Start restarting in a few seconds but it on my face so I'm going live in five seconds.

I think if you do speaker view to go to Sapna when she speaks, I realize

Good morning I'm Seth niver well

I'm the chair of men's forum of Amman today months forum is hosting a very interesting medical topic session for everyone today. The topic is medications or lifestyle. What is the best way to three by she come my chair. I'm going to ask money to introduce shaker

Thank you Sapna

Chica my friend, Dr. Shekhar Murcia is a double board certified physician in internal medicine and lifestyle medicine for over 16 years of experience in Massachusetts. She applies the principle of lifestyle medicine in a primary care practice emphasizing holistic approaches to help. Dr. Murcia is actively involved in community initiatives as a pod leader for plant pure communities. And also she serves on the executive committee of Indian Medical Association of New England. Shekhar, thank you so much for giving us your time today.

Thanks. Thank you, Margie, thanks, Sapna for having me. So, I love these topics. And so I've whenever you're ready, I can start. Start. Right. Okay, so the topic is mostly about obesity. And you know, the best ways to manage it. It is difficult condition and topic, but I'll try and address it well, so. Okay, let's see. Oh, sorry. So some, just one disclaimer that I have used some of the slides from the American College of lifestyle medicine slide decks, and American College of lifestyle medicine has approved that we can use their slides for presentations. So first of all, what is obesity, obesity is defined as a body mass index of over 30. So body mass index is calculated by your weight in kilograms, which is divided by your height in meters, which is squared. So if your body mass index is between 25 and 30, you're overweight, over 30 or obese and then it's further divided into class one, two, and three. So 30 to 35 is class 135 to 40 is class to obesity and over 40 is class three obesity, or also called severe obesity. The other thing that we measure in obesity is a waist circumference. So more than 35 inches in women and more than 40 inches in men is considered abdominal obesity. Since I'm presenting to the Indian Medical Association, we have to address obesity in Asians and South Asians. So for us, Indians were South Asians and also for Asian populations. The BMI of 25 being overweight actually is less sensitive and specific, and misses a lot of Asian Americans with type two diabetes. So we actually so it's recommended that a BMI of 23 and above is considered overweight for Asians and South Asians. And that way, we miss much less people with type two diabetes. And South Asians with a BMI of over 27 are considered obese, as well as the waist circumference less so in women, we should be having a waist circumference less than 30 inches and in men, less than 35 inches. So so we need to Asian and South Asians are considered obese at a lower BMI than Caucasian and African American people because this is for screening purposes as Asians and South Asians develop diabetes and cardiovascular risk at a lower BMI. So these are some really sad statistics. According to the CDC, in 2017 18, about 42 and a half percent of people were obese. So from 99 to 2000, compared to 2017 18, the prevalence of obesity increased from 30 to 42%. And severe obesity almost doubled from four and a half to about almost 10%. And then even children have become very obese, especially adolescents age two to 19 years. Adolescents and kids age two and above. So in the little kids between two and five, almost 14% Kids are obese. Six to 11 years of age 18% Kids are obese and in adolescence above two Over the years 20% of kids are obese. And this is the Hispanic populations have the highest prevalence of obesity in kids. Non Hispanic black children have 22% non Hispanic white children have 14% obesity and non Hispanic Asian children also have 11% obesity. So this is by map, which states have the most childhood obesity, you

see the states in darker colors have more. If you want to look at our state in Massachusetts, we have 13.8% of childhood obesity. Then this is prevalence of total obesity by state. Again, the green means it's about 20 to 25% obesity and the reds are above 35% People are obese in that state. So as you see, there is not one single state in the United States where there's less than 20% obesity. And then you look at the maps from 2011 to 2018. If you look on the left side, 2011, there was a lot of states which had 20 to 25% obese, there was lots of states in green and light yellow. And now there's one state in green in 2018, which I think now it's probably not even that, and there's so many red states in 2011, there was no states in red, which means there was no state that had more than 35% obesity, but now they do. Then look at the vegetable intake. Okay? The whiter states have. So these are percentage of adults who consume less than one vegetable a day. So again, the dark blue states, these are about 20 to 46% of adults consume less than one vegetable a day, which means they don't consume any vegetables on certain days. And then same thing with food intake. The darker blue states are about 40 to 55% of people in these states don't consume any fruit on a day. And the lighter color states there is less partisan so they are the healthier states by fruit consumption. And then these are sugar sweetened beverages like soda, juice, energy drinks, sports drinks, sweetened coffee and tea. Again, the darker red, they're about 70 80% people in the states consume sugar sweetened beverages more than one or more a day. Pretty much all states sugar sweetened beverages, but the darker colors they consume a lot more. So in 2015, the dietary guidelines were that food components that should be increased. So it was these are the USDA guidelines from the US Department of Agriculture. They said eat more fruits and vegetables and eat a variety, eat at least half grains as whole grains. Then they said to eat factory and low fat milk products only. And then vary your source of protein. They said focus on plant proteins including beans, peas and soy, unsalted nuts and seeds. And then they said if you want to eat animal proteins include seafood, poultry, lean meat and eggs. And they said to replace proteins with which are high in solid fats such as red meat with more healthy animal meats, and use oils instead of solid fats. So use oil instead of butter kind of a thing. Then they revised the guidelines in 2020, which again, they didn't really do much. They just said, Oh, it's the same, except that now they had separately guidelines for the lifespan like infancy, what you should eat in infancy, childhood and pregnancy and adulthood. When the meetings were taking place to recommend sugar intake, they were recommended to change the guidelines of added sugars to be less than 6% in the diet, but they still kept it at less than 10%. So really didn't change much. Then they also USDA has a MyPlate although some of the dietary guidelines align with the American College of lifestyle, medicine, position and nutrition, but acplm does not endorse these guidelines because they do recommend animal protein, dairy oil or etc. which acplm does not recommend. But this is a really good place to still start because people don't even follow the USDA guidelines. So this is the MyPlate which was developed in 2011. So about 12 years ago, which said that half your plate should be fruits and vegetables. A quarter should be whole grains and then a quarter should be lean protein and they did say they should be the beverage but again sclm doesn't agree and if you look on the left what the government suggests but an actual plate of standard American person you have fries on half the play the hamburger and then you beers your drink. So really, really unhealthy diet. Then what are the risk factors for Developing obesity. The first thing is genetics. If a young person has one biological parent with obesity, their risk of obesity is increased three to four fold compared with kids who don't have a biological parent. If both biological parents have obesity, then your risk is tenfold of developing obesity, then demographic factor obesity in the United States is prevalent amongst the highest and the lowest income, I'm sorry, amongst the lowest income groups, and it is less in higher and more educated folks, then feel factors and childhood factors. maternal obesity and under nutrition are both associated with adult obesity in the child. So if the mother's BMI was elevated while she was pregnant, excessive gestational weight gain, she gained too much weight during pregnancy, she had gestational diabetes, or she had diabetes even before pregnancy, then the child is more likely to develop obesity, then even in adulthood, adults tend to gain weight between the ages of 20 and 65. Between these

ages, a typical adult actually consumes about 17,000 pounds of food and gains about one to two pounds a year.

Then, and routinely, it's normal human behavior patients under report their calorie intake and the overall report their physical activity. So if you are a physician, and you see patients in your office, they'll say, Oh yeah, I don't eat that much. I work out a lot more. But it's generally it's the perception. And then after age 65, when you're actually older, or your weight tends to decrease by point six, five kilograms per year. And but this is mostly due to muscle loss and not fat loss. In fact, muscle starts getting replaced by fat if you don't work out. Then the other risk factors pregnancy, women gain weight during pregnancy and may not lose all the way menopause, central fat or your abdominal fat increases, especially in early menopause. And it is mostly visceral fat, which is a dangerous fact. Then the big ones are the lifestyle factors, dietary factors. In the past 70 years, the our food environment has changed dramatically, we have access to such highly palatable energy dense food. The USDA is actually reported that in the 1970s, an average person's calorie intake was about 2400 a day. And in the 2000s, it's now almost 2900 calories a day. So we've increased our consumption calorie consumption by 500 calories every day. And Americans eat more fat, sugar, proteins, grains, and they eat very little fruits and vegetables. Studies have shown that consuming all these ultra processed foods are related to weight gain. Then physical activity is a big one. There's a study if you look at there's a Pima Indian population in Mexico, and their same race people live in the United States. So those living a traditional lifestyle in remote Mexico have very low levels of obesity and type two diabetes, whereas those same race folks are 80% or more of those adults in Arizona have obesity. So, again, then you would say that, is it really genetic? Or is it more just your environment and lifestyle? Because these folks are very sedentary. Then again, occupational physical activity has decreased in the 1960s. Half the US workforce was moderately active in 2010. More than 70% people in the workforce are sedentary. Because we do a lot more jobs on the computer and on our desks. We don't do active work. As I think in the 1960s there was a lot more agricultural based work. We spend a lot of time watching TV and also devices now. It's very closely related to obesity, sleep patterns, if we sleep shorter durations, and we sleep late at night, and shift work, people who work night shifts they are associated with obesity than smoking cessation. People who smoke and then quit smoking, they gain an average of 2.6 kilograms.

board certified physician in internal medicine.

And then even medications, a lot of people on certain medicines like antipsychotic agents antidepressants, lithium, seizure medicines, oral contraceptives, some blood pressure medicines, viral medicines, steroids quit smoking, they gain an average of 2.6 kilograms. I'm sorry, is there an echo? Okay, should I continue? Yeah, let's fix that. Okay. Then there are medical conditions, which are a lot and again, a lot of patients perceive that, Oh, it's my medical condition that's making up so there are some hypothyroidism Cushing's there are some hypothalamic obesity which is very, very rare and growth hormone deficiency. Then other things which are now being researched, which are not very well known as that our gut microbiome A certain types of bacteria in our gut can be related to obesity. Then what does obesity do? Why are we so concerned about it? Now obesity surpassed smoking as a number one preventable cause of disease and disability. Greater BMI is associated with all cause mortality. Increased body weight contributes to 4 million deaths globally in 2015. So what are the risks metabolic problems you can get type two diabetes 80% of type two diabetes are related to obesity, then high cholesterol, then your heart disease so hypertension blood pressure is increased in patients who have obesity, especially abdominal obesity, heart disease, like coronary artery disease, congestive heart failure, atrial fibrillation, strokes are more prevalent in obese people. Obese people are higher risk for DVT or that is your thrombosis or blood clots in your veins in the legs. Then your gastrointestinal problems you can have gallbladder disease like gallstones, non alcoholic fatty liver disease which is a big risk factor for liver cancer, and GERD or reflux. Reproductive side effects people who

have are overweight can be having infertility, abnormal uterine bleeding, endometrial hyperplasia, polycystic ovarian syndrome, fibroids, endometriosis, sexual dysfunction, even men can have erectile dysfunction. Then other genital urinary conditions you can have chronic kidney disease, kidney stones, urinary incontinence, and even obese people have more complications if they're on dialysis. There's difficulty with accessing their veins, there is need for frequent and more or longer dialysis. So lots of complication, then their psychosocial functioning complication. There's a stigma, which is seen in educational fields employment, and even in health care. Obese people have more depression, they are higher risk to develop dementia. In the respiratory system, you can have sleep apnea, asthma, obesity, hypoventilation syndrome, so people are very obese, they have a lot of pressure on their chest. So they have difficulty breathing. They also have increased risk of infections like influenza, we've all seen in COVID-19 that obesity is a big risk factor for severe COVID. And then even post op complications and infections are more common in obese people than skin changes. You can develop stretch marks, these deep pigmentations around the neck, the armpits, Knuckles, skin tags, females can get hirsutism that is hair on the face. And then obese people have more risk for osteo arthritis and gout. So lots and lots of problems with obesity. And then a big one is cancer. There are many many cancers which are increase in you have an increased risk with obesity, individual cancer that is uterine cancer, kidney cancer, renal cell carcinoma, gastric cancer, colon cancer, rectal cancer, biliary cancer, pancreas, breast, esophageal cancer, ovarian, multiple myeloma, liver cancer and meningioma. All these cancers have increased risk when we have obesity. And if you see mortality, this graph this shows on the left side are very underweight people and on the right side of obese people. So only in the middle when your normal weight your risk of death is less. And as your weight keeps going up, the risk of death is more. And the black is the males and the red ones are female. So in both genders, your risk of death increases by increasing away. So then we talk about calories and energy balance. This is a hot topic all the time between people they're always diet wars, right? So just some science behind it. What how do we expend energy or calories every day, our total daily expenditure is consists of the resting metabolic rate, which is you know, sort of just an calories used for metabolism. That's resting energy and thermic effect of food. And then also energy expenditure due to physical activity, so due to our walking exercise, and things like that, and then our calories are the measures of energy in the food. So, one calorie means it's the amount of heat which is required to raise the temperature of one kilogram of water by one degree Celsius. So this is the dictionary definition. So protein has four calories in one gram. Carbs have one calorie four calories in one gram fat has nine calories per gram, so it's more than double and alcohol has seven calories per gram. So the number of calories used are your basal metabolic rate so your calories used to do your metabolism activities and then your physical activity and thermic effect of food which is the Enter calories used to digest your food. So beta basal metabolic rate is you know, your body needs to breathe, your heart is beating, your kidneys are filtering, your hair is growing, and things like that. So that's your metabolism. And that's you need calories for that suits the resting energy expenditure. So how do you calculate it in men, it's one times your weight in kilograms times 24 hours. So you can all calculate, you know, your weight and your metabolic rate. For women, it's point nine times your weight and times 24 hours. So one kgs 2.2 pounds. So 200 pound man has a basal metabolic rate of 2182. So then you have to look at your physical activity. So if you're sedentary with no little very little exercise, you're mostly sitting sleeping, reclining, then you multiply your basal metabolic rate by 20%. And that's your total calories, probably you're burning, then if a very light activities, you do some standing, you're doing some seated activities, then you can multiply your basal metabolic rate by 30%. If you do moderate activities, like you're regularly exercising five days a week, you're digging in the yard, you're carrying loads, you're playing tennis skiing, then you multiplied by 40%. If you're doing heavy exercise, like manual labor, climbing, playing basketball, soccer, that kind of stuff, then you multiply your basal metabolic rate by 50%. And that's your total calorie burned. And thermic effect of food is just your energy used to digest your food. And we kind of ignore it because

it's very low amount of calories. So your total calories burned can be just calculated that way. And then so again, now when we look at calories in and out, if you look, a food has so much calories that we do not we cannot really all burn it if we're just by just exercising. So if you walk for two, three miles an hour, for one hour, you're gonna burn 150 to 300 calories, whereas one brownie or square brownie is 310 calories, right, which we eat in like a minute. Bicycling five and a half miles an hour for one hour burns the same 150 to 300 calories. And your ice cream. Half a cup is 143 calories. Dancing will burn more calories, jogging burns more calories, tennis burns a lot of calories. But if you eat a bagel, for example, 157 calories in five minutes. But if you didn't Apple only eating 34 calories, but an apple pie 437 calories. So if you eat a slice of apple pie, you have to dance for one hour to burn it off. A chicken breast grilled chicken breast 126 calories. A half a cup of lettuce is only four calories. So that's why calories, the type of food we eat is really, really important. And this is again, it's called Max or metabolic equivalents. One met is the oxygen we consume while we're just sitting at rest. So if we're on the left side, if you look at the picture, if you're just sweeping your carpet for 20 or 30 minutes, you're burning about 100 to 125 calories. So that's 3.3 minutes. If you're washing your car, you're burning 130 568 calories, playing with children 150 to 180 calories, moving furniture that's heavy physical labor, then you're burning 182 25 calories. On the right side are more sports and leisure activities. So if you're playing volleyball, you're burning 90 213 Golf is 135 to 170 calories. And the higher calorie burning activities like playing basketball and soccer or hiking with a backpack on things like that. Then calories versus nutrition, so you need calorie deficit to lose weight. So that is a very simple way to put it.

So for lifelong changes, it's really, really important that we choose the quality of our calories versus just oh, I'm eating these many calories. So if we choose more whole food plant based options, we're automatically eating very low calories. Okay, so what is the standard American diet it's also known as the SAD diet is really sad. It represents the modern American diet, which is the major contributor to our chronic diseases. It's very high in refined flours, sugar, high fat food, oil, processed food, animal based foods, and very low in fruits and vegetables. So this is what a standard American diet might look like. Even broccoli is covered in a high fat cheese sauce, things like that. So that's causing obesity now Now how do we manage it? First of all, we need to have goals of treatment, because we should first prevent obesity. So if you're a doctor or healthcare provider, you should try and counsel patients to prevent weight gain. And then of course, if they have it, then you can treat and reverse complications of obesity is mostly to improve quality of life. So you have to identify the right people, by their BMI, as I said in my first few slides, if they are in the obese category, and then also measure their waist, see if they have abdominal obesity, and see if they have cardiovascular risk factors, do they have hypertension, high cholesterol, diabetes, things like that. So little or no risk if your normal BMI between 20 and 25, and your waist circumference is less than 35 in women and 14 men and for Asians up know your BMI is less than 23, your little or no risk. So then you just keep on maintaining your healthy behaviors and you're fine, then low risk people are people with a BMI of they're overweight. Now, their BMI is between 25 and 30. And they don't have any other risk factors, they're just overweight, then moderate risk are 25 to 30, but they have diabetes or high blood pressure or high cholesterol. And then high risk people are the BMI is 30 with comorbidities, or 35 to 40 and younger people who are this weight are much higher risk than older people. So the younger you are and the more obesity you have, the higher risk you are. So for lowering risk individuals, you just provide counseling on prevention of more weight gain, you know, just talk about dietary habits, more exercise, that kind of stuff. moderate risk individuals should be referred to intensive multi component intervention. So like send them to your dietician, maybe like, you know, exercise program at your institution, or they can join the local exercise places like a gym, then they need support from our friends, family and the healthcare team to maintain their weight loss. And you can consider medicines at that time. High risk individuals receive the most aggressive treatment.

So same thing like above, you know, refer them to a dietician, your exercise physiologist, they should have an exercise program that may be prescribed to them. And maybe they even need counseling like therapy, like psychological counseling, then initiate medications. And then also they might need referral to bariatric surgery for you know, treating their obesity. So behavior modification, first is nutrition education, and then self regulation, nutrition education, you just motivate them, teach them on you know, low calorie, high fiber, high phytonutrient whole plant foods, and talk to them about certain behaviors like, why don't you drink water instead of juice or soda or an energy, beverage. And then motivating factors and enlists social support, things like that. And self regulation is you help your patients set goals about their weight, self monitoring, you can keep a food diary and your physical activity diary. A lot of days like I have my Apple watch people have Fitbits Apple Watches, you can really really record your physical activity well on these. Then you control or modify your stimuli that activate eating. So for example, if you know that you crave you know, salt and vinegar chips, then just don't ever bring them in your house. So modify environment, clean it up. You know, if you crave candy or chocolate, then just don't ever bring it in your house. Eating style, slow your eating down mindful eating because people should eat over like 20 minutes or more. So slowly eating, then make behavioral contracts with your healthcare provider. And then plan your meals. So if you shop for groceries, when you're not hungry, and you go to the grocery store, plan your meals, and then buy, you know, story of fruits and vegetables, prep them, maybe boy your beans, a whole lot of beans on one day of the week and then use them things like that. Then cognitive restructuring positive self talk, learning to say no, when somebody's offering you unhealthy food. And then problem solving, what are you going to do when you go to a party or a restaurant or someone's house? And then also in less social support. So maybe talk to your friends and family that hey, I'm trying to get healthy. Please don't, you know, offer me chocolate cake or a burger or french fries, things like that. So all those things. And then this is more about medication. This is the hot topic of today, right? Everybody wants these injectable drugs to lose weight quickly. So first of all, who is a candidate for drug therapy? Only people who have a body mass index of more than 30 or if they have a body mass index of 27 to 30, which means they're overweight, but they have other things like they have diabetes, they have high cholesterol, and or people who have tried to institute lifestyle changes like exercise and diet modification, but they're not losing weight. So then you can add medication. So it's not to just like start medication right off the bat. So the most, you know, quote unquote, sexy medicines these days, which all the celebrities are promoting and using are liraglutide and semaglutide. So that's your ozempic, your sucks and we go V. These are called GLP. One agonists. GLP is glucagon like peptide one, it's actually a polypeptide. And it's secreted from the small intestine. So when we eat food, and there's glucose released from our meal, these get released from the intestines, and they bind to these GLP one receptors. So these receptors are present on our pancreas, so they stimulate insulin secretion, and then the receptors are present on the stomach. So these polypeptides, they slow the stomach gastric emptying, so you feel full, your stomach stays full for a longer time. And then they also act on your brain, there are receptors in the brain, it suppresses your appetite. And then when people start these medications, so your normal GLP one, so your body actually produces them on your own, but they are really quickly destroyed. So they just come out, you know, they are secreted after a meal, and then they're destroyed within minutes. So So these days, these medications, the GLP one agonists, which means they stay on the receptors much longer, they work on the same receptors, they slow down your gastric emptying, they suppress your appetite, but they're not destroyed easily. So some of their side effects also actually help lose weight because they can cause a lot of nausea, etc. Then now there's a new one called Manjaro. You may have heard of it, it's it's a GLP mgib agonist. So it works on two different receptors. So it has even more weight loss. It's currently I think, only approved for diabetes, but people use it off label for weight loss as well. Then you have older drugs that alter fat absorption. orlistat is the brand name ally. It used to be called the nickel. It's FDA approved and inhibits pancreatic lipase. So the fat in your meal remains

undigested, it stays in your intestines and it gets excreted. So about 25% of calories from fat are not digested so they don't go into your body and they just get excreted out so that way it just pulls the fat out of your body. And then there are the older drugs like sympathomimetic drugs these are almost like Adderall like quality. So phentermine vents, feta, mean phendimetrazine, these are absorbed in your GI tract, they release norepinephrine or sort of adrenaline and and they promote early satiety, they but these drugs have potential for abuse. So they're recommended for short term, although phentermine has been prescribed for long term and it has lower abuse potential than the others. And then there are some combo drugs you can have phentermine and Topamax then you have Bupropion, naltrexone, naltrexone, if you know is an anti abuse drug. It's used for opioid addicts and for alcohol abusers. So they say the centers of sugar addiction are similar to alcohol and drug addiction. And hence this drug works for suppressing your appetite or the addiction part of your eating. Oh, so what the one thing with GLP one the injectables, some of the like bad years and using them they're very, very expensive. They can cost up to $1,500 a month if you don't have your insurance doesn't cover them. And then they cause a lot of nausea, constipation, reflux and stomach aches initially, most patients do well after some time but um, you know,