



# AOGD BULLETIN

Volume 22 | April 2023 | Monthly Issue 12



*Safeguarding women and their Doctors*

Issue Theme:  
**The health we need**



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## AOGD Bulletin

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## From the AOGD Office



Dr. Asmita M. Rathore



Dr. Y. M. Mala



Dr. Deepti Goswami

The beautiful year long journey ended when Team MAMC handed over the reigns of AOGD secretariat to the incoming team AOGD UCMS lead by Dr Amita Suneja in a glittering installation ceremony at MAMC Auditorium. We feel lucky and privileged to write this address for the last bulletin published by team MAMC. With guidance and blessings of our patrons, advisors and seniors, we completed our tenure which began amidst the challenges of post COVID uncertainties, transition from virtual to physical mode of activities and implementation of newly amended constitution. The vibrant executive committee, enthusiastic subcommittees, dynamic PG forum conveners and most importantly the active participation of all members were our strong pillars of support.

The opportunity to meet so many members on one to one basis, participating in subcommittee activities, interaction with FOGSI office, collaboration with other professional bodies, everything was a great pleasure and a learning experience.

I was extremely fortunate to have a very hard working team of AOGD office bearers and secretarial & institutional support at MAMC. We did our best and I hope we have lived up to your expectations.

Our Editorial team led by Dr Madhavi Mathur Gupta and well supported by Dr Nalini Bala Pandey, Dr Reena Rani, Dr Chetna Sethi have done an outstanding job of providing us an academic feast of Game changing publications related to important issues in obgyn practice. I am sure everyone has enjoyed the contents of all the bulletins.

The last issue focusses on aspects of a person's health apart from medicines- lifestyle, spiritual. Everything counts. I sincerely hope this change makes an enjoyable reading.

I take this opportunity to thank all AOGD members who gave us this opportunity and each and every one who made this journey exciting and satisfying and we will always be together as family AOGD.

Wishing you a happy reading.

**Dr. Asmita M Rathore, President**

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**Dr. Deepti Goswami, Secretary**

### **AOGD Risk Management Support [ARMS] Group**

One of the ways to ensure the stress-free work environment and optimal patient care is mutual support among professional colleagues. We propose to form an advisory group of senior AOGD members that can be contacted if one of us is caught in a complex clinical dilemma / dealing with aggressive clients or is apprehensive about how to document or effectively troubleshoot a potential problem. This group will provide the timely advice and will be led by-

Convener- **Dr. Vijay Zutshi** - 9818319110

Co convener- **Dr. Aruna Nigam** - 9868656051

We invite suggestions from all members regarding functioning of this cell which will guide us forming the SOPs. Any member interested in being part of Advisory group may contact the convener.

Pl mail to [aogdmamc2022@gmail.com](mailto:aogdmamc2022@gmail.com)

## From the Editor's Desk



Dr. Madhavi M. Gupta  
**Editor**



Dr. Nalini Bala Pandey



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Dr. Chetna A. Sethi

Greetings to all!

Dear friends

It is an honour to be speaking to all of you for the last time through this bulletin, the final issue from Team MAMC. It's been an exhilarating journey and we have enjoyed it thoroughly. Hopefully we can say this for you too.

Over the last one year we have tried to cover topics under the Game Changer section which we thought would interest all. In this issue we bring the Global Burden of Disease study (1990-2016) and the dietary modification (DM) clinical trial, within the Women's Health Initiative (WHI). We have aimed to target the overwhelming burden of Non-Communicable diseases (NCD). NCDs have many modifiable risk factors which can aid in bringing the burden down. Over the years, body-mass index and high fasting plasma glucose, have showed significant increases and smoking and metabolic risk factors continue to lead. Risk modification has failed to play a significant part over the last decade and more. Lifestyle modification is the need of the hour to lead a disability free life. The burden of NCDs is preventable, but we need to act.

We have covered only a miniscule part of the problem. This issue covers Metabolic Syndrome, Post-menopausal health and spiritual health, the focus being management apart from medication which can help us too.

Stress has become an important part of our daily living. We all are well aware that it doesn't help but are helpless. "Safeguarding the Doctors" section is dedicated to Stress management. The author walks us through the entire process right from identifying everyday stressors in a doctor's life to signs and symptoms and the various coping strategies.

My heartfelt gratitude to all the authors for giving an article I hope all of us will want to read and apply in our lives to get the health we need.

The journey was enjoyable and gratifying because of the support and appreciation of all the esteemed AOGD members. It would not have been so without your encouragement.

My sincere thanks to my team Dr Nalini B Pandey, Dr Reena Rani and Dr Chetna A Sethi who have worked hard to put the Bulletin in shape for the last twelve months and to Dr Asmita Muthal Rathore for putting her faith in us.

Wishing team UCMS an equally exciting journey.

With you in health,

**Dr. Madhavi M Gupta**  
Editor

*"What you do today can improve all your tomorrows".*

**-Ralph Marston**

# GAME CHANGER:

## Global Burden of Disease Study and The WHI Dietary Intervention Trial

**Madhavi M Gupta\***, **Reena Rani\*\***

\*Director-Professor, \*\*Assistant-Professor, Department of Obstetrics & Gynaecology, MAMC & Lok Nayak Hospital, New Delhi

Abstract of the research articles are available free at the journal websites and on Pubmed (<http://www.ncbi.nlm.nih.gov/PubMed>)

The Global Burden of Disease Study (GBD) is the most comprehensive worldwide observational epidemiological study to date. It describes mortality and morbidity from major diseases, injuries and risk factors to health at global, national and regional levels. The first global burden of disease study in the 1990s.

The original GBD study was commissioned in 1992 by the World Bank for its 1993 World Development Report on Investing in Health recommended cost-effective intervention packages for countries at different levels of development. It was a collaboration of over 3600 researchers from 145 countries. Under principal investigator Christopher J.L. Murray, GBD is based out of the Institute for Health Metrics and Evaluation (IHME) at the University of Washington and funded by the Bill and Melinda Gates Foundation. WHO development of global burden of disease work in the Millenium Development Goal era resulted in the regular publication of time series estimates of deaths by cause, age and sex at country level, consistent with UN population and life table estimates, and with cause-specific statistics produced across UN agencies and interagency collaborations. This positioned WHO as the lead agency to monitor many of the 43 health-related indicators for the UN Sustainable Development Goals. Women being a major half of the world population, this study projects the role of diet and environment on health over a period of time.

### **The Global Burden of Disease Study and the Preventable Burden of NCD.**

**Benziger CP, Roth GA, Moran AE. Glob Heart. 2016 Dec;11(4):393-397.**

Noncommunicable diseases (NCD) now account for more than one-half of the global burden of disease. Cardiovascular diseases account for about one-half of NCD deaths, and the majority of cardiovascular disease deaths occur in low- and middle-income countries. The GBD (Global Burden of Disease) study measures and benchmarks health loss from death or disability from more than 300 diseases in over 100 countries. According to GBD analyses, the rise of NCD is in part due to increased life expectancy due to reduced premature mortality from communicable, child, and maternal illnesses, but preventable risk factors also contribute and present targets for NCD control efforts. In addition to traditional NCD risk factors, like tobacco smoking, high blood pressure, and unhealthy diet, nontraditional risk factors like air pollution and unhealthy alcohol consumption also play a role.

### **NCD Countdown 2030: worldwide trends in non-communicable disease mortality and progress towards Sustainable Development Goal target 3.4.**

**NCD Countdown 2030 collaborators. Lancet. 2018 Sep 22;392(10152):1072-1088**

NCD Countdown 2030 is an independent collaboration to inform policies that aim to reduce the worldwide burden of NCDs, and to ensure accountability towards this aim. In 2016, an estimated 40.5 million (71%) of the

56.9 million worldwide deaths were from NCDs. Of these, an estimated 1.7 million (4% of NCD deaths) occurred in people younger than 30 years of age, 15.2 million (38%) in people aged between 30 years and 70 years, and 23.6 million (58%) in people aged 70 years and older. An estimated 32.2 million NCD deaths (80%) were due to cancers, cardiovascular diseases, chronic respiratory diseases, and diabetes, and another 8.3 million (20%) were from other NCDs. Women in 164 (88%) and men in 165 (89%) of 186 countries and territories had a higher probability of dying before 70 years of age from an NCD than from communicable, maternal, perinatal, and nutritional conditions combined. Globally, the lowest risks of NCD mortality in 2016 were seen in high-income countries in Asia-Pacific, western Europe, and Australasia, and in Canada. The highest risks of dying from NCDs were observed in low-income and middle-income countries, especially in sub-Saharan Africa, and, for men, in central Asia and eastern Europe. Sustainable Development Goal (SDG) target 3.4-a one-third reduction, relative to 2015 levels, in the probability of dying between 30 years and 70 years of age from cancers, cardiovascular diseases, chronic respiratory diseases, and diabetes by 2030-will be achieved in 35 countries (19%) for women, and 30 (16%) for men, if these countries maintain or surpass their 2010-2016 rate of decline in NCD mortality.

**Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016 GBD 2016**  
**Lancet 2017; 390: 1345–422**

The Global Burden of Diseases, Injuries, and Risk Factors Study 2016 (GBD 2016) provides a comprehensive assessment of risk factor exposure and the attributable burden of disease. in terms of attributable deaths, and attributable disability-adjusted life-years (DALYs), by age

group, sex, year, and location for 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks from 1990 to 2016. This study included 481 risk-outcome pairs that met the GBD study criteria for convincing or probable evidence of causation. They explored four drivers of trends in attributable burden: population growth, population ageing, trends in risk exposure, and all other factors combined. Among risks that are leading causes of burden of disease, child growth failure and household air pollution showed the most significant declines, while metabolic risks, such as body-mass index and high fasting plasma glucose, showed significant increases. In 2016, at Level 3 of the hierarchy, the three leading risk factors in terms of attributable DALYs at the global level for men were smoking, high systolic blood pressure and low birthweight and short gestation, and for women, were high systolic blood pressure, high body-mass index and high fasting plasma glucose. In terms of important drivers of change in trends of the burden attributable to risk factors, between 2006 and 2016 exposure to risks explains a 9.3% (6.9–11.6) decline in deaths and a 10.8% (8.3–13.1) decrease in DALYs at the global level, while population ageing accounts for 14.9% (12.7–17.5) of deaths and 6.2% (3.9–8.7) of DALYs, and population growth for 12.4% (10.1–14.9) of deaths and 12.4% (10.1–14.9) of DALYs.

Conclusion: Metabolic risks warrant particular policy attention, due to their large contribution to global disease burden, increasing trends, and variable patterns across countries at the same level of development.

**Nutritional epidemiology and the Women’s Health Initiative: a review**  
**Ross L Prentice, Barbara V Howard, Linda Van Horn, Marian L Neuhauser et al.**  
**Am J Clin Nutr 2021;113:1083–1092.**

Summary The dietary modification (DM) clinical trial, within the Women’s Health Initiative (WHI), studied a low-fat dietary pattern intervention that included guidance to increase vegetables, fruit, and grains. This study was motivated in part by uncertainty about the reliability of observational studies examining the association



between dietary fat and chronic disease risk by using self-reported dietary data. In addition to this large trial, which had breast and colorectal cancer as its primary outcomes, a substantial biomarker research effort was initiated midway in the WHI program to contribute to nutritional epidemiology research more broadly. The authors reviewed and updated findings from the DM trial and from the WHI nutritional biomarker studies and examine implications for future nutritional epidemiology research. The WHI included the randomized controlled DM trial (n = 48,835) and a prospective cohort observational (OS) study (n = 93,676), both among postmenopausal US women, aged 50–79 y when enrolled during 1993–1998. They also reviewed a nutrition and physical activity assessment study in a subset of 450 OS participants (2007–2009) and a related controlled feeding study among 153 WHI participants (2010–2014). Long-term follow-up in the DM trial provided evidence for intervention-related reductions in breast cancer mortality, diabetes requiring insulin, and coronary artery disease in the subset of normotensive healthy women, without observed adverse effects or changes in

all-cause mortality. Studies of intake biomarkers, and of biomarker-calibrated intake, suggested important associations of total energy intake and macronutrient dietary composition with the risk for major chronic diseases among postmenopausal women. Collectively these studies argue for a nutrition epidemiology research agenda that includes major efforts in nutritional biomarker development, and in the application of biomarkers combined with self-reported dietary data in disease association analyses (1,2).

### References

1. Prentice RL, Caan B, Chlebowski RT, Patterson R, Kuller LH, Ockene JK, Margolis KL, Limacher MC, Manson JE, Parker LM, et al. Low-fat dietary pattern and risk of invasive breast cancer: the Women's Health Initiative randomized controlled Dietary Modification trial. JAMA 2006;295:629–42.
2. Beresford SAA, Johnson KC, Ritenbaugh C, Lasser NL, Snetselaar LG, Black HR, Anderson GL, Assaf AR, Bassford T, Bowen D, et al. Lowfat dietary pattern and risk of colorectal cancer: the Women's Health Initiative randomized controlled Dietary Modification trial. JAMA 2006;295:643–54.

### Answer key of Quiz of March 2023

The crossword puzzle grid contains the following words:

- 1M: Men
- 2F: Fat
- 3P: Protein
- 4B: Bland
- 5a: aorta
- 6T: Total
- 7M: MEOS
- 8E: ERZ
- 9S: Swansong
- 10B: Bland
- 11D: Defibrillation
- 12I: Intrinsically

**Winners of the monthly Quiz,  
March Issue 2023**

**1. Dr Lekshmi**

# Metabolic Syndrome

Sugandha Dev\*, Nitisha Verma\*\*

\*Assistant Professor, \*\*Senior Resident, MAMC & LNH, Delhi

## Introduction

Formerly known as Syndrome X, Metabolic syndrome (MetS) is defined by WHO as a pathologic condition characterized by abdominal obesity, insulin resistance, hypertension, and hyperlipidemia.<sup>1</sup> This cluster of metabolic derangements increases the risk for developing diabetes mellitus type 2 and atherosclerotic cardiovascular disease.<sup>2</sup> Though it started in the developed nations its prevalence is often more in the urban population of some developing countries than in its Western counterparts.<sup>1</sup> Incidence of MetS in early pregnancy is around 3.3% to 10% which increases with an increase in gestational weeks and BMI. The third trimester of pregnancy has the highest incidence of MetS of about 30% due to increased weight gain with advanced gestational age. The incidence increases further with the presence of gestational diabetes mellitus (GDM) and gestational hypertension.<sup>3</sup>

## Definition

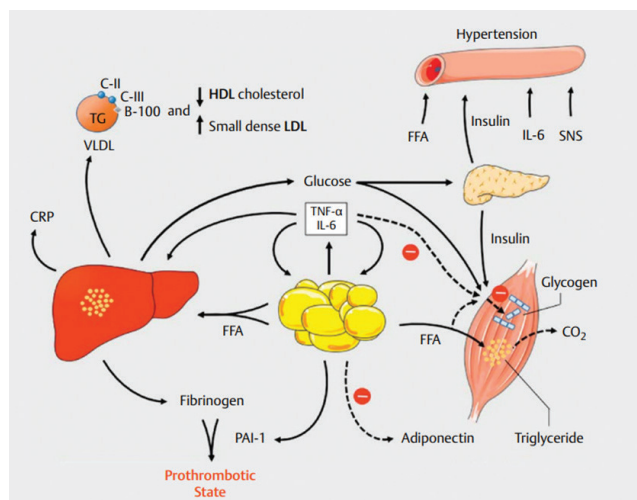
There is no uniform definition of MetS and there are no recognised healthy metabolic variable cut-points in pregnancy. Studies that have assessed metabolic components in pregnancy have generally defined variables from the non-pregnant adult population.<sup>4</sup>

1. International Diabetes Federation (IDF), 2006 defines MetS as the presence of central obesity (defined as waist circumference with ethnicity-specific values) plus any two of the following,
  - a. Raised triglycerides  $\geq 150$  mg/dL (1.7 mmol/L) or specific treatment for this lipid abnormality
  - b. Reduced HDL cholesterol  $< 50$  mg/dL or specific treatment for this lipid abnormality
  - c. Raised blood pressure  $\geq 130/85$  mm Hg or treatment of chronic hypertension
  - d. Raised fasting plasma glucose  $\geq 100$  mg/dL (5.6 mmol/L), or previously diagnosed type 2 diabetes mellitus
2. American Heart Association/National Heart, Lung and Blood Institute (AHA/NHLBI) defines MetS if any three of the following criteria are met,
  - a. Elevated waist circumference (according to population and country specific definitions)
  - b. Plasma triglycerides  $\geq 150$  mg/dl or specific treatment for this lipid abnormality
  - c. HDL cholesterol  $< 50$  mg/dl or specific treatment for this lipid abnormality
  - d. Blood pressure  $\geq 130/85$  mmHg or treatment of previously diagnosed hypertension
  - e. Fasting plasma glucose  $\geq 100$  mg/dl or on drug treatment for elevated glucose
3. National Cholesterol Education Programme Adult Treatment Panel III (NCEP ATP III) criteria, 2005 defines MetS as presence of any three of the following,
  - a. Waist circumference  $> 88$  cm
  - b. Plasma triglycerides  $> 150$  mg/dl
  - c. HDL cholesterol  $< 50$  mg/dl
  - d. Blood pressure  $\geq 130/85$  mmHg
  - e. Fasting plasma glucose  $\geq 110$  mg/dl
4. World Health Organization (WHO) 1999 criteria defines MetS as presence of insulin resistance or type 2 diabetes mellitus (T2DM) or impaired fasting glucose (IFG) or impaired glucose tolerance (IGT) plus any two of the following,
  - a. Raised arterial pressure  $\geq 140/90$  mmHg
  - b. Raised plasma triglycerides  $\geq 150$  mg/dl
  - c. Low HDL cholesterol  $< 39$  mg/dl
  - d. Central obesity (BMI  $> 30$  kg/m<sup>2</sup> and/or waist to hip ratio  $> 0.85$ )
  - e. Urinary albumin excretion rate  $> 20$  ug/min or albumin creatinine ratio  $> 30$  mg/g

Jayasinghe et al concluded in a study of comparison on global definitions of MetS that both IDF criteria and AHA/NHLBI criteria capture a higher number of cases with MetS in pregnancy.<sup>2</sup>

## Pathophysiology

MetS results from the complex interaction between genetic and environmental factors, and has a multifaceted pathophysiology. Factors, such as visceral adipose tissue (VAT) and its endocrine mediation, hypertension, insulin resistance, and dyslipidemia, comprise the syndrome main pathophysiological pillars. Recently, endothelial dysfunction, chronic oxidative stress, systemic inflammation, and atherothrombotic events have also been included as fundamental pathogenic factors.<sup>5</sup>



Hypertensive disorders in pregnancy (HDPs) are associated with risk of future metabolic syndrome. A study done in sub-saharan Africa showed that HDPs were associated with a higher incidence of metabolic syndrome up to one year postpartum. Women with HDPs should be routinely screened for metabolic syndrome within the first year postpartum to reduce cardiometabolic risks.<sup>6</sup>

## Predisposing factors

- **Genetics**-Some individuals and ethnic groups have a high and paradoxical occurrence of MetS. It is probable that the metabolic sensitivity to different environmental factors can be under genetic control.
- **Diet**-Diet plays a vital role in the development of MetS. In addition to being directly related

to the energy balance, the nutrients per se can naturally have a pro-inflammatory character since their processing can produce biological molecules that trigger an inflammatory response. Calorie restriction can reverse metabolic risk factors regardless of weight loss, while the overnutrition state and positive energy balance seem to precede overweight or obesity as the syndrome's main cause.

- **Gut microbiome** – the gut microbiome has been shown to have a substantial effect on MetS. The interplay of the intestinal microbiota with host metabolism has been shown to be mediated by a myriad of factors, including a defective gut barrier, bile acid metabolism, antibiotic use, and the pleiotropic effects of microbially produced metabolites.<sup>7</sup>
- **Sedentary Behavior** - It has usually been defined as “any behavior/ activity characterized by an energy expenditure  $\leq$  1.5 MET, predominantly in a sitting position”. It may not be a part of the MetS risk factors cluster; however, it is highly related to the development of common comorbidities such as diabetes, CVD, cancer, increased risk of premature death, and diminished life expectancy.<sup>5</sup>

## Impact

Metabolic syndrome, by definition, is not a disease, but is a clustering of individual risk factors for disease, drawing the attention of the clinician to the probable coexistence of multiple cardiometabolic risk factors in patients when one of the components is found. Therefore, a diagnosis of MetS could be expected to predict risk. The goal is to target the different components of MetS with lifestyle and pharmacologic therapies to prevent disease, particularly CVD and diabetes.<sup>8</sup>

Diagnosis of MetS portends an adjusted relative risk (RR) of about 2-fold of CVD outcomes. From the Framingham Heart Study Offspring Study, participants with MetS had an age-adjusted RR of CVD of 2.88 for men and 2.25 for women older than 8 years.<sup>9</sup> Among the differing MetS definitions, the NCEP criteria has the best predictive accuracy at identifying individuals

at risk for acute MI independently of age, sex, previous CVD, smoking, hypercholesterolemia, diabetes, and hypertension.<sup>10</sup>

Analysis of data from the Framingham Heart Study Offspring participants revealed an age-adjusted RR of diabetes of 7-fold in males and females.<sup>9</sup> Also, the more MetS components you have, the higher the risk of T2DM. Of all MetS criteria, IFG and impaired glucose tolerance (IGT) are most strongly associated with diabetes.

MetS also is associated with nonalcoholic fatty liver disease (NAFLD). NAFLD has sometimes been referred to as MetS of the liver, and there has been some discussion as to whether this could be included as a MetS component. NAFLD is significantly associated with MetS components of increased WC, triglycerides, blood pressure, glucose, homeostatic model assessment insulin resistance, and lower HDL levels, and the prevalence of NAFLD increases with the number of MetS components present.<sup>11</sup>

In conclusion, diagnosis of metabolic syndrome has a relative risk of approximately 2-fold for cardiovascular disease over 5 to 10 years and at least 5-fold for type 2 diabetes.

A recent study presents the association between MetS and cognition-related disorders. As they share common metabolic pathways, MetS may trigger cognitive impairment. On the other hand, the risk factors for both MetS and cognitive impairment can be reduced by optimizing the nutritional intake. The Mediterranean dietary pattern stands among the most discussed predominantly plant-based diets in relation to cardiometabolic disorders that may prevent dementia, Alzheimer's disease and other cognition-related disorders.<sup>12</sup>

## Treatment

Management involves (a) implementation of lifestyle and dietary changes for weight loss, (b) treatment of atherogenic dyslipidemia, and (c) treatment of hypertension. Many patients with MetS are overweight or obese, and weight reduction through lifestyle changes with caloric restriction and increased physical activity is an important part of the strategy.

Various scores and indices are available to assess overall diet quality in population-based or interventional studies. These scores measure

either adherence to certain dietary patterns, such as the Mediterranean diet (MedDiet) or the Dietary Approach to Stop Hypertension (DASH), or to country-specific dietary guidelines, such as Healthy Eating Indices (HEI). A comprehensive review done by Harrison S et al shows that these diets are quite consistently associated with a reduced risk of MetS, and that there is indirect evidence that SFA (saturated fatty acids) may play a role in the development of MetS.<sup>13</sup>

Interventions for MetS as recommended by the AHA/NHLBI scientific statement (2005)	
Abdominal obesity	Reduce body weight by 7%–10% by 1 y Continue weight loss to achieve <25 kg/m <sup>2</sup> and achieve WC of <102 cm (40 inches) in men and <88 cm (35 inches) in women Encourage weight maintenance after weight loss
Physical activity	Moderate intensity aerobic activity (eg, brisk walking) of at least 30–60 min and at least 5 d per wk to daily Supplement with increased activities of daily living Resistance training 2 d per wk
Diet composition	Reduce total fat to 25% of calories Reduce saturated fat to <7% of calories Reduce trans fat Limit cholesterol Choose unsaturated fat Avoid simple sugars
Dyslipidemia	The primary target is to lower LDL-C as guided by NCEP/ATPIII using statins A secondary target is increased non-HDL-C If triglyceride level is >500 mg/dL, initiate fibrate or nicotinic acid
Increased blood pressure (BP)	Reduce BP to at least achieve BP of <140/90 mm Hg For BP ≥140/90 mm Hg, add BP medication as needed to achieve goal For BP ≥120/80 mm Hg, use lifestyle modification
Increased glucose level	For IFG, delay progression to T2DM with lifestyle changes

A comprehensive review article shows that specific dietary modifications, such as improving the quality of the foods or changing macronutrient distribution, showed beneficial effects on metabolic syndrome conditions and individual parameters. On comparing low-fat and restricted diets, the scientific evidence supports the use of the Mediterranean Dietary Approaches to Stop Hypertension (DASH) diet intervention as the new paradigm for metabolic syndrome prevention and treatment.<sup>14</sup>

The Mediterranean Diet is characterized by an adequately balanced combination of fruit and vegetables, fish, cereals, and polyunsaturated fats, with a reduced consumption of meat and dairy products and moderate intake of alcohol, primarily red wine. The value of this diet lies in its ability to preserve the state of health and improve longevity. The nutrients that are found in abundance in the Mediterranean diet have anti-cancer, anti-inflammatory, anti-obesity properties and contribute together to the maintenance of health status.<sup>15</sup>

The pathophysiology of most cancers also depends on the production of reactive oxygen species, whose accumulation may cause oxidative damage and promote inflammatory

reactions. During carcinogenesis, immune and inflammation response produces cytokines and chemokines that facilitate cancer development, angiogenesis and modify tumor microenvironment. The Mediterranean diet has a preventive action on cancer, because of the anti-proliferative and anti-apoptotic effects on cancer cell.<sup>16</sup>

Mediterranean diet has also been shown to prolong longevity. Cellular aging is represented by telomere shortening that affects life expectancy and increases the individual susceptibility to the development of chronic diseases. The Mediterranean diet includes a high significantly quantity of foods rich in antioxidant compounds, which can help explain its many benefits. Mediterranean diet effect on telomere length makes itself a powerful anti-aging tool.<sup>15</sup>

## Pregnancy

Normal pregnancy itself is a proinflammatory, prothrombotic, hyper-lipidemic and insulin-resistant state. A study showed that more than half of the women who had MetS in early pregnancy developed a pregnancy complication compared with just over a third of women who did not have MetS. Furthermore, while increasing BMI increases the probability of GDM, the addition of MetS exacerbates this probability.<sup>4</sup> There occurs maternal weight gain, fasting blood sugar levels are slightly lower in pregnant women than in non-pregnant women. There occurs a dramatic increase in lipid concentrations, lipoproteins and apoprotein in plasma during pregnancy. Women who have MetS and are overweight or obese during early pregnancy also tend to have risk factors such as hyperlipidemia and atherosclerosis, insulin resistance and impaired endothelial function during pregnancy. MetS is associated with inflammation and microalbuminuria, hyperuremia, non-natural fibrinolysis, and coagulation disorder attributable to pathogenic vascular dysfunction. There is association of endothelial dysfunction and abnormal lipid metabolism in etiopathogenesis of pre-eclampsia and studies show that MetS during pregnancy is an independent risk factor in the development of severe pre-eclampsia.<sup>17</sup> Maternal obesity, low preconception levels of HDLc and high levels of triglycerides are independently

associated with GDM. This becomes even more important once we consider that women with MetS are at higher risk for GDM and they are 30% more likely to have type 2 diabetes in the future.<sup>18,19</sup>

Metabolic syndrome may also play a crucial role in the etiopathogenesis of RPL. The levels of IL1 $\beta$ , IL6, IL17, TNF $\alpha$ , CCL2, CXCL8, NO, MPO and TOS were found to be higher in women with RPL and MetS both.<sup>20</sup>

Another complication of metabolic syndrome in early pregnancy is preterm birth, as concluded in the study by Chatzi et al.<sup>21</sup>

## Effects on fetus

Maternal obesity increases risk for babies born too small or too large and turns out to be an independent risk factor for macrosomia, cesarean section, preterm delivery, intrauterine growth restriction, congenital malformation and intrauterine fetal death.<sup>4,19</sup> Low preconception levels of HDLc and high levels of triglycerides are independently associated with an increased risk of premature birth and low birth weight.<sup>18</sup>

With the presence of dysglycemia, hypertension and atherogenic dyslipidemia associated with metabolic syndrome; there occurs intergenerational inheritance of metabolic diseases in progeny. Maternal obesity affects DNA methylation at several points like in genes for adiponectin, leptin and glucose transporters in off-springs. Reduced adiponectin level and increased leptin level in MetS directly affects fetal metabolic programming. The affected growth factors, adipogenesis, appetite control and glucose homeostasis results in increased birth weight and predisposition to future obesity in progeny.<sup>1,2</sup> Epigenetics see MetS to have a bigger role in promoting MetS but various epidemiological studies have shown strong association between intrauterine nutrition, patterns of postnatal nutrition, and growth and metabolic syndrome in adults.<sup>1</sup>

## Prevention

There are various strategies to prevent obesity and MetS during nonpregnancy period such as increased physical activity, proper dietary habits, frequent and regular physician visits and helping maintain the safe levels of blood

pressure, cholesterol, and blood glucose. An increased vigilance for early signs of pre-eclampsia and GDM might be considered.<sup>18,19</sup>

Physical activity and exercise helps beyond the immediate benefit of calorie deficit and restricting weight gain through improved cardiovascular function. A moderate calorie restriction and a change in dietary composition to decrease total and saturated fat, increase fibre and if appropriate, reduction in salt intake is effective. A multifaceted intervention with dietary advice, exercise modification and behavioral strategies is more effective on limiting pregnancy weight gain and reducing maternal complications. Reducing daily stress, quitting smoking, and medication treatment before pregnancy are beneficial. Supplementation of omega 3 fatty acids can be considered. Although some interventions help in preventing weight gain during pregnancy, there are currently limited information on effective interventions that can be used to improve maternal, fetal and neonatal health outcomes.<sup>18,19,22</sup>

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# The post-menopausal woman- Diet for her health

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Natural menopause is deemed to have occurred after 12 consecutive months without menstruation for which there is no other obvious physiological or pathological cause and in the absence of clinical intervention. (WHO).

Menopause transition begins few years before the final menstrual period and is characterized by irregular menstrual cycles, endocrine changes, and symptoms such as hot flashes that may affect a woman's quality of life. During this time Serum FSH levels rise and Estrogen levels decrease. There is an overlap of symptoms due to aging process in itself and hormonal changes of menopause.

Estrogen deficiency causes loss of bone mineral density thus resulting in weaker bones and increased cardiovascular risk factors. Menopause transition is an important window where one can modify lifestyles, do dietary interventions, care for bone health. If indicated hormonal replacement may be done for vasomotor flushes.

The concerns of women in this span of time are increase in visceral fat and gross weight, vasomotor symptoms like hot flashes and night sweats, bone loss, osteoporosis, vulvovaginal atrophy and urinary complaints.

Anxiety, depression, mood changes, muscular pains, generalised weakness is also very common. Woman is more prone to develop cardiovascular risks like dyslipidaemias, increase in triglyceride levels, insulin resistance, hypertension, increasing waist circumference. The protective effect of estrogen on cardiac health gradually wanes off with time.

The social factors of changing life styles with less of activity adding more sedentariness to life, living alone, less earnings, loss of memory and associated comorbidities, adds on to the problem.

Is it age, lack of estrogens or sedentary lifestyle or a fraction of all which leads to all these changes is an important area to be further researched.

Apart from the symptomatic management

of menopausal symptoms care of diet and lifestyle management are important. These are few modifiable factors which can be looked into and corrected by woman herself and thus the approaching phase of menopause can be spend more healthy and free of diseases.

## Nutrition and diet: general concerns

The general principles for a diet for elderly woman as guided by National institute of Nutrition, India are

- Low energy protein rich diet should be consumed. Whole grains rich in fibre instead of refined cereals are recommended.
- 20-25% of energy should be from proteins which should be from plant sources like legumes and nuts and egg whites. Fish and seafood can be consumed in moderate amounts.
- 400 gms of vegetables and fruits should be consumed for fibre micronutrients and antioxidants.
- 20-30 gms of fibre is recommended daily.
- Low fat dairy ( 300ml of milk ) should be taken.
- Butter and vanaspati should be avoided.
- 8-10 glasses of water every day
- Added sugar and sweetened drinks should not be taken.
- Alcohol in minimal amounts or not to be taken at all.
- Low sodium intake: Daily salt intake should not exceed 5 g (1 teaspoon).<sup>1</sup>

## Dietary protein intake

Menopause brings with it increase in fat mass and decrease in lean body mass. Studies have shown that increasing protein intake does not increase lean body mass when compared to recommended dietary allowance.(RDA).

Recommended daily allowance (RDA) is 0.8/kg which has been found sufficient.<sup>2</sup> Lean meats, egg whites, Sear foods , Legumes like beans and

peas, Chickpeas, low fat milk and cheese and nuts and seeds are good sources of proteins.

### Micronutrients;

Beta carotene selenium magnesium, vitamin B6, B12 & other B-complex vitamins are important during this phase. They decrease oxidative stress, promote bone formation and decrease inflammation in the body. Muscle performance is also improved.

Nuts, seeds, lean meat, Broccoli and vegetables and fruits are rich sources of these nutrients. Regular consumption of fresh fruits, vegetables and seeds is important.

### Dietary carbohydrate and glycaemic index

The type of carbohydrate and fibre content affect the outcome. Whole grains with high fibre content are beneficial as compared to refined grains. Importance should also be given to the glycemic index (GI) of the food source.

Consumption of meals with high glycemic index causes rapid rise in glucose levels causing increased Insulin secretions leading to hunger and overeating.<sup>3</sup> Foods with low glycaemic index should be consumed. Chick peas, complex carbohydrates, multigrain flour, raw carrots, legumes have low glycemic index whereas bananas, white rice and bread are high on it.

### Fibre rich food

Fiber rich food helps in lowering blood cholesterol. Gut movements are better which a problem in elderly is and constipation is relieved. Rapid rise in glucose levels are harmful and complex fiber rich carbohydrates help to maintain stable glucose levels in the body which may help in controlling mood swings.

Fiber rich food sources are whole grains like whole wheat, broken wheat, oats, quinoa, millets like bajra, jowar, Ragi salads, whole fruits, sprouts, pulses and raw fruits and vegetables.

### Healthy fats

Omega 3 enriched oils prove to be beneficial for cardiac health and keep weight and cholesterol in check. Groundnut, rice bran, canola or olive oil, beans, flax seeds are all omega 3 and 6

enriched.

### Phytoestrogens:

These are naturally occurring estrogen mimicking component in food. There are two main types of phytoestrogens — isoflavones and lignans. These Isoflavones are found in soybeans, chickpeas and other legumes and Lignans occur in flax seed, whole grains as well as some fruits and vegetables.

Whether the estrogens in these foods can relieve hot flashes and other menopausal symptoms remains to be proved, but most studies have found them ineffective. Isoflavones have some weak estrogen-like effects.

### Weight gain and visceral adiposity:

During perimenopause and menopause there is a redistribution of fat. Lean body mass decreases and fat mass increases. An increase in central adiposity occurs with increase in visceral fat. This change is also associated with increased prevalence of metabolic syndrome. The utilisation of fats for energy during starving and carbohydrates during hyperinsulinaemia is metabolic flexibility. Estrogens may be affecting this conversion to energy and thus fat collects especially perivisceral and around waist.<sup>4</sup>

In the longitudinal Study of Women's Health Across the Nation, Lean body mass LBM decreased by 0.5% (a mean annual absolute decrease of 0.2 kg), and fat mass increased by 1.7% per year (mean annual absolute increase of 0.45 kg).<sup>5</sup> Women with high fat mass had highest cardiovascular and total mortality risk.<sup>6</sup>

For obesity management patient should be categorised according to the BMI for South Asians.

**Table:1**

BMI	Interpretation	Action
18.5-22.9 kg/m <sup>2</sup>	Normal	Balanced diet and Exercise
23.0-24.9 kg/m <sup>2</sup>	overweight	Balanced diet and Exercise and lifestyle changes
More than or equal to 25kg/m <sup>2</sup>	Obesity	Interventions



**Table 2:** Waist circumference also guides management:

Waist circumference	Action
Less than 70cm	Normal
72- <-80 cm associated with one cardio vascular risk	Initiate weight management advise
>80 cm	Intensive weight management intervention supervised weight loss program

A detailed dietary analysis should be done by 24 hr recall method for a week. Energy, protein and fiber content should be calculated. Hindrances in not following a healthy diet should be looked into. A dedicated meal plan should be made for individual patient.

Ideally the calories should be spread out over the day and three meals and two snacks should be planned. The target should be of losing 0.5-0.7 kg per week. 5-10% of weight should be planned to be lost in 6 months time. A daily caloric deficit of 500-700 kcal should be planned meaning a daily caloric intake should be around 1500 kcal resulting in weight loss of 0.5 to 0.75 kg/wk.<sup>7</sup>

Apart from diet physical activity, household work should be encouraged. With age physical movement and activity is important. 30 minutes of moderate exercise per day is recommended. In order to lose weight, it is important to burn more calories than you consume. Diet and exercise are both important to lose weight and to maintain a healthy weight.

**Vasomotor flushes:** Night sweats, flushing and sudden sweating is quite bothersome for many women in this age group. This is seen more in late peri menopause and early post menopause. It affects quality of life to quite an extent.

Women should avoid being in hot weather or a closed room. Precipitating foods like hot beverages, soups, caffeine and spicy foods should be avoided. Alcohol should not be consumed. Stress provoking events should be avoided. Consumption of isoflavones have proved to be of varied results. High fibre low calorie nutrient dense food should be consumed. Fruits and vegetables and salads intake should be increased. Regular exercise and meditation has also helped. It not relieved then menopause hormone therapy in selected women helps.

## Insomnia

Dietary adjustments that help stave off hot flashes also protects from night sweats – the uncomfortable night time awakenings caused by vasomotor flushes. This will go a long way toward improving sleep quality and duration. Alcohol and caffeine consumption should be decreased especially before sleeping.

## Bone health

Bone mineral density decrease in late perimenopause and continues with advancing age. There is an accelerated bone loss at the rate of 2-5%/year due to declining estrogens levels and is seen in the first 5-7 years after menopause.<sup>8</sup> If not taken care of this bone loss predisposes to fractures and pains.

## Lifestyle management

The prevention of osteoporosis should occur from adolescence and early life with adequate intake of calcium and vitamin D. Being physically active, and having exposure to sunlight also helps to maintain bone and muscle mass.

## Nutrition

Fibre rich whole grains, proteins and calcium consumption is important combined with other healthy lifestyle habits for the primary prevention of osteoporosis and fractures in the postmenopausal period. Along with this adequate consumption of beta-carotene, vitamin C, and selenium is important.

Most of the guidelines recommend that Postmenopausal women should consume 1200 mg (total diet plus supplement) and not more than 2000 mg of calcium per day (total diet plus supplement) due to the risk of side effects.

As per Indian Menopause society guidelines the recommended daily allowance for Indian women however is 800mg/day. The intake from sources should be calculated and supplementation should be done accordingly. This is to prevent any side effects resulting from calcium.

(Ready referral: 250 ml of cow's milk has 300 mg of calcium. A cheese slice or a bowl of curd will have approximately 150 mg of calcium. Methi vegetable and sesame seeds (Til ) are rich sources of calcium).

In post-menopausal women, the intake of vitamin D should be in addition to sunlight exposure. It is preferable to get vitamin D through sunlight by exposing 20% of body surface area (face, neck, and both arms and forearms) without sunscreen for at least 30 min between 10 am and 3 pm. depending on the season, latitude, altitude, pollution, and skin pigmentation. The sunlight between 11 am and 2 pm is preferably the best.

Calcium carbonate is effective and is the least expensive form of calcium. It is best absorbed with a low-iron meal. Calcium citrate is well absorbed in the fasting state as well as with a meal.

Calcium is usually easily tolerated when it is taken in divided doses several times per day. Some people experience side effects related to calcium, including constipation and indigestion. Calcium supplements interfere with the absorption of iron and thyroid hormone, and therefore, these medications should be taken at different times.

Postmenopausal women should consume at least 800 International units (20 micrograms) of Vitamin D per day. Lower levels of vitamin D are not as effective, while high doses can be toxic, especially if taken for long periods of time.

Adequate physical activity is needed to maintain bone health. Brisk walking 4-5 times a week for 30 min for hip, back strengthening exercises for spine, and resistances exercises for the upper arm is specific to maintain bone health (GRADE B)

### Cardiac health

The estrogens secreted by the ovaries during the reproductive period exert protective effects on vascular endothelial function as well as on lipid metabolism.<sup>9</sup> Higher isoflavone dietary intake may be associated with lower risk of subclinical CVD, as assessed by CCA-IMT status, independently of endogenous estradiol levels and BMI.<sup>10</sup>

Isoflavones might have beneficial effects by its anti-inflammatory and antioxidant properties, through the production of equol, an active metabolite formed from daidzin/daidzein by gut microbiota.<sup>11</sup>

Initially the focus was to address a single abnormality like decreasing cholesterol or a low fat diet but now it is clear that single-nutrient-based strategy is not enough. Whole foods and dietary patterns, such as the Dietary Approaches to Stop Hypertension (DASH) eating plan which is plant based diet low in salt and Mediterranean diet are being emphasised so that diet in its totality is modified and benefit of all nutrient combination is seen.

**Table 3:** For a healthy heart:

FOODS TO BE CONSUMED	FOODS TO BE AVOIDED
<ul style="list-style-type: none"> <li>• Fruits and vegetables of around five servings (one cup raw or ½ cup cooked).</li> <li>• Whole grains like brown rice oatmeal quinoa etc should be half of dietary intake.</li> <li>• Around 300-400 ml of low fat dairy should be included.</li> <li>• Fish and lean animal protein is important.</li> <li>• Good fat from nuts unsaturated fats omega 3 fatty acids from walnuts and flax seeds</li> </ul>	<ul style="list-style-type: none"> <li>• Saturated fats found in red meat, processed meats, bacon, fried foods and baked goods.</li> <li>• Trans fats (partially hydrogenated oil) found in commercially prepared baked goods, snack foods, and fried foods.</li> <li>• Sodium, found in salt and added to many baked and convenience foods, can increase blood pressure.</li> <li>• The American Heart Association recommends no more than 2,300 milligrams (mg) a day and ideally no more than 1,500 mg for those with high blood pressure.</li> </ul> <p>Added sugars, such as those found in sodas, cake, candy, etc.</p>

### Mental health

In midlife women have a higher mental stress levels. This may be due to kids leaving, job changes, partner loss etc. They may skip meals or cook less and diet suffers. Therefore a healthy nutrient dense food is needed which helps in managing mood swings, fibre rich diet prevents constipation and bloating and fermented diet as yogurt provides a healthy micro biome. Meditation and exercise in open spaces helps.

### Conclusion

Menopausal weight gain and higher cardiovascular risk factors with bone loss may occur due to estrogen deficiency but is also

because of poor diet and lack of exercise. Poor mental health adds on to it.

Consumption of a balanced diet which is clean and healthy with physical exercise and positive attitude will go a long way in aging gracefully without morbidities. Family support to the aging members is a must.

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# Looking beyond the triangle : Spiritual Health

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Since 1946 World Health Organization (WHO) defines health as a state of complete physical, mental and social well-being and not merely absence of disease or infirmity.<sup>1</sup> "The enjoyment of the highest attainable standard of health is a fundamental right"- is a truism. Newer concepts of holistic health expand the horizons of health beyond the triangle of physical, social and mental well-being to incorporate the fourth dimension -"The Spiritual Health"

Health today cannot be envisioned as stable without including the dimension of spirituality in it. Spirituality is derived from word "spiritus" in Latin meaning "breath" or "life" and Spiritual Health glues together the various aspects of a healthy life including physical, emotional, mental and social well being.

## Defining Spiritual Health

Being a relatively newer and multidimensional concept, Spiritual health is difficult to define in a tangible manner. An Indian study on spiritual health, defines it as a state of being where an individual is able to deal with day-to-day life issues in a manner that leads to the realization of one's full potential, meaning and purpose of life and fulfillment from within.<sup>2</sup> This incorporates the broad dimensions of spiritual health,

- Personal: connect with inner self
- Social: connect and harmony with others
- Environmental: connecting with nature
- Transcendental: connecting with something greater, universal force or energy or superior realm.

## Achieving Spiritual Health

Achieving spiritual health is an ongoing dynamic and persistent process. It incorporates bringing about changes in the cognitive, affective and behavioral domains of an individual in pursuit of attaining health and fulfillment in life. Various suggested modalities to have self awareness, physical discipline, mental clarity, inclusive but

not exclusive are:

- Practicing yoga. It is useful in strengthening and stretching the body, also helps the mind and spirit
- Tai Chi - chinese martial art and system involving callisthenics not only for defense but also for health benefits and meditation.
- Mindfulness and meditation helps in slowing down and connecting with inner self
- Prayer, chants, mantras and singing, individually and in groups are helpful
- Volunteering and helping others. Getting involved in acts which matter according to ones spirituality and beliefs gives a feeling of purpose and gratitude.
- Connecting with nature can boost spiritual health and bring about feeling of harmony with surroundings and gratitude.
- Harnessing hobbies. Focusing on things which are enjoyable can bring back a sense of purpose and keep you focused in the moment.
- Maintaining a journal-the simple act of writing can help process emotions, increases awareness and acts as an unprejudiced space to express.
- Reaching out to specially trained individuals and forming support groups of like minded people is helpful in attaining spiritual health.

## Assessing the Spiritual Health

So far there is no standardized national or international tool or scale for assessment of spiritual health.

Dhar N et al developed an SHS 2011 focusing on the Self-Evolution, Self-Actualization and Transcendence; identifying twenty seven spiritual Determinants of spiritual health: Aesthetics, Being away from Comparisons, Compassion, Commitment, Creativity, Courage, Contemplation, Empathy, Exercise, Extending, Honest, Humour, Human Values, Introspection, Involvement with Detachment, Managing

Ego, Prayer, Philanthropy, Purpose for Ones Life, Questioning Injustice, Sixth Sense, Self, Sensitivity, Value for Time, Virtues, Pure Feelings, Faith in the Supreme and Selfless Action, Yoga. These spiritual Determinants of health were identified by 126 items.<sup>2</sup> This scale though devoid of religious and cultural bias, is exhaustive, complex and better used only for the educated.

The others "Spiritual Well-Being Scale, SWBS"-Ellison's scale<sup>3</sup>, Kass's "Index of Core Spiritual Experiences, INSPIRIT"<sup>4</sup> and Edward's "Spiritual Assessment Inventory"<sup>5</sup> are religious based relevant only for the believers and not applicable for atheists. Rojas's scale 'Independent Spirituality Assessment Scale'<sup>6</sup> is limited to the organizational situations and deals with impact of the individual's spirituality on the growth of the organization and not an individual. In a recent study, HOPE tool was used for patient's spiritual assessment by the physicians and found to be useful.<sup>7</sup> Till a reproducible, unbiased and effective spiritual assessment scale is developed we continue to use modified scales with focus on the main components of spiritual health Self-Evolution, Self-Actualization and Transcendence.

### **Spiritual Health in wellness, disease and medical practice :**

The spiritual well-being is a pragmatic component of health experienced by each person, be it healthy or unwell. Spiritual health defines the management strategy of personal life which indicates the way to experience effectively different aspects of human existence, for example how to behave in the face of stressful situations, illness or death.

Much scientific work is going on worldwide to explore the preventive and curative role of spirituality.<sup>8,9,10</sup>

The paradigm shift of focus on spiritual health in the era of and beyond Covid pandemic has been precipitated by innumerable personal losses to humanity and heaping mental health issues. Moreover the modern living has lead to an epidemic of lifestyle diseases like obesity, osteoporosis, diabetes, hypertension, COPD, depression etc. These are also linked to our behavioral aspects which considerably influence

diet, interest in sedentary or active life, stress and addictions to tobacco, alcohol and other substances. The spiritual practices have shown a positive impact on many of these lifestyle diseases. The scientific community of the world has now successfully established the imperative role of spirituality concerning the treatment, palliation and coping up with chronic and terminal illnesses like hypertension, depression and cancer. Individuals suffering from serious physical ailments, but with a high level of spiritual health, are able to overcome different somatic infirmities and life crises with relative ease. They tend to find the meaning of life from a practical point of view in absolutely calamitous life conditions. Various studies have reported a positive correlation between spirituality and mental well-being in both healthy people and those encountering a range of physical illnesses or psychological disorders.<sup>11,12</sup> A study by Božek et al shows that both spirituality and health-related behaviors are positively related to psychological well-being and supplements the existing literature by indicting that multiple pro-health behaviors are positively related to psychological well-being.<sup>13</sup>

A study conducted in Northern India shows that a majority of practicing doctors strongly believe in the preventive and curative role of Spiritual Health.<sup>14</sup> The query is as to how these professionals address SH in day-to-day clinics. Physicians should have awareness and honor acknowledge the patients spiritual lives keep discussions and interventions patient centric. Acknowledging the spiritual lives of patients especially ones with life-threatening illness. The comfort level of doctors in inquiring about spiritual health of patient with a structured tool has been recently studied and has found some (49.71%) acceptance.<sup>15</sup> The physician may consider supporting the patient's religious beliefs that aid in coping. (Koenig, 2000).<sup>16</sup>

### **Spiritual health among doctors:**

Spiritual health of healthcare providers and spirituality as a viaduct to further patient-doctor relationship.

A good level of spiritual health among doctors simultaneously improves the quality of care provided by them. Spirituality has shown to be associated with decrease in risk of burnout

among physicians and trainees.<sup>17</sup>

Studies have similarly correlated higher levels of spirituality being associated with lower levels of burnout and psychological distress among medical students, spirituality probably acting as a protective factor.<sup>18</sup> Spiritual health may also act as viaduct in building patient- provider communication channels, and inturn improving healthcare outcomes for all.<sup>19</sup>

Geriatric care and palliative care may maximally benefit from a provider's spiritual health, by helping them explore and develop a healthy connect with the patient, enhancing open and effectual communication. Communication and openness play a vital role in providing patient-centirc care, and boosting health outcomes.<sup>20</sup>

Untiring and resolute endeavour is required to take the path of self awakening and spark one's inner peace to achieve optimal capacity and build spiritual health, beyond all physical health features. Health professionals now need to gear-up and think beyond the physical,mental and social well being. They need to be primed right from the begining to adopt a prescient approach towards this 4th dimension of health. The time is ripe to introduce spiritual health

for overall care on a global platform . When the humanity is bowed down with stress, lifestyle syndromes, disorders and diseases, there is an unflinching need to integrate holistic preventive, diagnostic and rehabilitative health interventions inclusive of spiritual health. Good spiritual practices need to be advocated and encouraged at all levels clinics, hospitals, psychotherapeutic centres to espouse better health outcome and higher quality of life.

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# Stress Management

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## Introduction

Stress is a ubiquitous part of our daily lives, and certain professions inherently carry more stress than others. One such profession is medicine, where doctors often experience high-stress levels due to long working hours, heavy workloads, workplace conflicts, and the demanding conditions of patient care. The responsibility for someone's life and well-being can be overwhelming, and any error or misjudgment can have serious consequences, leading to high-stress levels and anxiety. This burden is amplified in obstetrics and gynecology, where doctors are responsible for the lives of the mother and the unborn child.

Several studies have shown that doctors experience high levels of stress. For example, a study by Abdulaziz A Al-Dubai et al. (International Journal of Medicine and Medical Sciences, 2014) found that 43.8% of physicians reported moderate to high-stress levels. Similarly, a comparative study by Singh et al. (2016) in India showed that doctors in both the public and private sectors experienced high levels of stress, with workload and long working hours being the primary sources of stress. Another study by Abraham et al. (2017) in a tertiary care hospital in Southern India found that 60% of doctors experienced high levels of stress, with long working hours, lack of social support, and high workload being the main predictors. Similarly, a survey by E. Papathanasiou et al. (BMC Public Health, 2017) found that 61.9% of physicians reported moderate to high levels of stress.

Studies have also shown that obstetrics and gynecology is an incredibly intense and unpredictable branch of medicine, with higher rates of stress among obstetricians. Catherine J. Wasson et al. (Journal of Graduate Medical Education, 2016) reported that 76% of obstetrics and gynecology residents experienced burnout, with workload and work-life balance being the most common sources of stress. In another study by Kristin Y. DeSimone et al. (American Journal

of Obstetrics and Gynecology, 2019), stress was significantly associated with burnout among obstetrics and gynecology residents. Similarly, a study by Hiroyuki Sekiya et al. (Journal of Obstetrics and Gynaecology Research, 2014) found that 59% of gynecologists and obstetricians in Japan experienced job stress, with long working hours, lack of support from colleagues, and lack of control over work being the most common sources of stress.

In India, several studies have also been conducted on work-related stress and coping mechanisms among obstetricians and gynecologists. A study by S. Basu et al. (International Journal of Reproduction, Contraception, Obstetrics, and Gynecology, 2017) found that 70.4% of obstetricians and gynecologists experienced work-related stress, with long working hours, lack of autonomy, and lack of social support being key stressors. Similarly, a cross-sectional study by P. Jindal et al. (Journal of Postgraduate Medicine, 2019) found that 81% of gynecologists in India experienced moderate to high levels of stress, with the workload, long working hours, and lack of social support being the main determinants of stress.

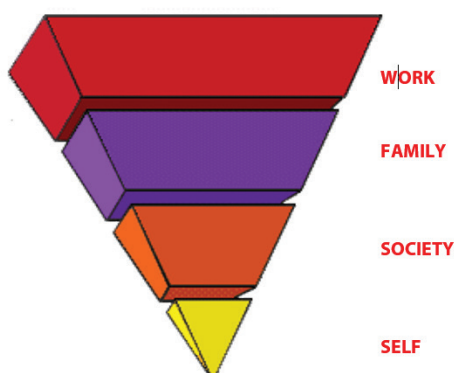
Overall, these studies conducted in various countries indicate alarmingly high levels of stress experienced by doctors, particularly among gynecologists. The factors contributing to this stress include long working hours, heavy workloads, paperwork, lack of support systems, and patient-related factors.

Doctors face a wide range of stressors that can harm their physical and mental health, ultimately affecting their ability to provide quality care to their patients.

## Some everyday stressors that doctors face include:

- 1. Long working hours:** Doctors often work long hours and overnight shifts, which can result in fatigue, sleep deprivation, insufficient rest, and burnout.

2. **High workload:** Doctors are responsible for managing multiple patients simultaneously, which can cause stress and anxiety, especially when dealing with critical cases. In high-volume OPDs, the pressure of attending to all the patients and managing indoor patients can be very exhausting.
3. **Patient care:** Doctors are responsible for the care and well-being of their patients. Any error or misjudgment can have serious consequences, leading to high stress and anxiety. Obstetrics is a tricky branch of medicine with extreme unpredictability, expecting the attending doctor to be vigilant and prepared to deal with any eventuality. Such situations, when faced, often lead to constant anxiety and stress.
4. **Interpersonal conflicts:** Doctors work in a complex and hierarchical environment, where conflicts with colleagues, nurses, and other staff members can cause stress and anxiety.
5. **Lack of support system:** People working in silos experience loneliness and apprehension for the sole responsibility of the outcome. Especially doctors, in individual practices, feel responsible for the welfare and recovery of their patients and face the brunt of the situation independently.
6. **Work-life balance:** The demanding nature of the job can make it difficult for doctors to balance their personal and professional lives, leading to stress and burnout.
7. **Lack of self-care:** Given the demanding nature of the profession, doctors often neglect their self-care needs. This includes simple things like nutrition, sleep, rest, relaxation, and entertainment, which become the last priority.



## Lopsided lifestyle

### Signs and Symptoms of Stress

The signs and symptoms of stress can manifest in various ways, including physical symptoms such as frequent aches and pains, increased muscle tension, and frequent stomach upset. Emotional symptoms include mood swings, irritability, and feeling overwhelmed; cognitive symptoms such as forgetfulness, difficulty concentrating, and constant worrying; and behavioral symptoms such as procrastination, isolating oneself from others, and increased use of alcohol, cigarettes, or drugs to relax.

In addition, prolonged stress can lead to burnout, which is a state of emotional, physical, and mental exhaustion. Doctors experiencing burnout may feel a sense of cynicism or detachment from their work and patients. They may become less satisfied with their job and experience a lack of motivation and commitment.

To minimize the negative impact of stress on their physical and mental health, doctors must recognize the signs and symptoms of stress early on and take proactive steps to address them. This includes prioritizing self-care, seeking support from colleagues and loved ones, and taking breaks when needed. By doing so, doctors can continue providing quality care to their patients while maintaining their health and well-being.

### Stress Management Strategies

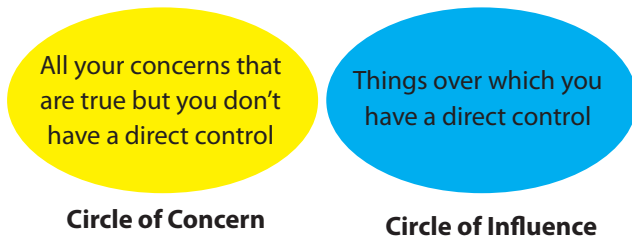
#### 1. Identify your Circle of Influence and Focus

When we examine the extensive list of stressors faced by doctors, it becomes apparent that some factors are beyond our direct control and cannot be rectified immediately, such as high patient volumes, insufficient infrastructure, and long working hours, particularly during residency. However, there are several stressors that one can directly influence and manage, such as maintaining a regular eating schedule, getting adequate sleep, establishing a support system to cope with stress, and seeking assistance when needed.

To begin with stress management, I recommend creating a list of all the stress



factors and categorizing them into two sublists. The first list should contain factors that are valid but beyond your direct control. This list can be called the "Circle of Concerns." Next, identify the stressors that you can control and change. These items should be listed in the second circle, called the "Circle of Influence." By separating the stressors in this manner, you can prioritize and focus on managing the factors in the "Circle of Influence" that are within your control while minimizing stress related to factors beyond your control.



**2. Check your perception and change your distress to Eustress**

The feeling of stress primarily depends on how one perceives the situation. If the mind perceives the situation as challenging, the body releases positive hormones instead of stress hormones. Positive stress is called Eustress.

It is important to condition the mind and body to release positive hormones by changing the perception of the situation. Mindfully focusing on the rewards and benefits, one can change the perception of the situation and events and condition the body and mind to stay cheerful. Learning a new skill like a new surgical procedure, handling complicated cases, getting promoted, or taking on additional responsibilities are a few examples of eustress, as one may find it demanding but manageable. Positive perception and a healthy response to stress give one a feeling of fulfillment and positive emotions.

**3. Efficient Time Management through Prioritization**

Effective time management can help prioritize tasks and reduce work-related stress. Doctors can use tools such as to-do lists, calendars, and time-blocking techniques to manage their workload efficiently.

	URGENT	NOT URGENT
IMPORTANT	<u>Quadrant I</u> <i>urgent and important</i> <b>DO</b>	<u>Quadrant II</u> <i>not urgent but important</i> <b>PLAN</b>
NOT IMPORTANT	<u>Quadrant III</u> <i>urgent but not important</i> <b>DELEGATE</b>	<u>Quadrant IV</u> <i>not urgent and not important</i> <b>ELIMINATE</b>

**Time Management Grid by Stephen Covey**

By mindfully identifying things that can be delegated or eliminated, one can create more time to focus on urgent and important things.

As an activity, make a list of things you do on a daily basis and put them in the above four quadrants. Focus and minimize the list in quadrants III and IV. It will reduce your pressure and create more time for urgent and important things.

**4. Identify your Internal Sources of Stress and Anxiety**

Stress can come from many different sources, including internal factors like our thoughts, feelings, and habitual behaviors. Identifying these sources of stress and anxiety is an important step in managing them effectively.

One common internal source of distress is fear. This can take many forms, like fear of failure, fear of litigation, violence, job loss, or conflict at the workplace. Identifying these fears can help you develop strategies to manage them.

Repetitive thought patterns can also contribute to stress and anxiety. These include rumination on past events, worrying about the future, or negative self-talk. Identifying these patterns can help you challenge and reframe negative thoughts, practice mindfulness and relaxation techniques, or seek support from a therapist or counselor.

Another internal source of stress is unrealistic

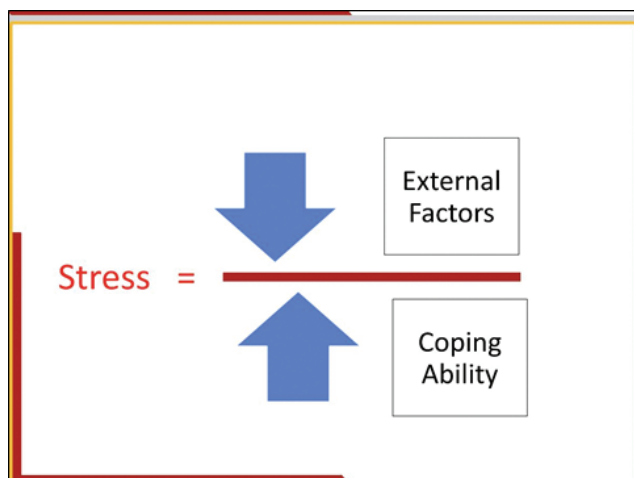
expectations, both from yourself and others. This can include perfectionism, leading to a constant sense of pressure and self-criticism. Identifying these expectations and learning to set more realistic goals can help reduce stress and improve your overall well-being.

Finally, habitual behavior patterns like overscheduling yourself, failing to be assertive, or failing to set and maintain healthy boundaries can lead to stress. Identifying these patterns and changing your behavior can help you create a more balanced and manageable lifestyle.

By identifying internal sources of stress and anxiety, one can develop strategies to manage them effectively and improve overall well-being. Whether through therapy, mindfulness techniques, or changes in behavior, there are many ways to reduce stress and enhance the quality of life.

### 5. Work on your Coping Abilities

When faced with external factors that are out of our control, such as a sudden change in circumstances or unexpected events, we can improve our ability to cope by focusing on internal factors we can control. This can include developing healthy coping mechanisms, such as practicing mindfulness or deep breathing exercises, maintaining a positive attitude, seeking social support, or engaging in activities that bring us joy and fulfillment. By working on these internal factors, we can build our resilience and better manage the stress and challenges that come our way.



### Five line Management of Stress

1. Prioritize your physical health by maintaining a healthy diet, exercising regularly, and addressing any health concerns promptly. Engage in deep breathing exercises and drink plenty of water.
2. Focus on building mental strength by practicing regular mental cleansing, caring for emotional needs, and engaging in enjoyable daily activities. Cultivate a sense of humor and adopt a healthy, positive attitude.
3. Lead a healthy lifestyle by following your biological clock, getting enough rest and sleep, avoiding harmful substances like alcohol and drugs, reducing caffeine and sugar intake, and taking time for regular entertainment and relaxation.
4. Maintain a robust support system by creating a positive work environment and nurturing good relationships with colleagues, building long-term relationships with others through mutual support, connecting with loved ones, and seeking out caring individuals who can provide guidance and support.
5. Seek help when needed by addressing physical, emotional, and psychological issues with the help of a counselor or psychotherapist without hesitation.

### Five line Management of Work-Related Stress

1. Promote a positive work culture: Encourage teamwork, collaboration, and positive communication among colleagues. Provide regular feedback and recognition for a job well done. Encourage leadership to model a positive work culture.
2. Improve workload management: Ensure that doctors are not overburdened with excessive workloads. Provide adequate staffing, support staff, and resources to help manage the workload. Consider strategies that can help reduce documentation and administrative tasks.
3. Promote work-life balance for all: Take frequent breaks, use vacation time to relax, and rejuvenate and maintain a healthy work-life balance. Create opportunities to pursue hobbies or interests outside of work

and support flexible scheduling whenever possible.

4. Promote Positive Mental health: Provide training on stress reduction techniques, such as mindfulness meditation or breathing exercises. Offer access to counseling services or support groups to help doctors cope with work-related stress. Consider implementing a peer support program to provide emotional support and connection to colleagues.
5. Foster a sense of purpose: Help doctors connect with the larger purpose of their work and see the positive impact they are making on patient care. Encourage a sense of teamwork and connection to the larger healthcare community.

## Conclusion

Stress is an inevitable part of a doctor's life, but effective stress management strategies can help doctors to cope with stress and prevent burnout. Regular exercise, mindfulness meditation, time management, building a support system, self-care, mindful communication, professional development, setting realistic goals, and emotional intelligence are some of the effective stress management strategies that doctors can use to maintain their well-being.

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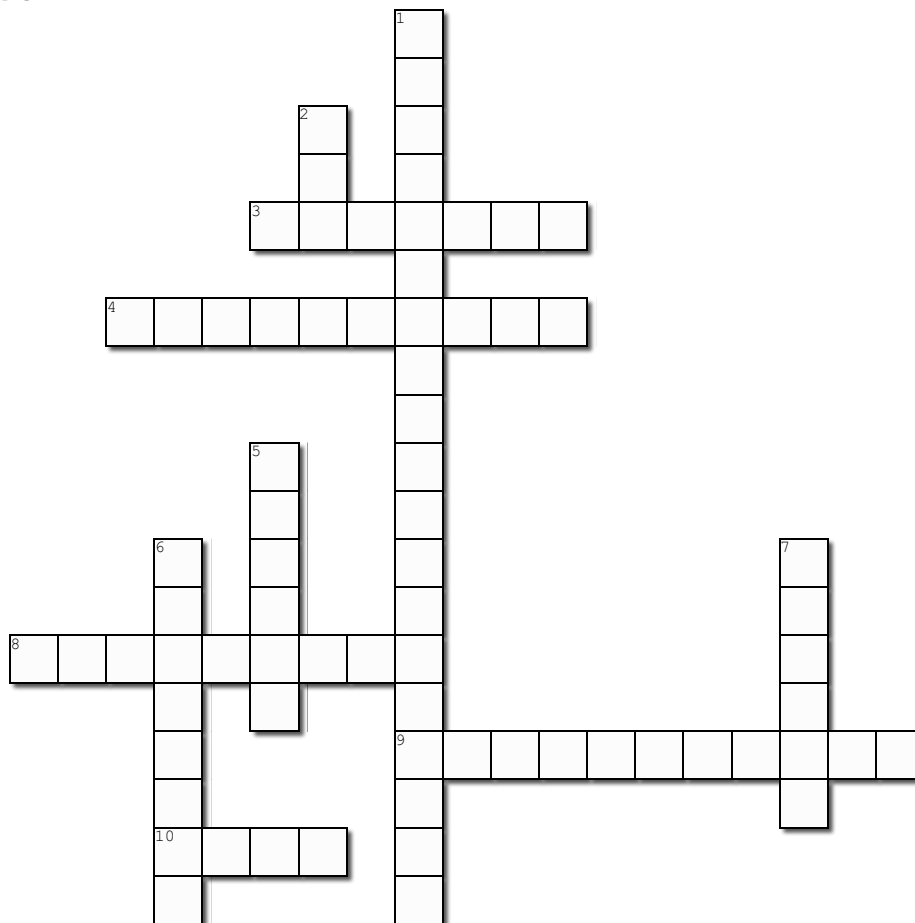
### Events held in March 2023

S No	Date	Events
1	01-03-2023 to 02-03-2023	Public awareness came on Amemia on Rural health committee AOGD along with NARCHI Delhi and FOGSI
2	03-03-2023	CME on Range of medical devices under Multidisciplinary Committee AOGD
3	10-03-2023	Webinar on Perinatal Autopsy in Genomic Era by AOGD Genetic & Fetal Medicine Subcommittee
4	15-03-2023	Public Awareness Camp on Anemia in LHMC Hospital by Rural health committee of AOGD, NARCHI- Delhi and FOGSI
5	16-03-2023	Web on Common Urinary Problems in females under Uro-Gynae Subcommittee & DGFC
6	20-03-2023	PG Forum on Infertility by UCMS & GTB Hospital

# Cross Word Puzzle

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Created using the Crossword Maker on TheTeachersCorner.net

## Across

3. If HEI index increases by more than \_\_\_\_\_ increases the risk of death in postmenopausal women.
4. \_\_\_\_\_ nasal spray is approved to reduce incidence of osteoporosis.
8. Most commonly reported symptoms in postmenopausal women is \_\_\_\_\_ symptoms.
9. One of the biomarker proposed for cardiovascular disease outcome among women is \_\_\_\_\_.
10. Low glycemic index diet can reduce \_\_\_\_\_ leading to reduce acne in PCOS.

## Down

1. A marker to diagnosed insulin resistance on examination \_\_\_\_\_.
2. In developing countries \_\_\_\_\_ consider as good indicator to measure the women health.
5. Excellent psychosocial domain to express psychological problems in \_\_\_\_\_.
6. \_\_\_\_\_ is the most common marker to access cardiac health.
7. \_\_\_\_\_ visual score is preferred for assessing the degree of alopecia in pcos.

Mail the answers to [aogdeditor22@gmail.com](mailto:aogdeditor22@gmail.com). The correct answers and names of the three winners will be announced in the next issue.

# Proceedings of the AOGD monthly clinical meeting at MAMC & LNH on 31.03.2023

## **Puerperal Sepsis: A Cascade of Complications**

**Kainat Masroor, Niharika Dhiman, Deepti Goswami**

Maulana Azad Medical College, New Delhi

Mrs. S w/o Mr. N ,19 years, P1L1 was a booked case. Antenatal period was uneventful. It was a normal vaginal delivery with episiotomy and PPIUCD was inserted. She delivered a boy baby weighing 2.9 kgs at term. The peripartum period was uneventful. Mother and baby were discharged in a satisfactory condition. On twelfth postpartum day she visited a private practitioner for removal of IUCD, episiotomy stitches were also cut. She presented to our casualty six days after the removal of PPIUCD with pain in right hip joint, swelling in right lower limb, high grade fever (on & off), productive cough with breathing difficulty and decreased urine output. A diagnosis of Puerperal sepsis with Septic shock with suspected Deep venous thrombosis with right lower limb cellulitis was made on admission. Sepsis Care bundle was initiated, and patient was shifted to ICU, CT pulmonary angiography showed features of septic embolism. She was managed medically on broad spectrum antibiotics and anticoagulants and was shifted to Obstetric High dependency unit after seven days of admission. On day 14 of admission the skin color over the right knee joint was dusky and a sinus was identified. A provisional diagnosis of Septic Arthritis was made, and urgent orthopedic consult was sought. Lower limb USG: e/o heterogenous hyperechoic collection in intramuscular plane 7 cm from hip joint, 4 cm in thickness with extension into knee joint with marked subcutaneous edema, inguinal lymph nodes of size 0.8 cm with normal color flow on doppler. No features of DVT. Patient taken for arthrotomy in view of septic arthritis right knee with right thigh cellulitis with intramuscular collection. Tissue biopsy- Multiple friable soft tissue bits 6x3.9x0.8 cm sections showing inflammatory exudate. Stain for AFB and fungus negative. Negative pressure wound therapy- Vacuum

aspiration of knee joint and Physiotherapy was done. Patient was discharged on day 43, with complete mobility of the knee joint.

Septic arthritis is a rare complication of purporeal sepsis. Local soft tissue infection and hematogenous spread of organisms causes damage of the joint cartilage by accumulation of cytokines and interleukins. If left undiagnosed it can lead to avascular necrosis and permanent damage of the involved joint. Immediate arthroplasty and lavage of the joint followed by negative pressure wound therapy under appropriate antibiotic coverage can help treating the condition.

## **Fallopian Tube Carcinoma : A rare masquerader**

**Sangeeta Gupta, Poonam Kashyap, Divya Singh**

24-year-old Primigravida presented at 13 weeks of pregnancy with left adnexal mass incidentally diagnosed on routine antenatal ultrasound. She had no symptoms related to the mass and on further evaluation her tumour markers were normal. Imaging was done and a complex left adnexal mass where nature of the mass could not be defined as benign or malignant was made. The family and patient was counselled and offered surgery for evaluation of the nature of the mass but they opted against it. Patient had routine visits antenatally and she remained asymptomatic, tumour markers remained normal throughout the pregnancy , no increase in size of the mass on serial imaging. Patient went into spontaneous labour at 38 weeks where she underwent emergency caesarean for non descent of head. Per operatively cystic mass of 8\*7 cm was noted in left adnexa with no apparent foci of malignancy in abdomen and pelvis, cystectomy attempted and spill occurred, papillary excrescences were noted on the inner side of the mass left salpingo ophoretomy was done. Histopathology was reported as high grade serous papillary fallopian tube carcinoma. At postpartal 11 weeks complete surgical staging was done followed by 8 cycles of chemotherapy. On futher follow up the patient

is asymptomatic, with normal tumor markers and imaging.

### **Pustular Psoriasis in pregnancy**

**Shakun Tyagi, Sakshi Aggarwal, Preeti, Shalini, Poonam Sachdeva, YM Mala**

A 35 years old woman, G4P1L1A2 with known case of Psoriasis Vulgaris since 6 years, presented at 10 weeks for antenatal care. Married for 15 years with history of 2 first trimester spontaneous abortions followed by uneventful full term vaginal delivery 7 years back. In 2018 she got admitted for 10 days and was started on methotrexate for few months. She presented with history of new psoriatic lesions since 1 month, controlled on Clobetasol application. At 19 weeks, diagnosed as Gestational Diabetes and started on Medical nutrition therapy and Metformin 500mg BD. At 30 weeks she started

developing new pustular lesions with fever and had deranged home blood sugar monitoring. Started on increasing doses of Prednisolone eventually increasing requirement of high doses of Insulin. Due to non responsiveness, Cyclosporine was added and lesions were controlled. At 35 weeks patient had preterm prelabor rupture of membranes with meconium stained liquor. Underwent emergency caesarean section due to non reassuring fetal heart and delivered 1.9 kg boy with APGAR 9,9,9. On post on day 4 she had flare up was again resumed on previous therapy and discharged after 2 weeks when healing on lesions was observed.

There should be high index of suspicion and close follow up to prevent flare up. Multidisciplinary approach and sensitisation of dermatologist regarding contraception and pre-pregnancy counselling is cornerstone in such cases.

# Events held under Aegis of AOGD in March 2023

## AOGD Monthly Clinical Meeting on 24<sup>th</sup> February 2023 UCMS & GTB Hospital

**THE ASSOCIATION OF OBSTETRICIANS AND GYNAECOLOGISTS OF DELHI**  
**AOGD MONTHLY CLINICAL MEETING**  
Day - Friday | Date: 24<sup>th</sup> February, 2023  
Time: 4:00 - 6:00 PM

Organized By:  
UCMS & GTB Hospital,  
New Delhi

**AGENDA**

- 4:00 - 4:15 PM  
President's Address  
Secretary's Report
- 4:15 - 4:35 PM  
1. Unmet Need of Birthlessness in a Young Parous Women:  
A Diagnostic Dilemma.
- 2. Experience of Hysterectomy in Young Unmarried Women:  
From Sickness to Breakthrough
- 3. Insight into a Rare Variety of Soft Tissue Sarcoma of Ovary
- 4:55 - 5:00 PM  
Audience Interaction

## Public awareness camp on Anemia on 1<sup>st</sup> & 2<sup>nd</sup> March Rural health committee AOGD, NARCHI Delhi and FOGSI



## Transcending Labour Analgesia : AOGD Safe Motherhood Committee

**TRANSCENDING LABOUR ANALGESIA  
A STEP TOWARDS TRANSFORMING MATERNAL CARE  
& BIRTHING EXPERIENCE**  
eCME  
Organised by  
**AOGD SAFE MOTHERHOOD COMMITTEE**

Tuesday | 28<sup>th</sup> February, 2023 4:00 - 6:00 PM

Guests of Honour: Dr SS Trivedi, Dr Asmita Rathore  
Organising Chairperson: Dr Manju Puri      Organising Secretary: Dr Rinku Sen Gupta  
Master of Ceremony: Dr Payal Chaudhary

**Scientific Programme**

Time	Topic	Speakers
4:00 - 4:15 PM	Welcome Address & Introduction	
<b>Session 1</b>		
4:15 - 4:30 PM	Labour Analgesia: An Unmet Right of Labouring Mothers in India	Dr Manju Puri
<b>Session 2</b>		
4:30 - 5:15 PM	Panel Discussion: Pain Relief Options in Labour - Is Epidural the Only Choice?	Moderator: Dr Rinku Sen Gupta Dhar
Panelists: Dr Manju Khemani, Dr Swati Sinha, Dr Vidhi Chaudhary, Dr Shilpi Srivastava (PT), Dr Gowri Meena, Gill Perks, Priyali Sur		
<b>Session 3</b>		
5:15 - 6:00 PM	Panel Discussion: Epidural Analgesia: Fine Tuning the Controversies Conversation Between Anaesthesiologist & Obstetrician	Moderator: Dr Payal Chaudhary
Discussants: Dr Vivek Saluja, Dr Rakhi Goyal, Dr Urvasi Sehgal, Dr Mamta Dagar		

## Public awareness on Menstrual health on 8<sup>th</sup> March 2023



## Public Awareness Camp on Anemia on 14<sup>th</sup> March 2023 in BSA Hospital Rural health committee of AOGD, NARCHI- Delhi, and FOGSI



## Public Awareness Camp on Anemia on 15<sup>th</sup> March 2023 in LHM Hospital Rural health committee of AOGD, NARCHI- Delhi, and FOGSI





*Web on Common Urinary Problems in females on 16<sup>th</sup> March 2023*  
**Uro-Gynae Subcommittee & DGFC**



Webinar on

**COMMON URINARY PROBLEMS IN FEMALE**

Organised Under Aegis of  
**AOGD Uro-Gynae Subcommittee & Delhi Gynaecological Forum Central**

16<sup>th</sup> March, 2023 | 2:00 - 4:00 PM

Master of Ceremony: Dr Sharmistha Garg

Time	Topic	Speaker
<b>Chairpersons:</b> Dr. K. Gujral, Dr. Mamta Dagar, Dr. Jyoti Bali		
2:00 : 2:20 PM	How to Evaluate a Case of Urinary Incontinence	Dr. Aparna Hegde
<b>Chairpersons:</b> Dr. Harsha Khullar, Dr. Chandra Mansukhani, Dr. Mala Srivastava		
2:20 : 2:40 PM	Bladder Pain: When it is not UTI	Dr. Amita Jain
2:40 : 3:00 PM	Q & A	
<b>Experts:</b> Dr. Geeta Mediratta, Dr. Ranjana Sharma		
3:00 - 3:20 PM		Dr. Vipin Tyagi
3:20 - 3:40 PM	Video Session on Management of Urologic Injuries in Obst & Gynae	Dr. Uma Rani Swain
3:40 - 4:00 PM		Dr. Mrinal Pahwa
4:00 PM	Vote of Thanks	Dr. Ramnik Sabharwal

**PG Forum on Infertility**  
**UCMS & GTB Hospital**

Association of Obstetricians & Gynecologists of Delhi  
 invites you to  
**Delhi PG Forum**  
 Case discussion on  
**INFERTILITY**

Post Graduates of UCMS & GTB Hospital, Delhi,  
 Monday, 20<sup>th</sup> March 2023 | 7:00 pm to 8:30 pm

**Moderators**  
 Dr. Alpana Singh  
 Prof. (OBG), UCMS & GTB Hospital, Delhi

**Chairperson**  
 Dr. Arpita De  
 Associate Prof. (OBG), Hamdard Institute of Medical Sciences & Research, Delhi

**Chairperson**  
 Dr. Leena Wadhwa  
 Prof. (OBG) & Incharge, Reproductive Medicine and Surgery (RMS), ICMR-ICMR Basundhara, New Delhi

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**PG RESIDENTS**  
 Dr. Preeti Thakur  
 PG Residents OBG, UCMS & GTB Hospital, Delhi

**Dr. Mahua Das**  
 PG Residents OBG, UCMS & GTB Hospital, Delhi

**Co-ordinator Delhi PG Forum**  
 Dr. Sonita Malik

**Co-Coordinator Delhi PG Forum**  
 Dr. Shivani Agarwal

**BLOCK**  
 Your Date for Next Class on  
 - Monday, 17<sup>th</sup> April 2023 -  
 Topic:  
**Post Partum Haemorrhage**

**AOGD OFFICE BEARERS**  
 President: Dr. Asmita M. Rathore  
 Vice President: Dr. Y M Mala  
 Hon. Secretary: Dr. Deeptri Gowami  
 AOGD Coordinator: Dr. Niharika Dhimani

*AOGD Handing Over Ceremony 31<sup>st</sup> March, 2023, MAMC Auditorium*





## AOGD Sub-Committee Chairpersons 2022-2024

Committee	Chairperson	Contact No	Email.id
Breast and Cervical Cancer Awareness, Screening & Prevention Sub-Committee	Dr Mrinalini Mani	9811835888	drmrinal5@gmail.com
Infertility Sub-Committee	Dr Manju Khemani	9810611598	dr.manjukhemani@gmail.com
Rural Health Sub-Committee	Dr Shivani Agarwal	9868249464	dragarwal.shivani@gmail.com
Multidisciplinary Sub-Committee	Dr Kiran Guleria	9811142329	kiranguleria@yahoo.co.in

## AOGD Sub-Committee Chairpersons 2021-2023

Committee	Chairperson & Co-Chairperson	Contact No	Email.id
Endometriosis Sub-Committee	Dr. Anjila Aneja	9810059519	anjilaaneja1966@gmail.com
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	Dr Jyoti Bhaskar, Co-Chairperson	9711191648	jyotbhaskar@yahoo.com
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Urogynaecology Sub-Committee	Dr Geeta Mediratta, Chairperson	9810126985	gmediratta@yahoo.com
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Fetal Medicine & Genetics Sub-Committee	Dr Seema Thakur, Chairperson	9818387430	Seematranjan@gmail.com
	Dr Sangeeta Gupta, Co-Chairperson	9968604349	drsangeetamamc@gmail.com
Endoscopy Sub-Committee	Dr Kanika Jain	9811022255	dr.kanika@gmail.com



# Association of Obstetricians & Gynaecologists of Delhi

## MEMBERSHIP FORM

Name:.....

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Qualification (Year): .....

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Residence Ph. No. .... Clinical / Hospital Ph. No.....

Mobile No:.....Email: .....

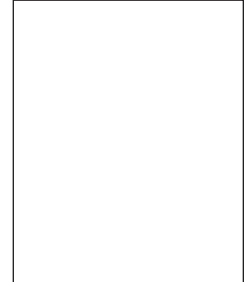
Gender: Male:.....Female:.....

Date of Birth: Date..... Month ..... Year .....

Member of Any Society:.....

Proposed by: .....

Cheque/DD / No: .....



Cheque/Demand Draft should be drawn in favour of: **AOGD 2022**

### For Online Transfer Through NEFT/RTGS

Name of Bank: **Canara Bank**  
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IFSC Code: **CNRB0019068**  
MICR Code: **110015415**



For Life Membership : Rs. 11,000 + Rs. 1,980 (18% GST applicable) = Rs. 12,980  
For New Annual Membership\* : Rs. 2,000 + Rs. 360 (18% GST applicable) = Rs. 2,360  
For Old Renewal Membership+ : Rs. 1,200 + Rs. 216 (18% GST applicable) = Rs. 1,416

**Encl.: Attach Two Photocopies of All Degrees, DMC Certificate and Two Photographs (Self attested)**

**\*-Annual Membership is for the calendar year January to December.**

**+ - In case of renewal, mention old membership number.**

**Note: 18% GST will be applicable as FOGSI requires it.**

Send Complete Membership Form Along With Cheque / DD and Photocopy of required documents.

### AOGD SECRETARIAT

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