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Pharmacy Nucleus

THE NEWSLETTER OF THE FACULTY OF PHARMACY

ABOUT US: Pharmacy Nucleus is a quarterly newsletter of the Faculty of Pharmacy, MAHSA University, started in March 2019. It highlights the recent faculty and student news, faculty achievements, and upcoming events.

A Word from the Dean

Dear staff members, students and friends!
I hope that your 2019 has started well as we bid farewell to another busy year for all of us. The end of the year also had us coming together for a successful year which was a huge success, all faculty events were brilliantly organised and led by different faculty team leaders. New milestones were reached.

A full accounting of our activities would be well beyond the word limit allocated for this commentary. There are a few highlights in this issue of Pharmacy Nucleus that are particularly worthy of mention. This issue shows glimpses of where we've been and where we are going, and to thank those people who have helped us along the way.

Message from Editor in Chief

It is matter of great pleasure to be the Editor in Chief of Pharmacy Nucleus. In this issue of Pharmacy Nucleus, you will see evidence of leadership in the work being done by Faculty of Pharmacy to foster research collaborations; in the ongoing commitment of our academic and administrative staff to support our students through professional mentorships. This issue will also highlight the state-of-the-art facilities that we offer in our faculty, and how our students and staff members are actively involved in community awareness projects, inter-professional training, and health fairs, which positively impact the community.

The talent, time, and resources that my staff, alumni and students commit to our program represent invaluable assets, and have a positive impact on all of us as a unit. There is still much to do to achieve as one of the leading faculties at international level which can best be achieved by working together, as we have done for many years.

My heartfelt thanks to Faculty of Pharmacy Family, who have been contributing to take the faculty to a new level. I look forward to sharing more on Faculty of Pharmacy continued pursuit of excellence in pharmacy world as the academic year progresses. I wish you all a wonderful and fulfilling 2019.

Professor Dr. Munavvar Abdul Sattar



Moreover, as a faculty we take pride to present the findings of university based research projects at various international forums in USA, Japan, Thailand, and Taiwan (for more details refer to faculty pride section). The aggressive development of our academic programs and research would not be possible without the vision and leadership provided by Deanery.

Lastly, I would like to acknowledge the tremendous input and efforts of my team members of Pharmacy Nucleus.

Dr. Sohail Ahmad



Faculty News

About Us

Faculty of Pharmacy was founded twelve years ago. MAHSA University's Faculty of Pharmacy has maintained a strong involvement with Malaysian Health services and fostered the tradition of cross disciplinary education as well as openness to the world of scientific research. Our Programs are fully accredited by the Malaysian Qualification Agency (MQA) registration number MQA/FA9327.

The faculty is home to 22 academic and two administrative staff, comprising five departments namely: Dosage Form Design, Scientific Basis of Therapeutics, Medicinal Chemistry, Pharmacy Practice and Clinical Pharmacy. Faculty of Pharmacy also boast 15 Teaching and Research laboratories of which 13 of the laboratories are Good Laboratory Practice (GLP) certified. This reflects the level of commitment to quality from the faculty. To ensure that our graduates have adequate clinical training, the university has an agreement with the Ministry of Health Malaysia to send our D. Pharm and B Pharm students to any of the 30 and 18 Ministry of Health Malaysia Hospitals, respectively. Equally important are the B. Pharm students' placements in community pharmacy and industrial pharmacy.

In order to develop competency and expertise in students and to provide a real life industrial practical training, faculty has signed memorandum of agreement (MOU) with several prestigious Malaysian Pharmaceutical Industries and community pharmacies like Nova Pharmaceuticals, Abbvie and Vitacare are few among them.

We offer postgraduate: PhD, M.Pharm (by research), and Undergraduate: B.Pharm (Hons) and Diploma in Pharmacy programs. The faculty annually award an average of 50 degree and 40 diploma graduates to work as health care professionals and providers. Our graduates are well trained and prepared to meet the challenging endeavour in pharmaceutical care and research. The faculty is committed to BE MORE and strive to achieve EXCELLENCE in its delivery of academic programs and scientific research through continual improvement activities to achieve customer satisfaction.



Dr. Mohammad Javed Qureshi

Continuous Professional Development (CPD)

The faculty has organized several Continuous Professional Development (CPD) programs for the staffs and students. The CPD programs have been designed into five different masterclasses which will be conducted throughout the year. It will be a great opportunity for the students to equip themselves with additional knowledge from the topics offered by the masterclass apart from their classroom learning, as well as to prepare them to adapt to the working environment. As for the staffs, the masterclass is important to ensure continuous competence in their profession and provides a platform for experience sharing with the students.

The upcoming masterclasses are as below:



Traditional and Complementary Medicine (T&CM)

A masterclass training course on traditional and complementary medicine is a needed part of higher education learning that focuses on traditional herbal sciences and its benefits. This course will give participants a wide exposure from basic introduction to T&CM to set up a small to medium size herbal pharmaceutical manufacturing enterprise (SMEs) with a compressive insight on important regulatory aspects.



You will learn on demonstrating the knowledge and competencies in natural products industry especially Good Manufacturing (GMP) and preparations and understanding various dosage forms and food standards and those applicable to T&CM. This course is recommended to all healthcare professionals especially those dealing with:

- Patient diagnosis
- Prescribing herbal and allopathic medicines
- Patient's care and medicine administration
- Palliative care and dispensing
- Those who are doing or interested to pursue a career in herbal medicine research

Setting up A Pharmacy



The process of starting up a pharmacy from the ground can be extremely complex. For those who are interested to set up a pharmacy of their own, this workshop will provide them with the tools and resources required for the successful start-up of a pharmacy and helps them to build a plan to succeed in owning and managing their own pharmacy.

You will learn on carrying out research on customer's population, their current demands and needs in the area of pharmacy set up and current pharmacy scenario in community field. Participants will also learn on the process and requirements needed for registration of the pharmacy and the requirements for employment of staffs, working capital and costs for daily operation of the pharmacy and strategies in purchasing stocks and merchandising. This masterclass also exposes participants on the setting of the pharmacy according to Community Pharmacy Benchmarking Guideline, guides them on the importance of providing excellent customer service and strategies to build trust and rapport with the customers.

Who should join?

- Provisionally Registered Pharmacists (PRP) who are undergoing provisional training in Malaysia
- Malaysian applicants with pharmacy degree recognized by the Malaysia Pharmacy Board and have been registered in a foreign country and intend to get registered in Malaysia
- Foreign registered pharmacists with pharmacy degree recognized by the Malaysia Pharmacy Board and intend to apply for Temporary Registration in Malaysia
- 3rd, 4th year and graduated pharmacy students (who are awaiting for PRP posting) from a recognized pharmacy program

Qualifying to Pharmacy Practice



The Qualifying to Practice Pharmacy examination by the Pharmacy Board of Malaysia is an assessment of candidates' knowledge and ability to apply Malaysia laws regulating the sale and supply of medicinal products from pharmacies. Passing the Qualifying to Practice Pharmacy

Examination is a prerequisite for pharmacy graduates who wish to register as pharmacists with the Pharmacy Board in order to practice in Malaysia.

You will learn on the rationale of acts associated to the pharmacy practice in Malaysia, familiarize with terms and scenarios associated with pharmacy practice in Malaysia and exposed to the format and previous questions of the examination.

Who should join?

- Provisionally Registered Pharmacists (PRP) who are undergoing provisional training in Malaysia Who Should Join?
- Malaysian applicants with pharmacy degree recognized by the Malaysia Pharmacy Board and have been registered in a foreign country and intend to get registered in Malaysia
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- 3rd, 4th year and graduated pharmacy students (who are awaiting for PRP posting) from a recognized pharmacy program

Radio & Nuclear Pharmacy



Radio and nuclear pharmacy are branch of the pharmaceutical sciences which deals with the preparation and dispensing of radiopharmaceuticals as well as the use of radionuclides in the

diagnosis and treatment of diseases. Knowledge of radio pharmacy and nuclear pharmacy is essential for the pharmacists and other participants in order to work effectively and professionally with other team of health care system dealing with the control and management in particular of cancer treatment.

The course will introduce participants with the basic of nuclear physics, radioactivity and radiation. It will provide participants with a fundamental knowledge of physical and chemical principles and theories underlying the design of radiopharmaceuticals. The safety hazard and planning aspects of a radio pharmacy will also be discussed. This module also exposes the participants to various issues regarding patients, personnel and environment safety when working with radioactive materials. The application of radiopharmaceuticals in clinical and research settings will also be introduced along with insight of legal requirements.

This course is recommended to:

- All pharmacy students (Diploma, BPharm, Master, PhD)
- Pharmacy academicians
- Pharmacist
- Industrial personals
- Any diploma, bachelor, master and PhD students
- Public

Veterinary Pharmacy

Veterinary pharmacy is a field of pharmacy practice which offers the knowledge of the main diseases affecting domestic animals and



pets and the treatment of these conditions. This course also discusses on the various veterinary dosage forms of drugs and animal health care products that are available.

Besides, this course teaches on the principles of drug absorption, drug distribution, drug metabolism and drug excretion, pharmacokinetics, pharmacodynamics and dose response relationships in the animals and veterinary pharmacology of behaviour-modifying drugs, topical dermatology therapy, antimicrobial drugs, and drugs acting on the gastrointestinal tract.

You will learn on the use of drugs in animal care and rules for drug supply, usage and the ways to prevent animal borne diseases from infecting human beings and animals.

This course is recommended to:

- Veterinary health care professional especially those dealing with veterinary clinics and domestic animals disease diagnosis and treatment.
- All pharmacy students (Diploma, BPharm, Master, PhD)

Certificate of Proficiency in Master Class will be awarded to all participants who have completed the masterclass. Those who are interested to participate, kindly contact +603 - 5102 2200 or email to marketing@mahsa.edu.my for further enquiries.

Don't miss the chance! See you there!

Ms. Irma Wati binti Ngadimon

Ms. Amutha Selvaraj

Faculty Pride

Professor Dr. Nahlah Elkudssiah Ismail



Professor Dr. Nahlah Elkudssiah Ismail is elected as Council Member of Malaysian Academy of Pharmacy (MAP), since 2017/2018 till present.

Professor Dr. Gopal Natesan



Professor Dr. Gopal Natesan delivered a talk as a Key Note Speaker at Global Pharma Summit, Bangkok, Thailand, 23rd, 24th November 2018.

Dr. Sohail Ahmad



Dr. Sohail Ahmad was awarded the following distinctions in 2018:

- *International Society of Pharmacoeconomics and Outcome Research (ISPOR) Travel Grant 2018, USA for ISPOR Asia Pacific Conference, Tokyo, Japan*
- *Young Investigator Award 2018 by European Respiratory Society at 23rd congress of Asia Pacific society of Respirology (APSR) 2018, Taiwan.*
- *The International Institute of Knowledge Management (TIKM) Travel Award for 4th International Conference on Public Health, 2018, Bangkok, Thailand.*

Mr. Muhammad Qamar



Mr. Muhammad Qamar received *The International Institute of Knowledge Management (TIKM) Travel Award* for 4th International Conference on Public Health, 2018, Bangkok, Thailand. Moreover, he also won the MPS-SWIPE Rx Testimonial Challenge 2018.

Dr. Mohammad Javed Qureshi

Dr. Mohammad Javed Qureshi is appointed as Technology Advisor and Consultant for Vyonics Eye care Pvt Ltd India.

Faculty Events

Pongal Day

Pharmacy staff participated in Pongal day and Kolam competition conducted on 19th Feb 2018 at SPC. Pharmacy stood 4th position in the Pongal preparation competition.



MOU Signing Ceremony

MOU Signing Ceremony with three renowned pharmaceutical companies Abbvie, Nova and Vitacare was done on 3rd March, 2018 at Level 9 Auditorium Pharmacy to foster stronger collaboration between the MAHSA University and pharmaceutical industry.



With the signing of the memorandums, MAHSA graduates of the Bachelor of pharmacy (Hons) will have the opportunity to undergo one year training as a provisionally registered pharmacist (PRP) at NOVA laboratories and Vitacare Pharmacy, which are both recognized by the Pharmacy board Malaysia as private sector premises explained by Professor Dr. Munavvar zubaid bin Abdul Sattar, Dean, Faculty of Pharmacy.

The pharmaceutical company's need for talent to meet growth opportunities creates the perfect platform for collaboration.

MAHSA will provide consultancies and GLP-accredited research laboratories and nurture quality graduates and interns for these esteemed pharmaceutical companies. The MOU also includes joint collaborative research, between the University and the industry and involvement of the companies in undertaking technical collaboration through guest lectures and the provision of staff development programs and community service. This meaningful event was witnessed by VC, and all DVCs.

Student News

English Appreciation Month

English Appreciation Month was conducted on 23rd February 2019 on Major open day. Charades and word search were conducted by the Faculty of pharmacy at SPINE Level 2, SPC. The activity was conducted by pharmacy practice team. Gift hampers were given to the first, second and third prize winners.



Sports and wellness booth camp

Sports and wellness booth camp was conducted on 12th Jan 2019 at SPC with title "Experience it yourself- preparing the micro 'balloons drug delivery system'". Multivitamin tablets were sponsored by Nova Laboratories Malaysia. The activity was conducted by dosage form design department. Gift hampers were given to the participants.



Annual Dinner 2018

Faculty of Pharmacy had organized an Annual Dinner on 23rd Nov 2018 at Everly Hotel, Putrajaya. The activity was organized by BPharm, batch-6 students. There were different performances from students, lucky draw, prom kin and prom queen crown in competition. The winners of the performers were given gift hampers.



Vice Chancellor's Award

Vice Chancellor's Award was been awarded to two of our students from faculty of Pharmacy. The awards were given to Nurul Irfana Binti Hassan Bashri from BPharm program and Reenajit Kaur from D.Pharm Program during the 15th MAHSA University Convocation at SPC on 17th NOV 2018. Nurul Irfana Binti Hassan Bashri attained first class Honours and won the Vice chancellor's award, she has completed final year research project on: Risk factors associated with asthma attacks among Malaysians adult asthmatic patients. The outcome of the research has been presented at various international conferences.

Reenajit Kaur attained consistently good marks throughout her six semesters in MAHSA University (CGPA above 3.6 every semester) and she has won the Vice Chancellors award (Diploma of Pharmacy). She has also won the best debater (parliamentary debate) in the MyPsa pharmacy debate competition 2018.

Student Pride

Nurul Irfana Binti Hassan Bashri (Vice Chancellor's Award)

As a Pharmacy student in MAHSA University, I was given the opportunity to experience various pharmacy professions in community and hospital settings and even as researcher in my third year. I was elected as an Executive Assistant of Secretary General of Malaysian Pharmacy Student Association (MyPSA) 16/17 and Assistant Head of Academic Bureau of MAHSA Pharmacy Student Society (MPSAA) 16/17. In terms of academic, I have received the First class Bachelors of Pharmacy (Hons). Besides, my research team and I were awarded APSR-ERS young investigator award 2018 for my final year research project.

This four year degree journey has opened many doors to build professional network and sharpen my soft skills. Apart from academic excellence, it was great platform to sharpen my soft skills and nurture the passion and love for communities' well-being. Therefore, I am eternally grateful for all the opportunities and guidance given to me and would like to extend my gratitude to the entire faculty of pharmacy lecturers and friends for making this four year degree journey a memorable one.



Choi Evon (First Class Honours)

Throughout these four years, I had learned about the knowledge and skills which are essential for future pharmacist. Furthermore, I was also given a chance to explore and understand the job scope for being a pharmacist by having attachment in retail pharmacy, government hospitals and pharmaceutical manufacturing company. These precious experiences helped me to practice well in my current career. I felt very grateful for studying in a university which was equipped with good facilities and friendly lecturers. Last but not least, thanks to MAHSA University for giving me an opportunity to be well prepared for my future career.



4th Pharmacy Students' Scientific Conference, PSSC 2018

Faculty of Pharmacy conducted the 4th Pharmacy Students' Scientific Conference, PSSC 2018 at SPC on 28th August 2018. Fourth Pharmacy Students' Scientific Conference to Integrate Pharmacy Education into Research and Practice. The annual Pharmacy Students' Scientific Conference, with the motivating theme of Integrating Pharmacy Education into Research & Practice, took place on 28th August 2018 at Auditorium, Level 9, Pharmacy Building, MAHSA University.



The conference was inaugurated by the Honorable Professor Dato' Dr Khairul Anuar Abdullah, Vice Chancellor, MAHSA University. Distinguished Invited Speakers included Professor Dr Gan Siew Hua Deputy Head for School of Pharmacy (Research), Monash University Malaysia delivered a motivationally talk about "Culture and Ethics in Research" and Mr John Chang Chiew Pheng President, Malaysian Professional Centre (BIM) delivered an energetic and inspiring lecture entitled "Life-Long Ethos of Professional Continuous Development".

The conference was open to all BPharm (Hons) final year and post-graduate students to present their research findings through oral or poster presentation. The aim was to provide an opportunity to both students and researchers to share their research findings and new ideas. There were 43 participants for the conference presenting their research in the areas of Medicinal Chemistry, Scientific Basis of Therapeutics, Dosage Form Design, Pharmacy Practice and Clinical Pharmacy.

Well experienced academic members from Faculties of Medicine, Dentistry, and Health and Sports Science were invited to evaluate the abstracts of the participant.

The winners of the poster presentation were:

First place: Ng Li Shan (Induction of apoptosis and cell cycle arrest by copper complex towards MCF-7 breast cancer cells).

Second place: Lo Nyuk Chu (Preparation and characterisation of zerumbone-loaded liposomes).

Third place: Tan Xin Yi (Phytochemical screening and evaluation of anti-inflammatory activity of gardenia carinata leaves).

The winners of the oral presentation were:

First place: Miss Saalini A/P Mahalingam with the title In vitro anti-psoriatic activity of natural and semi-synthetic andrographolide derivatives.

Second place: Tan Mei Wei with the title Delivery of paclitaxel into breast cancer cells utilising strontium salt nanoparticles.

Third place: Naavina Christie with the title the effect of different types and concentrations of surfactant on the dissolution rate of paracetamol oral dispersible tablet

The conference concluded with the significant White Coat Ceremony for the BPharm (Hons) Batch 4 (2014) student, the Thesis Submission Ceremony and the Conferment of Certificate of Completion for Bachelor of Pharmacy (Hons) Programme (Academic Session 2014/2018). These meaningful events were witnessed by VC, and all DVCs.

11th MyPSA National Pharmacy Sports Carnival

The 11th MyPSA National Pharmacy Sports Carnival was conducted on the 2nd-4th February, 2018 at International Islamic University, Kuantan. Students from our faculty procured two gold medals in swimming under women category, one silver medal in badminton under men singles, and one gold medal in 400 meters under omen track running competition.



Dr. V. Appalaraju

Quality Use Medicines Projects

Batch 6 students have to conduct a program related to quality use of medicines in various field under module Pharmacy Practice IV. The main aim for the program is to unleash various soft skills such as leadership, teamwork, communication and management skills among students. Five programs were conducted in group of 6 students; 1) Increase Awareness on the Use of Contraceptive Pills in Kampung Orang Asli Busut Baru, 2) Home Medication Review on Older Adults, 3) A Special Day with Little Highbrow Growth Care Centre, 4) Raising Public Awareness towards Proper Use of Antibiotics, and 5) Increase Awareness on Safety Use of Medicines among Kindergarten Children. Students successfully run the programs despite having barriers such as budgets, locations, time and approval.

“This project was a privilege for my group mate and myself, it was a holistic way of developing our soft skills. One of it was the ability to deliver information efficiently towards audience with different backgrounds. This project also made us do things that we

never did before such as vlogging, it made us work outside our comfort zone and had unlock our new skills. It was a great opportunity for us to learn and explore about Orang Asli community...” Muhammad Syamim

“The thoughts of sit in a stranger house then discuss and check about their medications was a terrified ideas for us as we don’t really know what to expect. However, with planning, discussion and practice we succeeded with our first HMR visit. Through HMR, we are able to check if the patient complies with the treatment plan and also how the store their medication. Sound advice and recommendations are also given to the patient during HMR. I found that patients today are really knowledgeable about their medication however it is always better to show them that we care and concern to ensure quality use of medication” Choi Jin Heng



Ms. Noraseli Binti Ali

Pharmacy Horizons

High Alert Medications

About 15 years ago, the Institute for Safe Medication Practices (ISMP) in the United States has conducted a research to determine the medications and conditions which was most tendency to harm patients. The study gathered a pool of data submitted by approximately 161 healthcare organisation on serious errors that had taken place during this period. The study demonstrated that a majority of the medication errors resulting in either death or serious injury involved a small number of specific medications. The ISMP has since termed these medications as 'High-Alert Medications' or HAM¹.

High-Alert Medications are medications which are more likely to be associated with harm compared to other medications- either through the frequency or of a more severe outcome. The damage leads not only to worsening of patient suffering but also to the increment of medical costs associated with the care of these patients. Studies also suggested the seriousness of the consequences applies across the board². In a study done by Budnitz D.S., et al., insulin, warfarin and digoxin were implicated in one of every three estimated adverse drug events (ADEs) treated for the elderly, in emergency department³. Edgar et al. reviewed medical event reports in a US national database and reported that heparin, xylocaine, adrenaline and potassium chloride were most commonly involved in critical incidents⁴. Phillips et al. reported and indicated that the largest number of deaths (54.9%) occurred with central nervous system, antineoplastic and cardiovascular drug products⁵. The top five drugs cited for overall incident records, medication errors reaching patients without causing harm, or errors resulting in patient harm, were insulin, morphine, heparin, potassium chloride and warfarin⁶.

HAM Categories

The American Pharmaceutical Association has listed eight HAM categories: cardiovascular drugs, Chemotherapeutic drugs, narcotics, opiates, anticoagulants, benzodiazepines, neuromuscular blocking agents and electrolytes⁵. The ISMP has 19 categories and 13 specific medications in its list of HAM (Table 1).

Adrenergic Agonists (e.g., epinephrine, phenylephrine, norepinephrine)	Epidural or Intrathecal Medications
Adrenergic Antagonists (e.g., propranolol, metoprolol, labetalol)	Hypoglycemic Agents
Anesthetic Agents (e.g., propofol, ketamine)	Inotropic Medications (e.g., digoxin, milrinone)
Antiarrhythmics (e.g., lidocaine, amiodarone)	Total Parenteral Nutrition Solutions
Antithrombotic Agents (anticoagulants, Factor Xa inhibitors, thrombolytics).	Sedation Agents (e.g., midazolam)
Cardioplegic Solutions	Sedation Agents, for children (e.g., chloral hydrate)
Chemotherapeutic Agents	Narcotics/opiates
Dextrose Hypertonic, 20% or greater	Neuromuscular Blocking Agents (e.g., succinylcholine, rocuronium, vecuronium)
Dialysis Solutions, peritoneal and hemodialysis	Radiopaque Agents

List of Classes of Medications categorised under High Alert Medications

Common Risk Factors²

1. Poorly written medication orders
2. Incorrect dilution procedures.
3. Confusion between IM, IV, intrathecal & epidural preparations

4. Confusion between different strengths of the same medications such as sodium chloride 3% and sodium chloride 0.9%.
5. Ambiguous labelling on concentration and total volume of medications
6. 'Look alike' or 'sound alike' product or similar packaging.

Strategies in Preventing Errors Involving Procurement

1. Limit the drugs strengths available in health centre formulary.
2. Avoid frequent changes of brand. Notify the end user whenever there are changes.

Storage¹

1. All HAM should be kept in individual labelled containers. Whenever possible avoid look-alike and sound-alike drugs or different strengths of the same drug from being stored side by side.
2. Use TALL-man lettering to emphasize differences in medication names (e.g DOPamine and DOBUtamine).
3. Label all containers used for storing HAM in red as "HIGH ALERT".

Ordering

1. Use standardized forms for cytotoxic drugs and parenteral nutritions.
2. Do not use abbreviations when prescribing HAM.
3. Specify the strength of dilution and rate of infusion for HAM prescribed. (e.g. Noradrenaline 4mg in 50ml NS, run at 5ml/hr)
4. Do not use trailing zero when prescribing. (e.g. 5.0mg can be mistaken as 50mg)

Preparation¹

1. Establish a counterchecking system for all preparations involving HAM.

Dispensing/ Supply¹

1. All HAM containers issued to wards/units must be labelled as "HIGH ALERT".
2. All HAM must be counter-checked before dispensing.

**ALERT
MIE
NOW**



Conclusion

As the conclusion, High-Alert Medications exhibited greater risk for errors and the impact on patient's safety is a system problem, requiring a joint effort from all healthcare providers including doctors, pharmacists and nurses to critically improve patient's safety in addition to minimising the errors and their consequences.

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Dr. Athirah Bakhtiar

Sleep Apnoea – Don't Ignore the Snore



When a person's breathing is interrupted during sleep. People with untreated sleep apnoea stop breathing repeatedly during their sleep. This means the brain -- and the rest of the body -- may not get enough oxygen. In fact, sleep apnoea affects more than three in 10 men and nearly two in 10 women, so it's more common than you might think.

There are three **types of sleep apnoea**:

- **Obstructive sleep apnoea (OSA):** The more common of the two forms of apnoea, it is caused by a blockage of the airway, usually when the soft tissue in the back of the throat collapses during sleep.
- **Central sleep apnoea:** Unlike OSA, the airway is not blocked, but the brain fails to signal the muscles to breathe, due to instability in the respiratory control centre.

- **Mixed sleep apnoea:** This is a mixture of both obstructive sleep apnoea OSA (where there is a blockage or obstruction in the upper airway) and CSA (where no effort is made to breathe).

Prevalence

It is estimated that nearly 30 million people in the United States have sleep apnoea. It affects all ages and gender, men are twice as likely to have sleep apnoea as women. In Malaysia, the prevalence of sleep-disordered breathing is ranged similarly at about 15 to 20% in adults and seven to nine percent in children. An estimated 1.9 million people in Malaysia are affected by OSA. Surprisingly 85-90% are not diagnosed and untreated. If left untreated it may lead to complications.

Sign and Symptoms

The first and most common sign of sleep apnoea is usually observed by your partner: snoring. In addition to snoring, they might also tell you that you make gasping or choking sounds while you're asleep. You might notice some other symptoms too such as: constant tiredness, poor concentration, morning headaches, frequent urination at night, depressed mood, night sweats, weight gain, sexual dysfunction.

Causes

The most common cause is obesity (most often), short and large neck (collar size) and small chin. Beside that Syringes in the nose, mouth, throat; for example, tonsillitis or large tongue. Other contributing factors include: Alcohol can cause sagging muscle part and prevent the brain from acting on the problems caused by sleep, problem of thyroid hormones and thyroid gland, medicines such as sleeping pills and tranquilizers and smoking.

Complications

According to National Heart, Lung, and Blood Institute (NHLBI) of the National Institutes of Health, obstructive sleep apnoea is associated with an increased risk of stroke in middle-aged and older adults, especially men. People with sleep apnoea problem have a high risk of road accident, high blood pressure, heart attack and diabetes mellitus. Furthermore it may also lead to day time sleepiness and lack of concentration and focus.

Treatment

- A mild OSA problem can be treated by losing weight, proper sleep mode and avoid taking alcohol, smoking or medication as described above.
- Treatment of related medical problems such as thyroid gland problems.
- Treatments such as sewing tennis balls to the back of the shirt can encourage patients to sleep in bed (sleep overtures can cause apnoea to be worse).
- Severe OSA needs a breathing aid (CPAP / BPAP; a continuous or biphasic positive pressure). It can prevent the respiratory tract from being closed during sleep. If this device does not work, surgery may be necessary to relieve respiratory tract infections.
- Mouth guard (a tool for preventing the tongue from clogging the respiratory tract). This treatment is provided by the Orthodontist. Surgery can be done to overcome the problem of obstruction on the nose or throat.

Prevention

"Obstructive sleep apnoea" and snoring problems can be overcome by:

- Avoid alcohol consumption, and medicines such as sleep pill, sedative remedy that can slow the respiratory rate
- Keep your diet and exercise and try to gain superior weight. (Normal body mass index)
- Sleeping is better than stretching. The clothes stitched with the tennis ball behind may be helpful. Stop smoking
- Raise your head during sleep 4 in. (10 cm) to 6 in. (15 cm) by placing bricks under the bed of the head of the bed (the use of the pillow to raise the head does not work)
- Treat respiratory problems such as nasal congestion or flu as it causes snoring to get worse. Avoid taking antihistamines as they can cause drowsiness and aggravate sleep apnoea. Preferably take medicines that reduce the blockage (decongestant)
- Practice correct time and sleep

Conclusion

Obstructive Sleep Apnoea is a lot more common than most people realise, as a lot of the time it is just passed off as a "snoring problem." This condition is a lot more serious than it seems and needs urgent attention.

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Mr. Muhammad Qamar

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**Hope you have enjoyed reading our quarterly newsletters.
Stay tuned for Issue 2 in June 2019**



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