

24th PSH-PLAS JOINT ANNUAL CONVENTION

HYPERTENSION AND LIPIDS IN THE GLOBALLY CHANGING WORLD



Dr Elmer Jasper Llanes opened the 2nd day of the joint annual convention with a discussion on the role of coronary artery calcium score in the management of dyslipidemia.

Hypertension, dyslipidemia and other medical conditions

The 2nd day of the 24th Joint Annual Convention of the Philippine Society of Hypertension (PSH) and the Philippine Lipid & Atherosclerotic Society (PLAS) continued at the EDSA Shangri-La Manila last 21 February 2019. The focus for the day's lectures was the management of hypertension and dyslipidemia in the presence of other comorbidities, including diabetes, diabetic kidney disease and internet addiction disorder. The impact of fad diets to the body was also discussed, as diet is one of the key lifestyle modifications necessary in managing lifestyle-related medical conditions.

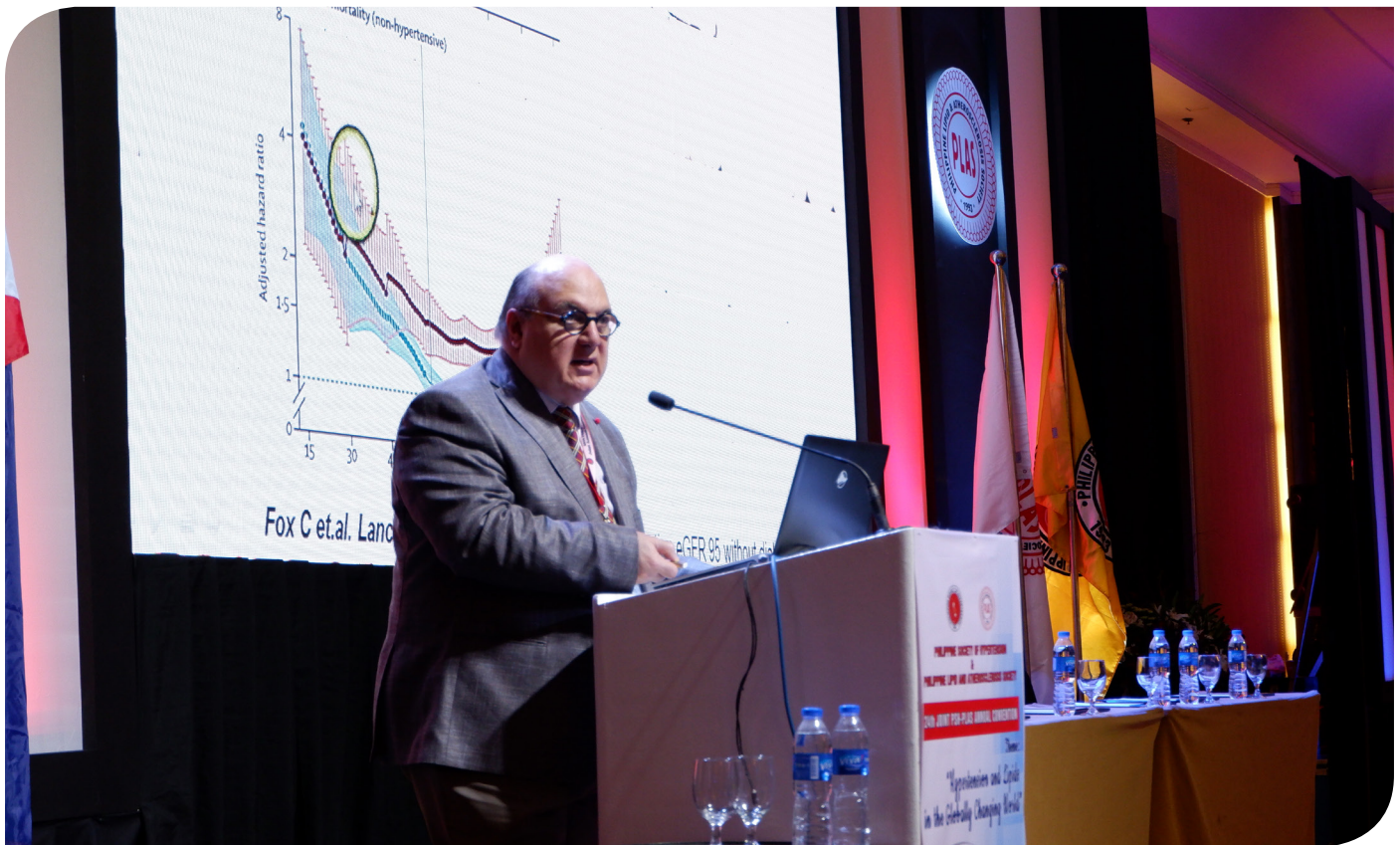
The day opened with Dr Elmer Jasper Llanes discussing the role of coronary artery calcium score in the management of dyslipidemia. Coronary artery calcium (CAC) is a lesion above a threshold

of ≥ 130 Hounsfield unit and with an area of ≥ 3 adjacent pixels (at least 1 mm²). It is measured via non-contrast, limited CT scan with low radiation exposure, and through it, the burden of coronary atherosclerosis can be measured. It provides a specific and direct marker for detecting coronary atherosclerosis in the patient. It is then assigned a specific score that classifies its severity from 'no identifiable plaque' to 'extensive plaque burden.' The CAC score is an important predictor of CV events with better discrimination compared to traditional biomarkers and risk factors.

In the latest American College of Cardiology and American Heart Association cholesterol guideline, CAC is used to improve sensitivity if the risk is uncertain in a seemingly intermediate risk patient to initiate statin therapy.

- If risk status is uncertain, CAC may be considered to improve the specificity.
- A meta-analysis of 64,873 patients monitored for 4.2 years, coronary event rate was noted at 0.13% per year only in those who have a CAC score of 0 compared with 1% per year for the patients with a CAC score >0 .
- Moderate-intensity statin is recommended in adults aged 40–75 years old who have no diabetes and with a low-density lipoprotein level ≥ 70 mg/dL (≥ 1.8 mmol/L) and a 10-year atherosclerotic cardiovascular disease (ASCVD) risk of $\geq 7.5\%$.

The impact of blood pressure control on the progression of diabetic kidney disease



Dr George Bakris from the University of Chicago (USA) discusses the impact of blood pressure control on the progression of diabetic kidney disease during the plenary of the 24th PSH-PLAS Joint Annual Convention.

A survey conducted in 2015 reported that about 415 million individuals around the world have diabetes, and it is projected that this population would dramatically increase to 645 million by 2040. Studies revealed that diabetes does not impact cardiovascular risk (CV) in the absence of hypertension; however, diabetes by itself can cause blindness and vascular disease, and 80% to 90% of people with diabetes also has hypertension.

Kidney disease, regardless of its cause, has a 10-year excess mortality in the presence of type-2 diabetes. Diabetic persons with a glomerular filtration rate (GFR) less than 60 mL/min have a six-fold increase in mortality risk compared to those who have no kidney disease. A further increase in the incidence of mortality is seen in patients with albuminuria and impaired GFR. Annual screening for albumin in the urine is recommended, as the presence of albumin provides an ear-

ly sign of advanced kidney disease even before changes in the GFR is observed. A relationship between the steady decline in kidney function with elevated blood pressure has been recognized; however, advancements in combined management such as lipid and glucose control and maintenance of the blood pressure (BP) at <140 mmHg showed slowing of the progression of diabetic kidney disease from about 10 mL/min/year loss in estimated GFR to an average of 2–4 mL/min/year.

Elevated levels of albuminuria ('microalbuminuria') is a CV risk marker, and nephropathy is considered if it measured at ≥ 300 mg/day. There are no data to support additional benefits on chronic kidney disease (CKD) outcomes by renin-angiotensin-aldosterone system (RAAS) blockers in patients with normal or microalbuminuria regardless of BP level. Despite this, lowering BP to <130 mmHg

- There are currently about **415 million people with diabetes worldwide. This population is projected to dramatically increase to 645 million by 2040.**
- Nephropathy is signified by high albuminuria or persistence of elevated albumin in the urine at ≥ 300 mg/day.
- While there is no data that indicates benefit in CKD outcome by lowering BP to <130; however, there is fairly strong evidence that it can lower the risk of stroke and cardiovascular diseases.

has a fairly strong evidence to support stroke reduction.

Fad diets and eating patterns

Fad diets promote wellness through a healthy lifestyle, and the physician's task is to determine the diet that would be most suitable to the patient. Comorbidities and cardiovascular disease risk factors are often considered in making the decision.

Caloric restriction methods such as Intermittent fasting is effective for short term weight loss. Alternate-day fasting (ADF) and time-restricted feeding (TRF) have favorable effects on metabolic parameters: While ADF causes greater weight loss, TRF results in greater adherence among patients.

A shift in medical evidence about cholesterol intake not impacting blood cholesterol level or potential heart disease instantly launched the ketogenic diet (KD) and low-carb, high-fat diet (LCHF). Both are effective in promoting weight loss while still allowing whole food consumption, and are feasible in the long term. The basic principle in KD is that the body is placed in a metabolic state wherein it would rely on fats as its primary energy source instead of carbohydrates ('ketosis'). Its effect among people with type 2 diabetes include glycemic index control, weight loss and reduced need for medications. In contrast, LCHF is more sustainable and personalized, and it does not require ketosis. Long-term efficacy and safety have not been estab-

lished in ketogenic diets and it is not advised in patients taking sodium/glucose cotransporter 2 (SGLT2) inhibitors.

The Paleo Diet (PD) involves making conscious choices in the food that the person eats. Usually, it is restricted to vegetables, fruits, fruit oils, nuts, fish meat and eggs. Intake of dairy, grain-based food, legumes and processed food is avoided. PD allows significant short-term improvement in weight and central adiposity but it has no significant effects on the other cardiometabolic factors (fasting blood sugar, blood pressure, high density lipoprotein and triglycerides). Since PD is more of a lifestyle rather than a diet, it may be expensive. The individual may also experience diarrheic episodes, which are common. The risk-benefit ratio of this diet is not sufficiently acceptable. Hypertensive individuals are good candidates for a 'DASH' diet. DASH stands for 'Dietary Approaches to Stop Hypertension' and it emphasizes portion size, variety and the right amount of nutrients. Two versions of the diet exist, with difference on the amount of daily sodium intake (<2,300 mg/day in a standard DASH diet and 1500 mg/day as the upper limit for a low-salt DASH). A conservative estimate indicates that reducing salt reduction by 3 g/day could reduce strokes by 13% and ischemic heart disease (IHD) by 10%. The effects would almost be doubled if

- **Lower intake of dietary sodium decreases the risk of cardiovascular disease especially in overweight individuals.**
- **Reducing salt intake to 3 g/day will have a much greater effect in an individual and should now be the long-term target for population salt intake worldwide.**
- **Conservative estimate indicates that a 3 g/day reduction of salt can reduce the incidence of strokes by 13% and ischemic heart disease by 10%.**

6 g/day is reduced and even tripled if further lowered by 9 g/day. Combining a DASH diet with weight management can reduce clinic-measured blood pressure by 16.1/9.9 mmHg, compared with DASH alone (11.2/7.5 mmHg) and usual diet controls (3.4/3.8 mmHg) (P<.001).

Reduction in body weight and waist circumference are the common desirable outcomes for a person undertaking a diet regimen. Regardless of the type of the diet chosen, being healthy rather than just looking good is and should be the ultimate goal.



Dr Alejandro Diaz, the chairperson for the symposium on 'Fad diets and eating patterns' and Dr Gilbert Vilela, the moderator, present certificates of appreciation to the panelists: Dr Federick Cheng, Dr Elmer Jasper Llanes, Dr Leilani Mercado-Asis, Dr Nemencio Nicodemus, Jr. and Dr Roberto C. Mirasol.

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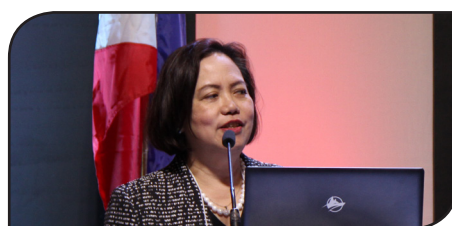
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Internet addiction disorder and CV health: Is there a cause for concern?

Filipinos spend >10 hours per day using the internet and >4 hours of this is spent in social media. Most users are within the 13–24 and 25–34 years age groups. While the internet allows people to connect with their peers and express themselves, it also impacts their physical and mental health, as well as predisposes them to online dangers. Advertisements may persuade them to a risky lifestyle, including cigarette smoking, excessive alcohol intake and unhealthy food choices. Internet addiction may manifest with behavior akin to drug addiction, including excessive and compulsive use, negative impact on functioning and signs of withdrawal. These may lead to short sleep duration, poor sleep quality and late bedtimes, which, can subsequently cause poor diet and obesity in adolescents. These interact with each other and ultimately affect health. It is important

- There should be balance in an individual's online and offline time, or it may lead to physical, psychosocial and mental health problems.
- Among the effects of adverse childhood experiences on health are obesity, diabetes, cardiovascular diseases, smoking, anxiety and depression.
- Among the effects of problematic internet usage include increased heart rate, increased episodes of anxiety and withdrawal.

ant to have a holistic approach to address these behaviors to optimize the impact of intervention.



Blood pressure and lipid care among patients with type 2 diabetes

- **A** (A1c) – Optimal glycemic control (usually $\leq 7\%$)
- **B** (BP) – Optimal blood pressure control ($< 130/80$)
- **C** (Cholesterol) – Low density lipoprotein < 2.0 mmol/L or $> 50\%$ reduction
- **D** (Drug to protect the heart) – Angiotensin-converting-enzyme (ACE) inhibitors or angiotensin-receptor blockers (ARBs); Statin; Aspirin, if indicated; sodium/glucose cotransporter 2 (SGLT2) inhibitor/ Glucagon-like peptide-1 receptor agonists (GLP-1 RA) with demonstrated cardiovascular benefit if type 2 diabetes mellitus with CVD and A1c not at target
- **E** (Exercise/Healthy Eating)
- **S** (Smoking cessation)
- **S** (Screening for complications)
- **S** (Self-management, stress and other barriers)

From top: Dr Bernadette Madrid discusses the effect of childhood experiences to the individual's long-term health and capacity to relate to society; Dr Peter Lin, who discussed blood pressure and lipid care among patients with type 2 diabetes, is presented with a plaque of appreciation by Dr Roberto Mirasol, Dr Leilani Mercado-Asis and Dr Lynn Gomez; Among the topics discussed was the effect of gadget use to physiology, which was discussed by Dr Queena Lee-Chua; The panelists from the symposium on internet addiction disorder and cardiovascular health receive their plaques of appreciation from the PSH officers.