walking uphill. Sometimes pain is felt in the buttock, thighs and may be associated with male impotence. When obstruction is more severe, rest pain occurs with severe pains in the foot and can interfere with sleep.

This is sometimes relieved by dangling the foot over the edge of the bed.

Eventually, severe PAD or central limb ischaemia may lead to **ulceration** and even **gangrene** of the lower limbs.

Other warning signs of poor circulation in the lower limbs are coldness, dry skin, loss of hair and thickened nails. The pulses are diminished or absent, with visible dark discoloration of the skin and eventually ulceration and gangrene.



Leg ulcer



Gangrene of toes

Generally, the symptoms help in the localization of the site of occlusive disease of the arteries.

The higher the level of obstruction, the greater the areas involved e.g. occlusive disease of the iliac arteries will produce pains in the hip, buttock, thighs and calves whereas occlusion of the more distal vessels like the femoral and popliteal arteries will give more to pains in the calf and foot. It is essential to exclude other causes of lower limb pains for appropriate management.

Other causes of lower limb pains include:

1. Spinal canal claudication due to spinal stenosis. This can give rise to leg pains on walking, but the circulation remains good with normal pulses.
2. Osteoarthritis of the hips or knees which however causes pains even at rest.
3. Peripheral neuropathy especially in diabetics, associated with numbness and tingling in the legs.
4. Venous problems with deep vein thrombosis.
5. Buerger's Disease usually affecting young males who are heavy smokers.

The following investigations assist in diagnosis:

1. Measurement of the ankle brachial index (ABI). This is the systolic blood pressure reading in the ankle, compared with the brachial artery in the arm. A lower BP in the legs (ABI < 0.9) suggests an obstruction in the leg vessels.
2. Doppler ultrasound of the lower limb vessels helps in evaluating the blood flow in the arteries.
3. A CT Angiogram and MRA (magnetic resonance angiogram) identifies blocked or narrowed vessels more clearly.
4. Blood tests to screen for diabetes, lipid disorders, for assessment of risk for PAD.

The cornerstone of management includes aggressive risk factor modification, with cessation of smoking, weight control, good diabetes and blood pressure control, antiplatelets and regular exercises. Medications like Cilostazol help improve symptoms. Angioplasty or bypass grafting surgery may be necessary.

In embolic disease with sudden limb ischaemia, cardiac assessment is necessary to detect underlying heart diseases like myocardial infarction or cardiac arrhythmias which predispose to clot formation in the heart.

In conclusion, calf pains and leg pains should not be treated lightly or ignored, as it may be a manifestation of more serious underlying disease of the circulatory system which affects all the blood vessels of the body with atherosclerosis.

Indeed, calf pains or cramps on stepping out is a red flag to go one step beyond to look for associated disease of the cardiovascular system as well.

Biogrow® HPF-5® PLUS

Providing Good Quality Protein & Bone Nutrients for the Whole Family!

Besides water, protein is the second most abundant organic molecule in the body as an average human body comprises 15%-18% of protein¹. Protein is found throughout the body – in muscle, skin, hair, antibodies, hormones, enzymes and virtually every other parts of body tissues². Protein is made up of amino acids which are the initial materials for protein synthesis and constituent of tissue. As protein can't be stored in the body, therefore it is crucial to replenish the protein supply daily for keeping the body functions normally and maintaining good health.

Why Protein is Important for All Ages?



CHILDREN

Promotes growth & development of muscles, height and brain cells.



ADULTS

Builds body strength & resistance against physical & mental health^{3,4}



ELDERLY

Maintains muscle mass for optimal body strength & mobility^{5,6}

Combining Nutrients Works Better!

According to several studies, people who meet daily protein requirements maintain better bone health than people who do not achieve recommended daily protein intake as protein not only stimulates muscle protein synthesis but also enhances calcium metabolism.

A combination of protein with calcium and other bone nutrients, such as magnesium, vitamin D3 and vitamin K2 helps provide higher integrity and density of your muscles and bones, if compared with taking protein or calcium supplementation alone⁷. Magnesium, vitamin D3 and vitamin K2 can significantly improve bone health as magnesium and vitamin D3 enhance the absorption and utilization of calcium while vitamin K2 helps improve bone density, prevent heart disease and arterial calcification by directing calcium to the bones and teeth and keeping the calcium away from the arteries^{8,9}.

DO YOU KNOW?

Arterial calcification is a gradual and progressive process of hardening of arteries due to calcium deposits over time. This will result in reduction of arterial elasticity and increased risk of developing cardiovascular disease.



Biogrow® HPF-5® PLUS is a new improved formula with unique blend of plant protein and digestive fiber, fortified with bone health nutrients such as calcium, magnesium, vitamin D3 and **vitamin K2**. It contains no added sugar, low in fat, cholesterol-free and lactose-free. It is suitable for all ages and vegetarians.

Take 1 scoop Biogrow® HPF-5® PLUS (≈16g) daily can provide:

- ✓ ≥61% of plant protein (NON-GMO soy & pea proteins) complete with all 9 essential amino acids for protein synthesis.
- ✓ Synergistic effect with magnesium, vitamin D3 and **vitamin K2** for better absorption, retention, utilization and deposition of calcium.
- ✓ ≥18% of digestive fiber to regulate bowel movement.

References:

- Di Pasquale M.G., 2006. Amino Acids and Proteins for the Athlete: The Anabolic Edge.p.3
- Harvard T.H.Chan, 2018. The Nutrition Source – Protein
- Agnes et al., 2017. Nutrients, 9(12): 1358
- Agnes et al., 2016. Clin Interv Aging, 11: 1505-1517
- J Am Coll Nutr, 2005 Dec; 24(6 Suppl): 526S-36S
- Am J Clin Nutr, 2008 May; 87(5): 1567S-1570S
- Lister et al., 2007. Current topics in nutraceutical research, 5, 67-82
- Ballegetoijen A.J.V., et al. Int J Endocrinol. 2017; Volume 2017: 1-12. doi: 10. 1155/2017/7454376
- Alternative Medicine Review, 2010; Volume 15, (3): 199-222

Like us on Facebook
www.fb.biogrow.com.my

Available in all leading pharmacies nationwide

Legoran (Malaysia) Sdn. Bhd. (284196-H) Lot 6, Jalan 19/1, 46300 Petaling Jaya.
Call Infoline: 03-7956 2220 (Mon – Fri 9am – 5pm) | Website: www.biogrow.com.my



Vegetarian Diet and Heart Health

Vegetarian diet is becoming more popular nowadays as people are turning to healthy and sustainable lifestyle. To become a vegetarian means excluding all animal produces from your diet, such as meat, poultry, fish, eggs, dairy and honey. Some people even go to the extent of avoiding any animal-based products or ingredients in their daily life, including in cosmetics, clothing, and hygiene products.

There are also other types of plant-based diet, such as:

- Lacto-vegetarian: Excluding all animal produces from diet, except dairy products
- Lacto-ovo-vegetarian: Excluding all animal produces from diet, except eggs and dairy products
- Pescatarian: Excluding all animal produces from diet, except eggs, seafood and dairy products
- Flexitarian: Also referred as semi-vegetarian, animal produces such as meat and poultry are occasionally consumed

Practising a vegetarian or plant-based diet confers huge benefits to our health, including our heart health. Vegetarian diets often have lower intake of total and saturated fat compared to meat-based diet, as well as higher intake of fibre and phytonutrients.

Studies have shown how vegetarians have lower risk of coronary heart disease, blocked arteries, hypertension and heart attack. Apart from that, vegetarian diet can also reduce the risk of type 2 diabetes and cancer, help lower cholesterol and blood pressure levels, and maintain healthy weight.

But can a vegetarian diet provide all the nutrients?

With a balanced and varied diet, plant-based diets can be just as nutritious, or even healthier, than traditional diets. Here's how you can get some of these nutrients from plants:

Protein A diverse intake of plant foods can provide all proteins needed by the body. Plant foods high in protein include all soy products (tofu, tempeh, etc.), beans, peas, lentils, nuts and seeds. Some whole grains like quinoa and oats also contain protein.

Iron Plants contain non-heme iron, which is less readily absorbed than heme iron found in meat, but intake with foods rich in vitamin C can enhance the absorption. Examples of iron-rich plant foods are dark leafy vegetables like spinach, as well as dried beans and legumes. Many veggies, such as broccoli and bok choy, are also rich in both iron and vitamin C.

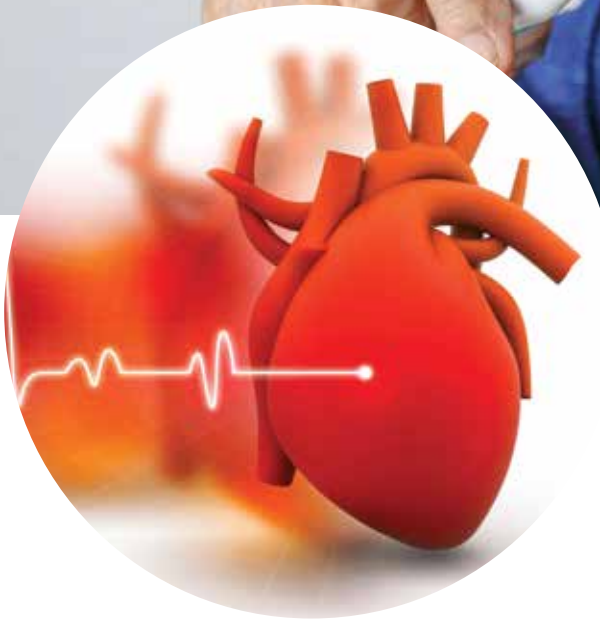
Calcium Lacto-vegetarians can get their calcium supply from dairy products. Other vegetarian sources of calcium are dark-green veggies, almonds and various calcium-fortified food products. The absorption rate of plant-sourced calcium is twice as efficient as cow-milk calcium.

Vitamin D It helps with calcium absorption and is produced by the body from direct exposure to sunlight. A myriad of food products such as dairy and cereal are also fortified with vitamin D.

Vitamin B12 It is generally not found in plant foods, but similar to vitamin D, it is available in many fortified food products like breakfast cereal and soy or rice beverages. Eggs and dairy are also good sources of vitamin B12 for lacto-ovo-vegetarians.

Eating plant-based diet is a good way to improve your heart health as you will increase your fibre intake, while reducing your fat intake. You do not have to strictly follow a vegetarian diet to get the benefit; small steps like limiting your meat consumption to a couple times a week, choosing lean cuts, and reducing portion size can also benefit you. Go green today!

Dental Care and Heart Disease



Did it ever occur to you that your tooth-brushing routine (or the lack of it) can affect your heart health? Believe it or not, various studies have actually shown that people with poor oral health (e.g. with tooth loss or gum disease) have higher rates of cardiovascular problems such as heart attack or stroke.

Healthcare professionals and academics in both fields of cardiology and dentistry have long been debating about this link. Study after study has shown various links between oral health and heart health. A 2018 study in Korea found that increasing the frequency of tooth brushing reduces the risk of cardiovascular disease by 9%, while regular dental visits reduce the risk by 14%.

Meanwhile, a 2016 study in Australia indicated that tooth loss is associated with increased risk

of ischaemic heart disease, peripheral vascular disease and heart failure. A 2018 study in USA also demonstrated how good oral health is linked to better blood pressure level during antihypertensive therapy, while another study in Sweden showed that poor oral health increases the risk of myocardial infarction.

A number of explanation or possible link has been proposed. One theory states that bacteria infecting the gums in gum disease may enter the blood vessel, causing gradual damage and inflammation that may lead to heart attack and stroke. Remnants of oral bacteria have been found within atherosclerotic plaque forming inside blood vessels.

It could also be related to how inflammation is a common denominator in both gum disease and heart disease. Inflammation of gums in gum disease could have triggered a chain of vascular damage and systemic inflammation throughout the body, including the heart and brain. In moderate to severe gum disease, there is an increase of C-reactive protein (CRP) level, a marker for inflammation in blood vessels, which is also used to assess a person's risk of a heart attack.

Another theory proposes an indirect link between gum disease and cardiovascular disease due to a

Symptoms of gum disease

- Gums are red, swollen and sore to the touch
- Gums bleed when you eat, brush or floss
- Gums look as if they are “pulling away” from the teeth (receding gums)
- Frequently have bad breath or notice a bad taste in your mouth



Good oral habit



Regular dental check-up
and cleaning



Brush teeth at least
twice a day



Limit sugary and acidic snacks
and drinks



Avoid eating before bedtime



Floss regularly



Drink more water

third confounding factor (such as poor access to healthcare, smoking or unhealthy diet) that is a risk factor for both conditions. A large-scale cohort study in 2017 supported the presence of a confounding factor, i.e. smoking cigarettes, raising questions about a causal link. However, no definite conclusion has been established yet and more investigations are still needed.

Patients with moderate-to-severe gum disease should be informed that they may have an increased risk for cardiovascular problems and should consider getting a medical evaluation, especially if they have other risk factors. This also goes the other way – heart disease patients with signs of gum disease should go for an oral health examination. Indeed, towards reducing heart disease risk and ensuring good oral care for patients with heart disease and gum disease, it would be good for dentists and physicians to work together and share information.

No matter what the mechanism linking oral health and heart health is, taking care of your teeth and mouth remains an important part of your health and hygiene care. Keep your smile beautiful and your heart healthy!



Wanita Pesakit Jantung Yang Hamil



Hajjah Ainon Hj Kuntom

Penyakit jantung merupakan kematian yang ketara semasa wanita berbadan dua. Seringkali penyakit jantung ini tidak diketahui (*undiagnosed*) semasa wanita hamil dan juga semasa bersalin ataupun selepas bersalin (*postpartum*). Ingin dinyatakan di sini penilaian mengenai risiko (*risk assessment*) semasa hamil dan juga cara mengendalikan pengurusan bersalin sebelum dan juga selepas bersalin jarang sekali dikaji mengenai penyakit jantung bagi seseorang wanita. Kebanyakan pengurusan bersalin adalah melalui bersalin secara asli (*vaginal delivery*) dengan pengurusan pecah air ketuban yang diurus secara rapi adalah cara yang paling digemari oleh semua wanita hamil. Sebenarnya, semasa hamil wanita itu memerlukan cara pengurusan sistem kardiovaskular yang rapi dan teliti. Wanita yang berpenyakit jantung semasa hamil memerlukan pakar-pakar tertentu, sebelum hamil, semasa hamil dan sesudah hamil.

Pesakit jantung apabila hamil hendaklah dapatkan rawatan klinikal yang rapi mengikut kumpulan pakar-pakar multi disiplin bagi membuat diagnosis yang awal. Misalnya keperluan kaunseling daripada pakar obstetrik, pakar jantung (*cardiologist*), pakar bius (*anaesthetist*), pakar neonatologi dan bidan bagi membuat pelbagai diagnosis untuk menjamin kesihatan pesakit jantung semasa hamil. Pengurusan penghamilan bagi penyakit jantung perlu dibuat terlebih awal bagi wanita yang mahu bersalin.

Menurut Laporan Perubatan mengenai Wanita Hamil dari England, penyakit jantung adalah merupakan kematian secara luar biasa semasa hamil. Kebanyakan wanita hamil mati disebabkan penginfarkan miokardium (*myocardial infarction*), pembedahan aorta *thoracic* dan *Rheumatic Mitral Stenosis*.

Semasa bersalin apabila wanita itu melalui proses bius di wad intensif, kebanyakan daripada wanita itu tidak melalui kajian terperinci mengikut cara penyakit jantung, dan kebanyakan tidak mengetahui menghidap penyakit tersebut. Ini menyebabkan mereka menghadapi risiko tinggi waktu bersalin. Penyakit jantung semasa hamil tidak pernah dikaji mengikut rawatan yang perlu, dengan sebab itu setelah hamil selama 20 minggu barulah nampak ketara tentang penyakit ini apabila wanita yang hamil itu tidak boleh bernafas secara biasa. Perkara seperti ini akan berlaku terutamanya semasa bersalin dan selepas bersalin barulah diketahui wanita itu menghidap penyakit jantung. Ini adalah hasil daripada kurang didiagnos dan juga dikaji tentang penyakit ini semasa penjagaan *ante natal*. Risiko di sini adalah penjagaan *parturient* penyakit jantung terutama mengenai tanda-tanda dan simptom mengenai penyakit tidak dikaji terlebih awal.

Semasa hamil wanita mengalami pelbagai perubahan fisiologi. Perubahan ini menyebabkan gangguan kepada

sistem kardiovaskular semasa hamil. Amat perlu diketahui dan difahami tentang impak penyakit jantung semasa hamil. Lebih-lebih lagi doktor dan wanita hamil hendaklah memahami bahawa vasodilasi periferai (*peripheral vassodilation*) yang akan mengurangkan ketahanan (*resistant*) kepada sistem ketahanan vaskular adalah perubahan pertama kardiovaskular semasa hamil – disebabkan oleh *progesterone*.

Progres mengenai kenaikan *output* jantung (*cardiac output*) akan meningkat sebanyak 20% selepas lapan minggu hamil, dan akan naik dengan lebih tinggi 40% hingga 50% semasa 20-28 minggu kehamilan. Ini adalah disebabkan kenaikan volum strok pernafasan akibat ketinggian di akhir ventrikular (*ventricular end*), *diastolic volume*, dinding ventricular kiri mulai menebal (*left ventricular wall muscle mass*), dan *contractility* disebabkan ketinggian denyutan jantung naik mendadak. Semasa bersalin proses denyutan ini akan naik sebanyak 15% tahap pertama dan kemudian akan naik sehingga 50% pada tahap kedua semasa bersalin. Lebih-lebih lagi *auto transfusion* sebanyak 300ml hingga 500ml darah akan mengalir dengan begitu cepat semasa kontraksi rahim (*uterine contraction*). Lebih-lebih lagi apabila kesakitan yang amat ketara semasa kontraksi rahim dan waktu bersalin. Selepas melahirkan anak, *output* pengaliran darah melalui kontraksi rahim dan *aortocaval relief* akan juga mengakibatkan pengaliran darah yang banyak. Ketinggian *output* jantung (*cardiac output*) adalah sebanyak 60% hingga 80%. Dan kemudian jatuh dengan begitu cepat setelah bersalin. Dengan demikian impak fisiologi semasa hamil amat tinggi risikonya kepada wanita. Cara pengurusan kehamilan bagi wanita yang hendak bersalin ialah mereka memerlukan kaunseling yang rapi dari pakar-pakar jantung dan pakar-pakar perbidanan.

Bersalin secara biasa adalah perkara yang amat baik bagi wanita pesakit jantung.

Sekiranya perkara ini tidak berkemungkinan, maka pembedahan *Caesarean* adalah cara yang terbaik bagi wanita pesakit jantung.

Risiko selepas bersalin bagi wanita menghidap penyakit jantung amatlah perlu diambil perhatian sehingga perubahan *haemodinamik* telah stabil dan pulih. Sekiranya perkara ini berlaku, wanita itu hendaklah tinggal di hospital selama dua minggu untuk mengkaji kedudukan penyakit jantung sehinggalah pulih sedikala.

Perlu juga diingatkan bahawa wanita yang hamil, kematian disebabkan oleh faktor-faktor seperti kegemukan, umur sudah lanjut selepas 40 tahun ke atas, menghisap rokok, menghidap penyakit kencing manis, darah tinggi dan menghidap penyakit jantung melalui keturunan.

PLANNER FOR 2019

MONTH	DATE	PROGRAMME	VENUE
NOVEMBER	3	Community	Taman Segar, Kuala Lumpur
	9	Community	Taman Melewar, Kuala Lumpur
	16	Community	Beranang, Selangor
	23	Community	Kuantan
	24	Community	Kuantan
DECEMBER	4	College / School	College Mutiara, Kajang
	5	College / School	College Technology MEA, Kajang
	10	College / School	KLIA College, Nilai, N. Sembilan
	18	College / School	Hulu Langat, Kajang

F O R I N F O R M A T I O N

YAYASAN JANTUNG MALAYSIA

The Heart Foundation of Malaysia

Name : _____

Address: _____

Tel: (O) _____ (H) _____

☐ I am enclosing my comments.

☐ Please include my name in the mailing list of Yayasan Jantung Malaysia for future publications.



YAYASAN JANTUNG MALAYSIA

The Heart Foundation of Malaysia

SECRETARIAT

Wisma Yayasan Jantung Malaysia

6, Lorong Lai Tet Loke 2, Off Lorong Gurney, 54100 Kuala Lumpur.

Tel: 03-2693 4709 Fax: 03-2693 3267 Email: jantung.1.yjm@gmail.com

Website: www.yjm.org.my Facebook: Yayasan Jantung Malaysia

DONATION FORM

Name : _____

Address: _____

Postcode : _____ Tel. No : _____

Amount: ☐ RM 68 ☐ RM 100 ☐ RM 200 ☐ RM 500 ☐ RM 1,000 ☐ RM 5,000

Other Amount (RM) : _____ (Please specify)

Donation is enclosed. Cheque No: _____

For Direct remittance, please bank into: **CIMB A/C No: 8000173127**

Please fax or Email the bank-in slip.

All contribution payable to: **Yayasan Jantung Malaysia**

All Donations are Tax exempt – Ref: **JHDN/01-35/42/51/179-6.3452**

Tax exempted receipt will be issued.



Oat BG22®



Biogrow Oat BG22 steers you towards a **HEALTHIER LIFE**



Oat Bran Powder Imported from SWEDEN



100% NATURAL



*SUITABLE FOR DIABETICS³



HIGH IN FIBER



NO ADDED SUGAR

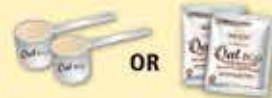


LACTOSE FREE



GOOD SOLUBILITY

RECOMMENDED INTAKE



OR

2 scoops/sachets daily provide 3g **bioactive oat beta-glucan⁴.

NOTE: DO NOT MIX WITH HOT WATER!

References:

1. FSQD, MOH. Guide to Nutrition Labelling & Claims (as at Dec 2010).
2. EFSA Journal 2010;8(12):1885 & 2011; 9(6): 2207.
3. Brummer et.al. Cereal Chem 2012, 89(5):225 – 26.
4. Wolever et. al. Am J Clin Nutr, 2010.

* Diets that are of low glycemic index and high in dietary fiber are protective – WHO Europe Diabetes.

** Bioactive oat beta-glucans are high in molecular weight and have been scientifically shown to produce good viscosity effect in the gut for optimal cholesterol-lowering effect – EFSA Journal.



www.fb.biogrow.com.my

Available at all leading pharmacies nationwide

Legoson (Malaysia) Sdn. Bhd. (284196-H) Lot 6, Jalan 19/1, 46300 Petaling Jaya.
Call infoline: 03-7956 2220 (Mon – Fri 9am – 5pm) | Website: www.biogrow.com.my