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Non Communicable Diseases and Maternal Health

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Contents

1. **Maternal Nutrition: Is It Important and How to Assess in a Busy Clinical Practice? 1**
   Hema Divakar, Sheetal Joshi
2. **Too Thin: Prepregnancy and Pregnancy Management 11**
   Pooja Sikka, Shivani Anand
3. **Managing Overweight PCOS Young Women 16**
   Shilpa Joshi
4. **Obese and Now Pregnant: An Uphill Task for the Obstetrician 21**
   Swati Rathore, Tanvi Gupta
5. **Fetal Origin of Adult Noncommunicable Disease 30**
   Uday Thanawala, Nimisha Mehta
6. **Preconception Counseling of Women with Preexisting Medical Conditions 40**
   Chinmayee Ratha
7. **Preeclampsia: Risk Assessment and Prevention 47**
   Krishnendu Gupta, Arup Kumar Majhi
8. **Gestational Diabetes Mellitus: Long-term Impact on Mother and Baby 52**
   Uma Ram
9. **Cerebrovascular Complications in Pregnancy 60**
   Amita Tripathi
10. **Vitamin D in Prevention of Noncommunicable Diseases 69**
    Jayam Kannan, P Prashitha
11. **Management Issues of Noncommunicable Diseases during Pregnancy 75**
    Ashok Kumar, Neha Pruthi Tandon
12. **Lifestyle Interventions and Noncommunicable Diseases 82**
    Vidya A Thobbi
13. **Cancer Cervix and Pregnancy 92**
    Bhagyalaxmi Nayak, Jagannath Mishra

Index 99

CHAPTER

3 Managing Overweight PCOS Young Women

Shilpa Joshi

INTRODUCTION

Lifestyle modification should be the first line of treatment for women with polycystic ovary syndrome (PCOS). American Society for Reproductive Medicine (ASRM) 2018 guidelines state that it is the first-line treatment of PCOS.[1] Most of the women are asked to lose weight, but very few of them are offered detailed lifestyle prescriptions which consist of dietary modification, exercise, and stress management. This may be because there is limited data about role of these agents in management of PCOS or there are no defined specific guidelines which give in detail what is expected to be done to achieve results. Also, busy clinics of gynecologist/physicians make it impossible for them to address these issues in details.

It is known that insulin resistance is core problem in PCOS and diet and exercise impact by improving the insulin sensitivity. Weight loss curtails increased androgen production.[2] Weight loss in obese women reduces sex hormone-binding globulin (SHBG) levels, which results in increased bioavailable androgen delivered to target tissue.[3,4] Besides reproductive effects, obesity also increases the risk of metabolic syndrome, diabetes mellitus, dyslipidemia, and insulin resistance.[5,6]

DIETARY RECOMMENDATIONS FOR PCOS

Calories

The international evidence-based guideline for the assessment and management of PCOS (2018) recommends a goal of lowering body mass by 5% as this has been shown to reduce serum insulin and testosterone levels and improve menstrual and reproductive function.[7-9] PCOS weight loss guidelines are similar to those which are recommended for the general population. It has been observed that in obese/overweight PCOS a calorie deficit of 300–500 kcal/day helps in achieving weight loss. It has been observed that most of the insulin resistance symptoms associated with PCOS improve with 5–10% loss of initial body weight.[7-9]

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Practical Tips

- It has been recommended that a well chalked out diet plan by dietitian that helps in faster reduction of weight as well as long term weight maintenance.
- Reducing portion size of each meal also ensures that there is a considerable caloric reduction.
- Avoiding snacking in between the meals with processed foods also helps in caloric reduction.
- In case if your patient travels, or is compelled to eat meals outside use of meal replacers instead of meals themselves helps in reduction of calories.

Carbohydrates

A recent meta-analysis found that a low-carbohydrate diet, defined as a diet that contains <45% carbohydrates, reduced body mass index (BMI) and total cholesterol and low-density lipoprotein cholesterol in PCOS.[10] Low-carbohydrate diets have shown to improve insulin sensitivity and this has been shown to restore the balance of inositol. It is not just the quantity but the quality of carbohydrates which is also important. Studies have shown that the diets which have low-glycemic index may have beneficial effects for insulin resistance and acne in the PCOS population.[11,12] The proposed mechanism of this effect is improved metabolic profiles and reduced hyperinsulinemia associated with these foods.[13] Most of the foods with low-glycemic index tend to be rich in fiber which is also helpful in increasing insulin sensitivity.

Practical Tips

- Choose rough and coarse grains as compared to refined ones. Millets instead of refined wheat, white rice and their products like poha, semolina, etc.
- Eat plenty of nonstarchy veggies in each meal like greens and other veggies. They are a great source of fiber and vitamins and minerals.
- Have liberal amounts of dal, pulses, and sprouts. They are rich in resistant starch and proteins.
- Only fill one-fourth of your plates with carbohydrate-rich food.
- Be careful while snacking. Most of Indian snacks are carbohydrate-rich. Replace them with protein-rich snack like nuts, seeds, etc.

Proteins

Proteins have shown to improve satiety and aid in weight loss. They have also been shown to have a positive impact on insulin resistance. Traditionally, Indian diets are very low in protein. The recommendation of 0.8 g/kg body weight or 15% of total calories is rarely achieved. Adding protein especially vegetarian ones should have to aid weight loss and improve

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insulin resistance, which are the main issues in PCOS. Protein is thought to exert effects on weight is through an increased satiety.[14] This is a beneficial dietary option for women with PCOS due to the potential impairment in postprandial satiety.

Practical Tips

- Eat protein in every meal, including breakfast and snack.
- In India, pulses are the main source of protein. Include them in every meal.
- Nuts and oilseeds are also source of protein besides being rich source of fat. Include them in the daily diet.
- One-fourth of your plate should be full of proteins.

MEAL PLANNING STRATEGIES IN PCOS

Meal Replacements

Meal replacements have also been shown to be an effective weight loss strategy in overweight women with PCOS.[15] They increase flexibility, and help in compliance and adherence to a reduced energy diet. Meal replacements are an effective, nutritionally adequate short-term strategy for reducing weight and improving body composition, quality of life, and metabolic and reproductive variables.[16]

Practical Tips

- The key role of a meal replacement is to limit food choices and bad food selections.
- Meal replacements usually offer a structured, well-measured dietary composition that is easier to use within a diet strategy.
- Meal replacements aims at controlling portion size and high caloric consumption.

Anti-inflammatory Diets

Obesity is proinflammatory state. This contributes to the promotion of insulin resistance and atherogenesis when present in PCOS.

The inflammatory load from adipose tissue in PCOS is in proportion to body mass.[17]

Practical Tips

- The macronutrient composition of such a diet would provide about 150 g of carbohydrates (600 kcal) per day.
- The majority of carbohydrates should be from low-glycemic load sources, which would lower the production of insulin.

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- This can be achieved by consuming approximately 10 servings of nonstarchy vegetables (200 kcal).
- Limited amounts of fruits (because of their higher carbohydrate content) per day.
- A relatively rigid (but not total) exclusion of high-glycemic load carbohydrates such as bread (even naan, parathas), pasta, noodles, rice, and potatoes.

CONCLUSION

Managing overweight or obese women in PCOS can be challenging. The first line of therapy should be weight management and management of insulin resistance. Long-term lifestyle modifications like diet and exercise have shown to help in improvement in PCOS symptom. For long-term benefits, these modifications have to be sustainable. Small changes go a long way in modifying the lifestyle.

TAKE HOME MESSAGE

- Lifestyle modifications consisting of dietary modification, exercise, and stress management are the first-line management for overweight PCOS.
- Weight loss of 5% reduces serum insulin and testosterone levels and improves menstrual and reproductive function.
- Dietary changes include low-carbohydrate and high-protein diets.
- Meal replacement and use of anti-inflammatory diets are beneficial.

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Non Communicable Diseases and Maternal Health

The aim of this book is to discuss in detail the various Noncommunicable diseases (NCDs) affecting pregnancy, to determine the issues in managing these patients in pregnancy and the interventions to prevent NCD. Traditionally the focus was to prevent maternal deaths due to direct causes like hemorrhage, infections, etc. But as the world is undergoing an obstetric transition—a shift from preventing maternal deaths from direct causes to indirect causes like NCDs, a more holistic approach is needed to improve maternal health. Though urbanization has led to economic development and improved women education, it also has had negative impacts such as late marriage and childbearing, increased stress, drug abuse and pollution affecting women health and accelerated occurrence of NCD. Impact of NCD can be reduced by early detection and timely action.

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